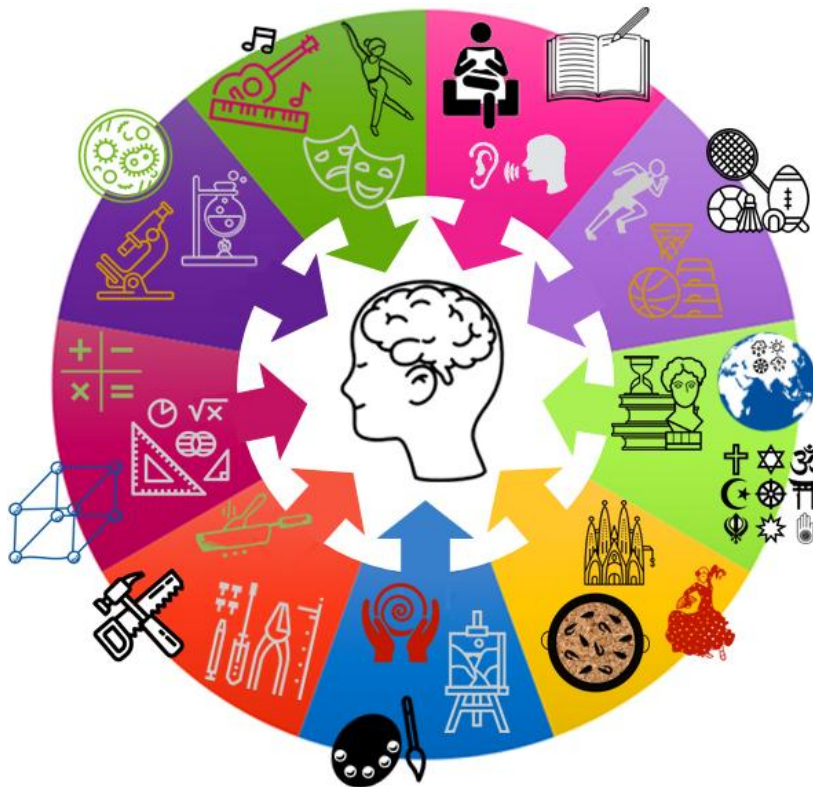


100% book - Year 11 Mainstream

Aim to memorise 100% of the knowledge on these Knowledge Organisers.



Term 1

Swindon Academy 2026-27

Name:	
Tutor Group:	
Tutor & Room:	

"If you are not willing to learn, no one can help you.

If you are determined to learn, no one can stop you."

Knowledge Organisers

Year 7 Term 1 Science: Chemistry - Topic: TOP Particles

What are we learning this topic:

- Particle model
- Changes: States
- Diffusion
- Separating techniques

4 Key Words for this topic:

- Matter
- Particle
- Diffusion
- Mixing
- Freezing
- Condensation
- Evaporation
- Solute
- Solvent
- Solution

A. What is particle theory?

The theory that all matter is made up of particles.

B. Describe the arrangement and movement of particles in the three states of matter.

Solid
In a regular pattern. Particles can vibrate in a fixed position.

Liquid
Particles are arranged randomly but are still touching each other. Particles can slide past each other and move around.

Gas
Particles are far apart and are arranged randomly. Particles carry a lot of energy and they move in all directions at high speed.

C. What is the law of conservation of mass?

The Law of Conservation of Mass states that mass cannot be created or destroyed.

D. What are the different changes of state?

Melting: change of state from solid to liquid

Freezing: change of state from liquid to solid

Evaporation: change of state from liquid to gas

Condensation: change of state from gas to liquid

E. What is the difference between a pure and an impure substance?

Pure: A material that is made up of only one type of particle.

Impure: A material that made up of more than one type of particle.

Quizzable Knowledge Organisers

A. What is particle theory?

B. What is the law of conservation of mass?

A. Describe the arrangement and movement of particles in the three states of matter.

B. What are the different changes of state?

C. What is the difference between a pure and an impure substance?

Diagram: A diagram showing the three states of matter (solid, liquid, gas) and the changes between them (melting, freezing, evaporation, condensation).

