DIXONS
ALLERTON
ACADEMY

KNOWLEDGE ORGANISER YEAR 11 2025/2026

Name:

Student Number:

C1

DIXONS ALLERTON ACADEMY

Every day all students at DAA are expected to be the best they can be.

All students are expected to achieve their mission as detailed below and strive for this every day by giving 100% at all times.

"At DAA, I developed good moral principles and achieved exceptional outcomes that enabled me to have ambitious life choices"

During their time with us they will achieve this through their industry by showing hard work and resilience in all that they do every day.

Our core values are:

Happiness

The joy of life and learning. In the context of your emotional state, including positive and pleasant emotions ranging from contentment to intense joy. It is important you to have a grasp on your own happiness and well-being and your capacity to influence other people's happiness and well being

Industry

(Hard work & resilience) – This is how hard you work and how you overcome the challenges you face in your learning and life; if you can rise to the challenge when it matters you will be successful.

Responsibility

This is being accountable for the choices that you make and making the right choices to be organised, behave properly and achieve as much as you can. Taking responsibility for your learning will help you to be successful at DAA.

Contents

WEEK 2	
1. tertiary	A job type which involves providing a **service**.
2. composition	The way elements of artwork are **arranged** or **combined**.
3. monotheism	Belief in **one** God.
4. patriarchal	Ruled or controlled by **men**.
5. flammable	Sets on **fire** easily.
6. precipitation	Any form of **water** falling from the sky.
7. hypothesis	A **prediction** about what you think will happen in an investigation.
8. exodus	A **journey**.
9. protagonist	**Main character** in a narrative.
10. integer	A **whole** number (not a fraction)

WEEK 3	
1. identity	**Characteristics** determining who or what something is.
2. pathogens	**Bacteria** such as food poisoning bacteria.
3. chronology	Historical events in the correct **order.**
4. misinformation	A deliberate **lie** to mislead somebody.
5. melody	The main 'tune' of the song that you could sing to
6. segregation	**Separating** people based on race, class and social factors.
7. progression	Getting **better.**
8. faith	Having **trust** in someone.
9. Monarchy	Country where the Head of State is **King** or **Queen**.
10. molecule	A group of atoms **chemically joined** together.

CYCLE 1 SPELLINGS

WEEK 4	
1. empathy	Ability to understand and feel **others' emotions**.
2. century	Time span of **100** years
3. hoax	A **trick** in which someone tells people a lie.
4. harmony	Chords that **support** the melody
5. covenant	A serious **promise.**
6. regression	Getting **worse.**
7. accent	The way of pronouncing words associated with an **area** or **place**.
8. mixtures	Two or more substances **mixed** together but **not chemically joined.**
9.dialogue	The **spoken** script on stage.
10. source	Evidence made **at the time** of an historical event.

WEEK 5	
1. activist	Someone who is active in **political** and **social** causes.
2. decade	Time span of **10** years.
3. domain	A **website** name.
4. conductor	**Leads** the orchestra and any other large ensemble.
5. stewardship	To **look after** the world and each other.
6. faith	Having **trust** in someone.
7. prejudice	A **preconceived** opinion not based on reason or experience.
8. corrosive	**Destroys** living **tissue** such as skin and eyes
9. culture	Ideas, **customs** and social behaviour of a group of people.
10. ensemble	A **musical group** e.g. orchestra, brass band, choir.

WEEK 6	
1. injustice	**Unfair** behaviour or treatment
2. Millennium	Time span of **1000** years.
3. bias	Feeling or prejudice **for or against** one person or group.
4. orchestra	A large ensemble of **musicians playing instruments.**
5. polytheist	Believing in **many** Gods.
6. colloquial	**Informal** language used in conversation.
7. opinion	A **view** or judgement formed about something.
8. gesture	An expression or **movement** of the body.
9. interpretation	Evidence showing an **opinion** on an event.
10. atom	A **tiny particle.**

WEEK 7	
1. status	The **level** of society a character is in.
2. democracy	System where people can **vote** for the government.
3. tension	Where the mood atmosphere in a novel is **strained.**
4. heritage	Range of **inherited** traditions / cultures.
5. systemic	Implies problems are rooted in the way **systems** are set up.
6. development	The process of a county **improving over time.**
7. migration	People **moving** around.
8. monologue	**One** person delivering a speech or their thoughts to the audience.
9. intonation	**Variation** of spoken pitch.
10. liberty	State of being **free** from oppression.

CYCLE 1 SPELLINGS

WEEK 8	
1. tertiary	A job type which involves providing a **service.**
2. composition	The way elements of artwork are **arranged or combined.**
3. monotheism	Belief in **one** God.
4. patriarchal	Ruled or controlled by **men.**
5. flammable	Sets on **fire** easily.
6. precipitation	Any form of **water** falling from the sky.
7. hypothesis	**Prediction** about what you think will happen in an investigation.
8. exodus	A **journey.**
9. protagonist	**Main character** in a narrative.
10. integer	A **whole** number (not a fraction)

WEEK 9	
1. identity	**Characteristics** determining who or what something is.
2. pathogens	**Bacteria** such as food poisoning bacteria.
3. chronology	Historical events in the correct **order.**
4. misinformation	A deliberate **lie** to mislead somebody.
5. melody	The main 'tune' of the song that you could sing to
6. segregation	**Separating** people based on race, class and social factors.
7. progression	Getting **better.**
8. faith	Having **trust** in someone.
9. Monarchy	Country where the Head of State is **King** or **Queen.**
10. molecule	A group of atoms **chemically joined** together.

WEEK 10	
1. empathy	Ability to understand and feel others' emotions.
2. century	Time span of 100 years
3. hoax	A trick in which someone tells people a lie.
4. harmony	Chords that support the melody
5. covenant	A serious promise.
6. regression	Getting worse.
7. accent	The way of pronouncing words associated with an area or place.
8. mixtures	Two or more substances mixed but not chemically joined.
9.dialogue	The spoken script on stage.
10. source	Evidence made at the time of an historical event.

WEEK 11	
1. activist	Someone who is active in political and social causes.
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3. domain	A website name.
4. conductor	Leads the orchestra and any other large ensemble.
5. stewardship	To look after the world and each other.
6. faith	Having trust in someone.
7. prejudice	A preconceived opinion not based on reason or experience.
8. corrosive	Destroys living tissue such as skin and eyes
9. culture	Ideas, customs and social behaviour of a group of people.
10. ensemble	A musical group e.g., orchestra, brass band, choir.

CYCLE 1 SPELLINGS

WEEK 12	
1. injustice	Unfair behaviour or treatment
2. Millennium	Time span of 1000 years.
3. bias	Feeling or prejudice for or against one person or group.
4. orchestra	A large ensemble of musicians playing instruments.
5. polytheist	Believing in many Gods.
6. colloquial	Informal language used in conversation.
7. opinion	A view or judgement formed about something.
8. gesture	An expression or movement of the body.
9. interpretation	Evidence showing an opinion on an event.
10. atom	A tiny particle.

WEEK 13	
1. status	The level of society a character is in.
2. democracy	System where people can vote for the government.
3. tension	Where the mood atmosphere in a novel is strained.
4. heritage	Range of inherited traditions / cultures.
5. systemic	Implies problems are rooted in the way systems are set up.
6. development	The process of a county improving over time.
7. migration	People moving around.
8. monologue	One person delivering a speech or their thoughts to the audience.
9. intonation	Variation of spoken pitch.
10. liberty	State of being free from oppression.

WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6
1.	1.	1.	1.	1.
2.	2.	2.	2.	2.
3.	3.	3.	3.	3.
4.	4.	4.	4.	4.
5.	5.	5.	5.	5.
6.	6.	6.	6.	6.
7.	7.	7.	7.	7.
8.	8.	8.	8.	8.
9.	9.	9.	9.	9.
10.	10.	10.	10.	10.

WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11
1.	1.	1.	1.	1.
2.	2.	2.	2.	2.
3.	3.	3.	3.	3.
4.	4.	4.	4.	4.
5.	5.	5.	5.	5.
6.	6.	6.	6.	6.
7.	7.	7.	7.	7.
8.	8.	8.	8.	8.
9.	9.	9.	9.	9.
10.	10.	10.	10.	10.

WEEK 12	WEEK 13	NOTES		
1.	1.			
2.	2.			
3.	3.			
4.	4.			
5.	5.			
6.	6.			
7.	7.			
8.	8.			
9.	9.			
10.	10.			

Stave 1 – Scrooge as a miser

To begin with, Scrooge is the epitome of a miserly and grumpy old man. He could be seen as a **caricature or parody** of greedy Victorian business owners - exaggerated so much that even businessmen reading the text may find Scrooge shocking and/or humorous. Scrooge is associated with **cold imagery and cold, foggy weather (pathetic fallacy)** and disconnected from those around him - including his family. When approached to give to charity, he expresses the Malthusian view that the poor ought to be in the workhouses or the prisons if they cannot pay their rent.

Fred

Fred could be seen as a foil for Scrooge, or even as the antithesis of Scrooge at the beginning. He is associated with warmth, he is generous with the charity collectors, and he expresses more socialist views about all people being connected as one human race.

Despite Scrooge's miserable nature, Fred perseveres with him and continues to visit him and invite him over for Christmas dinner every year.

Stave 2 – the past/regret

GOC past - Associated with light imagery as it **illuminates the past/truth.** Scrooge asks the ghost to extinguish his light at first.

In this stave we see Scrooge **show emotion for the first time** ('what is that upon your cheek?')

He is shown:

His **miserable school life** which he 'wept' to see.

Fan - his younger sister (Fred's mum) who has since died. We see a positive past relationship and also grief.

Fezziwig - Scrooge's old employer who we see threw huge parties for his employees at Christmas and let Scrooge sleep on the premises to save money. We could see **Fezziwig as the antithesis of Scrooge** - they contrast hugely. Scrooge also acknowledges it was 'a **small matter'.**

Belle - Scrooge is upset and desperate to leave his memory of Belle ending their engagement. This shows us **Scrooge wasn't always obsessed with money** and also shows his **regret.**

Stave 3 – the present/joy

GOC present - Arrives with an enormous banquet - presents the imagery of **abundance**, proving that there are enough resources to go around (contradicting Malthus) and some have far more than they need. Takes Scrooge to:

The Cratchits - we see how the family are 'brave in ribbons' and enjoy Christmas despite their poverty and problems, showing the power of family and love.

Fred's party - Scrooge feels 'light of heart' watching the games played & experiences joy for the first time.

Ignorance & Want - these 'abject' children represent the poorest and most neglected in society, and how the wealthy ignore them, which could lead to doom. They lead Scrooge to ask 'have they no refuge or resource?' This is very different from his view of the poor in stave 1, perhaps due to what is he is seen; perhaps because they are children.

The Cratchits

The Cratchits represent what would have been seen as **'the deserving poor'**. At the time, many had prejudices towards some poor people, imagining they could somehow help their situation if they worked harder. *Perhaps this is why ACC was not another workhouse novel like Oliver Twist.* The Cratchits **create sympathy in the reader** - we can see how very hard they work and how little they have. Despite this, they are loving, grateful and happy. Tiny Tim's health problems reflect common issues faced by poorer people who did not have access to health care. Child mortality was high and life expectancy amongst the poor was low.

Stave 4 - the possible future/fear

GOC YTC - This spirit appears as a 'solemn phantom'. Through this spirit we see:

Scrooge's legacy in his possible future death if he is unchanged - Mrs Dilber takes the curtains from around his corpse; some say they are attending the funeral for a free meal. **Nobody cares about Scrooge when he is dead** and this shocks/upsets both Scrooge and the reader.

Tiny Tim's death – this is shown to be **inevitable if Scrooge does not change** and support the Cratchits. **Scrooge shows concern for the family** on seeing Tim's hypothetical death.

Stave 5 - transformation

Scrooge's journey through the spirits has completely transformed him. He repeats the words he said fearfully at the end of stave 4, and promises to keep Christmas in his heart 'all the year'. He embarks on a string of **generous acts**: buying a turkey for The Cratchits, donating to charity, visiting Fred and raising Bob Cratchit's salary.

We see he has **reconnected with family** – he goes to Fred's Christmas party and finds new 'family' by becoming 'a second father' to Tiny Tim. This reflects Dickens' messages about the importance of family and of love and kindness.

Context

Victorian London
The conditions of those living in poverty in London were atrocious, and the equality gap between rich and poor was huge. The amendment to the poor law (1834) meant that the poor could no longer be given money or clothes by parishes, and simply had to leave their homes for workhouses - working and living in disgusting conditions - if they could not afford rent/food.

Dickens
Dickens was a social reformer and political commentator. He passionately opposed economists like Malthus, who claimed the deaths of the poor were inevitable due to lack of resources. He wrote the Condition of England novel ACC to raise awareness of these issues and inequalities. In his words he wanted to deliver a 'sledgehammer blow' to society.

Stave 1
"a squeezing, wrenching, grasping, scraping, clutching, covetous, old sinner! Hard and sharp as flint, from which no steel had ever struck out generous fire"
"solitary as an oyster",
"no wind that blew was bitterer than he" Dickens on Scrooge

"A merry Christmas, uncle! God save you!" cried a cheerful voice.   Fred to Scrooge (foil character)
"Bah!" said Scrooge, "Humbug!" Scrooge to Fred

"If they would rather die," said Scrooge, "they had better do it, and decrease the surplus population."
Scrooge to the charity collectors

"I wear the chain I forged in life" - this is a metaphor for Marley's sins. It is made of "cash-boxes, keys, padlocks, ledgers, deeds, and heavy purses", showing their joint sin of avarice.

Stave 2
"would you so soon put out, with worldly hands, the light I give? " - Ghost of Christmas Past to Scrooge after Scrooge tries to hide the light (truth) from his cap.
"The happiness he gives, is quite as great as if it cost a fortune." - Fezziwig contrasts hugely with Scrooge – we could describe him as Scrooge's antithesis (the opposite of him). Scrooge realises the value in generosity now.
"What Idol has displaced you?" he rejoined.
"A golden one."
Belle and Scrooge in conversation
'his sight grew very dim indeed' [from crying] when he saw the child Belle later had and thought they could have been 'a springtime in the haggard winter of his life'. This conveys some regret from Scrooge that he could have been a father and missed the opportunity.

"Spirit!" said Scrooge, "show me no more! Conduct me home. Why do you delight to torture me?"
Scrooge to Spirit – shows his pain at seeing what he lost.

Stave 3
"'Spirit,' said Scrooge submissively, 'conduct me where you will' - Scrooge seems willing to learn.
'Such a bustle ensued that you might have thought a goose the rarest of all birds' - shows the joy of the Cratchits even though their dinner is small.

'Uncle Scrooge had imperceptibly become so gay and light of heart' - Scrooge at Fred's party experiencing some Christmas spirit for the first time. The metaphor 'light of heart' could show that he is no longer weighed down by sin.

"'Have they no refuge or resource?" "Are there no prisons?" Contrast in Scrooge from stave 1 - Spirit uses Scrooge's words against him.

"most of all beware this boy, for on his brow I see that written which is Doom, unless the writing be erased." Spirit on Ignorance – if the rich continue to ignore the needs of the poor, society is doomed

Stave 4
"lying gasping out his last there, alone by himself." At Old Joe's - description of Scrooge's hypothetical future death

"We may sleep to-night with light hearts, Caroline!" Young couple who owed Scrooge money are the only people who show emotion at his death, and they are happy.

"Yes, my dear," returned Bob. "I wish you could have gone. It would have done you good to see how green a place it is.". Bob discusses TT's grave.

"I will honour Christmas in my heart, and try to keep it all the year"- Contrast in Scrooge

"Oh, tell me I may sponge away the writing on this stone!" Repentant Scrooge showing desperation for a second chance.

Stave 5
"'I will live in the Past, the Present, and the Future!' Scrooge repeated'" Scrooge's reaction to waking up – repeating his promise from stave 4.
"I'm quite a baby. Never mind. I don't care. I'd rather be a baby. Hallo! Whoop!" Scrooge's rebirth.
'I am as light as a feather, I am as happy as an angel' - these childish similes emphasise the pure and simple joy Scrooge is experiencing. The religious language also shows how he has become more Christian. 'Light as a feather' could reflect he is no longer 'heavy' with sin.
Scrooge sends a turkey to the Cratchits, gives a generous sum of money to the charity collectors from stave 1 and attends Fred's party, as well as raising Bob Cratchit's salary – he therefore makes up for all his previous mistakes.
"Scrooge was better than his word. He did it all, and infinitely more; and to Tiny Tim, who did not die, he was a second father. He became as good a friend, as good a master, and as good a man, as the good old city knew, or any other good old city, town, or borough, in the good old world." Scrooge's redemption.
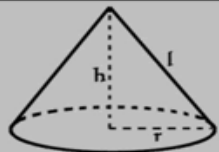
Sections 1

PROPERTIES OF 3D SOLIDS

surface	the **outside layer** of an object, it has an **area** and **can be flat or curved**
face	any of the **individual flat surfaces** of a **solid object**
edge	for a 3D shape, the **line segment** where **two faces** meet
vertex (vertices)	for a 3D shape, the **point** where **two or more edges meet**, a **corner**

Section 2

2D REPRESENTATIONS OF 3D SHAPES

plan	a **2D view** of a **3D solid** as viewed **from above**, birds-eye view
elevation	the **2D view** of a **3D solid** from the **front** or the **side**
net	a **pattern** that you can **cut** and **fold** to make a **model** of a 3D shape

Section 3

VOLUME

volume	the amount of **space a 3D shape** takes up	
volume units	mm³, cm³, m³...	
prism	volume = **area of cross section x length**	
cube	volume = **one side cubed** (or, **area of square x length of prism**)	$V = l^3$
cuboid	volume = **area of rectangle x length of prism**	$V = lbh$
triangular prism	volume = **area of triangle x length of prism**	$V = \frac{lbh}{2}$
cylinder	volume = **area of circle x length of prism**	$V = \pi r^2 h$
pyramid	volume = $\frac{1}{3}$ x area of cross section x length	
square based pyramid	volume = $\frac{1}{3}$ x area of square base x height of pyramid	$V = \frac{lwh}{3}$
cone	volume = $\frac{1}{3}$ x area of circle base x height of cone	$V = \frac{\pi r^2 h}{3}$
sphere	$V = \frac{4}{3}\pi r^3$	

Section 4

SURFACE AREA

surface area	the **total area** of all the **surfaces** on a **3D shape**	
surface area method	find the **area of each face** separately, then **add** them together	
surface area of a sphere	$A = 4\pi r^2$	
surface area of a cone	curved surface area = **πrl** circle base area = **πr^2** **add** these together	

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SECTIONS 5

Pythagoras's Theorem

Pythagoras' theorem	a **relationship** between the **3 sides** on a **right angled triangle**
Pythagoras' theorem	$a^2 + b^2 = c^2$ **'c'** is always the **hypotenuse**
Pythagoras' theorem in 3D	$a^2 + b^2 + c^2 = h^2$

Labelling for Pythagoras theorem

$a^2 + b^2 = c^2$
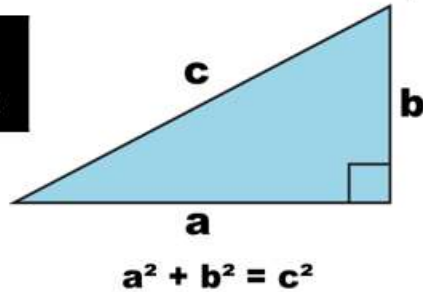
Labelling for Trigonometry
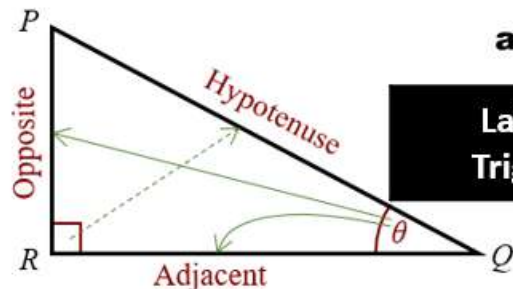
SECTION 6

