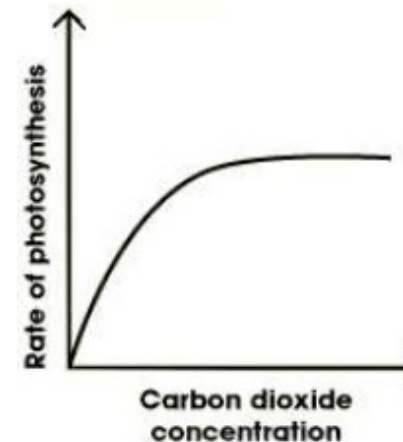
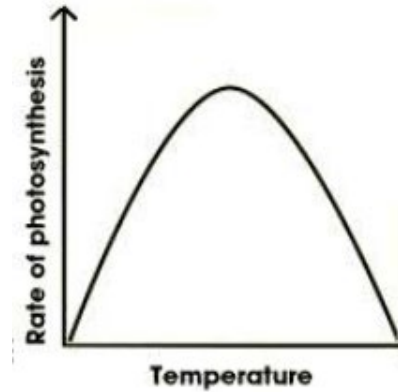
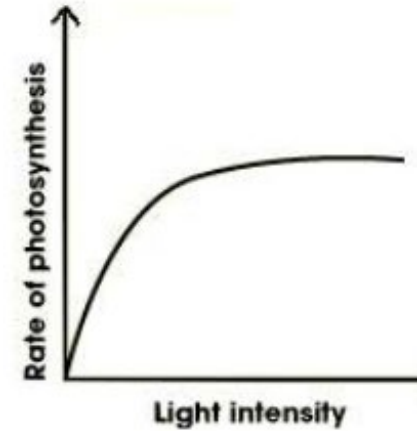


Biology Topic 4: Bioenergetics

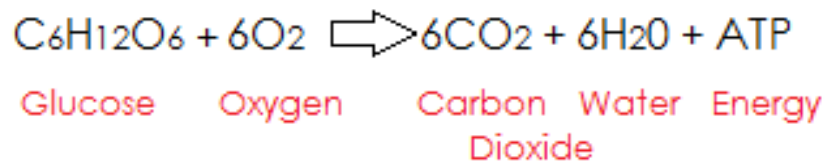
1. Photosynthesis	
$6\text{CO}_2 + 6\text{H}_2\text{O} \xrightarrow[\text{Chlorophyll}]{\text{Sunlight}} \text{C}_6\text{H}_{12}\text{O}_6 + 6\text{O}_2$ <p>Carbon Dioxide + Water $\xrightarrow[\text{Chlorophyll}]{\text{Sunlight}}$ Glucose + Oxygen</p>	
Photosynthesis	An endothermic reaction where sunlight is absorbed and used to convert carbon dioxide and water into glucose and oxygen
Uses of glucose	<ul style="list-style-type: none"> • Respiration • Converted into starch • Produce fat or oil • Produce cellulose cell walls • Produce amino acids



2. Rate of photosynthesis		
Factor	Affect on photosynthesis	Reason
Light	Increases	More energy for the reaction
Carbon dioxide	Increases	More reactants (provided there is no limiting reactant)
Amount of chlorophyll	Increases	More energy for the reaction
Temperature	Increases then decreases	Initially more energy but then enzyme denatures
Limiting factor	The factor that can limit the rate of a reaction	

3. Aerobic respiration

Respiration	An exothermic reaction which continuously happens in living cells
Purpose	Transfer energy for: <ul style="list-style-type: none"> • Chemical reactions • Movement • Warmth
Aerobic	With oxygen



Anaerobic	Without oxygen
Anaerobic respiration in muscle cells	glucose → lactic acid
Anaerobic respiration in yeast cells (fermentation)	glucose → ethanol + carbon dioxide
Lactic acid	A chemical that when built up in muscles causes fatigue
Oxygen debt HT ONLY	The amount of oxygen the body needs after exercise to remove the lactic acid

4. Response to exercise

Change	Reason
Heart pumps faster	Supply more oxygenated blood to the muscles
Breathing rate increases	
Deeper breaths	

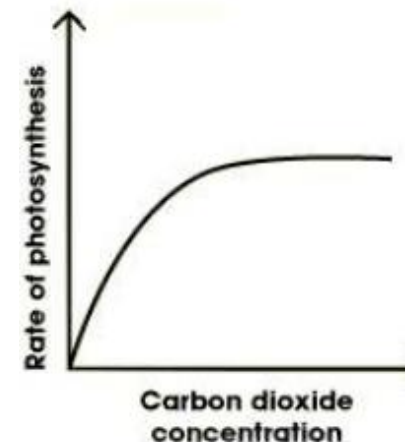
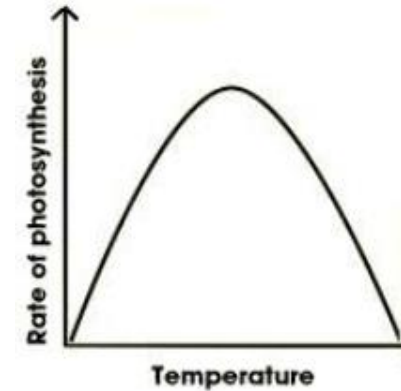
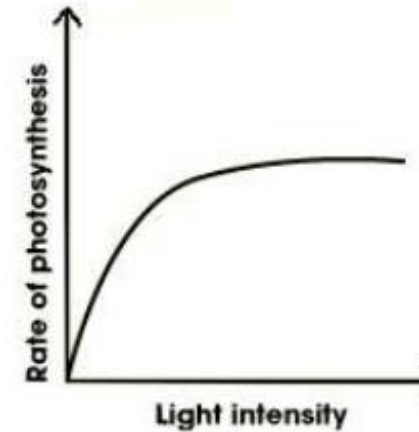
5. Metabolism

Metabolism	The sum of all the reactions in a cell or the body
Includes:	<ul style="list-style-type: none"> • Conversion of glucose to starch, glycogen and cellulose • Formation of lipids from glycerol and 3 fatty acids • Use of glucose and nitrates to make proteins (PLANTS) • Respiration • Breakdown of protein to from urea.

Biology Topic 4: Bioenergetics

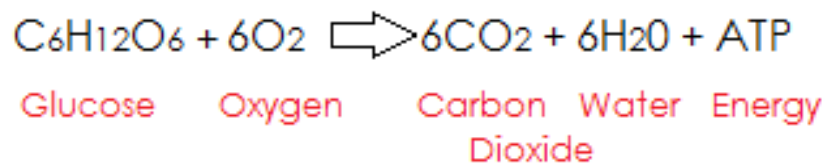
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Deeper breaths	

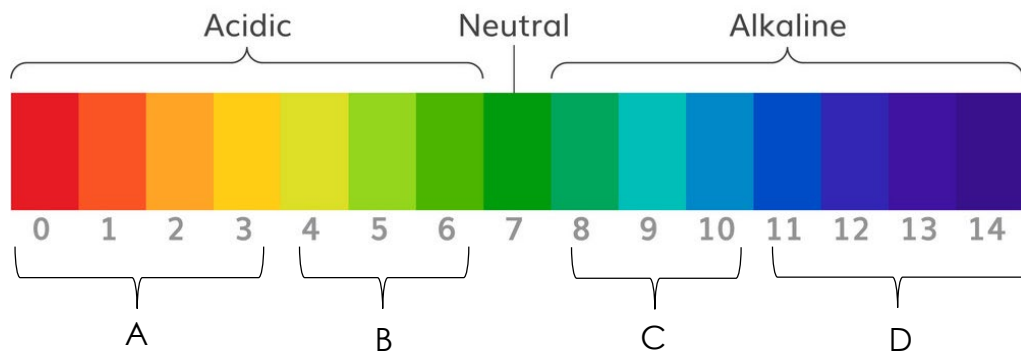
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4. Naming salts

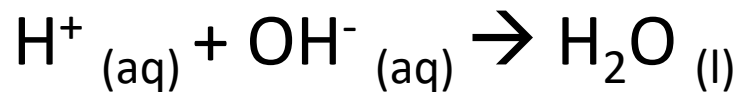
Acid used	Second part of salt's name
Hydrochloric acid	chloride
Sulfuric acid	sulfate
Nitric acid	nitrate

5. pH scale



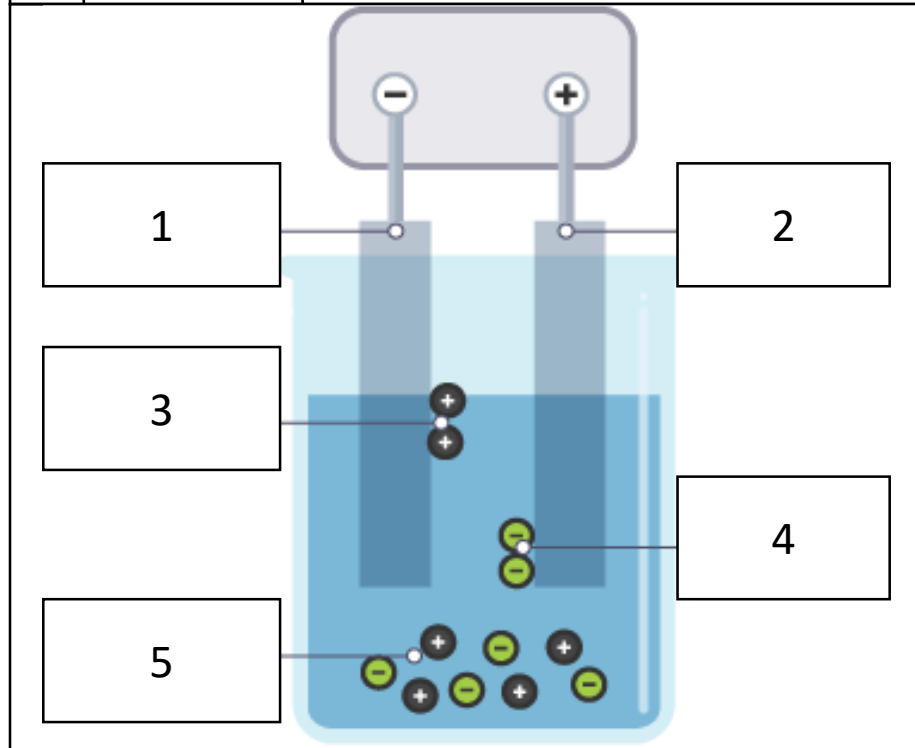
	Name	Level of ionisation in water
A	Strong acid	Fully
B	Weak acid	Partially
C	Weak base	Partially
D	Strong base	Fully

6. Equation for all neutralisations



7. Electrolysis

1	Cathode	The negative electrode
2	Anode	The positive electrode
3	Positive ion	Move to cathode
4	Negative ion	Move to anode
5	Electrolyte	The ions that are being electrolysed



Don't **PANIC** - **P**ositive is **A**node, **N**egative is **C**athode.

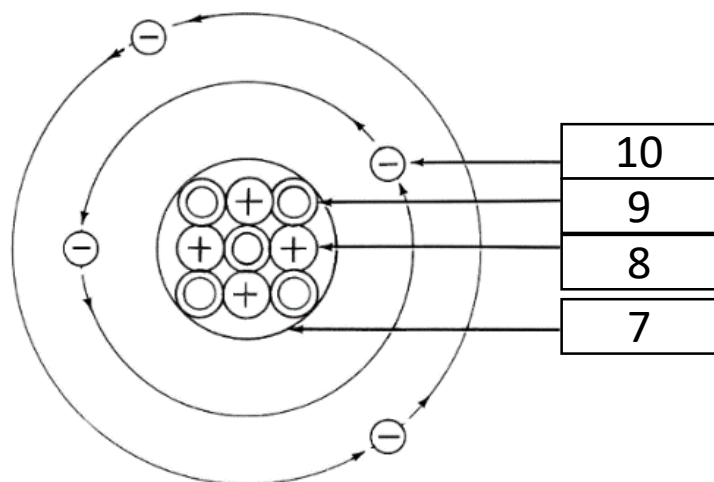
8. Electrolysis of aqueous solutions

Place in reactivity series	Product of electrolysis
Metal more reactive than hydrogen	Hydrogen is produced at the cathode
If the negative ion is not a halide ion (group 7)	Oxygen is produced at the anode

Physics topic 4: Atomic structure

1. Keywords

1. Atom	The smallest possible piece of an element. Has a radius of 0.1nm (or $1 \times 10^{-10} \text{m}$).
2. Element	A substance in which all the atoms have the same atomic number.
3. Isotope	Atoms with the same number of protons but different numbers of neutrons.
4. Molecule	Two or more atoms bonded together
5. Compound	Two or more <u>different</u> atoms bonded together
6. Mixture	At least two different elements or compounds together. Can be separated easily.
7. Nucleus	The centre of an atom. Contains protons and neutrons
8. Proton	A positively charged particle found in the nucleus
9. Neutron	A neutral particle found in the nucleus. Has no charge
10. Electron	A negatively charged particle found in energy levels (shells) around the nucleus



2. Properties of sub-atomic particles

Particle	Relative mass	Relative charge	Location
Proton	1	+1	Nucleus
Neutron	1	0	Nucleus
Electron	0	-1	Shells

Key

relative atomic mass
atomic symbol
name
 atomic (proton) number

1
H
 hydrogen
 1

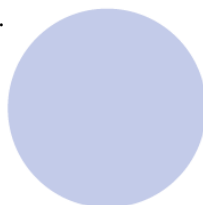
3. Using the periodic table

Number of..	Is the...	Found by..
Protons	Atomic (proton) number	Smaller number on periodic table
Electrons	Atomic (proton) number	Smaller number on periodic table
Neutrons	Difference between the atomic mass and atomic number	Big number – small number

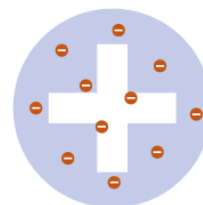
4. History of the atom

Discovery	By	Model	Diagram
Solid particle called atom	John Dalton	Particle: solid spheres	1
The electron	JJ Thompson	Plum pudding: positive 'cake' with negative 'plums'	2
Nucleus	Rutherford	Nuclear: Positive nucleus surrounded by electrons	3
Neutron	James Chadwick	Nuclear: Now with protons and neutrons in nucleus	3
Energy levels (shells)	Niels Bohr	Planetary: Electrons now 'orbit' in different shells	4

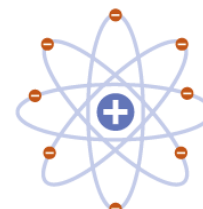
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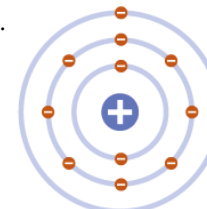
2.



3.

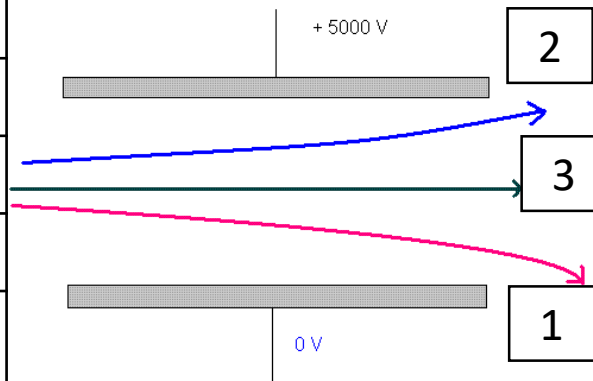


4.