1. Complete all prep work set in your subject prep book.
2. Bring your prep book to every lesson and ensure that you have completed all work by the deadline.
3. Take pride in your prep book – keep it neat and tidy.
4. Present work in your prep book to the same standard you are expected to do in class.
5. Ensure that your use of SPAG is accurate.
6. Write in blue or black pen and sketch in pencil.
7. Ensure every piece of work has a title and date.
8. Use a ruler for straight lines.
9. If you are unsure about the prep, speak to your teacher.
10. Review your prep work in green pen using the mark scheme.

Don't write on your Quizzable Knowledge Organisers!
Quiz yourself by writing the missing words in your prep
book. That way you can quiz yourself again and again!

How do I complete Knowledge Organiser Prep?

Step 1

Check Epraise and identify what words /definitions/facts you have been asked to learn.
Find the Knowledge Organiser you need to use.

Step 2

Write today's date and the title from your Knowledge Organiser in your Prep Book.

Step 3

Write out the keywords/definitions/facts from your Knowledge Organiser in FULL.

29th May 2020

Properties of the states of matter

Particle theory = all matter is made of particles

Solid = regular pattern
particles vibrate in fixed position

Liquid = particles are arranged randomly but are still touching each other
Particles can slide past each other and move around

Gas = Particles are far apart and are arranged randomly. Particles carry a lot of energy

Step 4

Read the keywords/definitions/facts out loud to yourself again and again and write the keywords/definitions/facts at least 3 times.

Solid = regular pattern
particles vibrate in fixed position

Solid = regular pattern
particles vibrate in fixed position

Solid = regular pattern
particles vibrate in fixed position

Step 5

Open your quizzable Knowledge Organiser.
Write the missing words from your quizzable Knowledge organiser in your prep book.

Step 6

Check your answers using your Knowledge Organiser. Repeat Steps 3 to 5 with any questions you got wrong until you are confident.

Particle theory = all matter is made of particles

Solid = regular pattern ✓
particles vibrate in fixed position

Liquid = particles are arranged randomly but are still touching each other ✓
Particles can slide past each other and move around ✓

Gas = Particles are far apart and are arranged randomly. Particles carry a lot of energy ✓

Make sure you bring in your completed Prep notes to demonstrate that you have completed your prep.

AN INSPECTOR CALLS Traditional

1. Context	
Playwright: John Boynton Priestley (1894-1984) Dates: Written in 1945 First performed: In Moscow, Russia, in 1945 Era: Edwardian Genre: Drama Set: Fictional town Brumley ‘an industrial city in the north Midlands’ in 1912 Structure: Three Act Play	Biography of Priestley - Born in Yorkshire in 1894. - Fought in the first world war and became politicised by the suffering of it - Became concerned with the effects of social inequality in Britain in 1930s - Set up a new political party in 1942, The Commonwealth Party. It merged with the labour Party and was integral in developing the welfare state

Pre and Post War – Before the first world war there was deemed to be a general air of complacency regarding the prospect of any war taking pace. There were strong distinctions between upper and lower classes, society was deeply patriarchal. After the second world war ended in 1945, class distinctions had been greatly reduced by the two wars and women had earned a more valued place in society After 1945 there was a desire for more sweeping social change.	Socialism – Socialism is an approach to economic and social systems that is characterised by social ownership, democratic control and high levels of equality. Socialism is generally concerned with ensuring that disparities between wealth and social status are erased from society. After the two World Wars British society was far more open to socialist ideas. In <i>An Inspector Calls</i>, the Inspector harbors socialist attitudes.
---	--