TRIGONOMETRIC RATIOS

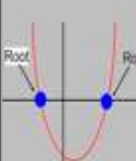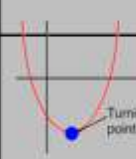| trigonometric ratios	sine (sin), cosine (cos) and tangent (tan) use with **right angled triangles** ratios between **2 lengths and an angle**
hypotenuse	the **longest side** on a **right angled triangle** it is always **opposite the right angle**
opposite side	this side **depends** on the **angle** you are **using** (θ) it is the **angle opposite** θ
adjacent side	this side **depends** on the **angle** you are **using** (θ) it is the **angle next to** θ
sine	$sin\theta = \dfrac{opposite}{hypotenuse}$
cosine	$cos\theta = \dfrac{adjacent}{hypotenuse}$
tangent	$tan\theta = \dfrac{opposite}{adjacent}$
SOHCAHTOA	to remember: $S = \dfrac{o}{h}$ $c = \dfrac{a}{h}$ $t = \dfrac{o}{a}$

SECTION 7

SOLVING QUADRATIC EQUATIONS	
quadratic	a **polynomial** where the highest power of x is x^2
solving a quadratic	finding the **roots of the graph** there are usually **two** roots / **solutions**
general quadratic equation	a quadratic equation is of the form $ax^2 + bx + c = 0$ where **a, b and c are numbers**, a ≠ 0
the quadratic formula	$x = \dfrac{-b \pm \sqrt{b^2 - 4ac}}{2a}$
factor	a **quantity** which **divides equally** into a number, e.g. *factors of 8 are 1, 2, 4 and 8*
factorising a general quadratic	quadratic: **x² + bx + c** factorised form: **(x + ?)(x + ?)** '?' are **two numbers** whose **product is 'c'** and **sum is 'b'**
difference of two squares	quadratic: **a² – b²** factorised form: **(a – b)(a + b)** **square root each number** from the **original expression**
completing the square	a quadratic in the form $x^2 + bx + c$ written in the form $(x + p)^2 + q$ the turning point of the quadratic is **(-p,q)**

SECTION 8

Links to: QUADRATIC GRAPHS		
quadratic graph	a graph where the of x is it is always a (a U-shape)	
	$y =$	
	$y =$	
roots (of graphs)	the ' ' of a graph, where a can be found in a graph where the	Root Root
turning point	the point where a graph , from negative to positive gradient or positive to negative gradient	Turning point

SECTION 9

TRIGONOMETRIC RULES	
sine rule	use with non right angled triangles use when the question involves 2 sides and 2 angles
sine Rule (for an angle)	$\dfrac{SinA}{a} = \dfrac{SinB}{b} = \dfrac{SinC}{c}$
sine Rule (for a side)	$\dfrac{a}{SinA} = \dfrac{b}{SinB} = \dfrac{c}{SinC}$
cosine rule	use with non right angled triangles use when the question involves 3 sides and 1 angle
cosine Rule (for a side)	$a^2 = b^2 + c^2 - 2bcCosA$
cosine Rule (for an angle)	$CosA = \dfrac{b^2 + c^2 - a^2}{2bc}$
area of a triangle (trig)	$Area = \dfrac{1}{2}abSinC$

EXACT TRIG VALUES					
	0°	30°	45°	60°	90°
sin	0	$\dfrac{1}{2}$	$\dfrac{\sqrt{2}}{2}$	$\dfrac{\sqrt{3}}{2}$	1
cos	1	$\dfrac{\sqrt{3}}{2}$	$\dfrac{\sqrt{2}}{2}$	$\dfrac{1}{2}$	0
tan	0	$\dfrac{1}{\sqrt{3}}$	1	$\sqrt{3}$	----

SECTION 10

OTHER NON-LINEAR GRAPHS		
sine graph	$y = sin(x)$ important points: (0,0), (90,1), (180,0), (270,-1), (360,0)	
cosine graph	$y = cos(x)$ important points: (0,0), (90,-1), (180,0), (270,1), (360,0)	
tangent graph	$y = tan(x)$ the graph has **asymptotes** at x=90° and x=270° important points: (0,0), (180,0), (360,0)	

SECTION 11

VECTORS	
scalar	a **quantity defined only** by **size**
vector	a **quantity** which has **magnitude** and **direction** it **defines** a **movement from one point** to **another**
vector notation	a vector can be **written in 3 ways**: $\mathbf{a}$ or $\overrightarrow{AB}$ or $\binom{x}{y}$
magnitude	the **size** of something (the **length of a vector**)
column vector (in 2D)	the **top number** (**x**) moves **left** (-) or **right** (+) the **bottom number** (**y**) moves **up** (+) or **down** (-)
	e.g. $\binom{3}{2}$ *means a* ***movement*** *of 3 right and 2 up*
parallel vectors	**parallel vectors** have the **same direction** **parallel vectors** are **scalar multiples** of each other
collinear vectors	vectors on the **same line** to prove: **show** they **are parallel** and **show** they **share** a **common point**
resultant vector	the **vector** that **results** from **adding** two or more vectors together
prove	to **show** something is **always true,** in maths, you must use **algebra** to prove

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SECTION 12

Links to: ANGLE RULES	
angles around a point	**add to 360°** (as they make a full turn)
angles on a straight line	**add to 180°**
vertically opposite angles	**are equal**
angles in a triangle	**add to 180°**
angles in a quadrilateral	**add to 360°**

Links to: ANGLES IN PARALLEL LINES		
alternate angles		are **equal** a pair of angles on **opposite sides** of the **transversal, inside** the **parallel lines**
corresponding angles		are **equal** a pair of angles on the **same side** of the **transversal** in the **same position of the intersection**
co-interior angles		add to **180°** a pair of angles on the **same side** of the **transversal, inside** the **parallel lines**

Inheritance, Variation and Evolution Knowledge Organiser

Keywords

allele – An alternative form of a gene.

asexual reproduction – The production of offspring from a single parent by mitosis. The offspring are clones of the parent.

chromosome – Structures that contain the DNA of an organism and are found in the nucleus.

cystic fibrosis – A disorder of cell membranes that is caused by a recessive allele.

DNA - A polymer that is made up of two strands that form a double helix.

dominant – An allele that is always expressed, even if only one copy is present.

fertilisation – The fusion of male and female gametes.

gamete – Sperm cell and egg cell in animals; pollen and egg cell in plants.

gene – A small section of DNA that codes for a specific protein.

genome – The entire genetic material of an organism.

genotype – The combination of alleles.

heterozygous – A genotype that has two different alleles, one dominant and one recessive.

homozygous – A genotype that has two of the same alleles. Either two dominant alleles or two recessive alleles.

meiosis – The two-stage process of cell division that reduces the chromosome number of the daughter cells. It makes gametes for sexual reproduction.

mutation – A change in DNA.

phenotype – The characteristic expressed because of the combination of alleles.

**polydactyly** – Having extra fingers or toes. It is caused by a dominant allele.

recessive – An allele that is only expressed if two copies of it are present.

sexual reproduction – The production of offspring by combining genetic information from the gametes of two parents. Leads to variation in the offspring.
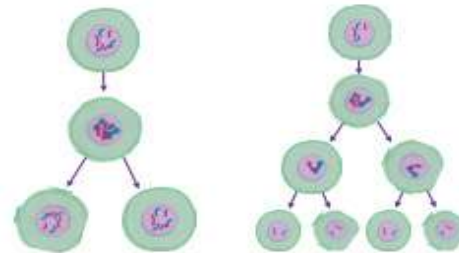
| Mitosis	Meiosis
Produces two daughter cells.	Produces four daughter cells.
Daughter cells are genetically identical.	Daughter cells are not genetically identical.
The cell divides once.	The cell divides twice.
The chromosome number of the daughter cells is the same as the parent cells. In humans, this is 46 chromosomes.	The chromosome number is reduced by half. In humans, this is 23 chromosomes.
Used for growth and repair, and asexual reproduction.	Produces gametes for sexual reproduction.

How to Complete a Punnet Square
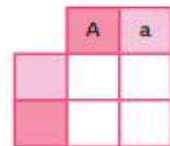
Step 1:
Put the two alleles from one parent into the boxes at the top. This parent is a heterozygote. This means they have one dominant and one recessive allele.
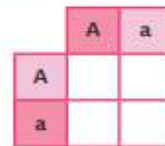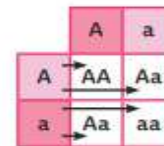
Step 2:
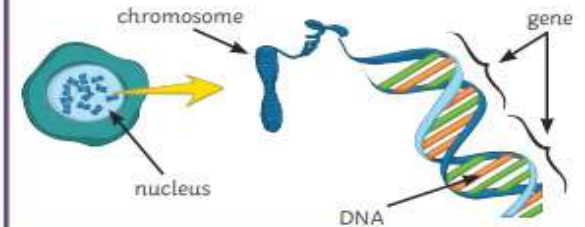Put the two alleles from the second parent into the boxes on the left. This parent is also a heterozygote.
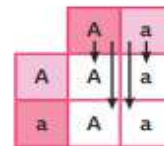
Step 3:
Put the alleles from the first parent into the two boxes underneath them.

Step 4:
Put the alleles from the second parent into the two boxes to the right of them.

chromosome — gene — nucleus — DNA

Sex Determination

| | mum | |
	X	X
X	XX	XX	— female
Y	XY	XY	— male

(dad on left axis)

Females carry two X chromosomes.
Males carry one X and one Y chromosome.

Probability

There are four possible combinations of gametes that offspring can inherit.

male genotype

	A	a
A	AA	Aa
a	Aa	(aa)

(female genotype on left axis)

One of these four has the genotype aa – that's $\frac{1}{4}$, 25% or 0.25.

The recessive phenotype has a ratio of 1:3 because only one combination will show the phenotype while the other three will not.

Inheritance, Variation and Evolution Knowledge Organiser

Keywords

embryo screening – Genetic tests carried out on an embryo to see whether it carries a faulty allele.

evolution – A change in the inherited characteristics of a population over time through a process of natural selection.

evolutionary tree – A method used to show how scientists believe organisms are related.

extinction – The permanent loss of all members of a species.

fossils – The remains of organisms from millions of years ago which are found in rocks.

genetic engineering – The process by which scientists manipulate and change the genotype of an organism.

natural selection – The process by which organisms that are better suited to an environment are more likely to survive and reproduce.

selective breeding – Humans selecting animals or plants, that have a required characteristic, for breeding.

speciation – The process by which two species evolve from a single original species by natural selection. The two populations have become so different that they can no longer interbreed to produce fertile offspring.

variation - Differences in characteristics of individuals in a population.

Variation

Variation maybe be due to differences in:

- the genes that have been inherited (genetic causes);
- the conditions in which they have developed (environmental causes);
- a combination of genes and the environment.

Evolution

All species of living things have evolved from simple life forms by natural selection.

- If a variant/characteristic is advantageous in an environment, then the individual will be better able to compete.
- This means they are more likely to survive and reproduce.
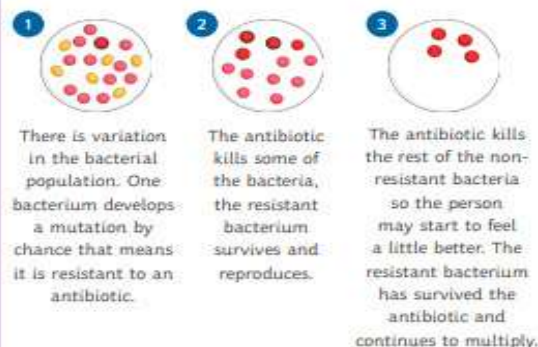- Their offspring will inherit the advantageous allele.

Fossils

Fossils could be:

- the actual remains of an organism that has not decayed;
- mineralised forms of the harder parts of an organism, such as bones;
- traces of organisms such as footprints or burrows.

Many early life forms were soft-bodied so have left few traces behind.

Fossils help us understand how much or little organisms have changed as life developed on earth.

Resistant Bacteria

There is variation in the bacterial population. One bacterium develops a mutation by chance that means it is resistant to an antibiotic.

The antibiotic kills some of the bacteria, the resistant bacterium survives and reproduces.

The antibiotic kills the rest of the non-resistant bacteria so the person may start to feel a little better. The resistant bacterium has survived the antibiotic and continues to multiply.

To reduce the rate at which antibiotic-resistant strains appear:

- Antibiotics should only be used when they are really needed, not for treating non-serious or viral infections.
- Patients should complete their courses of antibiotics, even if they start to feel better.
- The agricultural use of antibiotics should be restricted.

Selective Breeding

1. Choose parents who have the desired characteristic.
2. Select the best offspring and breed these to make the next generation.
3. These offspring are then bred again and again, over many generations, until a desired result is achieved.
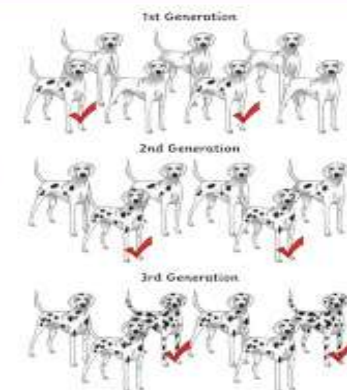
Genetic Engineering
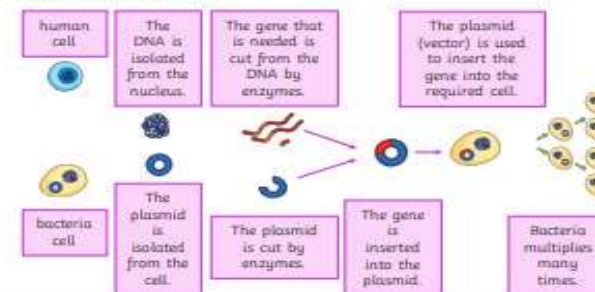
Classification

Linnaeus classified living things into kingdom, phylum, class, order, family, genus and species.

Organisms are named by the binomial system of genus and species.

Due to evidence from chemical analysis, there is now a 'three-domain system' developed by Carl Woese.

Domain	bacteria	archaea	eukaryota			
Kingdom	eubacteria	archaebacteria	protista	fungi	plantae	animalia

AQA GCSE Chemistry (Combined Science) Unit 6: The Rate and Extent of Chemical Change

Calculating Rates of Reactions

Reactions happen at **varying rates**. For example, a firework exploding is a fast reaction whereas a piece of iron rusting would take place over a longer period of time.

The **rate of a chemical reaction** tells us how quickly a **product is formed** or how quickly a **reactant is used up**.

For a chemical reaction to occur, the reactant particles must collide with enough energy. Those collisions that produce a chemical reaction are called successful collisions.

$$\text{mean rate of reaction} = \frac{\text{quantity of reactant used}}{\text{time taken}}$$

$$\text{mean rate of reaction} = \frac{\text{quantity of product formed}}{\text{time taken}}$$
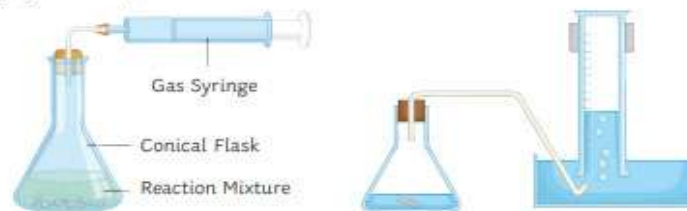
Measuring the Mass of a Reaction Mixture

The changing mass of a reaction mixture can be measured during a reaction. This method is particularly useful when gases, such as carbon dioxide, are given off. **Gas escapes during the reaction and the mass of the reaction mixture decreases.** The mass can be measured at regular time intervals.


Cotton Wool
Hydrochloric Acid
Marble Chips
Electric Scale
0g

units = g/s or g/min

Measuring the Volume of a Reaction Mixture

The changing volume of a reaction mixture can be measured during a reaction. This method is particularly useful when gases, such as carbon dioxide, are given off. The gas can be collected and its volume measured at regular time intervals. Different types of measuring equipment can be used to collect the gas such as a gas syringe, measuring cylinder or upside-down burette.

Gas Syringe
Conical Flask
Reaction Mixture

units = cm³/s or cm³/min

fast reaction
slow reaction
Mass of Product
Time (s)
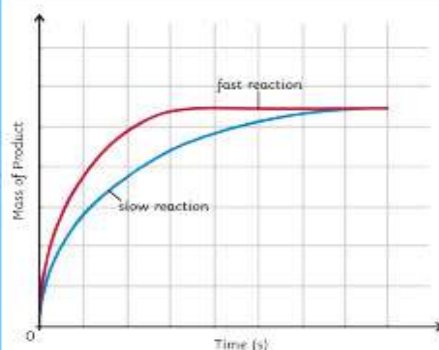
Graphs are a useful way to **analyse** the results from a rate of reaction investigation. The graph above shows two lines, one red and one blue.
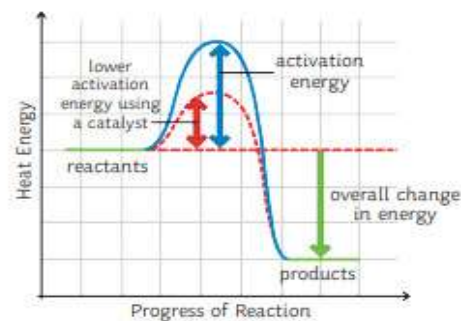
The red line represents a fast reaction and the blue line a slow reaction. We know the fast reaction occurs at a much faster rate as the line is steep. The fast reaction finishes before the slow reaction as the line plateaus sooner.

Factors Affecting the Rate of a Chemical Reaction

- concentration and pressure
- catalyst
- surface area
- temperature

The rate of a chemical reaction will be increased if there are more frequent successful collisions between reactant particles.

Catalyst

lower activation energy using a catalyst
activation energy
reactants
Heat Energy
overall change in energy
products
Progress of Reaction

A catalyst is a **substance** that speeds up a chemical reaction without getting used up itself. Catalysts are able to offer an **alternative pathway** at a **lower activation energy**.

Biological catalysts are called **enzymes**.

When a catalyst is used in a chemical reaction (not all reactions have a catalyst that is suitable to use), the **frequency of collisions** is **unchanged**. More **particles** are able to react. The particles have **energy greater** than that of the **activation energy**. Consequently, there is in an **increase** in the **rate successful of collisions**.

Concentration and Pressure

If the **number of reactant particles** in a given space is **doubled**, there will be **more frequent successful collisions** between reactant particles, therefore, **increasing** the **rate of reaction**.


reactant particles
increased concentration or pressure
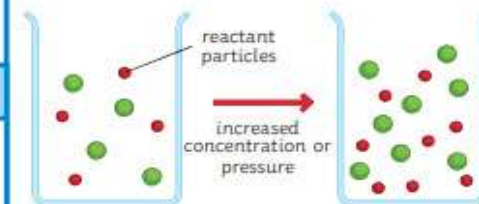
AQA GCSE Chemistry (Combined Science) Unit 6: The Rate and Extent of Chemical Change

Temperature

When the temperature of the reaction mixture is increased, the reactant particles gain kinetic energy and move much more quickly. This results in more frequent successful collisions between the reactant particles, therefore, increasing the rate of the reaction.

2°C   increasing temperature   50°C
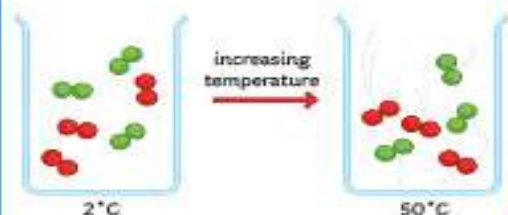
Surface Area

Large lumps of a solid have a small surface area to volume ratio. If the solid is broken up into smaller lumps or crushed into a powder, this will increase the surface area to volume ratio.
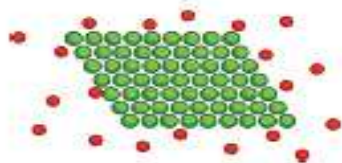
A larger area of the solid is now exposed to other reactant particles. This increases the frequency of successful collisions thus increasing the rate of reaction.

Calculating Gradient (Higher Tier Only) gradient = $\frac{y}{x}$

On the graph, draw construction lines on the part of the graph that has a straight line. Measure the values of x and y.

10.4g

2 min

Time of Reaction

(Graph section)
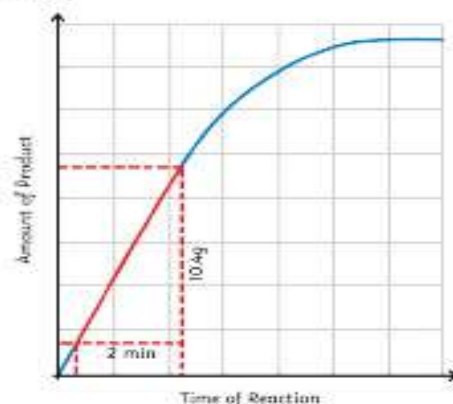
In the graph below, the gradient of the first line is much steeper than the second line. This indicates that a faster reaction is taking place. Remember, the steeper the line, the faster the reaction.