5. Radioactive decay keywords

Unstable	The ability for a nucleus to decay
Radioactive decay	The RANDOM process of radiation being released by a nucleus. A different element is formed
Nuclear radiation	The energy and particles released when an unstable nucleus decays
Activity	How quickly a radioactive sample decays
Becquerel	The unit of activity
Geiger-Muller tube	A device to measure the count rate of a radioactive source
Count rate	The number of radioactive decays per second
Ionising power	How well it knocks off electrons and damages cells
Half life	The time it takes half of a group of radioactive nuclei to decay
Radioactive contamination	Unwanted hazardous materials containing radioactive atoms
Peer review	When the findings of one expert are double checked by another expert to make sure they are correct



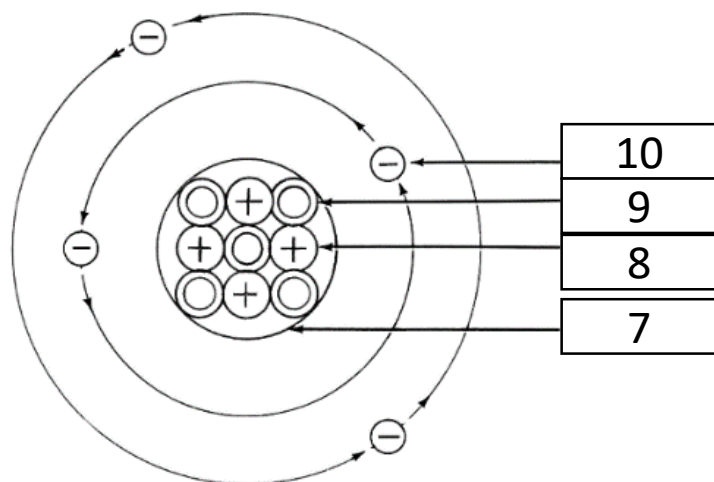
6. Ionising radiation

	Name	Symbol	Made of	Charge	Range in air	Penetration	Ionising power
1	Alpha	α	Helium nucleus ${}^4_2\text{He}$	+2	5 cm	Blocked by paper and skin	High
2	Beta	β	Fast moving electron ${}^0_{-1}\text{e}$	-1	15 cm	Blocked by thick aluminium	Medium
3	Gamma	γ	Electromagnetic wave	N/A	Very long	Blocked by thick lead	low

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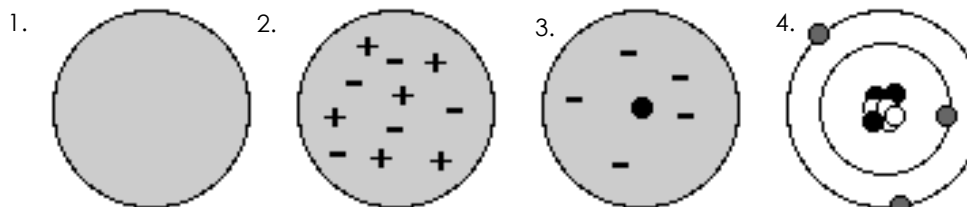
1
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Radioactive contamination	Unwanted hazardous materials containing radioactive atoms
Peer review	When the findings of one expert are double checked by another expert to make sure they are correct

7. Background radiation (TRIPLE ONLY)

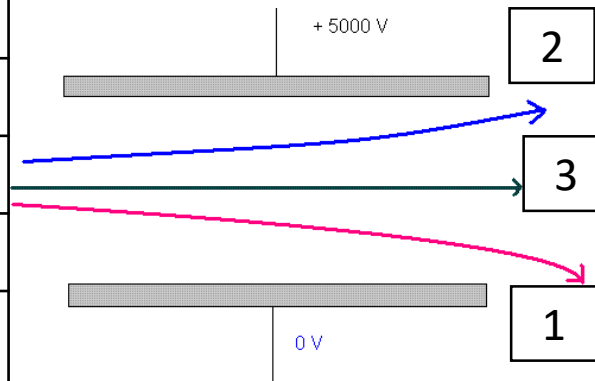
Background radiation is the radiation all around us all the time

Natural sources:

- Rocks
- Cosmic rays

Man-made sources:

- Fallout from weapons testing
- Fallout from nuclear incidents



6. Ionising radiation

	Name	Symbol	Made of	Charge	Range in air	Penetration	Ionising power	
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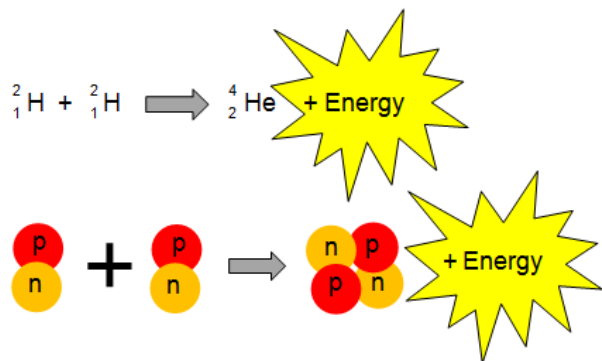
8. Uses of nuclear radiation (TRIPLE ONLY)

Use	Half life	Penetration power	Ionising power	Preferred emitter
Exploring internal organs	A few hours	Med-high	Low	Gamma
Radiotherapy	A few years	High	Med/Low	Gamma (or Beta)

9. Nuclear Fission vs Fusion (TRIPLE ONLY)

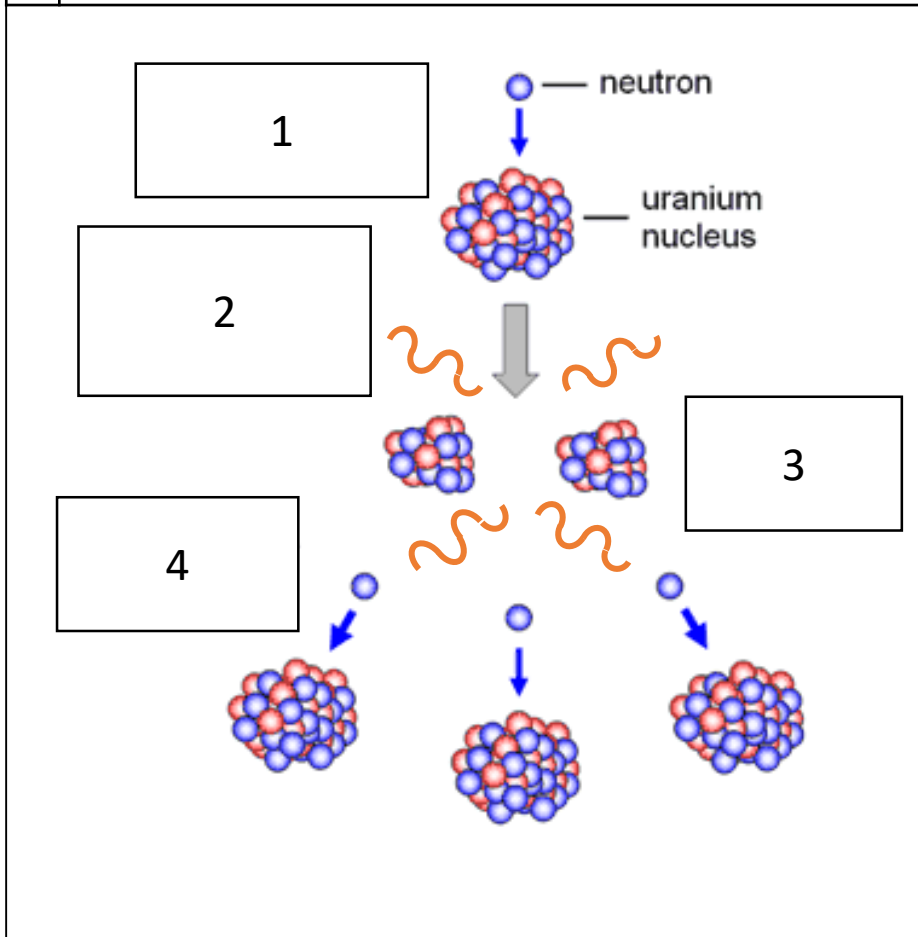
Nuclear fission	When a large nuclei breaks into smaller nuclei releasing energy	E.g: <ul style="list-style-type: none"> Nuclear power stations Atomic bombs The core of the Earth
Nuclear fusion	When small nuclei join together to form larger nuclei. Some mass is converted into energy	E.g: <ul style="list-style-type: none"> The Sun Hydrogen bombs

Figure 1



10. Nuclear fission (TRIPLE ONLY)

1	A slow neutron hits the nucleus
2	The nucleus becomes unstable and splits roughly in half
3	3 neutrons and gamma rays are released
4	These neutrons hit other nuclei causing a chain reaction
5	If this is uncontrolled then it will result in an explosion



Year 10 Mathematics Knowledge Organiser (Term 2 – Unit 33/34/35/36)

Standard Form (MW 83)

$$A \times 10^b$$

where $1 \leq A < 10$, $b = \text{integer}$

Remember 10^3 means $10 \times 10 \times 10 = 1000$

Example.

$$8400 = 8.4 \times 10^3$$

$$0.00036 = 3.6 \times 10^{-4}$$

Multiplying or Dividing with Standard Form

Multiply: **Multiply the numbers** and **add the powers.**

Divide: **Divide the numbers** and **subtract the powers.**

Example.

$$(1.2 \times 10^3) \times (4 \times 10^6) = 8.8 \times 10^9$$

$$(4.5 \times 10^5) \div (3 \times 10^2) = 1.5 \times 10^3$$

Adding or Subtracting with Standard Form

Convert into **ordinary** numbers, **calculate** and then **convert back** into standard form

Example.

$$\begin{aligned} 2.7 \times 10^4 + 4.6 \times 10^3 \\ = 27000 + 4600 = 31600 \\ = 3.16 \times 10^4 \end{aligned}$$

Size of Exterior Angle in a Regular Polygon (MW 123)

$$\frac{360}{n}$$

n

You can also use the formula:

$$180 - \text{Size of Interior Angle}$$

Example. Size of Exterior Angle in a

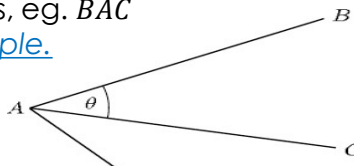
$$\text{Regular Octagon} = \frac{360}{8} = 45^\circ$$

Angle Notation (MW N45a/b)

Can use **one lower-case** letters, eg. θ or x .

Can use **three upper-case** letters, eg. BAC

Example.

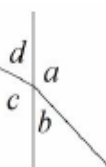


Angles at a Point (MW 45)

Angles around a point add up to 360° .

Example.

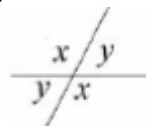
$$a + b + c + d = 360^\circ$$



Opposite Angles (MW 45)

Vertically opposite angles are equal.

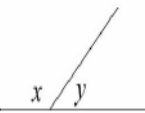
Example.



Angles on a Straight Line (MW 45)

Angles around a point on a straight line add up to 180° .

Example.

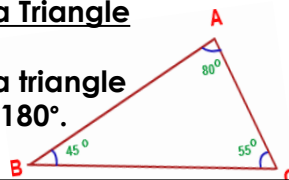


$$x + y = 180^\circ$$

Angles in a Triangle (MW 121)

Angles in a triangle add up to 180° .

Example.

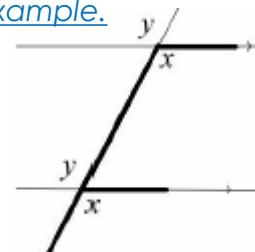


Corresponding Angles (MW 120)

Corresponding angles are equal.

They look like F angles, but never say this in the exam.

Example.



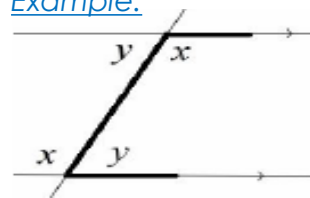
Co-Interior Angles (MW 120)

Co-Interior angles add up to 180° .

They look like C angles, but never say this in the exam.

They look like F angles, but never say this in the exam.

Example.



Angles in Quadrilateral

Angles in a quadrilateral add up to 360° .

Example.

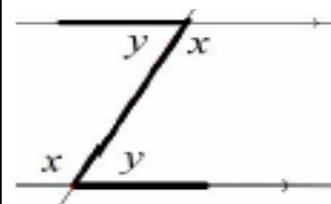


Alternate Angles (MW 120)

Alternate angles are equal.

They look like Z angles, but never say this in the exam.

Example.



Sum of Interior Angles (MW 123)

$$(n - 2) \times 180$$

where n is the number of sides.

Example.

Sum of Interior Angles in a Decagon =

$$(10 - 2) \times 180 = 1440^\circ$$

Size of Interior Angle in a Regular Polygon (MW 123)

$$(n - 2) \times 180$$

n

You can also use the formula:

180 – Size of Exterior

Example.

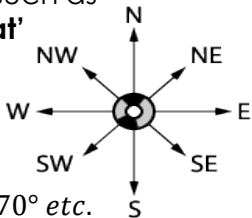
Size of Interior Angle in a Regular Pentagon =

$$\frac{(5 - 2) \times 180}{5} = 108^\circ$$

5

Compass Directions (MW 124)

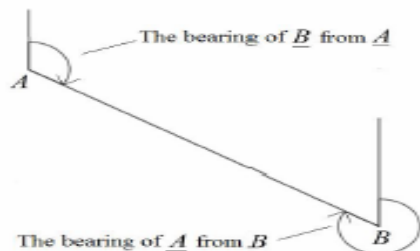
You can use an acronym such as '**Never Eat Shredded Wheat**' to remember the order of the compass directions in a clockwise direction. Bearings: $NE = 045^\circ, W = 270^\circ$ etc.



Bearings (MW 124)

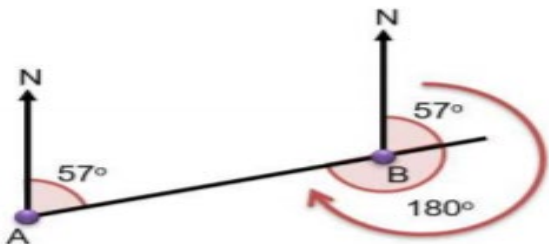
1. Measure from **North** (draw a North line)
 2. Measure **clockwise**
 3. Your answer must have **3 digits** (eg. 047°)
- Look out for where the bearing is measured from.

Example.



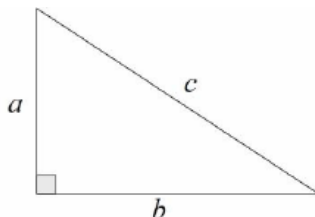
John runs from A to B and back again

- a) What is the bearing of his outward run from A to B?
- b) What is the bearing of this return run from B to A? = $057^\circ = 057^\circ + 180^\circ = 237^\circ$



Pythagoras' Theorem (MW 150a/b/c)

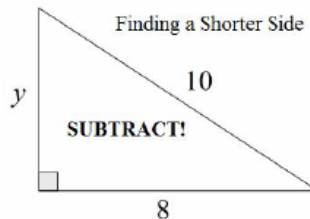
For any **right angled triangle**:



$$a^2 + b^2 = c^2$$

Used to find **missing lengths**.
a and b are the shorter sides, c is the **hypotenuse (longest side)**.

Example.



$$\begin{aligned} a &= y, b = 8, c = 10 \\ a^2 &= c^2 - b^2 \\ y^2 &= 100 - 64 \\ y^2 &= 36 \\ y &= 6 \end{aligned}$$

Trigonometry (MW 168)

The **study of triangles**.

Sides of a Right-Angle Triangle

Hypotenuse

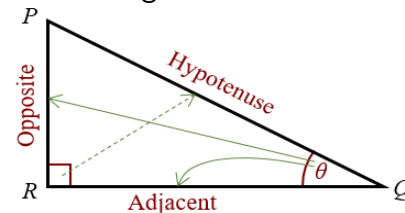
The longest side of a right-angled triangle. Is always opposite the right angle.

Opposite

Side across from the Angle marked.

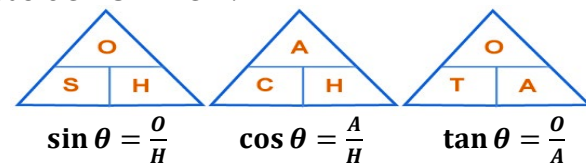
Adjacent

Next to the angle.



Trigonometric Formulae (MW 168)

Use **SOHCAHTOA**.



$$\sin \theta = \frac{O}{H}$$

$$\cos \theta = \frac{A}{H}$$

$$\tan \theta = \frac{O}{A}$$

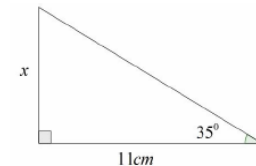
When finding a missing angle, use the 'inverse' trigonometric function by pressing the 'shift' button on the calculator.

Example.

Use **Opposite** and **Adjacent**, so use '**tan**'

$$\tan 35 = \frac{x}{11}$$

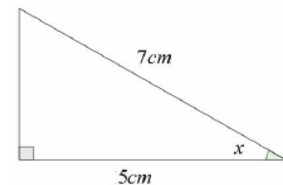
$$x = 11 \tan 35 = 7.70 \text{ cm}$$



Use **Adjacent** and **Hypotenuse**, so use **cos**

$$\cos x = \frac{5}{7}$$

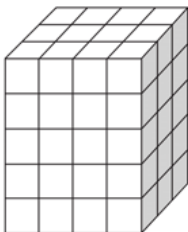
$$x = \cos^{-1} \left(\frac{5}{7} \right) = 44.4^\circ$$



Volume

Volume is a measure of the amount of space inside a solid shape.
Units: mm^3 , cm^3 , m^3 etc.

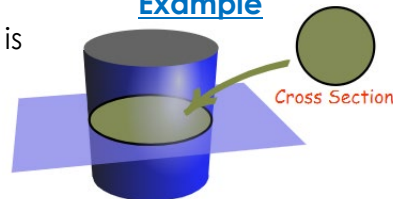
Example



Cross Section

The **cross section** is the **shape** that **continues** all the way **through** the prism.

Example



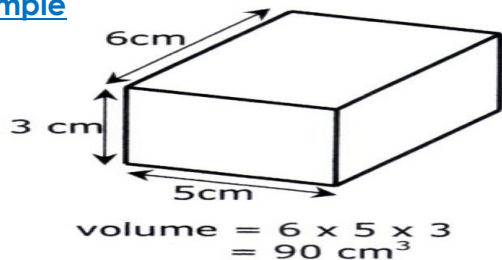
Volume of a Cube/Cuboid (MW 115)

$$V = \text{Length} \times \text{Width} \times \text{Height}$$

$$V = L \times W \times H$$

You can also use the Volume of a Prism formula for a cube/cuboid.