Social and Moral Responsibility – Attitudes towards social and moral responsibility changed rapidly in the time between when the play was set (1912) and the time the play was written (1945). In 1912 the general attitude of those with social status and wealth was towards looking after one’s own. By the mid-1940s however, the Labour party under Attlee won a landslide election reflecting a wave of enthusiasm towards communal responsibility for everyone in society.	The Titanic – RMS Titanic was a British passenger liner that sank in the North Atlantic ocean in the morning hours of 15th April 1912, killing around 1500. The Titanic was designed to be the pinnacle of both safety and comfort, and due to its enormous size and quality was frequently labeled ‘unsinkable’. In <i>An Inspector Calls</i> Birling claims this, thus immediately losing the respect of the audience. It can serve as a symbol of the hubris and arrogance of man.
---	--

FORM – The play fits into three possible forms:

Well-Made Play	Morality Play	Crime Thriller
- A popular type of drama from the 19th century - The events build to a climax - Primarily concerned with events that happened before the play - Plot is intricate and complex	- Most popular during 15th and 16th centuries - They taught the audience lessons that focused on the seven deadly sins - Characters who committed those sins were punished	- Involves a gripping tale based around a crime - The audience receives clues and must guess what has happened before the end - All is revealed by the climax

2. Key Characters	
Inspector Goole: An enigmatic (mysterious) figure who serves as Priestley’s mouthpiece and advocates social justice. He serves as the Birling’s conscience and exposes their sins.	
Mr Arthur Birling: A capitalist and business owner who opposes social change and greater equality. He is a self-made man and lacks the refined manners of the upper classes. Made a fool by Priestley to highlight the arrogance and absurdity of his views.	
Mrs Sybil Birling: Her husband’s social superior, Mrs Birling is involved in charity work but contradictorily believes in personal responsibility and looking after one’s-self. Fails to understand her own children.	
Sheila Birling: Young and initially enthusiastic, Sheila grows and changes throughout the play, embracing the views of the Inspector and challenging the social indifference of her parents. She becomes wiser and more cautious in her relationship with Gerald.	
Eric Birling: In his early twenties, he drinks too much and forces himself upon Eva Smith. Whilst she is pregnant with his child, he steals from his father to attempt to support her. Grows and changes, realises his own wrongs along with everyone else’s. Critical of parents.	
Gerald Croft: A businessman engaged to Sheila, Gerald a relationship with Daisy Renton (Eva Smith). Even though he sits between the two generations he is politically closest to Birling and fails to embrace the Inspector’s message, instead seeking to prove he wasn’t real.	
Eva Smith: Doesn’t appear in the play, but her suffering and abuse represents that of all the working classes. She also calls herself both Daisy Renton and Mrs Birling. The older characters begin to question whether she really is one person.	

3. Central Themes	
Social Responsibility	Priestley advocates a socialist message of collective responsibility for one another. The Inspector serves as his voice in conveying this ideology, but the younger generation also come to embrace it. The suffering of Eva Smith highlights the powerlessness of the working classes and the need for a society that protects its most vulnerable.
Age and the Generational Divide	Priestley presents a view that there is hope for change and that it lies with the younger generation. Both Sheila and Eric change for the better, maturing and becoming more empathetic as they come to embrace the Inspector’s message. They also become vocal critics of their parents’ indifference to Eva’s suffering.
Class and Power	Priestley highlights the immense power that business owners wielded over their workers and presents them as arrogant and lacking in empathy. He demonstrates Edwardian society’s preoccupation with wealth and status at the cost of the individual as a way of promoting change in post-WW2 Britain.
Gender	At the time the play was first performed, women had just played a pivotal role in World War 2 and were empowered by the freedom work provided them. In the 1912 setting, we see Sheila’s growing independence vs her mother. However, the play still highlights the awful vulnerability of women and the outdated stereotyping of them.