To calculate the reaction rate at a specific time period, construction lines must first be drawn on the straightest part of the graph.
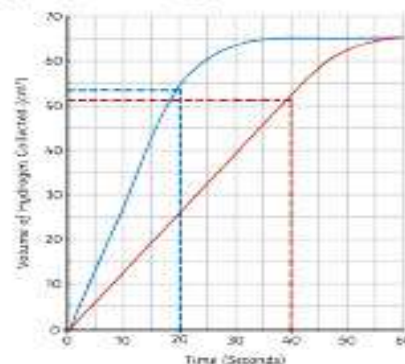
Time (Seconds)

For the first line, what is the rate of reaction at 20 seconds?

54 ÷ 20 = 2.7cm³/s

For the second line, what is the rate of reaction at 40 seconds?

52 ÷ 40 = 1.3cm³/s

Dynamic Equilibrium

In a closed system (this means nothing can get in or out), a reversible reaction can reach dynamic equilibrium. This is where the forward and reverse reactions are occurring at the same rate and the concentrations of all the substances that are reacting remain constant.

Changing Conditions and the Effect on the Position of Equilibrium (Higher Tier Only)

The reaction between nitrogen and hydrogen to make ammonia is an industrial process called the Haber process. It requires a high temperature, high pressure and an iron catalyst.

The symbol equation for the reaction is as follows:

$N_2(g) + 3H_2(g) \rightleftharpoons 2NH_3(g)$

According to Le Chatelier's Principle, the position of equilibrium can be altered by changing the conditions of the reaction i.e. the pressure, concentration and/or the temperature. The position of the equilibrium will shift to counteract any changes made.

Increasing the temperature of the reaction in the forward direction (exothermic) will result in the equilibrium shifting in favour of the reverse direction (endothermic) to reduce the temperature.

From the equation, it is clear that on the left-hand side, there are four molecules and on the right-hand side, there are two molecules. If the pressure in the system were increased, the equilibrium position would shift to the right as there are fewer molecules. If the pressure in the system were decreased, the equilibrium position would shift to the left as there are a larger number of molecules.

If the concentration of one of the reactants were increased, then the equilibrium position would move in favour of the products. This would result in more product being produced. If the concentration of the products were decreased, equilibrium would shift to favour the products. More reactants would react until equilibrium is reached.

AQA GCSE Chemistry (Combined Science) Unit 6: The Rate and Extent of Chemical Change

Reversible Reactions

A reversible reaction is one in which the reactants form products. The products are then able to react together to reform the reactants.

For example:
A reacts with B to form C and D.
C and D are able to react to form A and B.

The equation would be as follows (where the double arrow symbol represents a reversible reaction is taking place):

$$A + B \rightleftharpoons C + D$$

The forward reaction goes to the left and the backwards reaction goes to the right. For example, if the forward reaction is exothermic then the backward reaction will be endothermic. The amount of energy that is transferred is the same for both the forward and reverse reaction.

Hydrated copper sulfate is a blue substance. We say that the copper sulfate is hydrated as it contains water. The copper sulfate is heated and the water evaporates leaving a white substance known as anhydrous copper sulfate. Anhydrous meaning no water.

The word equation for the reaction is as follows:

hydrated copper sulfate $\rightleftharpoons$ anhydrous copper sulfate + water

$$CuSO_4.5H_2O(s) \rightleftharpoons CuSO_4(a) + H_2O(l)$$

The reaction can be reversed when water is added to the anhydrous copper sulfate.

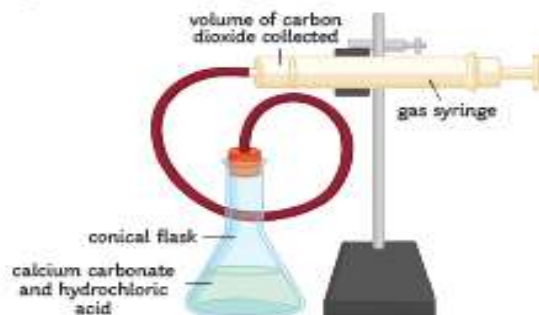## Required Practical 5: Measuring the Production of a Gas

This method outlines one way to carry out an investigation to collect a gas from a chemical reaction.

The practical involves changing the concentration of hydrochloric acid and measuring the volume of carbon dioxide gas produced when the acid reacts with calcium carbonate.

The word equation for the reaction is as follows:

calcium carbonate + hydrochloric acid → calcium chloride + water + carbon dioxide

The symbol equation for the reaction is:

$$CaCO_3 + 2HCl \rightarrow CaCl_2 + H_2O + CO_2$$

volume of carbon dioxide collected

gas syringe

conical flask

calcium carbonate and hydrochloric acid

Method

Step 1 – Clamp a gas syringe to a retort stand using a boss and clamp. Ensure the syringe is a quarter of the way from the top of the stand. Place the delivery tube to the end of the gas syringe.

Step 2 – Measure out 50ml of hydrochloric acid using a measuring cylinder and pour into a conical flask.

Step 3 – Using a top pan balance, measure out 0.5g of powdered calcium carbonate and place in the conical flask.

Step 4 – Immediately connect the bung and delivery tube to the conical flask. Start the stopwatch.

Step 5 – Record the volume of carbon dioxide gas produced every 10 seconds.

Step 6 – When the reaction has finished and there are no more bubbles of gas being produced, clean the equipment and repeat using four other different concentrations of hydrochloric acid.

When analysing the results from the practical investigation, plot a graph of Time (s) against Volume of Gas Produced (cm^3). Draw a curve of best fit through the points. A graph should be plotted for each concentration of acid.

Calculate the mean rate of reaction (cm^3/s) for each concentration of acid used. This can be calculated by dividing the total mass of gas produced (cm^3) by the reaction time (s).

## Required Practical 5: Investigating a Change in Colour

This method outlines one way to carry out an investigation into the effect of increased temperature on the rate of a reaction.

The word equation for this reaction is as follows:

sodium thiosulfate + hydrochloric acid → sodium chloride + water + sulfur dioxide + sulfur

The symbol equation for this reaction is:

$$Na_2S_2O_3 + 2HCl \rightarrow 2NaCl + H_2O + SO_2 + S$$
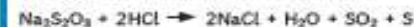
The reaction between sodium thiosulfate and hydrochloric acid produces a precipitate. Sulfur is responsible for the formation of the precipitate. A precipitate is a solid that is formed in a solution. It is the formation of this precipitate that causes the reaction mixture to become cloudy; the cloudiness is a way to measure the reaction time.

AQA Combined Science: Physics Topic 5 Forces

Scalar and Vector Quantities

A scalar quantity has magnitude only. Examples include temperature or mass.

A vector quantity has both magnitude and direction. Examples include velocity.

Speed is the scalar magnitude of velocity.

A vector quantity can be shown using an arrow. The size of the arrow is relative to the magnitude of the quantity and the direction shows the associated direction.

Contact and Non-Contact Forces

Forces either push or pull on an object. This is as a result of its interaction with another object.

Forces are categorised into two groups:

Contact forces – the objects are touching e.g. friction, air resistance, tension and contact force.

Non-contact forces – the objects are not touching e.g. gravitational, electrostatic and magnetic forces.

Forces are calculated by the equation: force (N) = mass (kg) × acceleration (m/s^2)

Forces are another example of a vector quantity and so they can also be represented by an arrow.

Gravity

Gravity is the natural phenomenon by which any object with mass or energy is drawn together.

- The mass of an object is a scalar measure of how much matter the object is made up of. Mass is measured in kilograms (kg).
- The weight of an object is a vector measure of how gravity is acting on the mass. Weight is measured in newtons (N).

weight (N) = mass (kg) × gravitational field strength (N/kg)

(The gravitational field strength will be given for any calculations. On earth, it is approximately 9.8N/kg).

An object's centre of mass is the point at which the weight of the object is considered to be acting. It does not necessarily occur at the centre of the object.

The mass of an object and its weight are directly proportional. As the mass is increased, so is the weight. Weight is measured using a spring-balance (or newton metre) and is measured in newtons (N).

Resultant Forces

A resultant force is a single force which replaces several other forces. It has the same effect acting on the object as the combination of the other forces it has replaced.

The forces acting on this object are represented in a free body diagram.
The arrows are relative to the magnitude and direction of the force.

The car is being pushed to the left by a force of 30N. It is also being pushed to the right by a force of 50N.

The resultant force is 50N – 30N = 20N

The 20N resultant force is pushing to the right, so the car will move right.

When a resultant force is not zero, an object will change speed (accelerate or decelerate) or change direction (or both).

When an object is stationary, there are still forces acting upon it.

In this case, the resultant force is 30N – 30N = 0N.

The forces are in equilibrium and are balanced.

When forces are balanced, an object will either remain stationary or if it is moving, it will continue to move at a constant speed.

When resultant forces act along the same line, you calculate the resultant force as shown below.

AQA Combined Science: Physics Topic 5 Forces
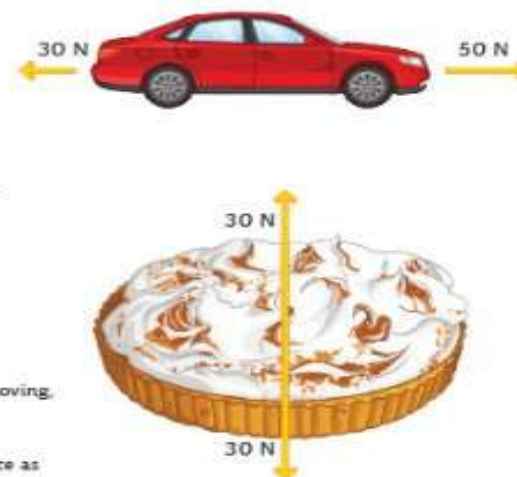
Required Practical Investigation Activity 6: Investigate the Relationship Between Force and Extension for a Spring

$F = k \times e$

force applied (N) = spring constant (N/m) × extension (m)

You should be familiar with the equation above and the required practical shown to the right.

The spring constant is a value which describes the elasticity of a material. It is specific to each material. You can carry out a practical investigation and use your results to find the spring constant of a material.

1. Set up the equipment as shown.

2. Measure the original length of the elastic object, e.g. a spring, and record this.

3. Attach a mass hanger (remember the hanger itself has a weight). Record the new length of the spring.

4. Continue to add masses to the hanger in regular intervals and record the length each time.
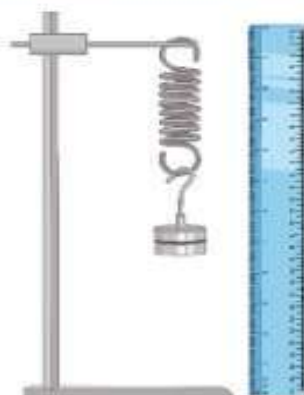
Once you have your results, you can find the extension for each mass using this formula: spring length – original length

The data collected is continuous so you would plot a line graph using the x-axis for extension (m) and the y-axis for force (N). As a result of Hooke's Law, you should have a linear graph. The gradient of the graph is equal to the spring constant. You can calculate it by rearranging the formula above or by calculating the gradient from your graph.

original length
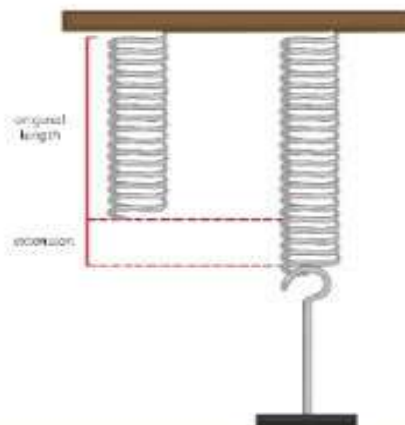
extension

Spring Constant and Hooke's Law

Hooke's Law describes that the extension of an elastic object is proportional to the force applied to the object. However, there is a maximum applied force for which the extension will still increase proportionally. If the limit of proportionality is exceeded, then the object becomes permanently deformed and can no longer return to its original shape. This can be identified on a graph of extension against force when the gradient stops being linear (a straight line) and begins to plateau. The limit is shown on the graph above and this is the specific object's elastic limit.

limit of proportionality

Extension (m)
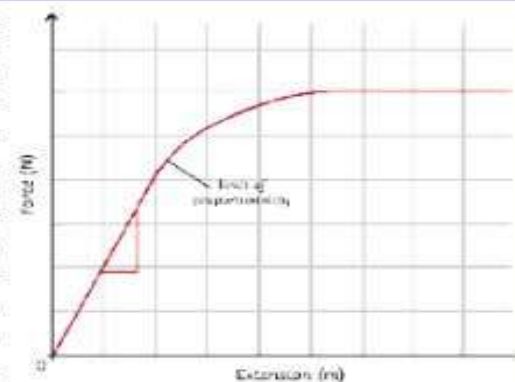
Forces and Elasticity

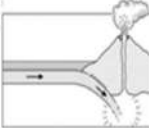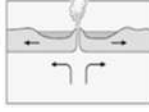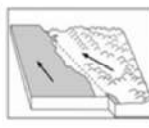When work is done on an elastic object, such as a spring, the energy is stored as elastic potential energy.

When the force is applied, the object changes shape and stretches. The energy is stored as elastic potential and when the force is no longer applied, the object returns to its original shape. The stored elastic potential energy is transferred as kinetic energy and the object recoils and goes back to its original shape.
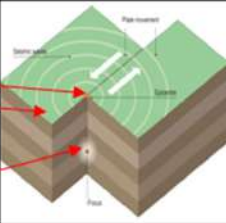
Tectonic hazard key terms (week 1)

Hazard risk	The probability or chance that a natural hazard may take place.
Natural hazard	A natural event (for example an earthquake, volcanic eruption, tropical storm, flood) that threatens people or has the potential to cause damage, destruction and death.
Earthquake	A sudden or violent movement within the Earth's crust followed by a series of shocks.
Immediate responses	The reaction of people as the disaster happens and in the immediate aftermath.
Long-term responses	Later reactions that occur in the weeks, months and years after the event.
Plate margin	The margin or boundary between two tectonic plates.
Primary effects	The initial impact of a natural event on people and property, caused directly by it, for instance the ground buildings collapsing following an earthquake…
Secondary effects	The after-effects that occur as indirect impacts of a natural event, sometimes on a longer timescale, for instance fires due to ruptured gas mains resulting from the ground shaking
Tectonic hazard	A natural hazard caused by movement of tectonic plates (including volcanoes and earthquakes).
Tectonic plate	A rigid segment of the Earth's crust which can 'float' across the heavier, semi-molten rock below. Continental plates are less dense, but thicker than oceanic plates
Volcano	An opening in the Earth's crust from which lava, ash and gases erupt.

The structure of the Earth (week 2)

The Crust	Varies in thickness (5-10km) beneath the ocean, up to 70km on land. Made up of several large plates.
The Mantle	Widest layer (2900km thick). The heat and pressure means the rock is in a liquid state
The Core	Hottest section (5000 degrees). Mostly made of iron and nickel and is 4x denser than the crust. Inner section is solid whereas outer layer is liquid.

Why do plates move-Plate tectonics (week 3)

The plates of the crust move due to **convection currents**

1	The core (like sun), middle of the Earth generates lots of heat
2	Magma in the mantle is heated up. The magma become **less dense** (runnier) and **slowly rises**.
3	As the magma moves towards the crust it cools down, become **more dense** (thicker) and **slowly sink**.
4	A **circular movements** of semi-molten is created. These are called **convection currents**
5	Convection currents create **drag** on the bottom of the tectonic plates and this causes them to move.

Types of Plate Margins (week 4)

Destructive Plate Margin

The denser oceanic plate subducts beneath the continental one. This generates friction causing it to **melt and become molten magma**. The magma forces its ways up to the surface to form a volcano, causing large earthquakes and eruptions.

Constructive Plate Margin

Two plates are **moving apart** causing new magma to reach the surface through the gap. Volcanoes formed along this crack such as those in the **Mid Atlantic Ridge**. Earthquakes & eruptions occur here

Conservative Plate Margin

A conservative plate boundary occurs where plates **slide past each other** in opposite directions, or in the same direction but at different speeds. This is responsible for earthquakes such as the ones happening along the San Andreas Fault, USA.

Causes of Earthquakes (week 5)

1. When two plates become **locked** causing **tension** to build up.
2. The **stress** and **pressure** will eventually be released, triggering plate movement.
3. Energy in the form of **seismic waves** is released, travels from the focus (place where the earthquake starts in the crust) towards the **epicentre** (place where the seismic waves first reach the surface).
4. The crust vibrates triggering an earthquake.

Causes of Earthquakes (week 5)

The point directly above the focus, where the seismic waves reach first, is called the **EPICENTRE**.

SEISMIC WAVES (energy waves) travel out from the focus.

The point at which pressure is released is called the **FOCUS**.

Earthquake Management (week 6)

PREDICTING

Methods include:
- Satellite surveying (tracks changes in the earth's surface)
- Laser reflector (surveys movement across fault lines)
- Radon gas sensor (radon gas is released when plates move so this finds that)
- Seismometer
- Water table level (water levels fluctuate before an earthquake).
- Scientists also use seismic records to predict when the next event will occur.

PROTECTION

You can't stop earthquakes, so earthquake-prone regions follow these three methods to reduce potential damage:
- Building earthquake-resistant buildings
- Raising public awareness
- Improving earthquake prediction

Volcanic Hazards (week 7)

Ash cloud	Small pieces of pulverised rock and glass which are thrown into the atmosphere.
Gas	Sulphur dioxide, water vapour and carbon dioxide come out of the volcano.
Lahar	A volcanic mudflow which usually runs down a valley side on the volcano.
Pyroclastic flow	A fast moving current of super-heated gas and ash (1000°C). They travel at 450mph.
Volcanic bomb	A thick (viscous) lava fragment that is ejected from the volcano.

Managing Volcanic Eruptions (week 7)

Warning signs	Monitoring techniques
Small earthquakes are caused as magma rises up.	Seismometers are used to detect earthquakes.
Temperatures around the volcano rise as activity increases.	Thermal imaging and satellite cameras can be used to detect heat around a volcano.
When a volcano is close to erupting it starts to release gases.	Gas samples may be taken and chemical sensors used to measure sulphur levels.

Key terms (week 8)

Birth rate	The number of births in a year per 1000 of the total population
Death rate	The number of deaths in a year per 1000 of the total population
Demographic Transition Model	A model showing how populations should change over time in terms of their birth rates, death rates and total population size
Development	The progress of a country in terms of economic growth, the use of technology and human welfare.
Development gap	The difference in standards of living and wellbeing between the world's richest and poorest countries (between HICs and LICs).
Globalisation	The process which has created a more connected world, with increases in the movements of goods (trade) and people (migration and tourism) worldwide.
Human Development Index (HDI)	A method of measuring development in which GDP per capita, life expectancy and adult literacy are combined to give an overview. This combined measure of development uses economic and social indicators to produce an index figure that allows comparison between countries.
Industrial structure	The relative proportion of the workforce employed in different sectors of the economy (primary, secondary, tertiary and quaternary).
Infant mortality	The average number of deaths of infants under 1 year of age, per 1000 live births, per year.
Life expectancy	The average number of years a person might be expected to live.

What is development? (week 9)

Development is an improvement in living standards through better use of resources.

Economic	This is progress in economic growth through levels of industrialisation and use of technology.
Social	This is an improvement in people's standard of living. For example, clean water and electricity.
Environmental	This involves advances in the management and protection of the environment.

Variations in the level of development (week 9)

LICs	Poorest countries in the world. GNI per capita is low and most citizens have a low standard of living.
NEEs	These countries are getting richer as their economy is progressing from the primary industry to the secondary industry. Greater exports leads to better wages.
HICs	These countries are wealthy with a high GNI per capita and standards of living. These countries can spend money on services.

The Demographic Transition Model (week 10)

High birth & death rate	High birth rate, lowering death rate	Birth rate drops, death rate stabilises	Low birth & death rate	Birth rate lower than death rate
Low population growth	Population grows	Rapid population growth	Population growth slows down	Population slowly declines
e.g. Isolated tribes	e.g. Niger	e.g. Brazil	e.g. UK	e.g. Italy

Physical factors affecting uneven development (week 11)

Natural Resources	Natural Hazards
• Fuel sources such as oil. • Minerals and metals for fuel. • Availability for timber. • Access to safe water.	• Risk of tectonic hazards. • Benefits from volcanic material and floodwater. • Frequent hazards undermines redevelopment.