Example

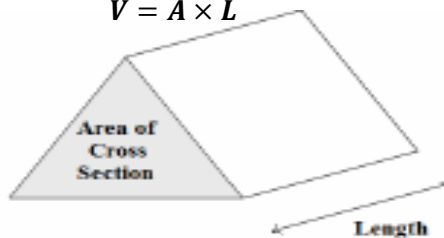


Volume of a Prism (MW 119)

$$V = \text{Area of Cross Section} \times \text{Length}$$

$$V = A \times L$$

Example



Properties of Solids (MW 43)

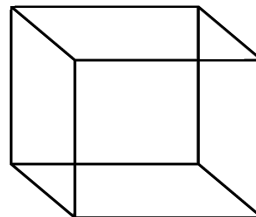
Faces = flat surfaces

Edges = sides/lengths

Vertices = corners

Example

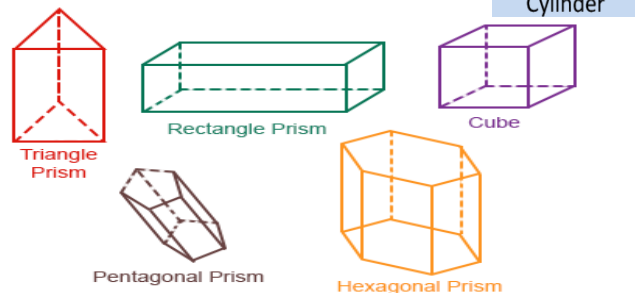
A cube has **6 faces**,
12 edges
8 vertices.



Prism

A prism is a 3D shape whose **cross section** is the same throughout.

Example



Surface area a Cube/Cuboid (MW 114a/b)

The total area of all the faces of a cube/cuboid

Example

$$\text{Area of front and back} = 3 \times 5 \times 2 = 30\text{cm}^2$$

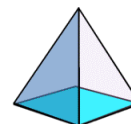
$$\text{Area of left and right} = 3 \times 6 \times 2 = 36\text{cm}^2$$

$$\text{Area of top and bottom} = 5 \times 6 \times 2 = 60\text{cm}^2$$

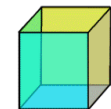
$$\text{Surface area} = 30 + 36 + 60 = 126\text{cm}^2$$



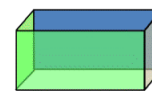
Tetrahedron
(Triangular pyramid)



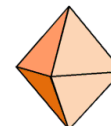
Square pyramid
(Square-based pyramid)



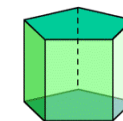
Cube



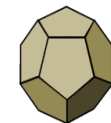
Cuboid



Octahedron



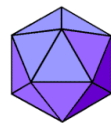
Pentagonal prism



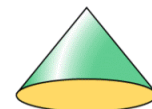
Dodecahedron



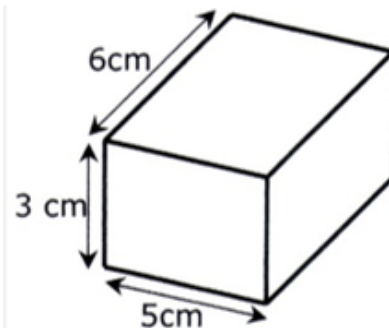
Sphere



Icosahedron



Cone



Macbeth, Shakespeare, Knowledge Organiser

Plot Overview:

Three witches tell the Scottish general Macbeth that he will be King of Scotland. Encouraged by his wife, Macbeth kills the king, becomes the new king, and kills more people out of paranoia. Civil war erupts to overthrow Macbeth, resulting in more death.

Summary: After we read each act add a sentence to summarise the events.



Act 1:
Act 2:
Act 3:
Act 4:
Act 5:

Context:

<p>William Shakespeare Full name: William Shakespeare. Born: Exact date unknown, but baptised 26 April 1564. Hometown: Stratford-upon-Avon, England. Occupation: Playwright, actor and poet. Died: 23 April 1616. Best known for: Writing hugely successful theatre plays! Also known as: The Bard of Avon. <i>During his lifetime, William Shakespeare wrote around 37 plays for the theatre and over 150 poems!</i></p>	<p>Witchcraft Until the 1700's most people in England believed in witches and witchcraft. This way of life was related to Pagan (non-Christian) beliefs, and had been tolerated for many years. But from the mid 1500's religious leaders tried to stamp out these beliefs to make sure that people were following the right religious practices. King James I wrote a book called Daemonologie in which he supported and encouraged the trials of witches. He believed the witches were being controlled by the devil.</p>	<p>Gender Expectations and Norms Both 14th century Verona and Elizabethan England were patriarchal societies. Women were denied all political rights and considered legally subject to their husbands. Disobedience was seen as a crime against their religion. Women who did not marry for whatever reason were forced to live in under the control of a male relative in his home or in a convent, where a woman could become a nun. Aristocratic families often required their young daughters to marry successful older men. Girls were considered eligible at the age of 14 and had to give their consent to marriage.</p>	<p>The Great Chain of Being Belief of a clear hierarchal order, where the closest (authority was derived from God) person to God was the King. God was at the top then came angels, mankind, animals, birds etc. In the human order the King was supreme – questioning the will of the king had religious as well as political significance. By killing the King Macbeth has caused chaos as well as going against the divine right as God chooses the King.</p>
<p>King James I When Elizabeth I died without any children in 1603, her cousin King James VI of Scotland became king of England. He was given the title King James I. It was the first time that England, Scotland and Ireland were ruled under a single monarch. James I was highly intelligent and developed a love of learning. His succession known as the Union of Crowns was unpopular for many Scots, who considered it disastrous/English did not like it either being ruled by the Scottish. James I became the patron of the King's Men – the playing company that Shakespeare belonged to for most of his career.</p>	<p>The Gunpowder Plot The gunpowder plot was an attempt by seven Catholic conspirators to blow up the new King and his parliament in 1605. The most famous of these plotters was Guy Fawkes, although he was not the leader of the group. They hid kegs full of gunpowder in the cellars beneath the chamber where the king and the rest of the political elite would assemble. Enough powder was stored to completely destroy the building and kill everyone present. But Guy Fawkes was caught with the gunpowder in the cellars, just twelve hours before the state opening of parliament. King James I's life was saved. The plotters were tortured and executed being hung, drawn and quartered.</p>	<p>Staging and Theatre The play was first performed in 1595. 16th and 17th Century audiences watched Shakespeare's plays being performed at open-air London theatres during the day. The stage had no scenery and no props and women were played by boys with unbroken voices. The poorer 'groundings' stood nearest to the stage and wealthier spectators paid higher prices to watch from seated galleries.</p>	<p>Religion Christian beliefs. Prominent in society – belief in God and hell. Therefore, conscious on what will happen after death depending on sins committed whilst alive.</p>

Assessment Overview: Part A and Part B.		Techniques: Language, structure and form.		
Part A	Part B	Language	Structure	Form
<p>You are given an extract from the play.</p> <p>You need to analyse how Shakespeare presents a character or relationship.</p> <p>Criteria: 3 paragraphs Clear point Embed evidence Include language, structure and form Explain what the quote shows Analyse the techniques Refer to the audience</p>	<p>After the extract, you are given a theme shown in the play.</p> <p>You need to refer to events elsewhere in the play which relate to that theme.</p> <p>Criteria: 3-4 paragraphs Clear point Event description Explain what the event shows Explain how it shows the theme Explain why it is significant Refer to context Refer to the audience</p>	<p>Imagery: Language which creates vivid sensory ideas in</p> <p>Simile: An explicit comparison between two things using 'like' or 'as'</p> <p>Metaphor: An implicit comparison between two things not using 'like' or 'as'.</p> <p>Personification: Attributing human like qualities to objects, ideas or animals.</p> <p>Alliteration: the occurrence of the same letter or sound.</p> <p>Triple emphasis: Description using 3.</p> <p>Oxymoron: The combination of words or ideas which have opposite or very different meanings.</p> <p>Assonance: Resemblance of sound between syllables of nearby words, arising particularly from the rhyming of two or more stressed vowels.</p> <p>Sibilance: The sibilant or hissing sounds are created. These soft consonants are s with sh, and ch, th including three others such as z, x, f and softer c.</p> <p>Motif: A repeated idea or image used throughout a text.</p>	<p>A single plot: No sub plot in Macbeth – focuses solely on his rise and fall – befits the intensity of the evil in the play – rise and fall of Macbeth which are prefaced by the Witches' contributions.</p> <p>A Two fold structure: Act 1 and 2 Macbeth is in a position of power. Turning point is Act 3 at the banquet scene. Following this his power declines.</p> <p>Foreshadowing: Witches' foretelling of Macbeth – the prophecies.</p> <p>Dramatic Irony: Some things are revealed to the audience before the characters increasing tension.</p> <p>Juxtaposition: The placement of two ideas, statements or events near each other to invite comparison to contrast.</p> <p>Rhyming: (of a word, syllable, or line) have or end with a sound that corresponds to another.</p> <p>Rhythm: a strong, regular repeated pattern of movement or sound</p> <p>Line length: The length of the line.</p> <p>Repetition: the action of repeating something that has already been said or written.</p>	<p>Blank Verse: Verse without rhyme, especially that which uses iambic pentameters – higher rank characters.</p> <p>Prose: Language that is without a specific pattern – usually lower standing characters speak in this.</p> <p>Iambic Pentameter: A line of verse with five metrical feet, each consisting of one short (or unstressed) syllable followed by one long (or stressed) syllable.</p> <p>Sonnet: a poem of fourteen lines using any of a number of formal rhyme schemes, in English typically having ten syllables per line.</p> <p>Soliloquy: An act of speaking one's thoughts aloud when by oneself or regardless of any hearers, especially by a character in a play.</p> <p>Aside: A remark or passage in a play that is intended to be heard by the audience but is supposed to be unheard by the other characters in the play</p> <p>Monologue: a long speech by one actor in a play.</p>

Confectionary:

 Confectionary is a term for sweets and  chocolate. It is typically anything that is sugary, such as candy, cakes and desserts.

Sarah Graham

Sarah Graham is a British painter who was born in 1977. She uses oil paints, working on a large scale. Her still life works depict sweets, candy wrappers and desserts. Her paintings are not only bright and colourful, but her hyper-realistic style gives the works a vivid, deep finish.

Joel Penkman

Joel Penkman is a New Zealand-British artist, born in 1979, who paints contemporary still-life. Her style is semi-photorealistic, which she uses to create interesting, playful depictions of confectionary, such as doughnuts and cakes. She uses the technique of egg tempera, which is where she mixes pigment (colour) with egg yolk.

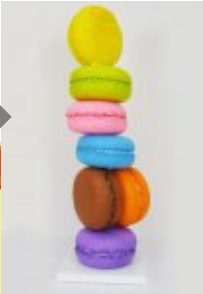
Peter Anton

Peter Anton is an American artist born in 1963. He is known for his oversized sculptures of candy. He describes himself as fascinated by the role food has in people's lives, now and throughout history. His work is quite humorous and surprising, as the sculptures are so realistic they are like an illusion.

Keywords

Investigate – Exploring / looking into a topic.
Research - Studying a topic carefully, such as finding out about an artist.
Annotate - Adding notes to give an explanation or a comment.

Analyse- Examining in detail.
Develop - Advancing a skill or knowledge in a subject.
Composition - The way in which the elements of a piece of art are arranged.



Year 10 ART Knowledge Organiser

Lino Printing

Lino Printing is a form of block printing that involves carving a pattern or design into a linoleum, rubber or vinyl surface that can then be printed from.

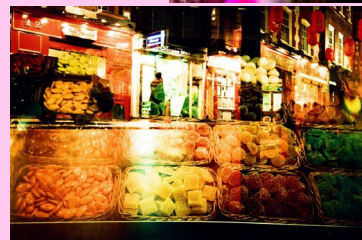
The traditional block printing surface is wood, however lino gained popularity in the early 20th Century due to it being a cheaper alternative.

It is achieved by carving out a design in the lino. The recesses created by the carving leave the design in relief, and it is the raised design that the ink is applied to. When the block is pressed onto paper, the ink is transferred from the lino to the paper, leaving the design behind.



Photo Exposure

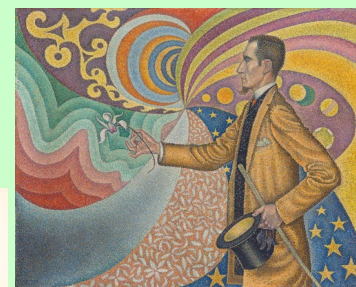
Double exposure photography is a technique that layers two different exposures on a single image, combining two photographs into one. Double exposure creates a surreal feeling for your photos and the two photographs can work together to convey deep meaning or symbolism. A similar technique, called a "multiple exposure," is when you combine more than two exposures in a single image.



Pointillism

Pointillism is the practice of applying small strokes or dots of colour to a surface so that from a distance they visually blend together. The technique is associated with its inventor, Georges Seurat who founded Neo-Impressionism, a movement that flourished from the late 1880s to the first decade of the 20th century.

Pointillism can also be created using one colour, such as black. To create a successful piece of work using one colour and small dots, you must vary the pressure of the dots, and consider where you place each one. For example, lots of dots close together will appear darker than when spaced far apart.



Silk painting

Silk painting is an ancient technique that first originated in India and Eastern Asia. Many Asian countries have their own unique silk painting techniques, including Japan, China, Vietnam, and Tibet, with practices that have been passed down and perfected throughout many generations of artists.

The 'Serti' technique is where designs are outlined with gutta or water-based resists, which are applied to white silk that has been pre-washed, dried and stretched (on a stretcher). Once the gutta or water-based resist has dried, it acts as a barrier for the dye or paint; keeping the colour within the outlined areas of the design and allowing you to achieve sharply defined borders.



Year 10 HT4 Drama Knowledge Organiser

Summary of topic

They must understand the GCSE requirements of the devising plays unit and understand what constitutes successful devised work

Aims of the topic

To use given stimuli to create and develop a devised piece of theatre

Devising Rules

- Every actor should have a monologue that is at least 90 seconds long and everyone should have an equal part.
- Divide the work up evenly – script writing (everyone write/plan their own scene), sourcing costume, planning technical theatre (staging, music, lights)
- Help each other out – but only when your own work is done. Even though this is a group project, you still get marked individually.
- Find an idea that every person is happy with and don't rule anything out.
- Try to get it on its feet early – the best ideas come from when you try to act something out, not sit there discussing it.

Devising Plays Knowledge Organiser Y10 GCSE

Assessment & Rehearsal Tips

- **You will be offered 4 pieces of stimuli given to us by the exam board. 1 song, 1 quote, 1 phrase and 1 picture.**
- **In your given groups, you will generate ideas for each stimuli**
- **You will then decide on a stimuli and an idea. Then you will decide on a practitioner to use for your idea**
- **In your groups you will create a piece of drama around your idea, linked to the stimuli and using practitioner techniques**
- **Try everything – even if something doesn't work, you may discover something useful.**

'It was the best of times, it was the worst of times, it was the age of wisdom, it was the age of foolishness, it was the epoch of belief, it was the epoch of incredulity, it was the season of Light, it was the season of Darkness, it was the spring of hope, it was the winter of despair.'
Charles Dickens, A Tale of Two Cities
2. 'Best Day of my Life' – American Authors
3. 'We realise the importance of our voices only when we are silenced' – Malala Yousafzai
4.
<https://images.app.goo.gl/Kxp2XA2HGPooKVP H7>



Skills & Definitions

Ensemble – Collaborated group performance.

Characterisation – The creating, development and performance of a created character.

Improvisation – Spontaneous acting and suggestions that further develop a performance.

Devised – Original created performance material, often using a stimulus.

Stimuli – The starting point set by exam board e.g. picture, quote, word or song. You chose one.

Practitioner – Brecht or Artaud and how they influenced the performance.

Brecht – Famous for Political and Epic Theatre. (See practitioner knowledge organiser). Made the audience think and bring real change.

Artaud – Famous for Theatre of Cruelty (See practitioner knowledge organiser). Made the audience feel uncomfortable.

Genre – Physical theatre is NOT a practitioner, it is a STYLE of drama focused upon storytelling using movement.

Techniques – The key skills which are relevant to the practitioner or genre (see practitioner knowledge organiser).

Final performance – The end performance of the piece.

Rehearsal – The process of creating and developing your piece of theatre

Monologue – A one person speech in character. Often around 2 minutes in length.

Main Characteristics

Soloists – the concerto grosso is a work for two or more soloists.

Orchestra – split into two sections; the ripieno (the main orchestra) and the concertino (soloists).

Instruments – harpsichord, cello, violin, violas, oboe, recorder, bassoon.

Continuo – harpsichord plays chordal harmony with cello or bassoon playing the bass line.

Terraced Dynamics – the volume changes *suddenly* between loud and soft.

Texture – melody & accompaniment, polyphonic, homophonic, contrapuntal. Can be quite complex.

Ornamentation – melodies are embellished with trills and turns. These sound quite 'busy'.

Venue – small spaces, for example, a chamber or room.

Composer –
Bach



Baroque Concerto Grosso

1600 - 1750

RIPIENO (MAIN ORCHESTRA)



CONCERTINO (SOLOISTS)



BACH – BRANDENBURG CONCERTOS
CORELLI – OPUS 6 NO.4 IN D MAJOR

Main Characteristics

Soloist – this is work for just one soloist and orchestra.