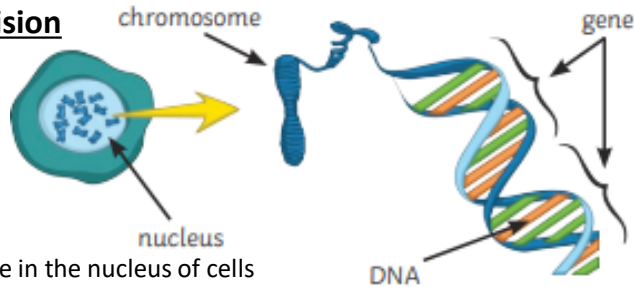
4. Key Vocabulary	
Capitalist	Believing in private wealth and business aimed at making profit for business owners. Independent and self-reliant.
Socialist	Believing in shared ownership, collective responsibility for one another and social equality for all.
Ideology	A political viewpoint or set of beliefs, for example socialism.
Responsibility	Being accountable or to blame for something, or having a duty to deal with something.
Hierarchy	A ranking of status or power e.g. the strict class hierarchy of Edwardian England.
Patriarchy	A society in which power lies with men.
Prejudice	An opposition to or opinion about something/someone based upon what they are e.g. working class, female etc.
Morality	The belief that some behaviour is right and some is wrong.
Proletariat	The working class.
Bourgeoisie	The capitalist class in possession of the means of acquiring wealth.
Aristocracy	The highest class in society and often holding titles passed from father to son, for example Lord and Lady Croft.
Façade	A false front or surface-level illusion, for example the façade of family happiness in the opening scene of the play.
Catalyst	Someone or something that speeds up or triggers an event.
Antithesis	When something is the opposite of something else.

5. Key Terminology, Symbols and Devices	
Dramatic Irony	When the audience is aware of something that a character is not aware of, for example Birling believing war won’t happen.
Plot Twist	When a story suddenly departs from its expected path and something very unexpected happens. The final phone call.
Cliffhanger	Each act ends on a particularly dramatic, revealing moment that creates a sense of tension and anticipation.
Stage Directions	When the playwright instructs actors/director to perform in a particular way. Priestley’s are unusually detailed.
Entrances/Exits	Characters frequently leave or enter the stage at dramatic moments. Some characters miss important events.
Lighting	Priestley uses stage directions to indicate how the stage should be lit. Changes to ‘brighter and harder’ for Inspector.
Props	Physical objects used in the play. The photograph plays a key role in identifying Eva. The doorbell interrupts Birling.
Contrast and Juxtaposition	Deliberately placing two very different things alongside one another to draw comparisons e.g. Birling and the Inspector.

	AN INSPECTOR CALLS Traditional													
1. Context			2. Key Characters			4. Key Vocabulary								
<u>Playwright:</u> <u>Dates:</u> <u>First performed:</u> <u>Era:</u> <u>Genre:</u> <u>Set:</u> <u>Structure:</u>	<u>Biography of Priestley</u> • • • •		Inspector Goole:		Capitalist									
			Mr Arthur Birling:		Socialist									
			Mrs Sybil Birling:		Ideology									
			Shelia Birling:		Responsibility									
Pre and Post War –	Socialism –		Eric Birling:		Hierarchy									
			Gerald Croft:		Patriarchy									
			Eva Smith:		Prejudice									
					Morality									
					Proletariat									
					Bourgeoisie									
					Aristocracy									
					Façade									
		Catalyst												
		Antithesis												
		3. Central Themes					5. Key Terminology, Symbols and Devices							
Social and Moral Responsibility –		The Titanic –		Social Responsibility						Dramatic Irony				
										Plot Twist				
				Age and the Generationa l Divide						Cliffhanger				
										Stage Directions				
FORM – The play fits into three possible forms:			Class and Power							Entrances/Exits				
Well-Made Play	Morality Play	Crime Thriller								Lighting				
			Gender						Props					
									Contrast and Juxtaposition					

T1 Y11 a2 and a3 Science/Biology B6 Reproduction

Cells and cell division



The chromosomes are in the nucleus of cells

Humans have 46 chromosomes.

Chromosomes contain genes, which code for proteins.

In body cells, chromosomes are in pairs – one from each parent.