Climate	Location/Terrain
• Reliability of rainfall to benefit farming. • Extreme climates limit industry and affects health. • Climate can attract tourists.	• Landlocked countries may find trade difficulties. • Mountainous terrain makes farming difficult. • Scenery attracts tourists.

Consequences of Uneven Development (week 11)

Wealth	People in more developed countries have higher incomes than less developed countries.
Health	Better healthcare means that people in more developed countries live longer than those in less developed countries.
Migration	If nearby countries have higher levels of development or are secure, people will move to seek better opportunities and standard of living.

Human factors affecting uneven development (week 12)

Aid	Trade
- Aid can improve services such as schools, hospitals and roads. - Too much reliance on aid might stop other trade links becoming established.	- Countries that export more than they import have a trade surplus. - Countries that export more than they import have a trade deficit.

Education	Health
- Education creates a skilled workforce - Educated people earn more money, meaning they also pay more taxes.	- Lack of clean water and poor healthcare leads to suffering from diseases. - Ill people cannot work - More money on healthcare means less on development.

Politics	History
- Corrupt governments- stop development - Stable governments have better trade links	- Colonialism helped Europe develop, but slowed down development in many other countries.

Reducing the development gap (week 13)

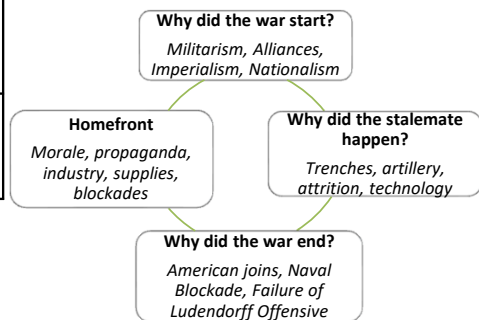|	
Investment	Large companies can locate part of their business in other countries. This helps a country to develop as the companies build factories, lay roads and install internet cables.
Aid	Aid is when one or more countries give money to other countries. The money has to be spent on things that will benefit the population.
Using intermediate technology	Intermediate technology is using equipment and techniques that are suitable for their country of use. Many poorer countries do not have the skills to maintain expensive equipment. Small-scale, basic solutions are usually more appropriate.
Fairtrade	Fairtrade is paying producers a reasonable price for the goods that they produce. Many farmers in LICs are paid very low wages. This means that they cannot escape poverty. Fairtrade gives farmers a better chance in life.
Debt relief	Many LICs owe money to other countries. Often the repayments and interest are so expensive that indebted countries have no money left to spend on development projects. Debt relief is when debts are either reorganised to make them more manageable, or reduced.
Microfinance loans	Microfinance loans are when money is lent to LICs to help them to develop. These are often small loans with reasonable interest rates. They are available to people and businesses who may normally struggle to get credit.

1 Militarism

Key Term	Definition
Arms Race	Competition to make the largest military
Dreadnought	Largest battleship created (1906)
Navy	Military used at sea
Militarism	Desire to have the strongest military

4

Crisis	Consequence
1905 First Moroccan Crisis	Germany embarrassed at international conference, alliances strengthen
1908 Austria Hungary annex Bosnia	Pan-Slavism increases, Russia back down from war, tension increases
1911 Second Moroccan Crisis	Germany back down and lose colonies, tension at its highest point
1912-1913 Balkan Wars	Austria-Hungary defeated, Ottomans pushed from Europe, nationalism increases

2

Nation	Key Facts
Britain	Largest Navy. Largest empire. Experienced army
Germany	Strong military culture. Growing navy. Well-prepared
France	Outdated army. Aging military leaders. Large army
Russia	Largest army by far. Outdated equipment and tactics. Politically unstable
America	Modern army. Unaffected by the war in Europe. Isolationist until 1917

5 Imperialism

Key Term	Definition
Crisis	A time of difficulty or danger
Place in the Sun	Germany's desire to have an Empire
Annex	To take someone else's territory
Imperialism	The desire to increase the size of an Empire

Why did the war start?
Militarism, Alliances, Imperialism, Nationalism

Homefront
Morale, propaganda, industry, supplies, blockades

Why did the stalemate happen?
Trenches, artillery, attrition, technology

Why did the war end?
American joins, Naval Blockade, Failure of Ludendorff Offensive

3 Alliances

Key Term	Definition
Triple Entente	Britain, France, Russia
Triple Alliance	Germany, Austria-Hungary, Italy
Encircled	Surrounded by other nations
Alliance	Agreement between nations

Date	Alliance
1879	Dual Alliance (Germany and Austria-Hungary)
1882	Triple Alliance
1894	Franco-Russian Alliance (France and Russia)
1907	Triple Entente

6 Nationalism

Key Term	Definition
Weltpolitik	Germany's desire to be a world power
Pan-Slavism	The movement towards Slavic unity
Isolationism	Desire to take no part in international affairs
Nationalism	Zealous love of one's country over other countries

7

Nation	Culture
German	• Strong military culture • "Young" nation wanting to make history • Ambitious leader • Desire for power on a global stage
British	• Largest global empire • Historically dominant at sea • Wealthy and proud of prominence
Slavic	• Frustrated at Austro-Hungarian imperialism • Nationalist secret societies
France	• Historic rivalry with Germany from 1870 • Wealthy Empire • Historically powerful, but outdated against Germany

22

1 Stalemate

Battle	Nations	Key Moments	Casualties	Consequence
Marne Sept 1914	Germany France	• France stop the German Schlieffen Plan at the Marne river & defend Paris	• 250,000 French • 260,000 German	• German advance stops • Paris protected • Stalemate begins
Verdun Feb-Dec 1916	France Germany	• German general Falkenhayn begins attritional warfare	• 355,000 German • 400,000 French	• France defends Verdun • Britain supports defenders
Somme July-Nov 1916	Britain France Germany	• Heavy British losses in early stages • First use of tank	• 420,000 British • 440,000 German • 200,000 French	• Minimal territorial gain • Germany eventually fall back to Hindenberg line
Passchendaele July-Nov 1917	Britain France Germany	• Quagmire conditions • Constant heavy rain	• 240-400,000 British and French • 200-400,000 German	• British victory • Very heavy losses • Germany badly weakened

3 End of the War

Event	Cause	Consequence
Jutland May – June 1916	• German fleet attempts to break British Naval dominance • No clear victor • German fleet destroyed, British fleet still dominant	• Germans adopt U-Boat warfare • German fleet destroyed • Naval blockade
Russian Revolution February 1917	• Russia suffers heavy casualties on Eastern Front • Russian population starving and angry • Russian Tsar deeply unpopular	• Russia leaves the war • German troops redeployed to Western Front
America joins the war 1917	• Lusitania sunk May 1915 • Zimmerman Telegram 1917 • Submarine warfare damages US ships	• USA commits 2 million troops to war • 90,000 tonnes of meat • USA finances allies
Ludendorff Offensive March 1918	• Germany has more troops on Western Front • America is joining war, German chance of victory is shrinking	• Initial German victory • Unsustainable German advance • German troops cut off and captured
100 Days Offensive August 1918	• Germans are weakened and on brink of defeat • Unified command under General Foch • American troops join allies	• Significant allied territory gains • German army in full retreat • Allied victory close
Kaiser Wilhelm abdicates Nov 1918	• German civilian and military morale at breaking point • Kiel mutiny shows military no longer follows Kaiser's orders • German people starving from the blockade	• Germany cannot continue with war • Armistice signed November 1918

Key Term	Definition 2
Stalemate	When neither army could make a decisive move
Trench	Defensive ditch or fortification soldiers fought and lived in
Artillery	Long-range explosive weapon
Bombardment	Prolonged artillery attack on defences
Shell-shock	PTSD for soldiers following bombardments
Attrition	Grinding down the enemy
Trench-foot	Foot condition soldiers contracted standing in muddy trenches
Tank	Heavily armoured fighting vehicle
Shrapnel	Metals shards that came from explosives, wounding soldiers
No Man's Land	Area of land between two armies' trenches
Outflank	Move around the enemy to attack from a better position
Blockade	Cutting a location off from all supplies and trade
U-Boat	German submarine
Abdicate	Monarch gives up their title
Storm-Troopers	Elite German shock-troops
Mutiny	Soldiers refusing to follow commanders' orders
Armistice	Agreed ceasefire
Homefront	The civilian world during war
Morale	The overall mood of a group of people

8 — Appeal of the Nazis

Appeal of the Nazis
Hitler promised to fix Germany's problems and make it strong again
SA used fear to intimidate political opponents
Hitler gave out brownshirts to supporters to create Nazi uniform
Promised to remove Treaty of Versailles
Promised to destroy the communists
Promised to give Germany work and bread (arbeit und brot)

9 — Hitlers Rise 1929-1933

SA Power and Fear	Hitler's charisma	Campaigning	Rallies	United and strong Germany

Hitler becomes Chancellor > Reichstag Fire 1933 > Enabling Act > Death of Hindenberg > Hitler becomes Fuhrer

10 — Nazi Economic Policies

Policy	Consequence
German Labour Front 1933	Workers' union that was dominated by Nazis. Striking was banned
German Labour Service 1935	Young adults must be employed in public work schemes for six months
Rearmament	Hitler needed a strong army. He gave valuable rearmament contracts to wealthy supporters
Autarky	Germany wanted to be self-sufficient. Germany did not want to import other products

11 — Nazi Social Policies

Policy	Consequence
Jewish Persecution	1933 Jewish businesses boycotted and targeted by SA
Nuremberg Laws	1935 Lowered status of Jewish citizens
Hitler Youth	1936 Forced youth club to indoctrinate children
Kirstallnacht	1938 Mass attack on Jewish population in Germany
Women	Women encouraged to be housewives and mothers
Education	All education promoted the Nazi ideals and beliefs

12 — Nazi Key Figures

Name	Role
Adolf Hitler	Leader of Nazi Party and Fuhrer
Joseph Goebbels	Nazi head of propaganda
Ernst Rohm	Head of SA (Killed in 1934)
Hjalmar Schacht	Chief of economy (1934-1937)
Herman Goering	Chief of German Air Force and Economy (1937)
Heinrich Himmler	Chief of German Secret Police

13 — Key Words

Word	Definition
Anti-Semitism	Hatred and persecution of Jewish people
Armistice	Agreement to end First World War
Aryan	Nazi term for "pure" German
Constitution	Set of rules to govern a country
Enabling Act	Law to give politicians to rule without Reichstag
Freikorps	Paramilitary groups of soldiers from First World War
Hyperinflation	Inflation in 1923 makes money worthless
Kristallnacht	Nov 1938 attack in Jewish business and property
November Criminals	Name to describe politicians who signed armistice
Putsch	Attempt to takeover government
Third Reich	Nazi name for Germany
Trade union	Organisations aimed at improving lives of workers, banned by Nazis

1 Treaty of Versailles

	Condition
L	Land • Germany lost Alsace-Lorraine, the Saar, and all its overseas colonies
A	Army • Germany had to reduce their army to 100,000 and a tiny navy
M	Money • Germany had to pay 6.6 billion in reparations
B	Blame • Germany had to accept blame for starting the First World War

2 Weimar Republic

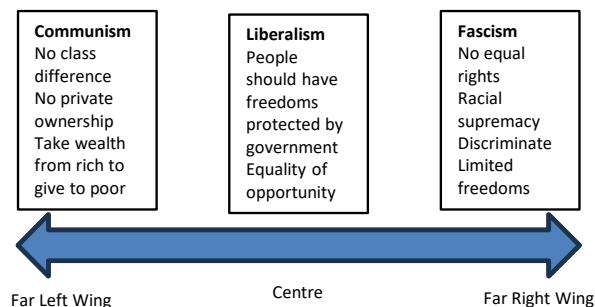| Characteristic	Consequence
Proportional Representation	Very difficult for one party to have strong representation by dividing the vote
Crushed Spirits	Low morale following the First World War
Political Instability	Left- and Right-wing uprisings
Suffrage	Women can vote
Article 48	Executive powers could be given to a dictator in times of emergency
Reichstag	Elected from the people to propose laws

3 Invasion of the Ruhr

Date	Event	Consequence
1922	Germany cannot afford reparations	France and Belgium enraged
1923	France and Belgium march 60,000 troops into Ruhr Workers Strike Weimar Prints more money	Resources stolen Government pays wages Hyperinflation Money is worthless

4 Political Resistance

Uprising	Event
Spartacist Uprising	Jan 1919, communist uprising led by Rosa Luxemburg and Karl Liebknecht. Uprising put down by Freikorps
Kapp Putsch	March 1920 Wolfgang Kapp uses right wing Freikorps to overthrow government. Ended by general strike
Munich Beer Hall Putsch	Nov 1923 Adolf Hitler begins Putsch in Munich. Hitler is arrested and writes Mein Kampf in prison

5 International Treaties

Date	Treaty
1924	Dawes Plan Reparations payments reduced and an American loan
1929	The Young Plan Reparations reduced by 20% with further American loans

Communism
No class difference
No private ownership
Take wealth from rich to give to poor

Liberalism
People should have freedoms protected by government
Equality of opportunity

Fascism
No equal rights
Racial supremacy
Discriminate
Limited freedoms

Far Left Wing — Centre — Far Right Wing

6 Stresemann Era 1925-1929

Factor	Impact
Culture	German cinema, jazz, and art all expand internationally
Rentenmark	New currency restabilises economy
Prosperity	Germans had more money, nightlife flourished
Economy	German economy is supported heavily by America loans
Reputation	Germany allowed into Locano Treaty, League of Nations, and Kellogg-Briand pact. Internationally recognised again
Equality	Women had more rights, were employed, and had money

7 Wall Street Crash

Date	Consequence
Oct 1929	America recalls all German loans German economy crashes Mass unemployment Food shortages Increase in support for extreme politics

Trinity	God is the Father, Holy Spirit & Son	Salvation	Saving the soul from sin
Incarnate	God is Jesus/Human in flesh	Resurrection	Jesus raised from dead
Ascension **1 & 2**	Jesus rose up to heaven 40 days after his resurrection & teaching his final lessons.	Omnipotence / Omniscience / Omnibenevolence	All-powerful / All-knowing / All-loving
Just	God is fair	Impersonal	God is beyond human understanding
Crucifixion	The killing of Jesus/suffering on cross		
Stewardship	Humans are carers of the earth	Grace	God's unconditional love

Influence – How does something affect you, inspire you, does it compel certain actions?
Similar – Are there any beliefs, teachings & quotes that are similar?

3	**Nature of God**	**The Trinity**	**The Bible** teaches,	**Atheists** argue,
	• Christians see God as: Just, graceful, omnipotent, omnibenevolent, omniscient & merciful • Christians pray to Him; ask for forgiveness	• Christians see God in 3 ways: The Father in heaven, the Holy Spirit that inspires us & the son incarnate – Jesus	• *'I am always with you'* • *'You'll receive power with the Holy Spirit'* • *'Obey God not men'*	• Freud argues God is only in the human mind • God is not real you can't see him / his power

4	**The Creation Story**	**Problem of Evil**	**The Bible** teaches,	**Atheists** argue,
	• Book of Genesis says how God made the world; • Day 1: God made light • Day 2: heavens & earth • Day 3: land & sea • Day 4: Sun, Moon/Stars • Day 5: Fish & birds • Day 6: Animals/humans • Day 7- God rested • We are stewards of the earth	• If an all-loving God exists, how can He allow humans to suffer in the world? Moral (human) evil / natural (beyond this) • Floods, famine, diseases, war…	• *'God made the heavens & earth'* • **The Prodigal Son**: *A father forgives & welcomes his son back after his losses* • **The Story of Job**: *life is a test. Job loses his wealth & family but God returns it testing his faith through suffering.*	• God should not make people suffer; • If God created the world why is it not perfect? Why are their floods, natural & moral evil?

5	**The Original Sin**	**The Bible** teaches,	**Influence**
	• Adam & Eve ate from the forbidden tree inspired by Satan • Everyone sins no one is perfect (Adam/Eve) • Sin breaks God's Law causes separation • Jesus' death atones (makes up) for our sins.	• *'Faith without good action is dead faith'* • *'Christ died for our sins'*	• Wrongs can be made right with the right intention • We must be careful with our freedom

6.	**Incarnation**	**The Bible** teaches,	**Some** argue,
	• God comes to the earth as a human • Mary gives birth to a son through the Holy Spirit • Christians appreciate God's link to humanity • God is fully human & divine	• *'The Word (God) became flesh'*	• Difficult to understand – how can an omnipotent God be human at the same time? • Can be seen as a miracle

7.	**Crucifixion**	**The Bible** teaches,	**Some** argue,
	• Jesus was nailed to a cross & killed • He spoke to God saying he felt abandoned • This act atoned for everyone's sins • Jesus betrayed by Judas for 30 silver pieces	• *'Jesus died for our sins'* • *'Jesus predicts own death'*	• Crucifixion reminds Jesus' pain & sacrifice / moral evil • Important for atonement – Christians work to do no sin

8.	**Resurrection**	**The Bible** teaches,	**Influence**
	• Jesus rose from the dead on the 3rd day after his crucifixion • Jesus' risen body was different & glowed	• *'Jesus had risen'* • *'The body raised is imperishable'*	• Resurrection possible for everyone • Shows God's power

9.	**Salvation**	**The Bible** teaches,	**Influence**
	• Salvation cannot be achieved if you sin • We can achieve salvation by: following God's Law, Holy Spirit & His grace • Jesus spent 40 days spreading God's word	• *'Your word is a lamp'* • *'Obey God rather than men'*	• Christians follow Jesus • Salvation & grace must be taught to others • Some baptise themselves

10.	**Ascension**	**The Bible** teaches,	**Influence**
	• After 40 days of resurrection, Jesus rose up to heaven • Jesus told disciples to carry on spreading Christian teachings	• *'He was lifted up'* • *'A cloud took him from their sight'*	• Christians will not stray from God's path; Jesus in heaven comforts others

11.	**Afterlife & Judgement**	**The Bible** teaches,	**Influence**
	• Afterlife, God will judge you fairly • Heaven, Hell or Purgatory (in between) • The point of life is to aim for heaven	• *The Parable of Sheep & Goat (evil)* • *'Do not judge for you will be judged'*	• Ask for forgiveness • Give charity & share • Not steal or lie

12.	*Tip: Always unpack quotes*	**Where** is it from? *The Bible / Jesus teaches,*	**What** does it mean? *This means / Some Christians believe This influences,*	**Why** is it important? *This signifies / highlights, This supports / challenges,*

Atonement	Making amends for wrong actions	Sacraments	Outward signs of faith
Liturgical worship	Set structure to worship in a church, followed every time – scripts, routine	Baptism	Ceremony to wash your body with water to wash away sins
Non-Liturgical worship	Worship without set structure, the priest's speech is not scripted	Eucharist	Bread & wine ceremony enacting Jesus' last meal
Evangelism	Preaching to convert others	Reconciliation	Repair relationships - together
Lord's Prayer	Prayer Jesus taught others to pray	Persecution	Hostility or ill-treatment of someone / groups

Contrasting – How are practices done differently between Christians?
Similar – Are there any practices, teachings & quotes that are similar?   **1 & 2**

Private Worship	3.	Liturgical Worship	Informal worship	Non-Liturgical Worship
• Praising / honouring God on your own/meditate • Time, comfy & meaning		• A service that follows a set structure. E.g. set texts same pattern • Bible reading, singing hymns at set times	• NL worship, at times unplanned or charismatic (led by the Holy spirit)/songs • Expressive / music	• Doesn't follow set structure • Sermons on current topics e.g. in the news, pressing issues addressed…
• *'Go to your room, close the door & pray to your Father'*- **B**		• *'Worship God in fear & beauty of holiness'* – **B** • *'Ask & you'll receive'* - **B**	• *'Sing to the LORD'* • *'Worship Him in Spirit & truth'* - **B**	• *'Have no fear of bad news'* – **B** • *'Seek godly advice'*

4.	The Lord's Prayer	The Bible teaches,	Some argue,
	• A set prayer taught by Jesus • Read during prayer / Eucharist • 'Father in Heaven, forgive our sins'	• *'Ask & you shall receive; seek & you shall find, knock & it shall be opened'*	• Worship is important for salvation – asking for forgiveness

5.	Sacraments	The Bible teaches,	Some argue,
	• Words or actions show your faith • Intention is important as well • 7 sacraments e.g**., baptism, Eucharist**	• *'Love God with all your heart'* • *'Prepare your minds for action'*	• Sacraments not needed – action can feel robotic • It about heart & spirit • Sacraments are not compulsory to show faith

Tip: Always unpack quotes	**Where** is it from? *The Bible / Jesus teaches,*	**What** does it mean? *This means / Some Christians, This influences,*	**Why** is it important? *This signifies / highlights, This supports / challenges,*
11.			