Orchestra – slightly larger orchestra than the concerto grosso.

Instruments – Harpsichord, cello, violin, violas, oboe, recorder, bassoon.

Continuo – harpsichord plays chordal harmony with cello or bassoon playing the bass line.

Terraced Dynamics – the volume changes suddenly between loud and soft.

Texture – melody & accompaniment, polyphonic, homophonic, contrapuntal. Can be quite complex.

Ornamentation – melodies are embellished with trills and turns. These sound quite 'busy'.

Venue – small spaces, for example, a chamber or room.

Composer –

Vivaldi



Baroque Solo Concerto

1600 - 1750

MAIN ORCHESTRA



SOLOIST

(OR ANY OTHER BAROQUE ERA SOLO INSTRUMENT)



VIVALDI – CONCERTO IN A MINOR FOR VIOLIN

HANDEL – CONCERTO NO.1 FOR OBOE IN B \flat MAJOR

Main Characteristics

Soloist – this is work for just one soloist and orchestra.

Orchestra – much larger orchestra than the Baroque era.

Instruments – the piano and clarinet were invented in this era. Brass and woodwind feature prominently.

Cadenza – this is the name given to the passages where the soloist plays unaccompanied and really shows off their technical skill. Usually improvised in this era.

Gradual Dynamics – crescendos and diminuendos feature. Volumes fall and rise gradually and smoothly.

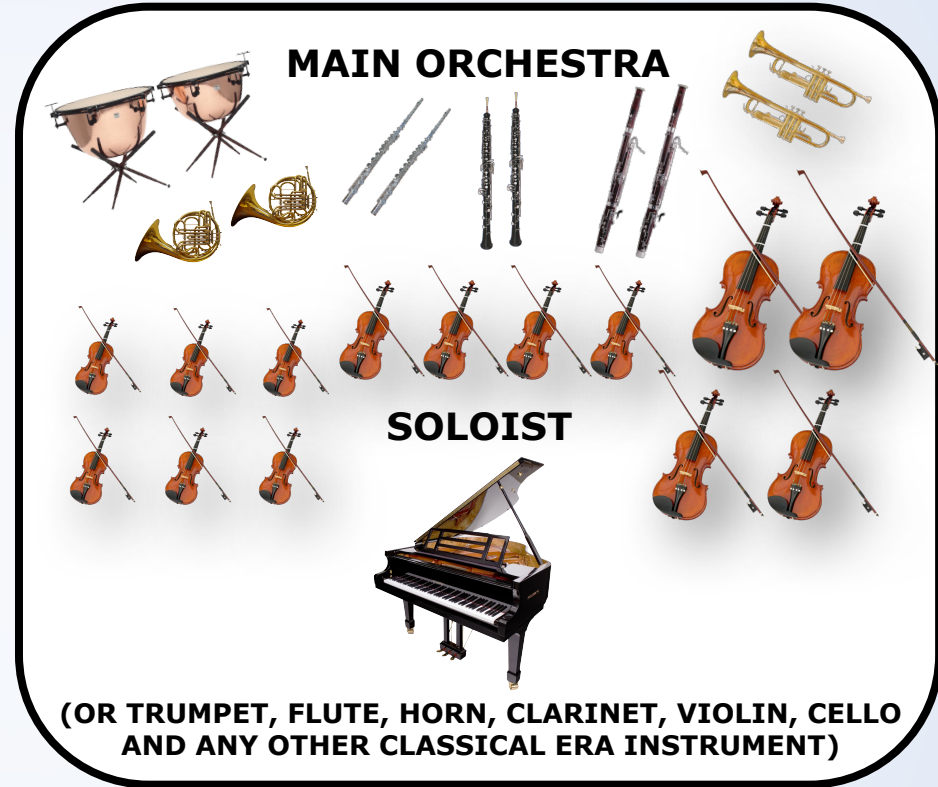
Venue – slightly larger space than the Baroque era due to size of orchestra. A **recital hall** would have been a suitable venue.

Composer –
Haydn



Classical Solo Concerto

1750 - 1820



HAYDN – PIANO CONCERTO NO.11 IN D MAJOR

MOZART – CLARINET CONCERTO IN A MAJOR

Main Characteristics

Mood – concertos in this era become much more dramatic sounding and emotive.

Orchestra and soloist – the interactions between these two become much more complex. The orchestra has now expanded in size greatly.

Instruments – developments in instrument making quality resulted in musicians being able to play very technically challenging music. New additions included the tuba, trombone, and piccolo.

Cadenza – these were now very technically demanding and were often composed rather than improvised.

Harmony and melody – this era made lots of use of chromatic scales and dissonant, clashing notes.

Venue – a large concert hall due to the size of the orchestra.

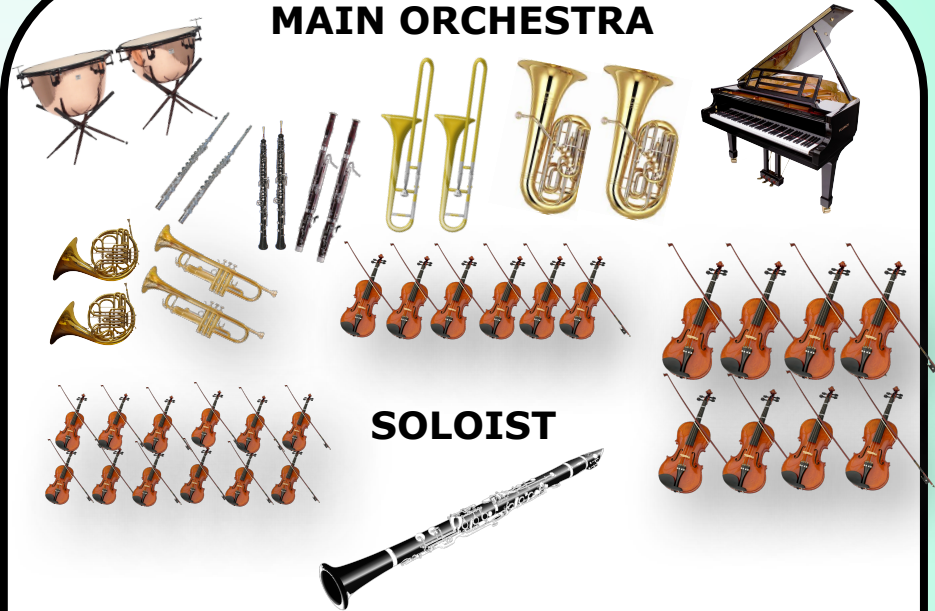
Composer –
Beethoven



Romantic Solo Concerto

1820 - 1900

MAIN ORCHESTRA



SOLOIST

(OR TRUMPET, FLUTE, HORN, PIANO, VIOLIN, CELLO
AND ANY OTHER ROMANTIC ERA INSTRUMENT)



**BEETHOVEN – PIANO CONCERTO NO.5
IN Eb**

**ELGAR – CELLO CONCERTO IN E MINOR
OPUS 85**

Level 1/2 Hospitality and Catering: Unit 1: Contributing factors to the success of hospitality and catering provision (AC1.4)



Contributing factors

The hospitality and catering sector is very competitive, and many businesses fail in the first year of operation. There are many factors that must be managed carefully for hospitality and catering businesses to make a profit and continue to operate in the long term.

Basic costs

Labour: These costs include employee wages, National Insurance contributions and pension contributions.

Material: These costs include decoration, furnishings, kitchen and dining equipment, ingredients, printing and health and safety equipment.

Overheads: These costs include rent, rates, gas and electricity, insurance, licensing, training and maintenance.

Economy

The value of the pound (£) can affect the hospitality and catering sector. If the economy is good, people will be willing to spend more. If the economy is weak (recession), people may decide that eating out or going on holiday is a luxury and will spend less.

VAT (Value Added Tax) is added to the final cost of goods and services offered in the hospitality and catering sector. The money from VAT goes to the government to pay for services everyone uses for example the NHS.

Environmental impact

Running a hospitality or catering provision uses a lot of resources. Businesses are encouraged to **reduce**, **reuse**, and **recycle**. Energy efficient equipment such as low energy light bulbs can save a business money. Using local and seasonal ingredients reduces the amount of CO₂ released into the atmosphere during transport. All waste should be separated and recycled or composted when possible.

Profit

Gross Profit: The difference between how much a menu item costs to make and how much it sells for. Ingredient costs should not be more than 30% of the gross profit. If the ingredient cost for a chocolate brownie dessert is £1.50 and the menu price is £4.50, the gross profit is £3.00.

Gross Profit % = $(3.00 \div 4.50) \times 100 = 66.6\%$

Net Profit = What is left from the gross profit once all costs (as listed above) are covered.

New technology

New technologies have benefitted the sector in positive ways. These include:

- **cashless systems** such as contactless cards and mobile payment apps
- **digital systems** such as online booking/ordering and key cards
- **office software** such as stock ordering systems.

Media

The hospitality and catering sector is very competitive, so most businesses try to make good use of the media to advertise. Most businesses will have their own **website**, which customers can use to view menus and make bookings.

- **Print Media:** Ads in magazines and newspapers, flyers and money-off vouchers.
- **Broadcast media:** Television, radio and online ads.
- **Social media:** Customer feedback and reviews.

Consumers are increasingly using smartphones to book, order, pay and review.



Standards and ratings: You will need to be able to know the importance of standards and ratings within the hospitality and catering industry, they are hotel and guest house standards, and restaurant standards.

Hotel and guest house standards

Hotels and guest houses standards are awarded and given star ratings. You should know what criteria is needed to be met for an establishment to receive each star rating.

Star rating 1 = Basic and acceptable accommodation and facilities. Simple rooms with no room service offered.

Star rating 2 = Average accommodation and facilities, a small establishment, and would not offer room service or have a restaurant.

Star rating 3 = Good accommodation and facilities. One restaurant in the establishment, room service available between certain hours, and Wi-Fi in selected areas are provided. The establishment could have a pool and gym.

Star rating 4 = Very good accommodation and facilities. Large hotel & reception area of a very good standard. Certain hours of room service, with a swimming pool and valet parking offered.

Star rating 5 = Excellent standard of accommodation, facilities, and cuisine. Offer valet parking, 24 hr room service, spa, swimming pool, gym, and concierge service.

Restaurant standards

Restaurant standards have three main possible awards or ratings that you should know. They are listed below:

AA Rosette award

Ratings between one and five rosettes could be awarded based on the following:

- different types and variety of foods offered
- quality of the ingredients used
- where the ingredients are sourced
- how the food is cooked, presented and tastes
- skill level and techniques used as well as the creativity of the chef.

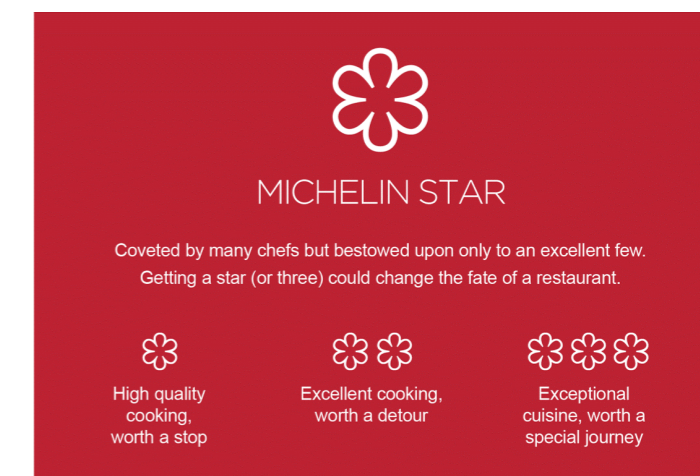


<https://www.stirkhouse.co.uk/about-us/awards/attachment/award-rosette>

Michelin star

A rating between one and three Michelin stars could be awarded based on the following:

- quality of ingredients used
- cooking and presentation techniques
- taste of the dishes
- standard of the cuisine
- value for money.



<https://guide.michelin.com/us/en/california/to-the-stars-and-beyond>

Good food guide

A rating between one and 10 could be awarded based on the following:

- cooking skills
- quality of ingredients
- techniques and cooking skills shown.



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:

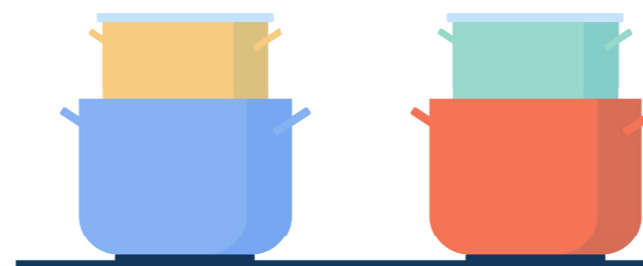
- breakfast/ lunch/ evening meal
- 24-hour room service/ restaurant available.

Leisure facilities:

- spa
- gym
- swimming pool.

Conference and function facilities:

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



Level 1/2 Hospitality and Catering - Unit 1-1.1.2: Personal attributes, qualifications and experience

You need to be able to know and understand the different personal attributes, qualifications and experience that an employer would look for to fulfil different job roles in the hospitality and catering industry.

Personal attributes

The list below names the different personal attributes that employees could need to fulfil different jobs in the industry:

- Team player
- Organised
- Flexible
- Good communicator
- Friendly
- Calm under pressure
- Willingness to learn and develop
- Pleasant
- Hygienic
- Punctual
- Hardworking
- Reliable
- Approachable
- Good listener
- Leadership qualities
- Sense of humour
- Ability to be proactive
- Good attention to detail
- High standard of personal appearance.



Qualifications

Apprenticeships and experience in the role or sector are two ways to fulfil certain job roles. Named below are some of the qualifications that could be required to fulfil certain jobs within the hospitality and catering sector.

Hospitality sector

- Level 1 Certificate in Business and Administration (office administration).
- Level 2 Certificate in Front of House Reception (hospitality and catering).
- Level 2 Diploma in Reception Operation and Services (hospitality and catering).
- GCSE English / Maths / Hospitality and Catering / Business / IT.

Catering sector

- Diploma in Catering.
- NVQ Food preparation and cooking.
- Bachelor's degree/catering management.
- City & Guilds diplomas in professional cookery.
- BTEC HND in professional cookery.
- A foundation degree in culinary arts.
- Health and safety and food hygiene certificates/food hygiene.
- Level 1/2 hospitality and catering.
- GCSE Food and Nutrition.
- Level 3 Food Science and Nutrition.
- First aid.





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 of 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.

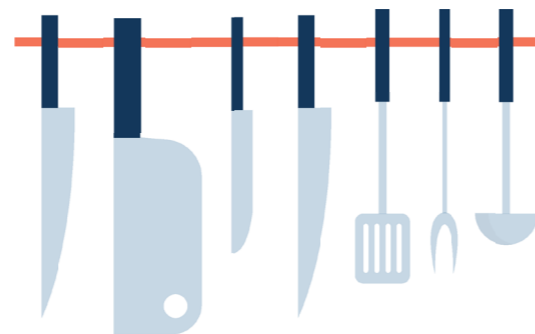




Types of employment contracts and working hours

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

- **Casual:** this type of contract 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 contract 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 contract.
- **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 contract is complete.
- **Zero hours contract:** this type of contract 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.

Level 1/2 Hospitality and Catering - Unit 1-1.1.4: Positive and negative uses of media

You need to be able to know and understand the different types of media, as well as the positive and negative impacts they can have on the hospitality and catering industry.

Different types of media

The list below names the different types of media that can be used to promote the hospitality and catering industry.

- **Printed media:** Different types of printed media can include:
 - ◇ magazines
 - ◇ newspapers
 - ◇ billboards
 - ◇ business cards
 - ◇ posters.
- **Broadcast:** Different types of broadcasting media include:
 - ◇ television
 - ◇ radio.
- **Internet:** Ways of promoting through the internet include:
 - ◇ social media, e.g. Facebook, Instagram, Twitter, etc.
 - ◇ Websites, e.g. TripAdvisor
 - ◇ ads on podcasts
 - ◇ blogs
 - ◇ email.
- **Competitive:** This could include being competitive with other establishments to attract and retain customers through competitions, deals, special offers and themed events.

Positive and negative uses of media

Named below are some of the positives and negative impacts the media can have on the hospitality and catering sector.

Positive impacts:

- Social media is free and isn't an extra cost for the business.
- Able to contact a larger and wider audience quickly.
- Attracts new customers.
- Builds business awareness.
- Customers can feel more of a personal connection with the business.
- Creates and builds customer loyalty.
- Media can target specific groups easily.

Negative impacts:

- Advertising in media is expensive, e.g. printed media and broadcasting.
- Having a bad or negative review/comment on social media can rapidly decrease the reputation of a business, e.g. through a comment retweet or share.
- Rapid spread of negative reviews, comments and/or feedback can be detrimental to the success of a business, leading the business potentially having to close.
- Having a bad reputation would decrease customer loyalty and less likely to attract new customers.





Customer needs

Customers can be divided into three groups:

- Business customers
- Leisure customers
- Local residents

Customer needs may include catering, equipment and/or accommodation.

Customer needs: Local residents

Local residents may use the facilities hospitality and catering provisions offer without using overnight accommodation. Examples include restaurants, bars, spas, and golf courses.