6.	The Eucharist & Mass	Orthodox 'Liturgy'	The Bible teaches,	Some argue,
	• Ceremony to reflect Jesus' Last Supper; bread & wine symbols Jesus' blood & body – his sacrifice • Transubstantiation – bread & wine transforms into blood & body of Jesus • **Catholic Mass:** confess sins, only priest drinks wine, bread given out	• Priest gives out bread soaked in wine on a spoon • Everyone is included to have wine & take some bread home later	• *'Do this in remembrance of me'* • *'I am the bread of life'* • *'Examine yourself before the communion'*	• Reminds us we are all family – as the body of Christ • Some may not drink wine as it damages body

7.	Infant Baptism	Believers' Baptism	The Bible teaches,	Some argue,
	• Parents baptise their child to wash away the Original Sin • A welcome to the faith	• Baptised when older • Jesus was baptised as an adult & use freewill	• *'Get up, be baptized & wash your sins away'* • *'One Lord, one faith, one Baptism'*	• Seeking faith through your free - will is powerful

8.	Pilgrimage to Iona	Pilgrimage to Lourdes	The Bible teaches,	Some argue,
	• Appreciate nature – God's creation – sacred journey • Thin veil between heaven & earth – feel closer to God / visit church	• Water is collected to heal • Bernadette's holy vision of Mary – encouraged prayer • Reconciliation Chapel; confess sins	• *'Faith without action is dead faith'* • *'God will renew your strength'*	• There are other ways of connecting to God, Baptisms, Private worship…

9.	Local Church efforts	Church Worldwide	The Bible teaches,	Some argue,
	• Churches give food parcels • Street pastors care for vulnerable groups – drunk • Salvation Army; support homeless & elderly	• Church Army International – tackle modern slavery • Christian Aid – charitable donations for emergency, short/long term aid	• *'Blessed are the peacemakers'* • *'God loves a cheerful giver'*	• Churches aren't always necessary as modern technology can help preach God's words (evangelism)

10.	Christmas	Easter	The Bible teaches,	Some argue,
	• Celebrates Jesus' birth (incarnation) • Giving/receiving gifts – focus on family, relationships & reconciliation; church service	• Remembers Jesus' sacrifice & resurrection • Reflect on atonement / salvation • Church services	• *'Thanks be to God for his unspeakable gift'* • *'With his wounds we are healed'*	• Festivals lose their meaning due to commercialisation; cards, films & gifts replace original story

27

Sunni 6 Articles of Faith	Tawhid, Prophets, Angels, Holy Books, Judgement, Al-Qadr (Predestination)	Usul ad-Din 5 Shia Roots Transcendent	Tawhid, Prophets, Justice, Leaders & Resurrection God is beyond space & time
Akhirah	Belief in afterlife	Hadith	Written sayings of the prophet
Risalah	God communicates with us in 3 ways: Quran (Holy Books)/Prophets/Angels	Omnipotence Omniscience	All-powerful All-knowing – God is **immanent** (close to humans)
Just	God is fair	Impersonal	God is beyond human understanding
Barzakh	State of waiting after death	Sunnah	Written practices of the prophet

Influence – *How does something affect you, inspire you, does it compel certain actions?*
Similar – *Are there any - beliefs, teachings & quotes that are similar?*   **1 & 2**

3 — Nature of God – God is 'One'

Nature of God – God is 'One'	The Quran teaches,	Influence
• Muslims see God as: Just, omnipotent, omniscient & immanent – He acts within the world e.g. sends miracles • Muslims pray to ask for guidance • God is beneficial as he's a provider food, water (rain) & more….	• *'God is the light of the heavens & the earth'* • *'God is closer to you than your jugular vein'* • *Surah 112 – God is eternal*	• Knowing God's different roles helps know his true powers • You should not compare God to other beings this is blasphemy

4 — Six Sunni Articles of Faith

Six Sunni Articles of Faith	The Quran teaches,	Influence
• The oneness of God (Tawhid) • Angels; have different roles from God • Holy Books - Qur'an, Torah, Gospel • Prophets- God's messengers • Day of Judgement – life after death • Qadr (predestination) – nothing happens without God's will.	• *'Whoever disbelieves in God; His angels, Books, Messengers & the Last Day, has gone astray.'*	• Its about having good intentions as a Muslim; strengthens actions • Tawhid unites all Muslims as you need this is part of your faith

5 — 5 Roots of Usual ad-Din

5 Roots of Usual ad-Din	The Quran teaches,	Influence
• Tawhid • Prophets – God's messengers • Justice (Adalat); God is a fair planner • Resurrection: judgement/afterlife • Imamate (Leadership of Muslims after Muhammad) – 12 Imams related to the Prophet; Shias respect them as leaders that guide them. E.g. Imam Ali	• *'We made the imams & guided them'* • *'Enjoin good & forbid evil'* • *'God will not burden you beyond that which you cannot bear'*	• Shia Muslims mainly trust in justice – God is the perfect of planners & fair • Imams clarify God's words

6

Risalah – Angels	Risalah – Prophets	Risalah – Holy Books	Some argue,
• Have no freewill, serve God • Can't sin / made from light • Jibril brings God's messages down to prophets • Mikail sends down rain / food; for sustenance • Angels guided the prophets	• Messengers of God • Muhammad/final prophet • Quran revealed to him in the Cave of Hira by Jibril • His Sunnah (actions) & Hadith (sayings) are followed today	• Torah (Musa), Gospel (Isa), Hadith, Sunnah, Zabur (Dawud) – convey God's words • Quran is the most authoritative book in Islam; its unchanged • Quran guides Shariah laws; diet, marriage, wars…	• Humanity has evolved; • Imams, tech; clarify God's laws, times change • God is 'evolver'
• *'Angels only have intellect'*- **Q** • *'He sends guardian angels'*- **Q**	• *'Obey God & His Messenger'*- **Q**	• *'There has come to you a light & clear book'*- **Q**	• *'You have …evolved'* - **Q**

7

Prophet Adam	Prophet Ibrahim	Prophet Muhammad	Some argue,
• First man & prophet • He taught mankind – is 'khalifah'- God's steward • First to build the Kaaba • Teaches anyone can do wrong but God is merciful	• Considered as 'hanif' – commit to worship 1 God • Passed God's faith test on sacrificing his Son, Ismail • Teaches Muslims to sacrifice things they love for God (Eid ul Adha)	• Received the Quran, still in its original form today • Preached monotheism despite rejection • Established 5 pillars of Islam	• There is no Islam without Muhammad • Islam has been shaped by all prophets of the past.
• *'Satan misled them'*- **Q**	• *'You aren't pious until you give that which you love'* - **Q**	• *'The messenger is an excellent model'* - **Q**	• *'Prophets are warmers of truth'* - **Q**

8 & 9

Akirah	Al-Qadr	The Quran teaches,	Some argue,
• This life is temporary & all actions will be judged • After you die the state of waiting to be judged is called Barzakh • Actions will be weighted on a scale for you to go heaven / hell; Akirah is eternal	• Everything happens on Allah's will; life is planned • Humans still need to make the right choices with their freewill & commit good • Adam & Eve's wrongdoing acts a warning to remind us	• *'Every atom's weight shall be rewarded or punished'* • *'Death will find you even in the highest of towers'* • *'There is not a leaf that falls without Him knowing'*	• Belief in the end of the world is also important: Imam Mahdi will come to earth & help Isa fight false prophets • The living will die • The Quran will be taken to paradise & no one will remember its words

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10

Tip: Always unpack quotes!	Where is it from? The Quran / Prophet teaches,	What does it mean? This means / Some Muslims believe This influences,	Why is it important? This signifies / highlights, This supports / challenges,

10.1 What is your school like?	
En mi insti(tuto) (no) hay…	In my school there is (not)…
Mi insti(tuto) tiene…	My school has
…un campo de fútbol	…a football pitch
…un comedor	…a dining hall
…un gimnasio	…a gym
…un patio	…a playground
…una biblioteca	… a library
…una piscina	… a swimming pool
…unos laboratorios	…labs
…unas aulas	…classrooms
…muchas instalaciones	…many facilities
Mi instituto es…	My school is…
mixto	Mixed
público	State
privado	Private
masculino	All boys
femenino	All girls

10.2 Primary school	
Mi escuela primaria era…	My primary school was…
En mi escuela primaria había…	In my primary school there was/were…
Mi escuela primaria tenía…	My primary school had…
Más / menos	More / fewer, less
Exámenes	Exams
Deberes	Homework
Muebles	Furniture
Espacios verdes	Green spaces
Pizarras interactivas	Interactive boards
Poco espacios	Little space
El edificio era	The building era
El día escolar es / era	The school day is / was
(in)adecuado	Inadequate

10. 3 ideal school	
Diría que…	I would say that…
Mi colegio ideal sería…	My ideal school would be…
Si fuera posible,	If it were possible
Mi colegio ideal tendría	My ideal school would have…

10.4 In the future		
Espero…		I hope (to)…
Me gustaría…		I would like…
Quiero…		I want (to)…
Quisiera…		I would want (to)…
Tengo la intención de..		I intend to…
Voy a…		I am going to…
	aprender a conducir	learn to drive
	aprobar mis exámenes	pass my exams
	casarme	get married
	conseguir un buen trabajo/empleo	find a good job
	estudiar una carrera universitaria	study a university course
	matricularme en un curso	sign up for a course
	montar mi propio negocio	set up my own business
	sacar buenas notas	get good grades
	ser feliz	be happy
	tener hijos	have children
	trabajar como voluntario/a	work as a volunteer

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10.5 Jobs	
Me gustaría <u>ser</u>…	I would like to be (a)…
Quisiera ser…	I would like to be (a)…
Tengo la intención de ser…	I intend to be (a)…
Siempre he soñado con ser…	I have always dreamed of being (a)…
abogado / a	lawyer / solicitor
albañil	builder
amo/a de casa	househusband / housewife
azafato/a	cabin crew / flight attendant
bombero/a	firefighter
camarero/a	waiter/waitress
contable	accountant
dependiente/a	shop assistant
enfermero/a	nurse
escritor(a)	writer
fontanero/a	plumber
funcionario/a	civil servant
guía turístico/a	tour guide
ingeniero/a	engineer
profesor(a)	teacher
peluquero/a	hairdresser
periodista	journalist
socorrista	lifeguard
soldado	solider

10.6 work experience	
Hice mis prácticas laborales en…	I did my work experience in…
Pasé quince días trabajando en…	I sent a fortnight working in…
un polideportivo	a sports centre
una agencia de viajes / una granja	a travel agent / farm
una escuela / una oficina	a school / office
una fábrica de juguetes	a toy factory
una tienda bénefica / solidaria	a charity shop
la empresa de mi madre	my mum's business

10.6 work experience	
Tuve que… (+ inf)	I had to… (+ inf)
<u>cuidar</u> a los clientes / pasajeros / pacientes	look after clients / passengers / patients
<u>contestar</u> llamadas	answer calls
<u>enseñar</u> / <u>vigilar</u> a los niños	teach / look after children
<u>hacer</u> entrevistas	do interviews
<u>preparar</u> platos distintos	prepare different dishes
<u>reparar</u> coches	repair cars
<u>servir</u> comida y bebida	serve food and drink
<u>trabajar</u> en un taller / en un hospital / en una tienda / en un avión	work in a workshop / in a hospital / in a shop / on a plane
<u>vender</u> ropa de marca	sell designer clothing
<u>viajar</u> por todo el mundo	travel the world
<u>mandar</u> correos	send emails

10.7 your future		
Cuando sea mayor me gustaría ser…		When I am older I would like to be (a)…
Después de terminar mis estudios, tengo la intención de ser…		After finishing my studies, I intend on being (a)…
	…cuidador(a)	…carer
	..influencer	…influencer
	…deportista	…sports person
	…empresario/a	…business person

10.8 Healthy living	
Llevo una vida sana	I lead a healthy life…
Llevo una vida malsana	I lead a unhealthy life…
No llevo una vida sana	I don't lead a healthy life…
porque / ya que / dado que	because…
como	I eat
bebo	I drink
mucha fruta	a lot of fruit
demasiado azúcar	too much sugar
muchas patatas fritas	lots of chips
mucha agua	lots of water
demasiados refrescos	too many fizzy drinks
(no) fumo	I (don't) smoke
nunca tomo drogas	I never take drugs

10.9 Healthy living in the past	
Llevaba una vida sana	I used to lead a healthy life…
Llevaba una vida malsana	I used to lead a unhealthy life…
No llevaba una vida sana	I don't used to lead a healthy life…
porque / ya que / puesto que	because…
comía	I eat
bebía	I drink
mucha fruta	a lot of fruit
demasiado azúcar	too much sugar
muchas patatas fritas	lots of chips
mucha agua	lots of water
demasiados refrescos	too many fizzy drinks
(no) fumaba	I (didn't) smoke
nunca tomaba drogas	i never took drugs

10.10 How to improve your lifestyle	
En el futuro	In the future
El año que viene	Next year
comeré	I will eat
más sano	more healthily
beberé	I will drink
menos refrescos	fewer fizzy drinks
evitaré	I will avoid
los alimentos grasos	Fatty foods
la comida rápida	Fast-food
la comida salada	Salty food
haré	I will do
más deporte	more sport
dejaré de+ infinitive…	I will give up…
fumar	smoking
muchas patatas fritas	lots of chips
mucha agua	lots of water
demasiados refrescos	too many fizzy drinks
(no) fumaba	I (didn't) smoke
nunca tomaba drogas	I never took drugs

10.11 bad habits	
Diría que	I would say that…
Tengo que admitir que	I have to admit that…
Opino que	I think that
Pienso que	I think that
beber alcohol	to drink / drinking alcohol
fumar cigarrillos / porros	to smoke / smoking cigarettes / joints
tomar drogas blandas / duras	to take / taking soft / hard drugs
es / no es…	it is / it isn't…
ilegal / peligroso	illegal / dangerous
un malgasto de dinero	a waste of money
una tontería / un problema serio	stupid / a serious problem
un vicio muy caro	a very expensive habit
muy prejudicial para la salud	very damaging for your health
tan malo	so bad

10.12 Illness	
Me duele(n)…	My…hurt(s)
Me he cortado…	I've cut my…
Me he hecho daño en …	I've hurt my…
Me he quemado…	I have burnt my…
Me he roto…	I have broken my…
Me he torcido…	I have twisted my…
…el brazo	…arm
…el estómago	…stomach
…el pie	…foot
…el tobillo	…ankle
…la boca	…mouth
…la cabeza	…head
…la espalda	…back
…la garganta	…throat
…la mano	…hand
…la nariz	…nose
…la pierna	…leg
…la rodilla	…knee
…los dientes / las muelas	…teeth
…los oídos / las orejas	…ears
…los ojos	…eyes

10.13 Illness	
Tengo que…	I have to…
Necesito…	I need to…
Debo…	I must…
Hay que…	It is necessary to…
…beber más agua	…drink more water
…descansar	…relax
…ir al hospital	…go to the hospital
…tomar aspirina	…take aspirin
…tomar este jarabe	…take this syrup
…tomar estas pastillas	…take these tablets
…usar esta crema	…use this cream

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STAR phrases

Inglés	Español
Diría que	I would say that
Cuando era más joven	When I was younger
Antes / después de hacer eso	Before / after doing that
Aunque sea + adjective	Although it is + adjective
Tengo la intención de	I have the intention of
Tengo ganas de + infinitive	I'm looking forward to + infinitive
Si tuviera la oportunidad, me gustaría + infinitive	If I had the opportunity, I would like to + infinitive
Si fuera rico / a, me gustaría + infinitive	If I were rich, I would like to + infinitive
Siempre he pensado que	I have always thought that
Para que pueda + infinitive	So that I can + infinitive

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Year 10 Urdu: Cycle 1

10.1 – Introduction

نام	Naam	Name
عمر	Umar	Age
تعارف	Ta aruf	Introduction
تاریخ پیدائش	Taarikh Paidaish	Date of Birth
آنکھیں	Ankhay	Eyes
بال	Baal	Hair
عینک	Aenak	Glasses / Spectacles
بچپن	bachpan	Childhood
بچہ / بچی	Bacha / Bachee	Child

10.2 – Family and Friends

ابا / باپ	Aba / Baap	father/dad
ماں / امی	Maa / Ammee	mother/mum
بہن / باجی	Behen / Bajee	sister
بھائی / بھیا	Bhai / Bhaya	brother
سوتیلا / سوتیلی	Sowteela / sowteelee	Step (relation)
سگا / سگی	Sagaa / Sagee	Real (relation)
سنجیدہ	Sanjeeda	Serious
شرارتی	Sharartee	Cheeky
ایماندار	Imandaar	Honest
مہربان	Mehrbaan	Kind
مزاحیہ	Mazahiya	Homorous / Witty
خوش طبیعت	Khoosh Tabiat	Lively

10.3 – House

گھرانہ	gharaanaa	household
بیٹھک	baiThak	sitting room/lounge
کرایہ	Kraaya	Rent
گھر تبدیل کرنا	Ghar tabdeel karnaa	To move house
باغ / چمن / گلشن	baagh / chaman / gulshan	Garden
بنگلہ	Bangla	Bungalow
سیڑھیاں	seeRhiya	stairs
غسل خانہ	ghusl khaanaa	bathroom
صاف کرنا	saaf karnaa	to clean
ایک ساتھ جڑے ہوئے گھر	ayk saath juRay huway ghar	Terraced House
فرش	Farrsh	Floor
دیوار	Deewaar	Wall
کھانا پکانا	Khaanaa Pakaanaa	To Cook
تہہ خانہ	tehh khaana	cellar
بالا خانہ	baala khaana	attic
نیم متصل گھر	neem muttasil ghar	semi-detached house
مثالی گھر	misaali ghar	ideal house

10.4 – Town

علاقہ	Ilaaqa	Region / Area
دیہات	Dayhaat	Countryside / village
زمین کا منظر / نقشہ	Zmeen kaa manzar / naqsha	Landscape
شہر	Shehr	City
مینار	meenaar	Tower
زمین کے نیچے چلنے والی گاڑی / ٹیوب	zameen kay neechay chalnay waali gaaRee / tube	Underground train / tube
گھرا ہوا	ghirraa huwaa	Surrounded by
ارد گرد کا علاقہ	irrd girrd kaa ilaaqa	Surrounding area
شہر کا وسط	shehr kaa wast	town centre
مضافات	mzaafaat	outskirts/ suburbs

10.5 – Facilities

چڑیا گھر	ChiRyaa Ghar	Zoo
فلیٹوں کی عمارت	FlaiTo kee imaarat	High rise block of flats
پہاڑی	pahaaRee	Hill
زیورات	Zaywaraat	Jewellery
سنار کی دکان	Sunaar kee dukaan	Jewellers
مختلف چیزوں کی دکان / ڈیپارٹمنٹل اسٹور	mukhtalif cheeso kee dukaan / department store	Department Store
کھیلنے کا میدان	Khaylnay kaa maidaan	Play ground

10.6 – Freetime

مشغلہ	Mashgala	Hobby
تیراکی / تیرنا	tairaakee / tairnaa	Swimming
باغبانی	baaghbaanee	Gardening
تاش کھیلنا	taash khaylnaa	To play cards
دلچسپی لینا	dillchaspee laynaa	To be interested in
کشتی لڑنا	kushtee laRnaa	To wrestle
شطرنج	Shatranj	Chess
ورزش گاہ	Warzish gah	Gym
پر لطف	Pur lutf	Entertaining
تفریحی سرگرمیاں	Tafreehi sargarmiyaa	Leisure activities
مجھے ۔۔۔ کھیلنا پسند ہے۔	Mujhay ___ khailna pasand hai	I enjoy playing _____
میں نے کل ۔۔۔ کھیلا	Mai nay kal___ khaila	Yesterday I played

10.7 – Food

ڈبل روٹی	Double roti	Bread
خربوزہ	Kharbooza	Melon
دلیہ	dalyaa	Porridge
بھیڑ / بکرے کا گوشت	bhayR / bakray kaa gosht	Mutton
سونگھنا	Soongnaa	To smell
چکھنا	Chaknaa	To try / To taste
ہلکے پھلکے کھانوں کی جگہ	halkay phulkay khaano kee jaga	Snack bar

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10.8 – Opinions

مجھے بہت پسند ہے	Mujhay bohot pasand hai	I like… (very much)
مجھے بالکل پسند نہیں	Mujhay bilkul pasand nahi	I can't stand …/I don't like…
یہ ٹھیک نہیں	Yay theek nahi	that's (not) right/correct
مجھے یہ اچھا لگا	Mujhay yay acha laga	I like it (it pleases me)
وجہ	Waja	Reason
اچھا	Acha	Good
کیونکہ	Kyoonkay	Because
برا / بد، بدتر، بدترین	Buraa / bad / Badtar / Badtareen	Bad / Worse / Worst

10.9 – Connectives etc.

شاید	Shayad	maybe
گویا کہ	Goya kay	As If
جب تک	Jab tak	Until
اس کے علاوہ	Is kay ilawa	Besides / apart from this
___ کے بجائے	___ kay bajaa-ay	Instead of___
اس کے باوجود	Iss kay ba wajood	Despite this
بدقسمتی سے	Bad qismati say	Unfortunately
اتفاقاً / اتفاق سے	Ittifaqan / ittifaq say	By chance

10.10 – Tenses

میں نے کھیلا	Mai nay khaylaa	I played
میں کھیلتا ہوں۔ میں کھیلتی ہوں	Mai khayltaa hoo / Mai khayltee hoo	I play
میں کھیلوں گا / میں کھیلوں گی	Mai khayloongaa / Mai khayloongee	I will play
مجھے کھیلنا چاہیے تھا	mujhay khaylna chahiyay thaa	I should have played
میں کرنے والا ہوں۔ میں کرنے والی ہوں	Mai karnay walaa / Mai karnay walee hoo	I am about to ____
میں کھیلتا تھا۔ میں کھیلتی تھی	Mai khaylta tha / khayltee tee	I used to play
میں کھیل چکا ہوں۔ میں کھیل چکی ہوں	Mai khayl chukka / chukee hoo	I have already played

10.11 – Tenses

میں نے دیکھا	Mai nay daykha	I saw
میں فٹ بال دیکھتا ہوں، میں فٹ بال دیکھتی ہوں	Mai football daykhta hoo / Mai football daykhtee hoo	I watch football
میں سینما جاوں گا۔ میں سینما جاوں گی	Mai seenima jaoon ga / Mai seenima jaaoon gee	I will go to the cinema
ہم کو مدد کرنی چاہیے۔	Hum ko madad karni chahyay	We should help
میں نے کمرہ صاف کیا	Mai nay kmra saaf kiya	I have cleaned my room
میں تلاش کر رہا ہوں۔ میں تلاش کر رہی ہوں	Mai talash karraha hoo / mai talash karrahee hoo	I am searching
میں مکان خریدوں گا۔ میں مکان خریدوں گی	Mai makaan khareedoonga / Mai makaan khareedoongee	I will buy a house

10.12 – 40 Word Model Answer

ایسٹر کی چھٹیوں میں میں نے اپنی سالگرہ منائی۔ میری بڑی بہن نے اس سالگرہ کا انتظام ایک ریسٹورنٹ میں کیا تھا۔ میرے بہت سے دوست اور رشتہ دار اس پارٹی میں آئے۔ ریسٹورنٹ کا کھانا بہت اچھا تھا اور انھوں نے کھانے پینے کی چیزیں دیں۔ اس موقع پر مجھے طرح طرح کے تحفے ملے جو مجھے بہت پسند آئے۔

I celebrated my birthday in the Easter holidays. My sister organised this birthday in a restaurant. Many friends and relatives came to this party. The restaurant food was very nice and they provided lots of food and drink. On this occasion I received many gifts which I really liked.

10.13 – 90 Word Model Answer

میرے اسکول کا نام ڈکسنز آلرٹن اکیڈمی ہے۔ مجھے اپنا اسکول بہت پسند ہے۔ ہمارے اسکول کا ایک بڑا میدان ہے جہاں ہم فٹ بال اور کرکٹ کھیلتے ہیں۔ اسکول کے اندر بھی کھیلنے اور ورزش کرنے کا انتظام ہے۔ میں روزانہ کھیلوں میں حصہ لیتا ہوں اور ورزش بھی کرتا ہوں۔ پچھلے سال ہمارے اسکول میں کھیلوں کا ایک شاندار دن منایا گیا۔ دن بھر مختلف کھیلوں کے مقابلے ہوئے بہت مزہ آیا۔ اگلے سال میں اسی اسکول میں اے لیول کرنا چاہتا ہوں۔

My school is called Dixons Allerton Academy. I really like my school. In our school. We have a large playing field where we play Football and Cricket. There are exercise and playing facilities inside school as well. I take part in games daily and exercise too. Last year we celebrated a splendid sports day. Throughout the day there were many sport competitions, it was so much fun. Next year I want to do A-Levels in this school.

High frequency words in Urdu

میں	تم	آپ	ہم	وہ	یہ	ہیں	ہے	پسند	مجھے
mai	tum	aap	ham	wo	yay	hai<u>n</u>	hai	pasand	mujhay
I	you (informal)	you (formal)	we	that/he/she/it/they	this	are	is	like	me

اچھی	اچھا	اس کی	اس کا	بھی	کیونکہ	نہیں	ہوں	میری	میرا
achee	achaa	uss kee	uss kaa	bhee	kyoonkay	nehi	hoo<u>n</u>	mayree	mayra
good (feminine)	good (masculine)	his/her (feminine)	his/her (masculine)	also, as well	because	no/not/don't	(am) used with میں	my (feminine)	my (masculine)

پچھلے	اگلے	ہر روز	عام طور پر	کبھی	لیکن	خوبصورت	بڑا/بڑی	بری	برا
pichhlay	aglay	har roz	aam taur par	kabhi	laykin	khoobsoorat	baRee/baRaa	buree	buraa
previous/ last	next	daily	normally	sometimes	but	beautiful	big (feminine/ masculine)	bad (feminine)	bad (masculine)
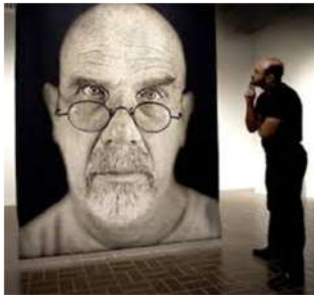
تاریخ	انگریزی	حساب	سکول	پیچھے	آگے	میں	تین	دو	ایک
taareekh	angrayzee	hisaab	school	peechay	aagay	may	teen	do	ayk
History	English	Maths	school	behind	in front	in	three	two	one

	Verb (infinitive)	Past – describing what you did		Present – describing what you do		Future – describing what you will do	
کرنا	Karrnaa – to do	Main nay kiyaa – I did	کیا	Main karrtaa/karrtee hoon – I do	کرتا / کرتی ہوں	Main karr-oon gaa/gee – I will do	کروں گا / گی
رہنا	Rehnaa – to live	Main rahaa/rahee – I lived	رہا / رہی	Main rehtaa/rehtee hoon – I live	رہتا / رہتی ہوں	Main reh-oon gaa/gee – I will live	رہوں گا / گی
کھیلنا	Khaylnaa – to play	Main nay khayaa – I played	نے کھیلا	Main khayltaa/khayltee hoon – I play	کھیلتا / کھیلتی ہوں	Main khayl-oon gaa/gee – I will play	کھیلوں گا / گی
کھانا	Khaanaa – to eat	Main nay khaayaa – I ate	کھایا	Main khaataa/khaatee hoon – I eat	کھاتا / کھاتی ہوں	Main khaa-oon gaa/gee – I will eat	کھاؤں گا / گی
پینا	Peenaa – to drink	Main nay piyaa – I drank	پیا	Main peetaa/peetee hoon – I drink	پیتا / پیتی ہوں	Main pee-oon gaa/gee – I will drink	پیوں گا / گی
کام کرنا	Kaam karrnaa – to work	Main nay kaam kiyaa – I worked/ I did work	نے کام کیا	Main kaam karrtaa/karrtee hoon – I work	کام کرتا / کرتی ہوں	Main kaam karr-oon gaa/gee – I will work	کام کروں گا / گی
ورزش کرنا	Warrzish karrnaa – to do exercise	Main nay warrzish kee – I did exercise	ورزش کی	Main warrzish karrtaa/karrtee hoon – I do exercise	ورزش کرتا / کرتی ہوں	Main warrzish karr-oon gaa/gee – I will do exercise	ورزش کروں گا / گی
دیکھتا	Daykhnaa – to see/to watch	Main nay daykhaa – I watched/I saw	دیکھا	Main daykhtaa/daykhtee hoon – I watch	دیکھتا / دیکھتی ہوں	Main daykhoon gaa/gee – I will watch	دیکھوں گا / گی
سنتا	Sun-naa – to hear/listen	Mainay sunaa – I heard	سنا	Mai suntaa/suntee hoon – I hear/listen	سنتا / سنتی ہوں	Mai sunoon gaa/gee – I will hear/listen	سنوں گا / گی
بننا	Ban-naa – to become	Main banaa/banee – I became	بنا	Main bantaa/bantee hoon – I become	بنتا / بنتی ہوں	Main ban-oon gaa/gee – I will become	بنوں گا / گی
کہنا	Kehnaa – to say	Main nay kahaa – I said	کہا	Main kehtaa/kehtee hoon – I say	کہتا / کہتی ہوں	Main kehoon gaa/gee – I will say	کہوں گا / گی
ہونا	Ho-naa – to be	Main thaa/thee – I was	تھا / تھی	Main hoon – I am	ہوں	Main hoon gaa/gee – I will be	ہوں گا / گی
جانا	Jaanaa – to go	Main gyaa/ga-ee – I went	گیا	Main jaataa/jaatee hoon – I go	جاتا / جاتی ہوں	Main jaa-oon gaa/gee – I will go	جاؤں گا / گی
کھانا پکانا	Khaanaa pakaanaa – to cook	Main nay khaanaa pakaayaa – I cooked	کھانا پکایا	Main khaanaa pakaataa/pakaatee hoon – I cook	کھانا پکاتا / پکاتی ہوں	Main khaanaa pakaa-oon gaa/gee – I will cook	کھانا پکاؤں گا / گی
سوچنا	Sochnaa – to think	Main nay sochaa – I thought	سوچا	Main sochtaa/tee hoon – I think	سوچتا / سوچتی ہوں	Main sochoon gaa/gee – I will think	سوچوں گا / گی
سونا	Sona – to sleep	Main soya/so-ee – I slept	سویا / سوئی	Main sotaa/sotee hoon – I sleep	سوتا / سوتی ہوں	Main so-oon gaa/gee – I will sleep	سوؤں گا / گی
آرام کرنا	Aaraam karrnaa – to rest	Main nay aaraam kiyaa – I rested	آرام کیا	Main aaraam karrtaa/karrtee hoon – I rest	آرام کرتا / کرتی ہوں	Main aaraam karroon gaa/gee – I will rest	آرام کروں گا
پیدل چلنا	Paidal chalnaa – to walk	Main paidal chalaa/chalee – I walked	پیدل چلا / چلی	Main paidal chaltaa/tee hoon – I walk	پیدل چلتا / چلتی ہوں	Main paidal chaloon gaa/gee – I will walk	پیدل چلوں گا
پسند کرنا	Pasand karrnaa – to like/prefer	Main nay pasand kiyaa – I liked	پسند کیا	Main pasand kartaa/kartee hoon – I like	پسند کرتا / کرتی ہوں	Main pasand karoon gaa/gee – I will like	پسند کروں گا
محبت کرنا	Mahabbat karrnaa – to love	Main nay mahabbat kee – I loved	محبت کی	Main mahabbat karrtaa/ee hoon – I love	محبت کرتا / کرتی ہوں	Main mahabbat karoon gaa/gee – I will love	محبت کروں گا
نفرت کرنا	Naff-ratt karrnaa – to hate	Main nay naffratt kee – I hated	نفرت کی	Main naffratt karrtaa/karrtee hoon – I hate	نفرت کرتا / کرتی ہوں	Main naffratt karoon gaa/gee – I will hate	نفرت کروں گا
پیدا ہونا	Paidaa hona – to be born	Main paidaa huwaa/hu-ee – I was born	پیدا ہوا / ہوئی				

Assessment Objectives — Section 1

AO1	**Research** **Using artist styles and writing about them. Using images/text from the internet, magazines , books and galleries. Independently finding further techniques to try from places such as Instagram and you tube.**
A02	**Experiment to develop** **Using different materials in the project. Choosing the most successful ones to develop further work.**
A03	**Record** **Ability to draw, photograph, write down ideas and show how you think**
A04	**Final piece** **Ability to make a final idea that shows all of the research you have done.**

Homework Opportunities

Research artists, find imagery and annotate your thoughts using content, form, process, mood method.

Using Phone apps / photoshop / other digital media to edit chosen animal, from a photograph or your own artwork. This could be in the style of an artist.

Drawing of a variety of animals or features of an animal such as wings, head, eyes, pattern using tone / pen mark making / colour

Tonal drawing of your chosen animal from different angles / crop / zoom / enlarge

Draw ideas for how you might want your piece to look. These can be quick sketches.

Further worked up idea that includes annotation of thoughts / colour use / artist style use and meaning your piece is communicating to the viewer.

Chuck Close

Chuck Close believes his work is driven by his learning difficulties.

He has dyslexia (*problems with reading, writing and spelling*) and also prosopagnosia (unable to remember faces) He believes by creating portraits it is helping him to try and remember faces.

Chuck uses the grid method to break down an image into smaller parts. This is so he can work on a small piece at a time and not get overwhelmed by the full picture.

Section 2

Key Vocabulary: — Section 3

Scale (noun) SIZE. The size or level of something, especially when this is large.
Self Portrait (noun) a picture, photograph, or piece of writing that you make of or about yourself.
Line (noun) Type of mark that contains both a direction and a length. curved, bent, thick, wide, broken, vertical, horizontal, blurred or freehand.
Shape (noun) A 2D area that is enclosed by a line. E.g. square, circle, rectangle.
Tone (verb) The lightness or darkness of something – how dark or light a colour appears.
Form (Noun) objects that have three dimensions. 3-D shape E.g. sphere or Head
Proportion (plural) the size, shape, or level of something.
Composition (noun) the way that people or things are arranged in a painting or photograph.
Texture (noun) the feel, appearance, or consistency of a surface or a substance. "skin texture and tone"
(Verb) give (a surface) a rough or raised texture. "wallcoverings which create a textured finish"

Your teacher will start to guide you through the project—but then it is up to you to decide what animals you put in your portrait project and any further theme you wish to research within it (body issues, identity, equality, political issues).

How your final piece looks will be up to you with planning alongside your teacher. You will take ownership of your work and take responsibility for meeting deadlines.

Stella Vine Section 6

Her work is portrait painting which comes from either her personal life of family, friends and school, or rock stars, royalty and celebrities.

Stella Vine paints the makeup, the mask which celebrities hide behind even as they are confident on stage/camera.

All the measurable details are wrong; eye colour, hair and complexion are all changed and yet we can still recognise who the celebrity is.

Stella Vine does this to show us they are acting and maybe not showing their real personality and lives.

Useful Websites

https://www.pinterest.co.uk/jflob/boards/

https://www.pinterest.co.uk/Dixonsaart/

http://www.drawfamousfaces.com/

Paint colours to use for Skin colour mixing that are in the art cupboard:

Red ● Yellow ● Light/dark Blue ● ●

Yellow Ochre ● Dark Brown ● Black/White Section 7

Colour meanings Section 4

Skin tone mixing

Section 5

Section 8

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Section 1,2,3 & 4

AO1
Research.
Using artist styles and writing about them. Using images/text from the internet, magazines , books and galleries. Independently finding further techniques to try from places such as Instagram and YouTube.

♦ Research artists, find imagery and annotate your thoughts using content, form, process, mood method.

A02
Experiment to develop.
Using different materials, techniques and processes in the project. Choosing the most successful ones to develop further work.

♦ Using Phone apps/photoshop/ other digital media to edit photographs in the style of a certain artist or technique. Gather different subjects and ways to capture photographs of. Think creatively using hands on/physical photography e.g. Hand drawn textures.

♦ Photographing a variety of subjects that link to the theme. This could include a range of portrait, building, landscape, object photography outside the classroom.
♦ Photographs of your chosen subject/theme but in a variety of angles, styles, edits.

A03
Record.
Ability to draw, photograph, write down ideas and show how you think

♦ Draw ideas for how you might want your piece to look. These can be quick sketches.
♦ Further worked up idea that includes annotation of thoughts/colour use/ artist style use and meaning your piece is communicating to the viewer.

A04
Final piece.
Ability to make a final idea that shows all of the research you have done.

Section 5 Ed Weston

Edward Henry Weston was an American photographer. He has been called "one of the most innovative and influential American photographers" and "one of the masters of 20th century photography."
He focuses on natural forms such like shells, vegetables as well as landscape and portrait photography.

Ed Weston worked around early 1900's where colour photography did not exist. Ed Weston was one of the first to capture normal objects and turn them into abstract shapes and line – giving them a new purpose. He focused solely on exposure and the light and dark areas. This created exciting and interesting pieces that have a huge amount of shadow, light and contrast.

Section 6

Threshold Concept #8

The meanings of photographs are never fixed, are not contained solely within the photographs themselves and rely on a combination of the viewer's sensitivity, knowledge and understanding and the specific context in which the image is made and seen.

The ability to:
develop a sophisticated understanding of the ways in which the context in which a photographic image is created, produced, distributed and seen affects its meanings.

○ Challenging assumptions

○ Sticking with difficulty

○ Making connections

"It is because the photographs carry no certain meaning in themselves, because they are like images in the memory of a total stranger, that they lend themselves to any use."
— **John Berger**

"I think there are no meaningful images. Meanings are created outside of the image."
— **Joachim Schmid**

Your teacher will start to guide you through the project—but then it is up to you how you respond successfully. You must be independent with your photography, capturing photographs that link with the theme. You may want to include even more experimental photography looking at inspiration from other artist's, photographers and techniques you have explored from social media, internet and ideas.

How your outcomes will be up to you with planning alongside your teacher. You will take ownership of your work and take responsibility for meeting deadlines.

Section 7 Key Vocabulary

Ambient light/Natural light Is the light that is already present in the scene you are shooting.

Camera Angle Is the specific location at which the camera is located so it can take the shot.

Contact Sheet: Used primarily in film cameras, is a sheet of all the frames and is used as a proof print. However, it is now also used with digital images to showcase work to a client from the shoot.

Contrast (noun) Is the difference between the light and dark areas within your images. High contrast means the blacks are darker and whites are brighter, vice versa.

Composition (noun) the way that people or things are arranged in a painting or photograph.

Cropping (verb) When you make an image smaller by removing the outer parts is referred to as cropping.

Depth of Field (noun) is the distance between the closest and farthest subjects in a scene that look noticeably sharp in an image.

Exposure (noun) Is the amount of light entering the camera's sensor. Too much light and the image is overexposed and not enough light and it's underexposed.

Feathering: A digital editing technique, blurring and smoothing out edges within the image.

Focal Point (noun) Is the main part of the image or a point of interest within the image.

Midtone (noun) Or middle tone, describes the middle tones between two colours. For example, grey is the midtone of black and white.

Saturation (noun) Can provide a colour boost to your image by allowing you to change selective colours within the image. Monochrome images are 100% desaturated as there is no colour.

Texture (noun) the feel, appearance, or consistency of a surface or a substance.

Photomontage is the process and the result of making a photograph by cutting, gluing, rearranging and overlapping two or more photographs into a new image.

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Section 8 Karl Blossfeldt

Karl Blossfeldt is best known for his precise photographs of plants; however, he began his career as a sculptor, completing apprenticeships at the ironworks and foundry in Mägdesprung and the Kunstgewerbeschule (Institute of the royal arts museum) in Berlin from 1884 to 1890. From 1890 to 1896 he traveled through Italy, Greece, and North Africa, working for Moritz Meurer, who theorized that natural forms were reproduced in art. From 1898 to 1930 Blossfeldt taught at the Kunstgewerbeschule in Berlin; during this time, he amassed an archive of thousands of photographs of plants that he used as models to teach his students.

The close up photographs are often central with a plain background. The tone and texture are visible due to the contrast of the background. The flowers are often dark on light but sometimes this is reversed. There is a small gap between all photographs in the composition. Symmetry and even rules are applied to most of his photographs.

Section 9 Close Up Photography

Close up photography refers to a tightly cropped shot that shows a subject (or object) up close and with significantly more detail than the human eye usually perceives.