Hospitality and catering businesses will want to ensure that noise and parking issues are addressed if the provision is in a residential area.

Customer needs: Customer rights and inclusion

By law, hospitality and catering provision must provide for customer rights, inclusion and disabilities. No business can discriminate against a person because of:

- Age
- Disability
- Sexual orientation
- Ethnicity
- Gender
- Race and culture
- Pregnancy and maternity

Customer needs: Business customers

These customers use hospitality and catering provisions for work purposes. Examples include conferences, meetings, and training.

Catering:

- tea, coffee and food facilities for meetings
- early breakfast
- 24-hour room service.

Conference facilities:

- whiteboards, projectors, screens, flip charts, pens and notepaper, free Wi-Fi
- parking.

Accommodation:

- a quiet floor to work
- express check-in and check-out
- iron and ironing board or trouser press
- access to leisure facilities
- discount/loyalty points.

Customer needs: Leisure customers

These customers use hospitality and catering provisions for holidays, sight-seeing, travelling or when attending sporting and theatrical events.

The needs of leisure customers vary depending on their reason for travel. Some customers will want basic accommodation with value for money and some customers will look for a luxury experience.

Catering:

- drinks facilities in room
- snack/mini bar
- breakfast: included or at extra cost
- room service
- restaurant
- bar
- special dietary needs and children's menu options.

Accommodation:

- different room sizes
- disability access
- en-suite facilities
- free Wi-Fi
- concierge service
- cots
- extra pillows and bedding
- toiletries.



Successful hospitality and catering provisions change to meet their customers' needs and expectations. Customer needs can change depending on their lifestyle, dietary requirements and income. Customers have an expectation that a hospitality and catering provision will keep up with current trends. An example is mobile apps which can be used for everything from booking a room to ordering and paying for food.

Customer requirements/needs

Understanding customer needs and requirements helps hospitality and catering provisions to attract more customers and make more profit.

Lifestyle: Successful hospitality and catering provisions analyse the needs of their customers based on their lifestyles, budgets, eating patterns, and interests such as sports and hobbies.

Nutritional needs: Successful hospitality and catering provisions will offer a range of dishes to suit the nutritional needs of their customers. Many menus will include nutritional information available to help their customers make informed choices.

Dietary needs: Most menus will offer a range of dishes to suit special dietary needs such as coeliac disease. Most menus will include vegetarian and vegan options as well as children's menus.

Time available: Some customers will want fast food, and some will prefer a leisurely meal.

Customer expectations

Customers will visit a range of hospitality and catering provisions, from fast food to fine dining, with expectations of an enjoyable experience.

Service: Customers will expect polite efficient service regardless of the type of provision they are visiting.

Value for money: Customers will expect meals that are nutritious, filling and sold at the right price for the type of provision they are visiting.

Trends: Customers will expect hospitality and catering provisions to keep up with trends such as mobile ordering apps.

Awareness of competition from other providers: Customers will expect hospitality and catering provisions to adapt their menus to attract new customers.

Media influence/interest: Customers will expect hospitality and catering provisions to match reviews.

Environmental concerns: Customers will expect eco-friendly hospitality and catering provisions.

Seasonality: Customers will expect dishes made with seasonal, local ingredients.

Customer demographics

Successful hospitality and catering provisions conduct marketing research by asking questions to find out the requirements, needs and expectations of potential customers. The information is used by the provision to create a USP (unique selling point).

Age: Do potential customers want fast food or a luxury experience? Do they need child-friendly facilities?

Location: Is your provision located in a residential area? On a high street? In a business area?

Accessibility: Is there parking? Is it accessible to people with mobility issues?

Money available: Do potential customers have a large amount of disposable income? Are they on a tight budget?

Access to establishments/provisions: Are they competing with similar provisions? Is there limited competition in the area?

Level 1/2 Hospitality and Catering - Unit 1-1.3.1: Safety documents in hospitality and catering

Different documentation is required to be completed for potential health and safety risks and hazards to be avoided within the hospitality and catering industry. Accident forms and risk assessments are explained below, stating their importance and how to complete each document.

Accident forms

If an accident happens, it is vital that an accident form is completed correctly to develop control measures for potential risks and to avoid them from happening again. It should be reviewed and used to manage any health and safety risk. It is law to complete an accident form for accidents in the workplace. Below is an example of an accident form and how it should be completed.

Accident form	
Name of person in accident:	Date:
Description of accident & injury:	Description should include as many details as possible about what happened and how, e.g. slipped/fallen on oil spillage and broken arm as a result.
What was the hazard?	Named hazards could be spillage/liquid on floor or broken handrail, etc.
How could this accident have been prevented?	Suggested prevention could include: <ul style="list-style-type: none"> • correct storage • ensuring all staff had health and safety training • relevant health and safety posters visible in the workplace • correct usage of wet floor signs and clear spillages immediately.
Further action:	Points could include: <ul style="list-style-type: none"> • investigating the accident further • completing/updating risk assessment • reviewing storage of products • first aid that has been given to be logged • correct PPE to be worn, e.g. anti-slip footwear.
Signed:	

Risk assessment

A risk assessment should be completed and reviewed frequently for the document to be kept up to date. New risks should have control measures to reduce the risk of happening or not happen at all. Within the document hazards need to be identified, likelihood of the risk happening is stated and the control measure of how to avoid or reduce the risk is noted. Below are definitions of the main key words and an example of a risk assessment document.

Hazard: An object or something that can physically harm someone or cause harm to someone's health.

Level of risk: The likelihood of the hazard happening and being harmed or causing injury. Level of risks named could be low, medium or high.

Control measure: Steps or action taken to avoid or reduce the hazard from happening and causing injury.

Risk assessment			
Assessment carried out by:		Date of assessment:	Date of next review:
What are the hazards?	Level of risk	Control measure	Who needs to carry out action?
Examples could include, slips, trips, falls, burns from oven, electric shocks, etc.	Low / medium / high If it is a low risk, then the hazard is less likely to cause injury or harm compared to a high risk.	Examples could include providing training and PPE for employees, having appropriate safety posters and signs, e.g. wet floor signs.	Named employer and/or employees to reduce the hazard from happening.

Remember: Employers are responsible for the health and safety training needs of all staff.

Level 1/2 Hospitality and Catering: Unit 1-1.3.1 - Health and safety in hospitality and catering provisions



Control of Substances Hazardous to Health Regulations (COSHH) 2002

What employers need to do by law	What paid employees need to do
Control substances that are dangerous to health.	Attend all training sessions regarding COSHH.
Provide correct storage for those substances and appropriate training for staff.	Follow instructions carefully when using the substances.
Some examples of substances that are dangerous to health include cleaning products, gases, powders & dust, fumes, vapours of cleaning products and biological agents.	Know the different types of symbols used to know different types of substances and how they can harm users and others when used incorrectly.

Health and Safety at Work Act 1974 (HASAWA)

What employers need to do by law	What paid employees need to do
Protect the health, wellbeing and safety of employees, customers and others.	Take reasonable care of their own health and safety and the health and safety of others.
Review and assess the risks that could cause injuries.	Follow instructions from the employer and inform them of any faulty equipment.
Provide training for workers to deal with the risks.	Attend health and safety training sessions.
Inform staff of the risks in the workplace.	Not to misuse equipment.

Personal Protective Equipment at Work Regulations (PPER) 1992

What employers need to do by law	What paid employees need to do
Provide PPE e.g. masks, hats, glasses and protective clothes.	Attend training and wear PPE such as chef's jacket, protective footwear and gloves when using cleaning chemicals.
Provide signs to remind employees to wear PPE.	
Provide quality PPE and ensure that it is stored correctly.	

Report of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) 2013

What employers need to do by law	What paid employees need to do
Inform the Health and Safety Executive (HSE) of any accidents, dangerous events, injuries or diseases that happen in the workplace.	Report any concerns of health and safety matters to the employer immediately. If nothing is resolved, then inform the HSE.
Keep a record of any injuries, dangerous events or diseases that happen in the workplace.	Record any injury in the accident report book.

Manual Handling Operations Regulations 1992

What employers need to do by law	What paid employees need to do
Provide training for staff.	Ask for help if needed.
Assess and review any lifting and carrying activities that cannot be avoided.	Squat with feet either side of the item. Keep back straight as you start to lift. Keep the item close to your body whilst walking. Make sure you can see where you're going.
Store heavy equipment on the floor or on low shelves.	
Provide lifting and carrying equipment where possible.	

Risks to health and security including the level of risk (low, medium, high) in relation to employers, employees, suppliers and customers

Review and assess level of risks in the workplace e.g. slips, trips, falls, burns etc by completing a risk assessment to avoid from happening.



Hazard Analysis and Critical Control Points (HACCP)

Every food business lawfully needs to ensure the health and safety of customers whilst visiting their establishment. To ensure this, they need to take reasonable measures to avoid risks to health. HACCP is a food safety management system which is used in businesses to ensure dangers and risks are noted and how to avoid them.

All food businesses are required to:

- assess and review food safety risks
- identify critical control points to reduce or remove the risk from happening
- ensure that procedures are followed by all members of staff
- keep records as evidence to show that the procedures in place are working.

Food Hazards

A food hazard is something that makes food unfit or unsafe to eat that could cause harm or illness to the consumer. There are three main types of food safety hazards:

- **Chemical** – from substances or chemical contamination e.g. cleaning products.
- **Physical** – objects in food e.g. metal or plastic.
- **Microbiological** – harmful bacteria e.g. bacterial food poisoning such as Salmonella.

HACCP table

Here is an example of a HACCP table – it states some risks to food safety and some control points.

Hazard	Analysis	Critical Control Point
Receipt of food	Food items damaged when delivered / perishable food items are at room temperature / frozen food that is thawed on delivery.	Check that the temperature of high-risk foods are between 0°C and 5°C and frozen are between -18°C and -22°C. Refuse any items that are not up to standard.
Food storage (dried/chilled/frozen)	Food poisoning / cross contamination / named food hazards / stored incorrectly or incorrect temperature / out of date foods.	Keep high-risk foods on correct shelf in fridge. Stock rotation – FIFO. Log temperatures regularly.
Food preparation	Growth of food poisoning in food preparation area / cross contamination of ready to eat and high-risk foods / using out of date food.	Use colour coded chopping boards. Wash hands to prevent cross-contamination. Check dates of food regularly. Mark dates on containers.
Cooking foods	Contamination of physical / microbiological and chemical such as hair, bleach, blood etc. High risk foods may not be cooked properly.	Good personal hygiene and wearing no jewellery. Use a food probe to check core temperature is 75°C. Surface area & equipment cleaned properly.
Serving food	Hot foods not being held at correct temperature / foods being held too long and risk of food poisoning. Physical / cross-contamination from servers.	Keep food hot at 63°C for no more than 2 hours. Make sure staff serve with colour coded tongs or different spoons to handle food. Cold food served at 5°C or below. Food covered when needed.

There are several food legislations and laws that you need to be aware of, which are food labelling laws, food safety legislation and food hygiene.

Food labelling laws

By law, the following must be shown on food packaging and labels:

- name of the food
- list of ingredients
- allergen information noted clearly and in bold on the packaging or label
 - ◇ The 14 possible allergens include: celery, cereals containing gluten (e.g. wheat, oats and barley), crustaceans (e.g. lobster, prawns and crab), eggs, fish, lupin, milk, molluscs (e.g. oysters and mussels), mustard, peanuts, sesame, soybeans, tree nuts (e.g. almonds, hazelnuts, walnuts, Brazil nuts, cashews, pecans, pistachios and macadamia nuts) and sulphur dioxide and sulphites (information from www.food.gov.uk).
- storage instructions
- name and address of manufacturer
- nutrition information
- cooking instructions
- weight of ingredients
- use by dates and/or best before dates.

The label must not be misleading and must be clear and easy to understand.



Food safety legislation

Under the Food Safety Act 1990, any businesses that prepare, cook and sell food must meet the following criteria:

- make sure the food is safe to eat
- the food packaging or label must not be misleading in any way, e.g. if the packaging states the product is suitable for vegetarians it must not contain any meat
- the food product is what the consumer expects it to be.

Food hygiene

The Food Hygiene Regulations 2006 ensures that food at any time of production, apart from primary production (e.g. catching fish, milking animals, etc.), is handled and sold in a hygienic way.

These regulations also aim to do the following:

1. identify potential food safety hazards
2. enables to identify where exactly in the process that things could go wrong – these are called **critical control points**
3. put controls in place to prevent food safety risks from happening
4. ensure that the control measures that exists are always followed and are reviewed frequently.





Food related causes of ill health

Ill health could be caused by any of the following:

- **bacteria**
- **allergies**
- **intolerances**
- **chemicals** such as:
 - detergent and bleach
 - pesticides and fertilisers.

Intolerances

Some people feel unwell when they eat certain foods. Common foods that cause intolerance include:

- milk (lactose)
- cereals (gluten)
- artificial sweeteners (Aspartame)
- flavour enhancers (MSG).

Food poisoning bacteria

The main causes of food poisoning bacteria are:

- **Bacillus cereus:** found in reheated rice and other starchy foods.
- **Campylobacter:** found in raw and undercooked poultry and meat and unpasteurised milk.
- **Clostridium perfringens:** found in human and animal intestines and raw poultry and meat.
- **E-coli:** found in raw meat, especially mince.
- **Listeria:** found in polluted water and unwashed fruit and vegetables.
- **Salmonella:** found in raw meat, poultry and eggs.
- **Staphylococcus aureus:** found in human nose and mouth.

Food and the law

Food can cause ill-health if it is stored, prepared and/or cooked incorrectly or if a person unknowingly eats a food that they are allergic or intolerant to. All hospitality and catering provision need to follow laws that ensure food is safe to eat. They are:

- **Food Labelling Regulations (2006):** A label must show all ingredients including allergens, how to store and prepare the food, where it came from, the weight of the food and a use-by or best-before date.
- **Food Safety (General Food Hygiene Regulations) 1995:** This law makes sure that anyone who handles food - from field to plate – does so in a safe and hygienic way. The **HACCP** system is used throughout the hospitality and catering sector.
- **Food Safety Act 1990:** This law makes sure that the food people it is safe to eat, contains ingredients fit for human consumption and is labelled truthfully.

Food allergies

An allergy is a reaction to something found in food. In the case of a severe allergy, the reaction can lead to death.

Common allergens include:

Cereals	Eggs	Seeds
Soya	Fish and shellfish	Strawberries
Peanuts	Wheat	Milk and dairy
Celery	Tree nuts	Mustard



Symptoms and signs of food-induced ill-health:

An “upset tummy” is a familiar symptom for someone who thinks they might have food poisoning; this is known as a non-visible symptom. There are many other signs and symptoms that could show that a person might be suffering from ill-health due to the food they have eaten. Some of the symptoms can be seen (visible symptoms) such as a rash. It is important to be able to recognise visible and non-visible symptoms to help someone suffering from food-induced ill-health.

Visible symptoms

Visible symptoms of food poisoning, chemical poisoning, allergic reaction and food intolerance include:

- **Diarrhoea:** a common symptom of most types of food poisoning bacteria and can also be a symptom of lactose intolerance.
- **Vomiting:** a common symptom of most types of food poisoning bacteria, but may could also be caused by taking in chemicals accidentally added to food.
- **Pale or sweating/chills:** a high temperature is a common symptom of E-coli and Salmonella.
- **Bloating:** a symptom of lactose intolerance.
- **Weight loss:** a symptom of gluten intolerance (coeliac disease).

Allergic/anaphylactic reaction

- **Visible symptoms:** red skin, a raised rash, vomiting, swelling of lips and eyes and difficulty breathing.
- **Non-visible symptoms:** swelling of tongue and throat, nausea (feeling sick) and abdominal pain.
- **Anaphylaxis:** a severe reaction to eating an allergen that can lead to death. An injection of adrenaline (for example, an EpiPen) is the treatment for an anaphylactic reaction.

Non-visible symptoms

Non-visible symptoms of food poisoning, chemical poisoning, allergic reaction and food intolerance include:

- **Nausea (feeling sick):** the most common symptom for all types of food-induced ill-health.
- **Stomach-ache/cramps:** abdominal pain is common symptom of lactose intolerance as well as a sign of an allergic reaction. Cramps may happen at the same time as diarrhoea.
- **Wind/flatulence:** a common symptom of lactose intolerance.
- **Constipation:** a symptom of Listeria food poisoning.
- **Painful joints:** a symptom of E-coli food poisoning.
- **Headache:** a symptom linked to Campylobacter, E-coli and Listeria.
- **Weakness:** non-stop vomiting, and diarrhoea can leave a person feeling weak. Gluten intolerance (coeliac disease) can leave a person feeling tired because their bodies can't absorb the correct amount of nutrients.



Preventing cross-contamination

Food poisoning bacteria can easily be transferred to high-risk foods. This is called cross-contamination. It can be controlled by:

- washing hands before and after handling raw meat and other high-risk foods.
- using colour-coded chopping boards and knives when preparing high-risk foods.
- washing hands after going to the toilet, sneezing, or blowing your nose and handling rubbish.