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.

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.

MICHELIN STAR
Coveted by many chefs but bestowed upon only to an excellent few. Getting a star (or three) could change the fate of a restaurant.

High quality cooking, worth a stop | Excellent cooking, worth a detour | Exceptional cuisine, worth a special journey

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
- techninques and cooking skills shown.

Types of employment roles and responsibilities within the industry

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

Front of house

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

Kitchen brigade

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

Housekeeping

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

Management

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

Types of employment contracts and working hours

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

- **Casual:** this type of contact could be provided through an agency and used to cover employees that are absent from work due to illness. There is no sick pay or holiday entitlement with this type of employment.

- **Full time (permanent):** working hours including start and finishing times are fixed and stated in this type of contract. A contact of this nature allows the employee to have sick pay and holiday entitlement.

- **Part-time (permanent):** working hours mean that the employee works on certain days of the week. Work times are stated in the contract, including the starting and finishing times that are fixed in this type of contract. The employee has sick pay and holiday entitlement in this type of contact.

- **Seasonal:** this type of contract is used when a business needs more staff due to busy times throughout the year, such as the Christmas period. The contract will state for the employee to work for a specific time frame only. Also, the contract would not expect further or regular work after the contact is complete.

- **Zero hours contract:** this type of contact is chosen between the employer and the employee. This means that the employee can sign an agreement to be available for work when the employer needs staff. No number of days or hours is stated in the contract and the employer doesn't require to ask the employee to work, and neither does the employee have to accept the work offered. No sick pay or holiday entitlement is offered for this type of contract.
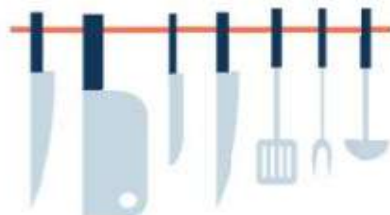
Pay and benefits in the industry

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

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

Working hours

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

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

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

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.

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 CO_2 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.

Level 1/2 Hospitality and Catering: Unit 1:
The operation of the kitchen: Equipment (AC2.1)

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Kitchen equipment

It is important that a business invests in good quality kitchen equipment to produce food safely. Even though good quality equipment is expensive, for example stainless steel pots and pans, in the long run they will pay for themselves as they should not need to be replaced often. Good quality electrical equipment will cost less to run, which will also save money and increase profits.

Large equipment

Storage:	walk-in fridge, freezer, blast chiller, glass chiller.
Preparation:	floor standing food mixer.
Cooking:	conventional oven, deep fat fryer, hot water urn, standing *bain-marie*, hot plate/griddle, steamer, grill/salamander.
Cleaning:	pass-through dishwasher, glass washer.

Mechanical equipment

Preparation:	weighing scales, electric whisk, food processor, blender, mincer, meat slicer, vegetable peeler, juicer, ice cream maker.
Cooking:	temperature probes.
Specialist equipment:	conveyor toaster, panini maker, coffee maker, pizza oven, *sous vide*, pasta maker.

Small equipment

Preparation:	mixing bowls, measuring jugs and spoons, whisks, spatulas, sieves, knives, chopping boards, zester, juicer, piping bags and tips, graters.
Cooking:	pots and pans, baking dishes, baking trays, tongs, colanders.
Serving:	plates, bowls, glassware.

Cleaning and safety materials and equipment

Cleaning:	detergents, cleaning chemicals, scouring pads, cloths, mops, dustpan and brush, buckets, recycling and waste bags and bins.
Preparation:	date labels for food storage, foil, baking paper.
Safety:	fire extinguisher/blanket, smoke/CO_2 alarm, first aid box, oven gloves.

Level 1/2 Hospitality and Catering: Unit 1:
The operation of front and back of house: Front of house (AC2.2)

Operational requirements

To run a successful hospitality and catering business, it is important that the front of house is welcoming to all customers. A logical layout and workflow will mean that the customers will be able to enjoy organised, efficient service.

In a catering establishment such as a café, the front of house is where the customers are served.

In a residential establishment such as a hotel, the front of house is where guests are received before checking in to their room.

Catering and residential establishments have common front of house areas, which help to ensure a smooth operation of the business.

Front of house dress code

The front of house dress creates a first impression. In some establishments a **uniform** may be worn. In other establishments, employees may be required to wear colours such as black and white. In addition:

- clothing must be clean and ironed
- if worn, jewellery, perfume and make-up must be minimal
- personal hygiene must be maintained
- name badges may be required.

Restaurant workflow

The workflow should be organised so that orders can be filled, and food can be passed from the kitchen as quickly as possible.

Reception: Guests are greeted and shown to their seats in the dining area.

Seating/dining area: In a large restaurant, this area is divided into **stations**. Each station is managed by a waitperson.

Counter service: Food is on display for customers to choose and pay at the end. Some restaurants also offer seated counter service.

Bar: An area for socialising or eating in a less formal space.

Equipment station: Small items such as cutlery and serviettes and food items such as condiments should be available to wait staff.

Toilets: Customer toilets should be clean and welcoming.

Safety Equipment: First aid boxes and fire extinguishers must be easily accessed.

Hotel workflow

The workflow of a hotel should be organised so that guests can be checked in as quickly as possible.

Reception: Guests are checked in and receive keys/key cards for their room.

Lobby/waiting area: This area should have comfortable seating for the guests. Drinks may be available in the lobby.

Stairs/Lifts: These provide access to rooms and other facilities.

Toilets: Customer toilets should be clean and welcoming.

Administration and documents

Businesses may employ an administrator who keeps track of:

- staff employment and training records
- stock orders, delivery records and invoices
- health and safety documents
- financial information
- customer feedback
- advertising.

Level 1/2 Hospitality and Catering: Unit 1:
The operation of the kitchen (AC2.1)

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Operational requirements

To run a successful hospitality and catering business, it is important that the back of house is well designed to allow safe working conditions for the kitchen staff. A good workflow also allows the safe movement of front of house staff between the kitchen and dining room so that customers enjoy efficient food service.

Kitchen workflow

Delivery area	Located at the kitchen entrance. Deliveries are checked against the order and temperatures of high-risk foods are recorded.
Storage area	Cool area: contains fridges and freezers for storing high-risk foods, as well as space for storing fresh fruit and vegetables. Dry area: for storing canned and dry goods.
Staffing area	A separate area where employees can change into work clothing. Staff toilets and hand washing facilities are provided. This area may also be used as a breaktime lounge.
Preparation area	A large kitchen will have separate areas for the preparation of meat and poultry, fish, fruits and vegetables and pastries and desserts.
Cooking area	A large kitchen will have separate cooking areas for hot wet foods such as soups, sauces and steamed vegetables and a dry cooking area for roasting, baking, grilling and frying.
Serving area	A large kitchen will have separate areas for plating and presenting hot and cold foods. Waiters will collect orders from "the pass" to deliver to customers in the restaurant.
Cleaning area	This area should be separate from the main kitchen. Dirty crockery and cutlery as well as pots and pans from the kitchen are cleaned and stored in this area.
Waste area	This area should be separate from the main kitchen. Food waste and recyclable and non-recyclable waste is sorted and then disposed in the correct bins, which should be located outside.

Back of house dress code

The traditional chef's uniform is designed to show authority in the kitchen. Known as "chef's whites", they come in many colours. Key uniform items are: a long-sleeved, double-breasted jacket, long trousers, head covering, apron, and non-slip, toe-protected shoes. The clothing and shoes protect the wearer from injury while the head covering protects the food from hair and sweat.

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

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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.

Level 1/2 Hospitality and Catering: Unit 1: 1.2.2 Customer requirements in hospitality and catering

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.

Level 1/2 Hospitality and Catering: Unit 1: 1.2.3 Hospitality and catering provision to meet specific requirements

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 -
Health and safety in hospitality and catering provisions

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Control of Substances Hazardous to Health Regulations (COSHH) 2022

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 Satefy 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 Occurences 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.

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

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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: • 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: • 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 1-1.3.2 –
Food safety

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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.

Level 1/2 Hospitality and Catering – Unit 1-1.4.1:
Hospitality and catering and the law

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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.

Level 1/2 Hospitality and Catering: Unit 1:
Food related causes of ill health (AC4.1)

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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

Level 1/2 Hospitality and Catering:
Unit 1: Symptoms and signs of food-induced of ill-health (AC.4.2)

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 accidently 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.

Level 1/2 Hospitality and Catering:
Unit 1-1.4.3: Preventative control measures of food-induced of ill-health

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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
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. Refrigerated foods = **0-5°C** Frozen foods = **-22°C to -18°C**	High-risk foods must be covered and stored at the correct temperature. Temperatures must be checked daily. Refrigerator = **0-5°C** Freezer = **-22°C to -18°C** Unwashed fruit and vegetables must be stored away from other foods.	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. Core temperature = **70°C**	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. Hot holding = **63°C minimum** Cold holding = **0-5°C**

1.Food: Food poisoning bacteria needs food. A supply of nutrients and energy food enables bacteria to grow and multiply. Food poisoning bacteria especially likes protein-rich food.

4.Time: Bacteria needs time to grow - but not much!
The more suitable the conditions - the bacteria has food, moisture and warmth - the quicker the bacteria will grow.
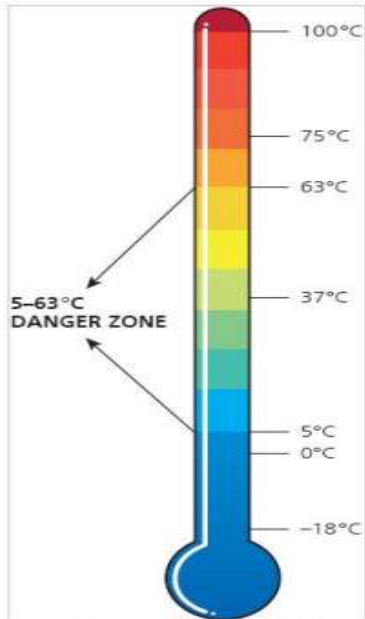
2.Moisture: Food poisoning bacteria grows and multiplies quickly on moist protein-rich food.

Dried pasta is a low risk food but when cooked, it becomes a high risk food. **Why?** The protein (food) in the pasta combined with the added moisture from the cooking method, makes cooked pasta a high risk food - one that food poisoning bacteria will grow and multiply, given suitable conditions - time and warmth.

Suitable pH – Most bacteria reproduce best at a neutral pH level of 7. Acidic foods with a pH below 7, or alkaline foods with a pH above 7, may stop or slow down the rate of bacterial growth.

1. Food

4. Time

4 conditions for bacterial growth

2. Moisture

3. Warmth

100°C
75°C
63°C
37°C
5°C
0°C
-18°C

5–63°C DANGER ZONE

3.Warmth: a suitable temperature in which bacteria can grow and multiply (the 'danger zone' is from 5C to 63C and the most ideal for bacteria multiplying)
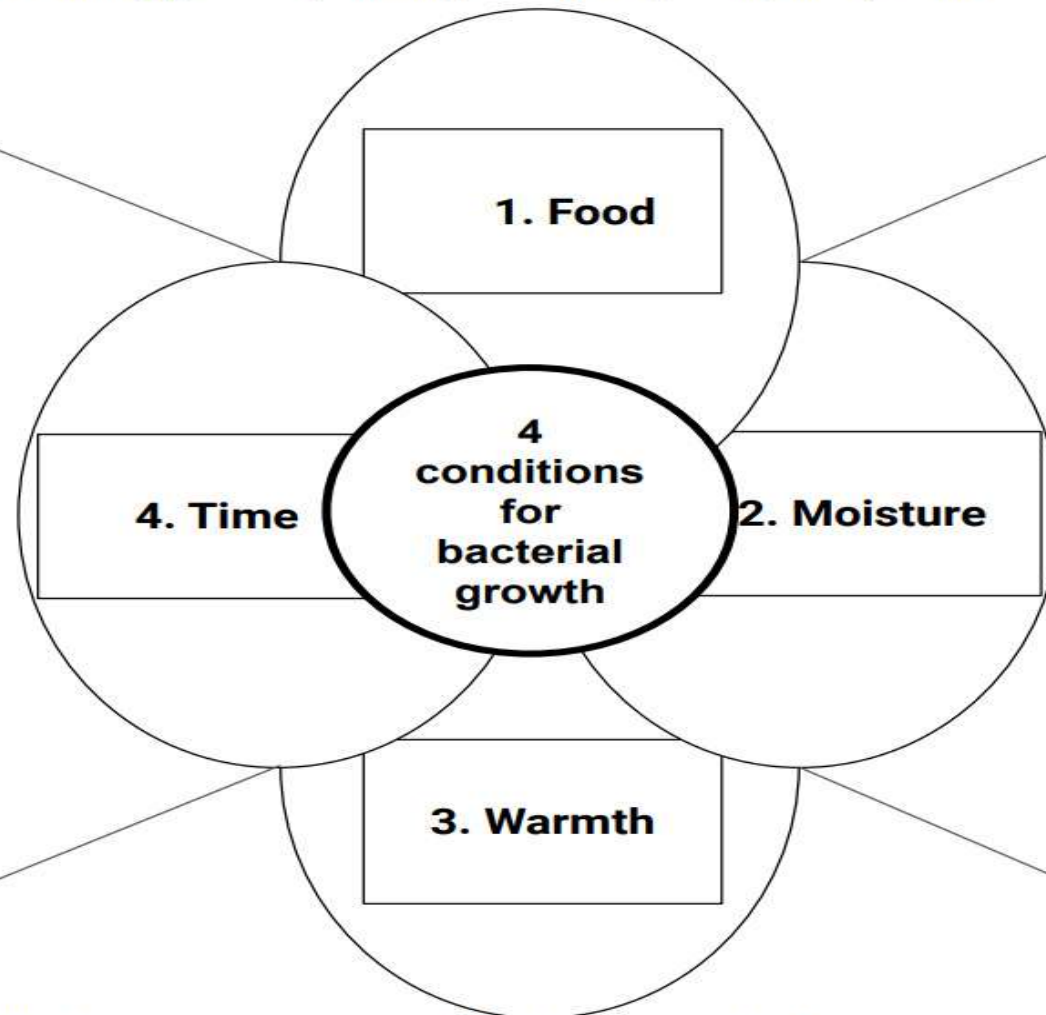
Level 1/2 Hospitality and Catering:
Unit 1-1.4.4: The Environmental Health Officer

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cbac

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.

Speaker project – Design, model and make a prototype speaker for a client.

AO1 Section 1

Research.

Using artist styles and writing about them. Using images/text from the internet, magazines , books and galleries. Independently finding further techniques to try from places such as Instagram and YouTube.

♦ Research artists/designers, find imagery and annotate your thoughts using content, form, process, mood method.

A02 Section 2

Experiment to develop.

Using different materials, techniques and processes in the project. Choosing the most successful ones to develop further work.

♦ Model and prototype your ideas to develop them into finalised products. You could use card, foam, wood, metal, plastics etc... development can also be shown through design ideas and idea development drawings.

♦ Drawing of a variety of different speaker designs using tone, shape, colour, texture, pattern and colour.

A03 Section 3

Record.

Ability to draw, photograph, write down ideas and show how you think

A04 Section 4

Final piece.

Ability to make a final idea that shows all of the research you have done.

♦ Draw ideas for how you might want product to look. These can be quick sketches.
♦ Further worked up idea that includes annotation of thoughts/colour use/ artist style use and meaning your piece is communicating to the viewer.

Section 5 Soldering Diagram

Tip of soldering iron

Solder wire

Circuit board

Copper pad on board

Lead from component
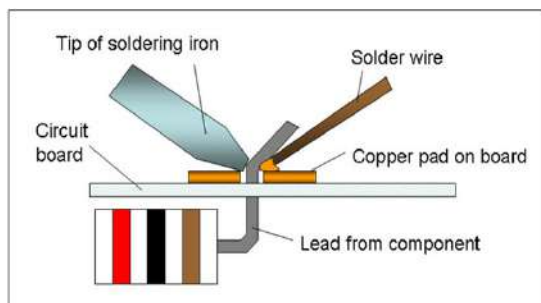
Section 6 Key Vocabulary:

Design (noun) a plan or drawing produced to show the look and function or workings of a building, garment, or other object before it is made.

Evaluation (noun) the making of a judgement about the amount, number, or value of something; assessment.

Sculpture (noun) the art of making two- or three-dimensional representative or abstract forms, especially by carving stone or wood or by casting metal or plaster.

Architecture (noun) the art or practice of designing and constructing buildings.

Homeless (noun) a person without a home, and therefore typically living on the streets.

Refugee (noun) a person who has been forced to leave their country in order to escape war, persecution, or natural disaster.

Board (noun) a long, thin, flat piece of wood or other hard material, used for floors or other building purposes.

Model (noun) a three-dimensional representation of a person or thing or of a proposed structure, typically on a smaller scale than the original.

DAA CYCLE 1 Knowledge Organiser	SUBJECT	ICT & COMPUTING	TOPIC(S)	R097 Digital Interactive Media	YEAR GROUP	11

Purpose	Audience	Interactive	Multimedia
Text	Images	Design and Create	Sound and Animation
Layout	House style	Hardware	Software
Planning and Design	Wire frames	Client Brief	Review

Section 1

What is interactive digital media?	It's a product that allows the user interact with a device by creating, viewing or listening to content.
Multimedia	Multimedia means there could more than one media product present. For example, a website may include images, videos, animation, audio etc.
Methods of user interaction within interactive digital media	• Touch screen/stylus • Voice controls • Camera input • Keyboard/buttons • Mouse/joystick control
Types of interactive digital media	• Websites • Information points • Mobile apps • E-learning products • Digital maps • Games
Hardware devices used to access interactive digital media	• Computers • Games consoles • Kiosks • Phones • Smart TV • Tablets

Section 2

Interactive digital media content	• Images • Audio • Video • Animation • Text • Tables • Lists • Forms • Navigational buttons • Maps • Quiz • Layers
Features of a graphical user interface	• Consistent use of layout - navigation, content and headings. • House style - e.g. colour scheme and typography selection. • White space - the space between content
Accessibility	• Alternate text/captions • Text readability/resizable text • Contrasting colours • Flexible input • Mobile device accessibility • Screen size and orientation adjustments

Section 3

Pre Production Documents for R097

Client Brief	A written report show that outlines your client and audience requirements for the media product. **Content:** purpose, audience, audience requirements, client requirements, success criteria, initial ideas.
Mind Map	Shows your ideas for the media product. **Content:** central node, sub nodes, connectors, text, images.
Mood board	Shows your creative ideas and overall theme. **Content:** colour scheme, images, typography Digital: sound, video and animation Physical: objects, materials, fabrics.
Storyboard	A storyboard is used to illustrate a sequence of moving images and has a flow of scenes that follow a timeline. **Content:** timing, location, scene number, scene description, lighting, shot types, camera movements.
Wireframes	A planning document that illustrates how a product will look for a website/app. It will show how pages/screens are linked together. **Content:** images, video, text, links, layout, annotation.

Section 4

Media Products	Purpose	Types of Media Products	Examples of Products
A media product is a platform used to communicate information to a specific audience. There are different formats that can be used for this purpose.	Inform Persuade Advertise Promote Educate Warn Guide Entertain	Digital imaging and graphics Video Audio/Music Animation Digital Games Visual Effects VFX Sound Effects SFX	Websites Apps Social media platforms Multimedia eBooks VR Virtual Reality AR Augmented Reality Comics

Section 5

Primary Research	Secondary Research
Primary data is any original information that you collect for the purposes of answering your research question. **Examples:** Focus groups, interviews, online surveys and questionnaires.	Secondary data are information that has already been collected by other researchers. **Examples:** Books, internet, journals, websites.

Section 6

Traditional Media	Traditional media refers to non-digital methods of communication. These methods have been long used to create awareness of a product and existed before the internet.	**Sectors:** • TV (Television) • Radio • Film • Print publishing
New Media	On-demand content accessed via the internet through digital devices, such as personal computers and smartphones. New media can involve interactive elements such as audience engagement and feedback.	**Sectors:** • Interactive Media • Video games • Internet • Digital publishing

Section 7

Audience Segmentation	Target audience is made up of different characteristics known as demographics which are split into segments to help clearly define who the target audience is.	Location, religion, ethnicity, age, gender, income, education, lifestyle and interests.
Client Requirements	A client brief is a written document or verbal discussion that outlines the key requirements of a project.	Type of product, purpose, audience, timescale, content, genre, style and themes.

Section 8

Types of Client Brief:
• **Formal** - A scheduled meeting that will take place between the client and the producer.
• **Informal** - Client will discuss requirements during a telephone call, no do documentation provided. More of a verbal agreement.
• **Negotiated** - The client and the producer work together to develop a brief for a media product.
• **Commissioned** - A client will hire a separate independent company to create the media product for them.

Key outcomes	Definition	Key outcomes	Definition
Business Models	Sole trader Partnership Franchise Private limited company Public limited company	**The impact of external factors on businesses**	**Internal factors** -Culture -Human resources -Financial resources -Physical resources -Innovation and technology
	Internal stakeholders -Business owners -Managers -Employees		**External Factors** -Political -Economical -Social -Technological -Environmental -Legal
	External stakholders -Customers -Suppliers -Local community		**Demographics** -age, race and ethnicity,gender,level of education,income, employment status, occupation, homeownership,birth, marriage, religion, language, hobbies and interests
	Shareholders Investors Government Financial providers		-Marketing mix -Features -Price -Where and how customers can buy it -How it is promoted
Ethical and sustainable businesses	Ethics Ethical business practices Employee related ethical practices	**Attracting and retaining customers**	Principles of marketing What is branding? Importance of branding Key messaging
	Customer related ethical practices Ethics in the financial services industry Unethical business practices in the financial services sector		Customer acquisition and retention Needs Wants Aspirations Segmentation Managing customer relationships Customer service and public relation
	How business practices affect company revenue Sustainable business practices What is sustainability? Importance of sustainability		What is PR 7 P's of marketing –product, price, place , promotion, people, process, physical evidence
	Dimensions of sustainability -Environmental -Economic -Social		

Impacts on service users due to a lack of safeguarding

- If safeguarding procedures are not followed, the impacts on service users can be known as PIES (Physical, Intellectual, Emotional, Social)

Physical impacts
- Anxiety.
- Broken bones.
- Bruises.
- Depression.
- Illness.
- Injury.
- Lack of sleep.
- Pain.
- Poor health/deterioration.
- Self-harm injuries.

These relate to a service users body and can quite often be visible

Intellectual impacts
- Confusion.
- Can't think straight.
- Denial.
- Lack of skills development.
- Lack of interest.
- Lack of motivation.
- Lack of understanding.
- Loss of concentration.
- Not asking questions.

These relate to the service users thought processes such as thinking skills, understanding, learning, reasoning, comprehension and knowledge

Emotional impacts
- Feeling betrayed.
- Feeling disempowered.
- Feeling excluded.
- Feeling unsafe.
- Feeling afraid.
- Feeling upset.
- Feeling unhappy.
- Loss of self-confidence.
- Loss of self-esteem.
- Poor mental health.
- Self-harm.
- Being withdrawn.

These relate to a service users feelings

Social impacts
- Becoming anti-social.
- Aggression.
- Behavioural problems.
- Being isolated.
- Lack of trust in others.
- Refusal to use the service.
- Un co-operative.
- Withdrawal from other people.

These relate to the service users relationship with others

Safeguarding procedures in care settings

Safeguarding policy
•All organisations must have a safeguarding policy that states their ways of working and procedures to follow any safeguarding related incidents.
•All staff must be trained so that they are aware of the policy.

Designated safeguarding lead (DSL)
•The person in an organisation/service that has responsibility for safeguarding.

Common safeguarding issues in adult care environments
•Maladministration of medication - incorrect, late or inappropriate.
•Pressure sores - service users who are frail and have restricted mobility can develop bed sores/blisters on parts of their body which receive the most pressure. If untreated, these can become infected and deep.
•Falls - residents not being assessed on their risk of falls and walking aids not being provided.
•Rough treatment - being rushed, shouted at, ignored.
•Poor nutritional care - appropriate food not provided which is suitable for chewing/swallowing, religious/dietary needs.
•Lack of social inclusion - no stimulation, activity, opportunities for social interaction
•Physical abuse - between residents or residents and staff.
•Financial abuse - theft of money or possessions, staff accepting inappropriate gifts.
•Institutional abuse - providing poor/inadequate standards of care such as ignoring the dignity, privacy, choice and independence of service users.

The 'Five Rs'
•Recognise (all staff) - Recognising signs and symptoms of abuse or harm. Sometimes it may be a direct disclosure made by the service user.
•Respond (all staff) - Any issue must be reported such as a disclosure or just a suspicion (do not ask questions, reassure them that they have done the right thing, inform them that the information must be passed on).
•Report (all staff) - Any concerns must be reported to the DSL immediately so that they can take further action.
•Record (DSL) - The concern will be recorded about the disclosure/suspicion raised with them.
•Refer (DSL) - An investigation will be carried out into any complaints, allegations or suspicions and will contact the police if a crime is suspected.

Disclosure and Barring Service (DBS)
•Closely linked with the police and helps prevent unsuitable people from working with vulnerable service users.
•DBS checks are required for anyone aged over 16 years old for roles that involve either working/volunteering with children or vulnerable adults or wanting to foster or adopt a child.

Three types of DBS checks:
•Standard - checks from criminal convictions, cautions, reprimands and final warnings.
•Enhanced - an additional check of any information held by police that is relevant to the role being applied for.
•Enhanced with barred list checks - additionally checks the barred list (list of individuals who are on record as being unsuitable for working with children or vulnerable adults). Therefore, would not be allowed to work in a health or social care setting.

•Different care settings have different equipment and types of furniture which will all need to be cleaned regularly.

•Methods of maintaining general cleanliness will vary depending on the setting. However, there are standard ways to maintain a clean and hygienic environment.

General cleanliness

Germs grow easily in most environments that are warm and light. In order to prevent the spread of infection, general cleaning should take place regularly, such as:

•Using anti-bacterial sprays on surfaces.

•Clean toys and play equipment regularly.

•Mop floors and vacuum carpets daily.

•Clean and disinfect toilets regularly.

•Dispose of hazardous waste (colour coded disposal methods).

Personal hygiene measures

•Hair tied back/covered.

•Regular brushing of teeth.

•Appropriate protective clothing.

•Open wounds covered.

•Regular showering and hair washing.

•Appropriate use and disposal of tissues and antiseptic wipes.

•No jewellery/nail polish.

•Correct hand-washing routines.

Personal Protective Equipment

•Wearing Personal Protective Equipment (PPE) is a barrier method of preventing the spread of infection.

Examples of Personal Protective Equipment:

•Disposable aprons, disposable gloves, rubber gloves - after each procedure these should be removed and replaced with a new one.

•Face masks - retains droplets released when talking, sneezing and coughing.

•Hair nets and hygiene hats - when serving food, changing dressings to open wounds.

•Overalls, over shoes - reduces the likelihood of transferring germs.

•Surgical garments/scrubs - protect the service provider and patient from infection when having surgical procedures carried out.

How personal hygiene measures protect service users

Personal hygiene measures can protect service users in the following ways:

•Correct hand washing routines can destroy germs and stop them from being transferred.

•The service user carries fewer germs, which reduces opportunity for spreading infection.

•Barrier methods reduce and prevent the transfer of germs and spread of infection. E.g. disposable gloves

•Not wearing jewellery removed places for germs to be trapped.

•Not wearing nail polish removes the risk of it flaking off and contaminating food or a wound.

•If hair is tied back or covered, it can't drop into food and contaminate it with any germs that may be present.

Fitness Test methods for components of fitness

Box No 1: Fitness testing – Flexibility – Sit and reach

Test and purpose	Advantages + Disadvantages	Validity – Reliability - Practicality
Flexibility – Sit and reach test (Usually measures in cm or inches). Purpose: To test/measure flexibility in the lower back and hamstrings. Equipment: Sit and reach box.	**Advantages:** • It is Quick and easy to conduct. **Disadvantages:** • Only tests flexibility in the hamstrings • Trunk and arm length can make comparisons hard.	**Validity** – Only a valid test of flexibility in the hamstrings and lower back not the rest of the body. **Reliability** - You need to make sure that you have the same length and type of warm up each time you do the test as warming up may increase flexibility. **Practicality** – Practical test – only takes a short amount of time to conduct. However, you do need the sit and reach box.

Box No 2: Fitness testing – Muscular Strength – Hand grip dynamometer

Test and purpose	Advantages + Disadvantages	Validity – Reliability - Practicality
Muscular strength – Hand grip dynamometer test (measured in KgW) Purpose: To measure muscular strength by squeezing muscles in the hand. Equipment: A grip dynamometer.	**Advantages:** • It is Quick and easy to conduct. • Can be conducted anywhere • Little equipment needed. **Disadvantages:** • Equipment is specialised • Can only test one person at a time.	**Validity** – The hang grip test would not be a suitable test to measure leg strength so be careful when answering questions! **Reliability** – Make sure you complete the test three times each hand and take an average to get more reliable results. **Practicality** – Easy to conduct – but need specialised equipment.

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Box No 3: Fitness Testing – Aerobic Endurance – Multi stage fitness test.

Test and purpose	Advantages + Disadvantages	Validity – Reliability - Practicality
Aerobic Endurance – Multi Stage Fitness Test (MSFT) Purpose: To measure your predicted maximum oxygen uptake (Aerobic Endurance) **Definition of VO2 max** (ml/kg/min): the maximum amount of oxygen uptake, usually measured in ml of oxygen per kg of body mass per minute. It is a measure of cardiorespiratory endurance. Equipment needed: A flat non slip surface, a 30m tape measure, cones, MSFT CD, CD player, someone to record the results.	**Advantages:** • The test is very easy to conduct. • Can be conducted indoors or out. • You can test large amounts of people at once. **Disadvantages:** • Must have a copy of MSFT audio. • The spacing of the cones must be precise in order for reliable results.	**Validity** - The test is more valid for a long-distance runner than a long-distance swimmer as it more closely reflects their activity. **Reliability** - The reliability of this test relies on the distance being accurately measured every time and the environment the test is conducted in remaining constant. **Practicality** – Very practical test to conduct can test many people at once.

Box No 4: Fitness Testing – Aerobic Endurance – Forestry Step Test

Test and purpose	Advantages + Disadvantages	Validity – Reliability - Practicality
Aerobic Endurance – Forestry Step Test Purpose: To measure your aerobic endurance/VO2 Max. **Definition of VO2 max** (ml/kg/min): the maximum amount of oxygen uptake, usually measured in ml of oxygen per kg of body mass per minute. It is a measure of cardiorespiratory endurance. Equipment needed: A step bench **40cm high for males 33cm high for females,** a metronome set a 90BPM (22.5 steps per minute) a stopwatch.	**Advantages:** • The test is very easy to conduct and needs little equipment. • It can be self-administered – so completed at any time. **Disadvantages:** • Some people may not have the fitness or coordination to keep stepping for 5 minutes.	**Validity** – More valid for some performers than others, depends on the situation. **Reliability** - Help ensure reliability by measuring the height of the step and making sure the pulse is taken at the correct time. **Practicality** – A practical test to conduct as can be self-administered.

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Box No 5: Fitness Testing – Speed – 30m Sprint test

Test and purpose	Advantages + Disadvantages	Validity – Reliability - Practicality
Speed – 30m sprint test Purpose: To measure your speed (s) Equipment needed: Two cones, a tape measure, stopwatch and a flat surface.	**Advantages:** • **The test is very easy to set up and conduct** • **Requires minimal equipment** • **Can be conducted in or outside.** **Disadvantages:** • **Human error when timing scores** • **You may need another person to help you with the test.**	**Validity** – More valid for a sprinter than a swimmer/cyclist measuring speed. **Reliability** - The test must be conducted the same way each time to ensure reliability. The 35m distance must be measured carefully each time, and the test should be completed in the same weather conditions and terrain. Also, same warm up must be complete each time. **Practicality** – A practical test to conduct very easy to set up and minimal equipment/space needed.

Box No 6: Fitness Testing – Speed and agility – Illinois Agility Test

Test and purpose	Advantages + Disadvantages	Validity – Reliability - Practicality
Agility – Illinois agility test Purpose: To measure your speed and **Agility (s)** Equipment needed: 8 cones, a tape measure, stopwatch.	**Advantages:** • **The test is very easy to set up and conduct on any non-slip surface.** • **Requires minimal equipment** • **Can be conducted in or outside.** **Disadvantages:** • **Human error when timing scores** • **You may need another person to help you with the test.**	**Validity** – Not an accurate representation of sporting situations. **Reliability** - It is really important that the distance between the cones is accurately measured every time the test is conducted to ensure that the course remains the same. **Practicality** – Practical test to conduct.

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Box No 7: Fitness Testing – Anaerobic Power– Vertical Jump Test

Test and purpose	Advantages + Disadvantages	Validity – Reliability - Practicality
Power – Vertical Jump Test Purpose: To measure Anaerobic power in the legs. Equipment needed: Jump test board, large ruler, marker pen.	**Advantages:** • **The test is very easy to set up** • **Requires minimal equipment** • **Can be conducted in any setting.** **Disadvantages:** • **Human error when taking measurements** • **You need another person to help you with the test.** • **Technique plays a part in maximising score.**	**Validity** – This test is a valid measure of anaerobic power in the legs; it would not be a valid measure of anaerobic power in any other body part. **Reliability** - To ensure reliability each time the test is completed it should be: - Conducted at the same time of the day - Conducted after the same warm up - Conducted in the same conditions - Measurements should be taken by the same person using a metre ruler or a vertical **Practicality** – Practical test to conduct.

Box No 8: Fitness Testing – Muscular Endurance – One minute press up test

Test and purpose	Advantages + Disadvantages	Validity – Reliability - Practicality
Muscular Endurance – One-minute press up Test Purpose: To measure muscular endurance in the upper body. Equipment needed: Exercise mat and stopwatch.	**Advantages:** • **The test is very easy to set up** • **Requires minimal equipment** • **Can be conducted in any setting.** **Disadvantages:** • **Easier with a partner to help.** • **Difference in technique can make results unreliable.**	**Validity** – To ensure the results are valid make sure you make not of what type of press up you completed. Validity can vary as people can do easier or harder press-ups – is this a fair comparison? Only valid for upper body. **Reliability** - Ensure the test conditions remain the same. Difference in press up technique can make results unreliable. **Practicality** – Practical test to conduct.

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Box No 9: Fitness Testing – Muscular Endurance – One minute sit up test

Test and purpose	Advantages + Disadvantages	Validity – Reliability - Practicality
Muscular Endurance – One-minute Sit up Test Purpose: To measure muscular endurance in the abdominal muscles Equipment needed: Exercise mat and stopwatch.	**Advantages:** • The test is very easy to set up • Requires minimal equipment • Can be conducted in any setting. **Disadvantages:** • Easier with a partner to help. • Not suitable for someone with back injuries.	**Validity** – Only valid for abdominal muscles. **Reliability** - To ensure the test is reliable it is important that the same warm up is completed each time the test is conducted. **Practicality** – Practical test to conduct.

Box No 10: Fitness Testing –Body composition – Skinfold test.

Test and purpose	Advantages + Disadvantages	Validity – Reliability - Practicality
Body composition – Skinfold Test Purpose: To predict percentage of body fat. Equipment needed: Skinfold calipers, tape measure, pen to mark the sites. Male sites: Chest, abdominal, thigh Female sites: Thigh, Triceps, suprailiac	**Advantages:** • An accurate test of body fat. **Disadvantages:** • Can be uncomfortable • The participant may feel uncomfortable when removing clothing which may be embarrassing.	**Validity** – A valid test of body fat percentages. **Reliability** - To ensure the test is reliable it is important that the same person conduct the test and that each site is measures 3 times to take an average result. Results can be hindered if people don't remove clothing fully. **Practicality** – Practicality can be affected as people may feel uncomfortable.

Box No 11: Fitness Testing –Body composition – BIA

Test and purpose	Advantages + Disadvantages	Validity – Reliability - Practicality
Body composition – BIA Purpose: To predict percentage of body fat. Equipment needed: Bioelectrical impedance analysis machine	**Advantages:** • **Most accurate way to distinguish between muscle and fat in the body.** • **You only have to uncover your right hand and right foot so it is less embarrassing than the skinfold test.** **Disadvantages:** • **Equipment is specialised and expensive** • **The test relies on the participant being well hydrated and to have not done any vigorous exercise**	**Validity** – The most valid test of body fat percentages. **Reliability** – You must be well hydrated and have not exercised before the test. **Practicality** – Practical to conduct but equipment is expensive and specialised can only conducted with the equipment and someone who can read the data correctly.

Box No 12: Fitness Testing –Body composition – BMI

Test and purpose	Advantages + Disadvantages	Validity – Reliability - Practicality
Body composition – BMI Purpose: To predict percentage of body fat. Equipment needed: Scales, Long ruler, calculator.	**Advantages:** • **Simple and easy to conduct – no specialist equipment.** • **The test is non invasive** **Disadvantages:** • **Not always accurate for muscular individuals.** • **Test is not always valid.**	**Validity** – The test is not always valid – it does not take into consideration muscle mass. **Reliability** – Ensure calibration of scales is correct each time and accurate reading of height is taken – do not wear shoes. **Practicality** – Practical and non-invasive test to conduct.

Eatwell Guide

Use the Eatwell Guide to help you get a balance of healthier and more sustainable food. It shows how much of what you eat overall should come from each food group.

Check the label on packaged foods

Each serving (150g) contains

Energy 1046kJ 250kcal	Fat 3.0g LOW	Saturates 1.3g LOW	Sugars 34g HIGH	Salt 0.9g MED
13%	4%	7%	38%	15%

of an adult's reference intake
Typical values (as sold) per 100g: 697kJ / 167kcal

Choose foods lower in fat, salt and sugars

6-8 a day

Water, lower fat milk, sugar-free drinks including tea and coffee all count.

Limit fruit juice and/or smoothies to a total of 150ml a day.

Eat at least 5 portions of a variety of fruit and vegetables every day

Fruit and vegetables

Raisins

Chopped tomatoes

Frozen peas

Choose wholegrain or higher fibre versions with less added fat, salt and sugar

Potatoes, bread, rice, pasta and other starchy carbohydrates

Potatoes

Whole grain cereal

Cous Cous

Bagels

Whole wheat pasta

Porridge

Rice

Spaghetti

Lentils

Beans lower salt and sugar

Tuna

Plain nuts

Chick peas

Lean mince

Low fat soft cheese

Semi skimmed milk

Soya drink

Plain Low fat yoghurt

Dairy and alternatives

Choose lower fat and lower sugar options

Beans, pulses, fish, eggs, meat and other proteins

Eat more beans and pulses, 2 portions of sustainably sourced fish per week, one of which is oily. Eat less red and processed meat

Oil & spreads

Veg Oil

Lower fat spread

Choose unsaturated oils and use in small amounts

Sauce

Crisps

Eat less often and in small amounts

Per day 2000kcal 2500kcal = ALL FOOD + ALL DRINKS

HEALTHY HYDRATION

for adults and teenagers

We should drink about 6-8 glasses of fluid each day. This can be from a variety of drinks

Water

Water is a good choice throughout the day because it hydrates you without providing extra calories or harming teeth.

Drink plenty

Tea, coffee and other hot drinks

Provide some nutrients (if milk or fortified plant-based alternatives are added) and some contain caffeine*. To limit calories, drink without sugar or sugary syrups and with lower fat milks.

Drink to suit (can contain caffeine; limit if pregnant)*

Milk

Is a useful source of nutrients including calcium, iodine, B vitamins and protein. Adults and older children should choose lower-fat varieties.

Have regularly, but choose lower fat.

Sugar-free drinks

Provide fluid without extra calories. Drinks like squashes and fizzy drinks are acidic, which can harm teeth.

Drink in moderation

Fruit and vegetable juices and smoothies

Provide some vitamins and minerals. One small glass (150ml) counts as a maximum of one portion of your 5 A DAY. However, they also contain sugars and can be acidic, which can harm teeth so it's best to drink them with a meal.

Can have once a day

Sugary drinks

Provide fluid but contain calories from sugars, usually without other nutrients, and can be acidic. Sugars and acidity can both be harmful to teeth. Some of these drinks also contain caffeine*.

Limit

Sports drinks

Are generally only needed if training at high intensity for over an hour. Can be high in sugars.

Only if needed

Energy drinks

Can be high in sugars and may contain high levels of caffeine* and other stimulants. These drinks are not good choices for those under 18 years.

Limit

*If pregnant, limit caffeine to no more than 200mg per day. Visit NHS Choices page on caffeine in pregnancy for more information.

Note: alcoholic drinks don't count towards your fluid intake.

The Information Standard

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