Preventing physical contamination

Physical contamination is when something which is not designed for eating ends up in your food. Physical contaminants include hair, seeds, pips, bone, plastic packaging, plasters, broken glass, flies and other insects, tin foil and baking paper, soil, and fingernails.

Physical contamination can be controlled by:

- food workers following personal hygiene rules
- keeping food preparation and serving areas clean
- checking deliveries for broken packaging
- thoroughly washing fruits and vegetables before preparation
- using tongs or gloves for handling food.

Temperature control

Delivery	Storage	Preparation	Service
<p>The temperature of high-risk foods must be checked before a delivery is accepted. The food should be refused if the temperatures are above the safe range.</p> <p>Refrigerated foods = 0-5°C Frozen foods = -22°C to -18°C</p>	<p>High-risk foods must be covered and stored at the correct temperature. Temperatures must be checked daily.</p> <p>Refrigerator = 0-5°C Freezer = -22°C to -18°C</p> <p>Unwashed fruit and vegetables must be stored away from other foods.</p>	<p>High risk-foods need to be carefully prepared to avoid cross-contamination. A food probe can be used to make sure that high-risk foods have reached a safe core (inside) temperature, which needs to be held for a minimum of two minutes.</p> <p>Core temperature = 70°C</p>	<p>Food needs to be kept at the correct temperature during serving to make sure it is safe to eat. Hot food needs to stay hot and cold food needs to stay chilled.</p> <p>Hot holding = 63°C minimum Cold holding = 0-5°C</p>



Role of the Environmental Health Officer (EHO)

The role of the Environmental Health Officer (EHO) is to protect the health and safety of the public. They are appointed by local authorities throughout the UK. In the hospitality and catering industry, they are responsible for enforcing the laws linked to food safety. They inspect all businesses where food is prepared and served to members of the public, advise on safer ways of working and can act as enforcers if food safety laws are broken.

EHO inspections

The EHO can carry out an inspection of any hospitality and catering premise at any time during business hours – they do not need to make an appointment. During an inspection, the EHO will check to make sure that:

- the premises are clean
- equipment is safe to use
- pest control measures are in place
- waste is disposed properly
- all food handlers have had food hygiene and safety training
- all food is stored and cooked correctly
- all food has best-before and use-by dates
- there is a HACCP plan to control food hazards and risks.

The EHO is allowed to:

- take photographs of the premises
- take food samples for analysis
- check all record books, including fridge and freezer temperatures, cleaning schedules and staff training
- offer advice on improving food hygiene and safety in the business.

EHO and the law

If the EHO discovers problems with the food safety and hygiene in the premise, they are allowed by law to:

- remove any food that may be hazardous so it can't be sold
- tell the owners to improve hygiene and safety within a set time and then come back and re-inspect
- close the premises if there is a risk to health of the public
- give evidence in a court of law if the owners are prosecuted for breaking food hygiene and safety laws.

Complaints by the public

The EHO will immediately investigate any complaints of suspected food poisoning linked to a particular premise.

Hygiene ratings

When an inspection has been carried out, the EHO will give the business a food hygiene rating. The ratings are published on the Food Standards Agency website as well as on stickers displayed at the business. A rating of 5, or very good, represents the highest standard of food hygiene.



Factors affecting menu planning

You need to be aware of the following factors when planning menus:

- **cost** (ingredients as well as business costs)
- **portion control** (value for money without waste)
- **balanced diets/current national advice**
- **time of day** (breakfast, lunch, and dinner menus as well as small plates and snacks)
- **clients/customers** (a menu with prices that will suit the people who visit your establishment).

Equipment available

You need to know and understand the type of equipment needed to produce a menu. The choice of dishes will be influenced by the equipment available to the chef.

This includes kitchen equipment such as:

- hobs, ovens, and microwaves
- fridge, freezer and/or blast chiller
- specialist equipment, for example a *sous vide* or pizza oven
- hand-held equipment, for example electric whisks or hand-blenders
- other electric equipment, for example food processors.

Skills of the chef

The skills of the chef must be suited to the type of provision and the menu offered.

A Michelin starred restaurant will require a chef who has complex skills in preparation, cooking and presentation of dishes.

A café will require a chef who has a range of medium and complex skills to produce a suitable menu.

A large restaurant will normally have a full kitchen brigade while a smaller establishment may only have a single chef with one or two assistants.

Time available

The type of provision will influence the amount of time a customer may be willing to wait for their dish to be prepared. Can the chef prepare, cook, and present more than one dish at the same time? Can some items be made in advance?

Time of year

The time of year can affect menu choices. Light and cold dishes such as salads are better suited to the summer months. Hearty dishes such as stews are more suited to the winter. Special dishes linked to holidays such as Christmas and Valentine's Day may also be included. The availability of **seasonal** produce can also affect menu choices as certain commodities, for example strawberries, are less expensive when in season.

Environmental issues

The chef will need to think about environmental issues when planning a menu. Can the chef **reduce** the amount of ingredients bought as well as reducing food waste? Can the chef **reuse** ingredients to create new dishes for example stale bread made into bread-and-butter pudding? Can the kitchen **recycle** waste wherever possible? Running the kitchen sustainably will save money.

Organoleptic properties

Organoleptic properties are the sensory features of a dish (**appearance, aroma, flavour, and texture**).

The chef will need to think about how the dish will look and taste. Is there a range of colours? Do the flavours go well together? Are there a variety of textures?



Skills and techniques

You need to be able to identify the different types of skills you need to produce your selected dishes. Some dishes will require the use of more complex skills. You will need to demonstrate a range of skills when producing your chosen dishes.

Preparation and cooking skills are categorised as follows: **basic**, **medium**, and **complex**.

Presentation

You should know and understand the importance of using the following appropriate presentation techniques during the production of dishes:

- creativity
- garnish and decoration
- portion control
- accompaniments.

Basic preparation skills and techniques

Blending, beating, chopping, grating, hydrating, juicing, marinading, mashing, melting, peeling, proving, sieving, tenderising, trimming, and zesting.

Medium preparation skills and techniques

Baton, *chiffonade*, creaming, dehydrating, deseeding, dicing, folding, kneading, measuring, mixing, puréeing, rub-in, rolling, skinning, slicing, spatchcocking, toasting (nuts/seeds) and weighing.

Complex preparation skills and techniques

Brunoise, crimping, de-boning, filleting, *julienne*, laminating (pastry), melting using *bain-marie*, mincing, piping, and segmenting, shaping, unmoulding and whisking (aeration).

Basic cooking skills and techniques

Basting, boiling, chilling, cooling, dehydrating, freezing, grilling, skimming, and toasting.

Medium cooking skills and techniques

Baking, blanching, braising, deglazing, frying, griddling, pickling, reduction, roasting, sautéing, steaming, stir-frying, and using a *sous vide* (water bath).

Complex cooking skills and techniques

Baking blind, caramelising, deep fat frying, emulsifying, poaching, and tempering.

Year 11 BTEC Dance- Autumn 1 Subject Term Knowledge Organiser

Component 2 - Developing Skills and Techniques in the Performing Arts

Application of skills and techniques during rehearsal

Students will apply skills and techniques during the rehearsal and development process to support their development.

Such as:

- o physical
- o musicality
- o interpretative
- o stylistic
- o interaction with the group
- o interaction in performance
- o refining ideas
- o communicating design ideas e.g. presentation.



Examine professional practitioners' performance work

Analyse repertoire from three performance styles in dance and musical theatre

- consider the roles and responsibilities, creative intention, key influences and purpose
- make comparisons between stylistic qualities, using examples to back up your knowledge
- consider how practitioners contribute to the performance process and how their roles and responsibilities differ depending on the performance, style and outcome.



Historical Context

Street dance, also more formally described as vernacular dance, originated in New York in the 1970s. Evolving on the streets of Manhattan and the Bronx, it was developed as an improvised, social dance form, reacting against traditional, high-art dance styles



Dance styles

Locking

Locking combines short, sharp movements with "lock" pauses, all synchronized to funk music. Locking was created by a man named Don Campbell.



Popping

Popping is a dance style that is based on rapid contractions and release of the muscles so it appears that they are, "popping" in synch with the beat of the music. Under the umbrella of Popping are the dance styles like Tutting, Strobing, Ticking, Dime-stopping, Waving, Roboting, and Electric Boogaloo. Popping is a funk style of dance originating in California in the African American community during the 1960s. Popping is still very popular today and it is done to variety of music genres.

Waacking

Waacking is a dance style that was created in the nightclubs of Los Angeles in the 1970s. Waacking consist of movements of the arms and hands done typically to disco music.

Year 10 HT3 Knowledge Organiser for BTEC Sport— Component 1



Exercise Intensity

Aerobic endurance = It is the ability of the cardio-respiratory system to efficiently supply nutrients and oxygen to working muscles during sustained physical activity.

Muscular strength = The maximum force a muscle or muscle group can produce. (Measured in N or KG)

Muscular endurance = It is the ability of a muscle or group of muscles to keep contracting over a period of time against light to moderate load.

Flexibility = Having an adequate range of motion in all joints of the body. It is the ability to move a joint through its complete range of movement.

Speed = The ability to perform a movement or cover a distance in a short period of time = distance/time taken.

Body composition = This is the relative ratio of fat mass to fat free mass (vital organs, muscle, bone) in the body



Components of Fitness — Skill

Balance = The ability to maintain your centre of mass over a base of support. A performer may need static or dynamic balance.

Agility = The ability of a sports performer to quickly and precisely move or change direction without losing their balance.

Coordination = The smooth flow of movement needed to perform a task efficiently and accurately. It often involves being able to use 2 or more body parts together.

Reaction Time = The time taken for a sports performer to respond to a stimuli and the start their response.

Power = The work done in a unit of time. It is the ability to apply a combination of strength and speed. $\text{Power} = \text{Force (kg)} \times \text{Distance (m)} / \text{time (min or s)}$

Keywords

Cardio-Respiratory = The heart and blood vessels working with the lung and the airways to carry oxygen to the muscle.

Contracting = This is when the muscles shortens to create a movement Accelerative

Speed = Gradually increasing your speed Pure Speed = Your maximum speed.

Endurance = The ability to prolong the amount of time near maximum speed Static

Balance = Balancing without moving Dynamic Balance = Balancing when moving

Stimuli = Something which causes a response or movement



Year 10 HT3 Knowledge Organiser for BTEC Sport—

Unit 1 Fitness for Sport and exercise

Exercise Intensity

Measuring Heart Rate

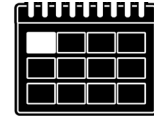
1. Sit Down
2. Locate your radial with your index and middle finger
3. Don't use your thumb—it has its own pulse
4. Count the beats from 30 seconds and times it by 2 to find your BPM



Basic Principles of Training

We apply principles of training to our training programmes so that we make it effective and make sure it aids progression.

The Basic Principles of Training



Training Zones

Speed Zone = 95% to 100% of MHR

Anaerobic Training Zone = 85% to 95% of MHR

Aerobic Training Zone = 60% to 85% of MHR



The Borg Scale - Rate of Perceived Exertion (RPE)

The Borg scale is used to predict or estimate the Heart Rate of an individual.

Practice by the individual is needed to make their predictions as accurate as possible

The individual rates themselves from 7 to 20 on the scale.

They then times this by 10 to get an estimated HR

$RPE \times 10 = HR$ (BPM)

Frequency = How often we train Increasing the number of days

Intensity = How hard we train Increasing the number or reps

Time = How long we train Increasing the time we train

Type = How we train selecting the correct training method

The FITT principle is part of the Additional Principle of **PROGRESSIVE OVERLOAD.**

This is the gradual increase of a training load, when done correctly it will progressively increase Frequency, Intensity, Time and Type to develop fitness gains

Key terms



Heart Rate (HR) = The amount your heart beats in 1 minute (BPM)

Maximum Heart Rate (MHR) = The maximum your heart will beat in 1 minute, $220 - \text{Age} = \text{MHR}$

RPE = Rate of Perceived Exertion (How hard we think we have worked)

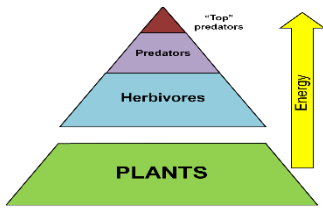


What is an Ecosystem?

An ecosystem is a system in which organisms interact with each other and with their environment.

Ecosystem's Components

Abiotic	These are non-living, such as air, water, heat, rock.
Biotic	These are living, such as plants, insects, and animals.
Flora	Plant life occurring in a particular region or time.
Fauna	Animal life of any particular region or time.



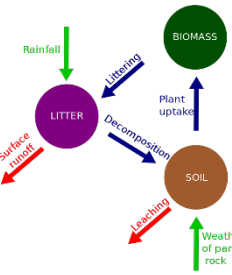
Food Chains

Food chains are useful in explaining the basic principles behind ecosystems. They show only one species at a particular level from where energy is transferred up to the next.

Nutrient cycle

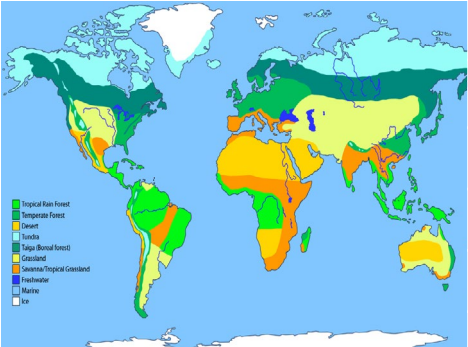
Plants take in those nutrients where they are built into new organic matter. Nutrients are taken up when animals eat plants and then returned to the soil when animals die and the body is broken down by decomposers.

Litter	This is the surface layer of vegetation, which over time breaks down to become humus.
Biomass	The total mass of living organisms per unit area.



Biomes

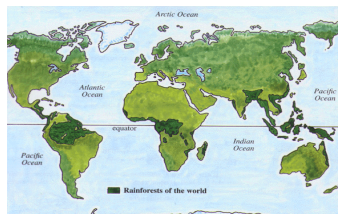
A biome is a large geographical area of distinctive plant and animal groups, which are adapted to that particular environment. The climate and geography of a region determines what type of biome can exist in that region.



Coniferous forest
Deciduous forest
Tropical rainforests
Tundra
Temperate grasslands
Tropical grasslands
Hot deserts.

The most productive biomes – which have the greatest biomass- grow in climates that are hot and wet.

Tropical Rainforest Biome



Distribution of Tropical Rainforests

Tropical rainforests are centred along the Equator between the Tropic of Cancer and Capricorn. Rainforests can be found in South America, central Africa and South-East Asia. The Amazon is the world's largest rainforest and takes up the majority of northern South America, encompassing countries such as Brazil and Peru.



Convective rainfall

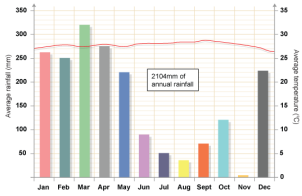
- 1 The roots of plants take up water from the ground and the rain is intercepted as it falls.
- 2 As the rainforest heats up, the water evaporates into the atmosphere.
- 3 Finally, the water condenses and forms clouds to make the next day's rain.

Rainforest nutrient cycle

The hot, damp conditions on the forest floor allow for the rapid decomposition of dead plant material. This provides plentiful nutrients that are easily absorbed by plant roots. However, as these nutrients are in high demand from the many fast-growing plants, they do not remain in the soil for long and stay close to the surface. If vegetation is removed, the soils quickly become infertile

Climate of Tropical Rainforests

- Evening temperatures rarely fall below 22°C
- Due to the presence of clouds, temperatures rarely rise above 32°C
- Most afternoons have heavy showers
- At night with no clouds insulating, temperature drops



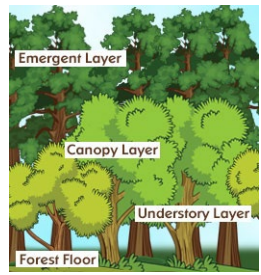
Sustaining Ecosystems

Interdependence in the rainforest

A rainforest works through interdependence. This is where the plants and animals depend on each other for survival.

Layers of the Rainforest

Emergent	Highest layer with tree reaching 50 metres.
Canopy	Most life is found here as it receives high level of rainfall and sunlight.
U-Canopy	Consists of trees that reach 20 metres high.
Shrub Layer	Lowest layer with small trees that have adapted to living in the shade.



Rainforest soil profile

Leaf Litter	Thin litter layer rapidly decomposes in heat.
Top Soil	Shallow topsoil is a mixture of decomposed organic matter and minerals.
Sub Soil	The sub-soil is deep due to weathering of rocks below.
Rock	Underlying rock weathers quickly at high temperatures to form sub-soil.

Biome's climate and plants

Biome	Location	Temperature	Rainfall	Flora	Fauna
Tropical rainforest	Centred along the Equator.	Hot all year (25-30°C)	Very high (over 200mm/year)	Tall trees forming a canopy; wide variety of species.	Greatest range of different animal species. Most live in canopy layer
Tropical grasslands	Between latitudes 5°- 30° north & south of Equator.	Warm all year (20-30°C)	Wet + dry season (500-1500mm/year)	Grasslands with widely spaced trees.	Large hoofed herbivores and carnivores dominate.
Hot desert	Found along the tropics of Cancer and Capricorn.	Hot by day (over 30°C) Cold by night	Very low (below 300mm/year)	Lack of plants and few species; adapted to drought.	Many animals are small and nocturnal: except for the camel.
Temperate forest	Between latitudes 40°- 60° north of Equator.	Warm summers + mild winters (5-20°C)	Variable rainfall (500-1500mm/year)	Mainly deciduous trees; a variety of species.	Animals adapt to colder and warmer climates. Some migrate.
Tundra	Far Latitudes of 65° north and south of Equator	Cold winter + cool summers (below 10°C)	Low rainfall (below 500mm/year)	Small plants grow close to the ground and only in summer.	Low number of species. Most animals found along coast.
Coral Reefs	Found within 30° north – south of Equator in tropical waters.	Warm water all year round with temperatures of 18°C	Wet + dry seasons. Rainfall varies greatly due to location.	Small range of plant life which includes algae and sea grasses that shelters reef animals.	Dominated by polyps and a diverse range of fish species.

Tropical Rainforest Biome

Adaptations to the rainforest		Rainforest inhabitants
Sloths	Are camouflaged to forest environment.	Many tribes have developed sustainable ways of survival, such as shifting cultivation. The forest provides inhabitants with... <ul style="list-style-type: none"> • Food through hunting and gathering. • Natural medicines from forest plants. • Homes and boats from forest wood.
Buttress Roots	Support tall trees & absorb nutrients.	
Drip Tips	Allows heavy rain to run off leaves easily	
Lianas & Vines	Climbs trees to reach sunlight at canopy.	



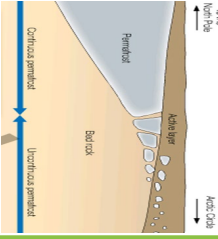
Effects of Human Activity on the Rainforest		Benefits of the rainforest	
Logging	Agriculture	Raw Materials	Commonly used materials such as timber and rubber are found here.
<ul style="list-style-type: none"> • Most widely reported cause of destructions to biodiversity. • Timber is harvested to create commercial items such as furniture and paper. • Has lead to violent confrontation between indigenous tribes and logging companies. 	<ul style="list-style-type: none"> • Large scale 'slash and burn' of land for ranches and palm oil. • Increases carbon emission. • River saltation and soil erosion increasing due to the large areas of exposed land • Increase in palm oil is making the soil infertile. 	Water	Controls the flow of water to prevent floods/droughts regions..
Mineral Extraction	Tourism	Food	Important foods such as bananas, pineapples and coffee are grown there.
<ul style="list-style-type: none"> • Precious metals are found in the rainforest. • Areas mined can experience soil and water contamination. • Indigenous people are becoming displaced from their land due to roads being built to transport products. 	<ul style="list-style-type: none"> • Mass tourism is resulting in the building of hotels in extremely vulnerable areas. • Has caused negative relationships between the government and tribes • Tourism has affected wildlife (apes) by exposing them to human diseases. 	Health	25% of modern medicines are sourced from rainforest ingredients.
		Energy	Large dams generate 2/3 of Brazil's energy needs.
		Climate	Acts as carbon sinks by storing 15% of carbon emissions.

Case Study: Sustainable Rainforest Management in Costa Rica



Location & Background	Threats to the Costa Rican Rainforest
Costa Rica is a small country in Central America. It is home to 6% of the world's biodiversity. The country attracts 6 million tourists a year.	<ul style="list-style-type: none"> • Cattle Ranching and agricultural development by clearing land through slash & burn methods. • Gold and other metal mining meant large scale soil and rock removing. This meant areas were deforested and chemicals entered water systems. • By 1990, 32,000 hectares of forest were cut down each year – devastating the fragile ecosystem.
Ecotourism	Rainforest Management <ul style="list-style-type: none"> • Government created 28 National Parks with 24% of the country's land protect. • Laws and enforcement meant that deforestation had fallen from 1.8 to almost zero by 2005. • Agroforestry encourages growing trees and crops together to create better farming conditions. • Afforestation has led to the replanting of trees to replace original forest that have been lost.
Ecotourism is tourism that is directed towards the natural environments & conservation. Monteverde is a popular ecotourism destination in the country.	
Advantages	
<ul style="list-style-type: none"> • 80 new businesses have open in Monteverde. • 400 full-time and 140 part-time jobs directly related to tourism in Monteverde. 	
Disadvantages	
<ul style="list-style-type: none"> • Land prices have increased. • Deforestation to clear areas for tourism industry. 	

Polar/Tundra Regions Biome

Distribution of Polar Regions		Climate Change on Polar Regions	
Arctic	Antarctic	Scientific reports outline the effect global warming is having on these regions. Ice sheets and glaciers are melting at an alarming rate leading to fears of rising sea levels. Thawing of permafrost is increasing methane emissions and the decline of Arctic ice is creating waves that are capable of causing unseen coastal erosion.	
Is the region north of latitude 60°N around the North Pole.	A continent south of latitude 60°S around the South Pole.		
		Arctic soil profile	
Climate		Active Layer	Thaws in the summer. Becomes deeper towards pole.
Polar areas are very cold with temperatures rarely reaching above 0 °C. Winters average below -40 °C with summers a maximum of only 10 °C. Rainfall is low throughout the year.		Permafrost	Permanently frozen all year. Layer Increases further north.
		Bed Rock	Low temperatures weathers rock slowly = less nutrients.
Land & Sea Features	Effects of Human Activity in Polar Regions		
Arctic	Antarctic	Oil & Gas exploration	Whaling
Large areas are permafrost. At sea, most of the region is frozen over.	Large and thick ice sheets. A mountain range crosses the continent.	<ul style="list-style-type: none"> • Arctic holds a large amount of untapped oil and gas. • Oil spills would threaten ecosystems as clean up operations would be slow. 	<ul style="list-style-type: none"> • Hunting of whales is a major industry – this led to a rapid decline in whale populations. • Many countries have banned whaling, but some still continue
Flora (Plants)	Fauna (Animals)	Fishing	Tourism
There are very few plants in polar areas – some lichens, mosses and grasses along the coastal areas.	Relatively few species of animals. Polar Bears, Penguins and marine mammals like whales, seals and walrus are examples.	<ul style="list-style-type: none"> • Has made area possible to fish large untapped stocks. • The polar areas are difficult to police due to harsh conditions. • Collapse of the fish stocks might damage ecosystems. 	<ul style="list-style-type: none"> • The tourism industry is steadily growing within polar regions. • Travel by tourists have increase emissions further. • Wildlife may become disturbed by tourists getting up close.

Case Study: Small Scale Sustainable Management: Union Glacier, Antarctica



Location & Background
Located in the southern Ellsworth Mountains and is a key logistic hub for expeditions and research.
Features and Activities
<ul style="list-style-type: none"> • The locations has good facilities such as a dining room, electricity supply and transport. • Tourists and can enjoy several activities such as ski tours, wildlife viewing and mountaineering.
Sustainable Management
<ul style="list-style-type: none"> • Strict guidelines on how tourists should behave are enforced to respect the natural environment. • Solar panels used to reduce carbon emissions. • All waste is carefully contained and removed.

Case Study: Global Scale Sustainable Management: The Antarctic Treaty System



Background
Signed by 50 nations in 1961, the Treaty sets aside Antarctica as a scientific reserve, establishes freedom of scientific investigation and bans military activity.
Basic Principles of the Antarctic Treaty
<ul style="list-style-type: none"> • Bans mining and resource extraction. • Prevents territorial disputes of the continent. • Promotes scientific research and co-operation. • Protects the fragile environments and its wildlife by preventing and managing waste/pollution.
Successful?
Stayed in place for 50 years with more countries signing up to enforce strict controls and improve its stability.

THEMES: Life and Death

Key terms

Afterlife	Life after death; belief that existence continues after physical death.
Environmental sustainability	Ensuring that demands placed on natural resources can be met without reducing capability to allow all living things to live well now and in future.
Euthanasia	The act of killing or permitting the death of someone who is suffering from a serious illness.
Evolution	Process by which different living creatures are believed to have developed from less complex forms.
Abortion	When a pregnancy is ended and so does not result in birth of a child.
Quality of life	The extent to which life is meaningful and pleasant.
Soul	The spiritual aspect of a being; that connects someone to God. Often regarded as non-physical.

Crucial Commands:

Describe: Say in detail what something or someone is like, and the impact it has. E.g. Describe the meaning of the word Omnibenevolent.

Explain: Say why something or someone is important, and the impact it has. E.g. Explain why Jesus' death is important to Christians.

DISCUSS: Write about at least two points of view and explain why these points of view are valuable or not. E.g. "The most important Christian belief is Jesus' resurrection" (15 marks)

The subject of life and death is both broad and controversial. Where do we come from? What is the purpose of life? Sometimes religious and non-religious answers conflict with each other.

Things to remember:

- Not all Christians or all Muslims will necessarily believe or teach the same things! There are different denominations that will agree/ disagree on many topics
- The relationship between science and religion is complex. Not all believers reject science and not all scientists reject belief.
- Atheists and Humanists are NOT the same thing!

Stewardship vs Dominion

Christian scripture says that God gave human beings dominion over all living creatures. Over the centuries, Christians have interpreted 'dominion' in different ways.

- a) Some have argued it means God gave the gift of using the world's resources however they like. (Domination, superiority).
- b) Others believe humans share some of God's qualities (reason, morality, responsibility), therefore humans should be stewards and care for the planet and manage its resources – land & animals.

The soul

Many Christians believe a human being is made of two parts: a physical body and a spiritual soul. After death the soul leaves the body to be reunited with God in Heaven. However, this is not consistent with the bible. Other Christians believe the body and soul is inseparable. This means that for there to be life after death, the soul must be housed in a body again.

'So will it be with the resurrection of the dead. The body that is sewn is perishable, it is raised imperishable; it is sewn in dishonour, it is raised in glory; it is sewn in weakness, it is raised in power. If there is a natural body, there is also a spiritual body.' 1 Corinthians 15:42-44

Do NOT forget to always think about and discuss how each part of what we learn **IMPACTS** individuals, groups or societies!



Abortion

Abortion in the UK is legal up to 28 weeks; after this it is still allowed if the foetus has a severe abnormality or grave risk to mother.

- There is an argument for **Pro-life vs Pro-choice**. This depends on when you view life begins. Some say it is from conception, others argue it begins later. The development of life is gradual in the womb and there are no sudden events that can be easily called the beginning of life.



Euthanasia

Different kinds of euthanasia include:

- Voluntary euthanasia – when a person expresses a wish to die and asks for help to do so.
- Involuntary euthanasia – when a person cannot express a wish to die so the decision is made for them (e.g. if someone is in a coma).
- Active euthanasia – where the death of a person is caused through direct action (e.g. taking medication to end their life faster).
- Passive euthanasia – Where treatment is removed so death is faster (e.g. removing a feeding tube or respirator). **This is legal in the UK.**

El colegio



School facilities



School rules

School facilities	<p>En mi instituto hay... - in my school there is mi insti tiene - my school has Mi escuela primaria tenía - my primary school had En mi escuela primaria había - in my primary school there was...</p>		<p>un salón de actos - a hall un comedor - a canteen un campo de fútbol - a football pitch un patio - a yard/playground un gimnasio - a gym una piscina - a pool una biblioteca - a library una pista de tenis - a tennis court unos laboratorios - some science labs muchas aulas - lots of classrooms menos/más exámenes - more/less exams más oportunidades para hacer deporte - more sports opportunities</p>	<p>Mi insti es mixto y está situado en Liverpool, en el noroeste de Inglaterra.</p>	<p>My school is mixed and it's located in Liverpool, in the Northwest of England.</p>
	<p>Mi insti es... - my school is...</p>		<p>mixto - mixed masculino - all boys privado - private</p> <p>feminino - all girls público - state school</p>	<p>Las clases comienzan a las nueve menos cuarto y terminan a las tres y cinco.</p>	<p>Lessons start at quarter to 8 and finish at 5 past 3.</p>
	<p>Las clases comienzan a las _____ - classes start at _____ o'clock Las clases terminan a las _____ - classes end at _____ o'clock La hora de comer/el recreo dura _____ minutos - lunch/break lasts _____ minutes El día escolar es muy largo - the school day is really long</p>		<p>Me encanta mi insti porque tiene muchas instalaciones como una biblioteca, una piscina y un campo de fútbol enorme.</p>	<p>I love my school because it has lots of facilities such as a library, a pool and an enormous football pitch.</p>	
	<p>No se debe - you mustn't Está prohibido - it's not allowed No se permite - you're not allowed</p>		<p>dañar las instalaciones - damage the facilities ser agresivo o grosero - be aggressive or rude correr en los pasillos - run in the corridors usar el móvil en clase - use your phone in lessons llevar zapatillas de deporte - wear trainers comer chicle - chew gum llevar joyas/maquillaje - wear jewellery/makeup</p>	<p>pero trabajo como un burro pero había menos exámenes.</p>	<p>but I work my socks off. but there were fewer exams.</p>
School rules	<p>Se debe - you must Hay que - you have to Tienes que - you have to Se permite - you're allowed to</p>		<p>ser puntual - be on time respetar el turno de palabra - wait your turn to speak respetar a los demás - respect others trabajar duro - work hard escuchar en clase - listen in class hacer los deberes - do your homework</p>	<p>Hay muchas reglas en mi insti y pienso que formentan la buena disciplina</p>	<p>There are lots of rules in my school and I think that they promote good discipline</p>
	Las normas - the rules	son - are	<p>demasiado estrictas - too strict necesarias - necessary importantes - important</p>	<p>por ejemplo no se debe ser agresivo o dañar las instalaciones pero lo que me fastidia es que</p>	<p>for example you mustn't be aggressive or damage the facilities but the thing that annoys me is that</p>
		<p>fomentan la buena disciplina - promote good discipline limitan la individualidad - limit individuality fastidian a los alumnos - annoy the pupils</p>		<p>no se permite usar el móvil en clase A mi parecer puede ser muy útil.</p>	<p>you're not allowed to use your phone in lessons. In my opinion, it can be really useful.</p>
	Random	<p>Mi horario - my timetable La educación infantil/primaria - pre-school/primary education La educación secundaria - secondary education El bachillerato - A-Level equivalent in Spain La formación profesional - vocational training El instituto - secondary school Suspender/aprobar un examen - to fail/pass an exam</p>		<p>El bachillerato - this is the two final years of school. (English equivalent of 6th form) It is split into 4 different pathways: arts, sciences, humanities and social sciences. The subjects you study depend on which pathway you have chosen but every student has to study Spanish language and literature, PE and a foreign language.</p>	

↑
 A model text on my school

1.1

1.1.3 Services provided by IT

IT13: Autonomy

What is Autonomy?

With the help of artificial intelligence and some clever programming, technology that can perform jobs that would normally be done by humans.

Examples of autonomy

Robotics

- This is to undertake functions normally done by humans.
- An example of this is to manufacture cars in factories, where an action needs to be carried out many times.

Bionics

- Uses a combination of mechanical engineering and electronic control technology to create mechanical systems that function like living organisms.
- This is the technology behind prosthetic limbs.

Pros and cons to Autonomy

Pros

Operate 24 hours without a break,

Can make reliable and accurate decisions.

Will accurately repeat actions over and over again

Do not need to be paid.

Cons

High development costs.

Risk of computer malfunction.

If it relies on electricity and there is a power cut.

Uncertainly that a human isn't in control.

**1.1.3 1.1.3 Services in IT
IT14: Immersive technologies**

What is Virtual Reality?

Virtual reality (VR) refers to a computer-generated simulation in which a person can interact within an artificial three-dimensional environment using electronic devices, such as special goggles with a screen or gloves fitted with sensors.



Advantages

- Connect with people from around the world.
- Accessible for people with disabilities
- Experience things that are impossible in real-life

What is Augmented Reality?

Augmented reality (AR) applications are best suited for use cases where users need to be connected to and present in the real world. Examples of this include remote assistance, on-the-job training, remote collaboration, and computer-assisted tasks.

Advantages

- Enhances experience of natural environment.
- Can reduce stress, anxiety and depression.
- Smartphone apps embed AR technology.

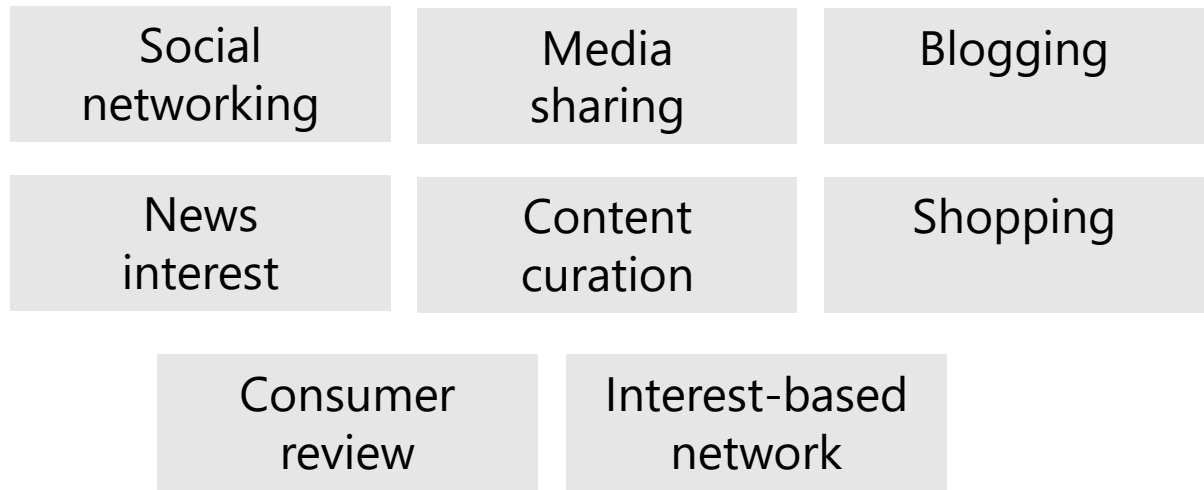


1.1.3 1.1.3 Services in IT IT15 – Social networking

What is Social networking?

Social networking is the creation of a website to set up an online community where people are linked together using their personal information.

Social networking categories:



Benefits to using Social networking:

- Staying connected with friends and family, especially those who live far away.
- Finding and sharing information and resources.
- Participating in online communities and discussions with others who have similar interests.
- Promoting businesses, organisations, and causes.
- Easy to create a personal page/profile.
- Easy to keep in contact with people.
- Easy to make new friends with similar interests
- Often free to join and use.

1.1.3 1.1.3 Services in IT IT16 – Image capture and manipulation

Drones

A drone is an unmanned aerial vehicles (UAVs) that can be controlled remotely or fly autonomously.

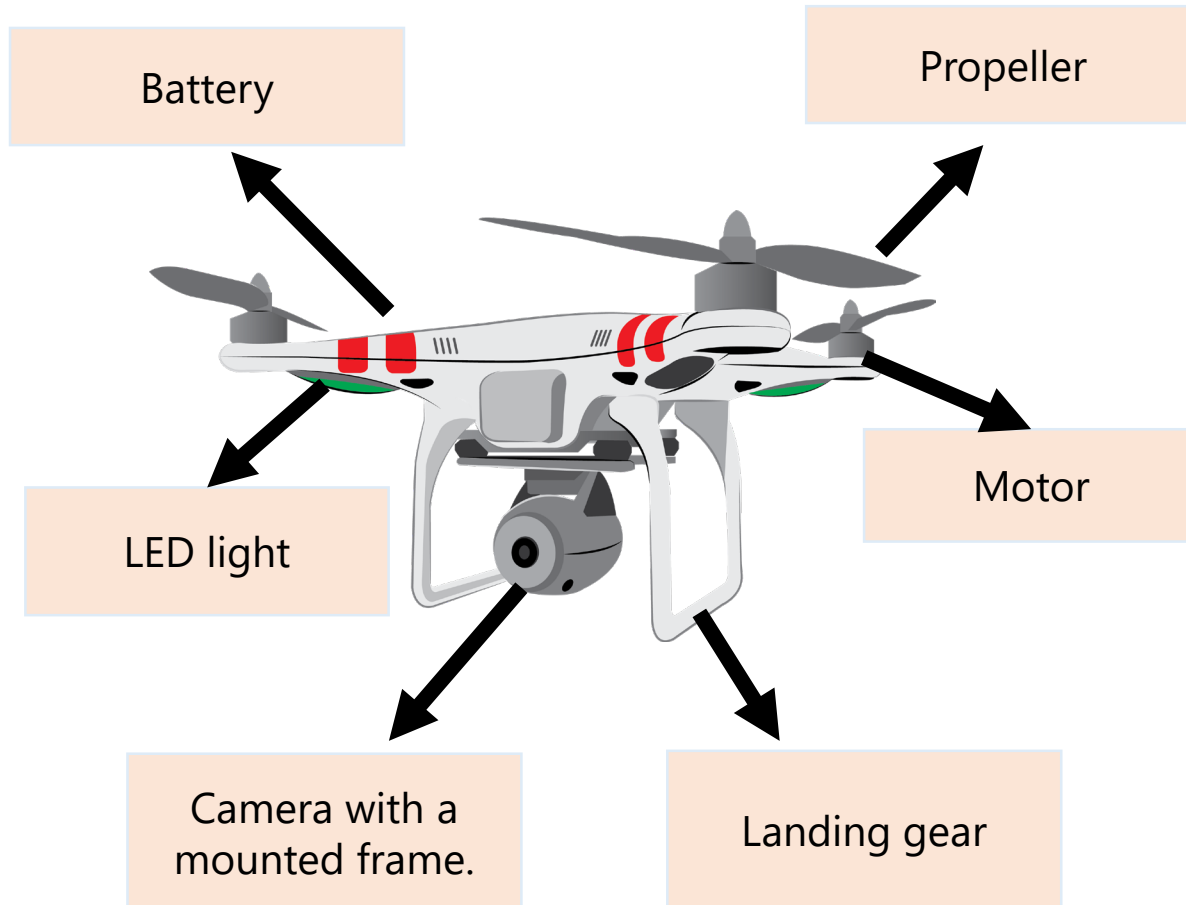
Uses

This device used for capturing images is commonly used in fields such as: agriculture, search and rescue, or delivery services.

Advantages

Because of its size and portability it can be good to access areas that may be difficult for bigger equipment and this makes it a cost-effective option. It may be able to cover areas that are dangerous for humans to access so it's much safer and finally, it's designed to capture images which gives users data they wouldn't normally be able to capture.

Diagram of a drone



1.1.3 1.1.3 Services in IT IT16 – Image capture and manipulation

Head cameras

Head cameras can record footage when on the move and capture images while in action.

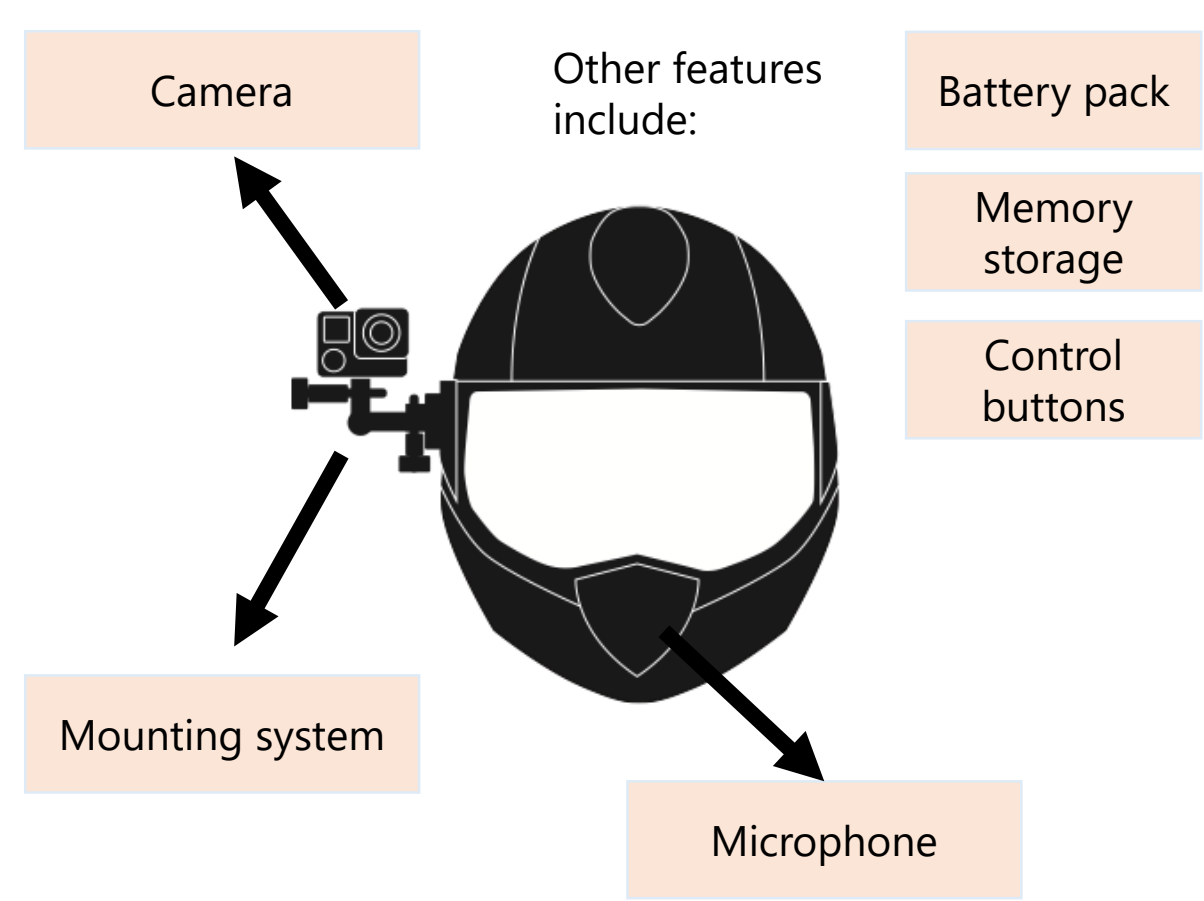
Uses

Commonly used in video production, extreme sports, and first-person gaming

Advantages

It's small, portable and lightweight option that is easy to carry around because it's operated hands-free. It's useful for users who want to take point of view shots. It can be a useful too for athletes can it can help them to better analyse the techniques used, their performance and how they could improve.

Diagram of a head camera



1.1.3 1.1.3 Services in IT
IT16 – Image capture and manipulation

Webcam

A video camera that is connected to a computer or integrated in a device and allows its images to be seen online.

Uses

Commonly used for video conferencing and online gaming.

Advantages

It's convenient because webcams allow for easy video communication with friends and family, as well as for online meetings and classes. This makes them generally inexpensive and widely available and compatible with multiple devices that have a built-in webcam, and external webcams can be easily connected to a computer via USB.

Diagram of a webcam



**1.1.3 1.1.3 Services in IT
IT18 – E-commerce services**

What is an e-commerce service?

E-commerce refers to the buying and selling of goods and services, or the transmitting of funds or data, over an electronic network, primarily the Internet.

Examples:

- Online retail shopping (Amazon, eBay)
- Digital marketplaces (Uber, Airbnb)
- Online banking and bill payments
- Online ticket sales (movie theatres, concerts)
- B2B (business-to-business) sales and purchasing.

Benefits of an e-commerce service:

Customers	Businesses
Convenience and 24/7 accessibility	Start-up and running costs are low
Wide selection and access to a global market	Increased/wider customer reach
Time-saving and streamlined shopping experiences	Provides a more convenient service for their customers.
Ability to easily compare prices and products	
Improved ability to track and analyse consumer behaviour.	

1.1.3 1.1.3 Services in IT IT18 – E-commerce services

What is mail handling?

Mail handling methods refer to the processes and procedures used for sorting, organising, and delivering physical mail, such as letters and packages.

These methods can include manual sorting by postal workers, using automated sorting machines, and using technology such as barcode scanning and GPS tracking.

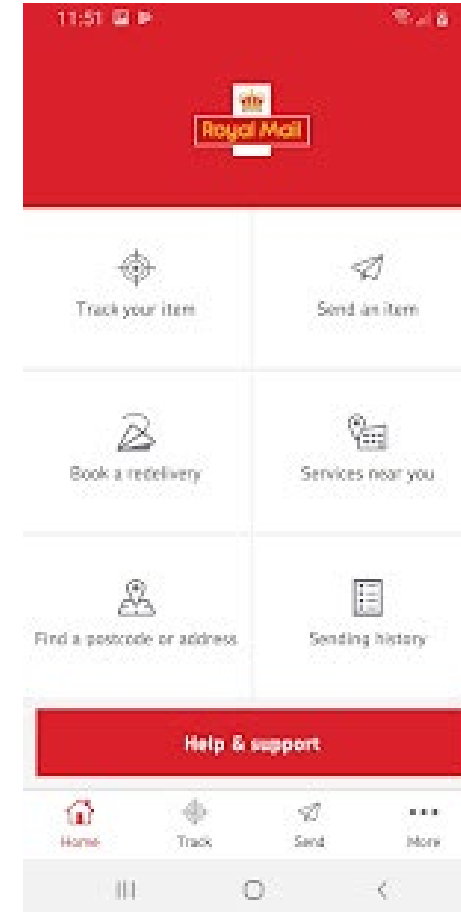
The goal of these methods is to efficiently and accurately deliver mail to its intended recipients.

Example: Royal Mail mobile app

It can be used to **track items** to see how far away they are.

It can be used to **buy postage** which allows customers print shipping labels.

You can **book a collection** for a specific date which fits around your schedule.



You can find **local drop-off points** which are useful when you know nobody will be at home to receive the delivery.

You can **measure the size of the parcel** to ensure you pay the correct amount of postage.

1.1.3 1.1.3 Services in IT IT18 – E-commerce services

What is a registration system?

- A registration system is a software application or process used to manage and track the enrolment or participation of individuals in events, courses, programs, or membership.
- It typically involves the collection of information, payment processing, and the creation of records for each participant.

Examples:

- Many public services such as schools and doctors use electronic registration systems over paper-based systems.
- It can be used to enrol students and patients respectively.
- Its also common for businesses to use similar registration systems.

Benefits to using a registration system:

Keep track of users and their information.

Collect and store data on users for future reference.

Control who has access to what resources.

Verify the identity of users.

Provide personalised experiences to users.

Use collected data for marketing purposes.

Enhance security by tracking user activity.

Keep track of resources and users in an organised manner.

1.1.3 1.1.3 Services in IT IT17 – Management information systems

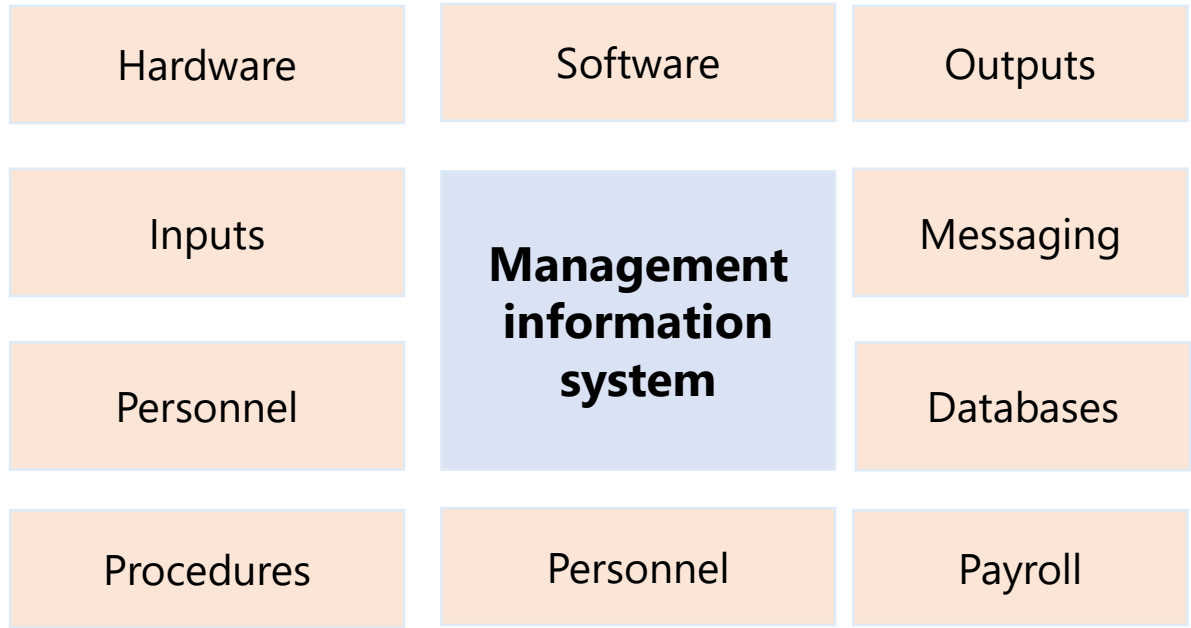
What is an information management system?

A management information system (MIS) is a computerised system that provides managers with the information they need to make informed business decisions.

Advantages

- More efficient because tasks can be automated to increase productivity and save money.
- Allows managers to quickly access and analyse data from different sources, which can help them to respond more quickly to changing business conditions.
- Better planning and forecasting which provides managers with the historical data they need to make better predictions about future trends and patterns.
- Improved customer service by tracking customer data and monitor customer satisfaction
- Increased likelihood to comply with legislation

Features of an MIS



Who uses MIS?

Retail companies, Financial organisations. Health organisations. Schools. Manufacturing companies
Government agencies

1.1.3 1.1.3 Services in IT IT17 – Management information systems

What is Payroll software?

Payroll software is a computer program or system used to manage and automate the process of calculating, collecting, and distributing employee wages and taxes.

Advantages

- Saves time because tasks and processes can be automated.
- Reducing errors such as incorrect calculations.
- Better security of employee data.
- Cost effective as it removes manual data entry.
- Better reporting and analysis.
- It can be easily integrated with other systems.
- Remote access so can be accessed anywhere as long as there is an internet connection.
- A more efficient way of keeping and maintaining records.

Features of Payroll software

Employee information	Time and attendance	Payslips
Mobile and remote access	Payroll software	National insurance
Deposits	Tax calculations	Generating reports