In sex cells (gametes) they are not in pairs and there is half the number of chromosomes (e.g. 23 in humans)

Cell division – two types:



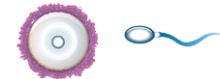
Mitosis (in all body cells)	Meiosis (in testes and ovaries)
2 daughter cells	4 daughter cells
Daughter cells = genetically identical	Daughter cells = not genetically identical
Cell divides once	Two divisions
Daughter cells have same number of chromosomes as original cell	Daughter cells have half the chromosomes as original cell
Used for growth and repair.	Produces gametes for sexual reproduction

Reproduction

Two types of reproduction – sexual and asexual.

	Sexual	Asexual
Number of parents	2	1
gametes used?	Yes	no
Variation in the offspring	lots	None (unless mutations occur) Offspring are clones

Sexual reproduction



The sperm and egg have half of the genes for the offspring. (in humans 23 chromosomes)

At fertilisation, the sperm and egg nuclei join. ($23 + 23 = 46$ chromosomes)

There are two genes for any one characteristic – one on the chromosome from mum and one from Dad

Different forms of the same gene are called **alleles**

If the alleles are the same, the person is **homozygous**

If the alleles are different the person is **heterozygous**

E.g.:

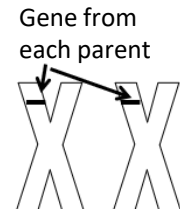
B = brown hair (dominant)

b = red hair

BB = homozygous, brown hair

Bb = heterozygous, brown hair

bb = homozygous, red hair



T1 Y11 a2 and a3 Science/Biology B6 Reproduction

1. Put these in order from smallest to biggest:

Allele, Cell, Chromosome, Gene, Nucleus

2. What are the two types of cell division?
3. When does mitosis take place?
4. Where does meiosis take place?
5. How does the number of chromosomes in a gamete differ from those of a body cell?
6. What do genes do?

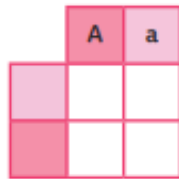
1. What are the two types of reproduction?
2. How many parents are needed for asexual reproduction?
3. What are the offspring of asexual reproduction known as?
4. What is the term for when a sperm and an egg join?
5. How many genes do we have for any single characteristic?
6. What term is used to describe a person that has two alleles that are the same for a particular characteristic?

T1 Y11 a2 and a3 Science/Biology B6 Reproduction

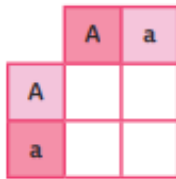
How to complete a punnet square

If A = blue eyes, a = green eyes

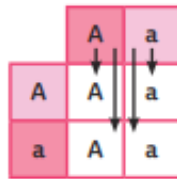
Calculate the probability of two heterozygous people having a green eyed child



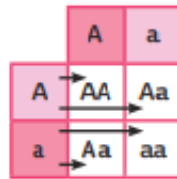
Step 1
Put one
parents alleles
into the boxes
at the top



Step 2
Put the other
parents
alleles into the
boxes
down the side



Step 3
Write the
alleles from
parent one in
all boxes
underneath



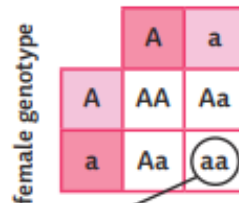
Step 4
Put the alleles
from the
second
parent into
the boxes to
the right

Probability

A green eyed child would have aa genotype.

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

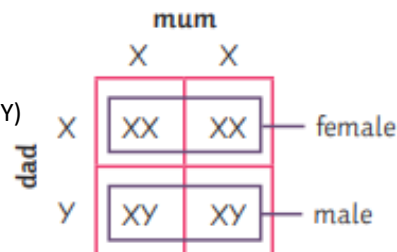
male genotype



Sex Determination

Females carry two X chromosomes (XX)

Males carry one X and one Y chromosome (XY)
50% chance of male and female.



Inherited disorders

Cystic fibrosis

Disorder of cell membranes

Caused by a recessive allele

Causes thick mucus to form in membranes

Main organs affected are lungs, digestive & reproductive organs – pancreas and intestines.



Alveoli get blocked with mucus

Increases diffusion path so less

O₂ gets into the blood

Polydactyly



Mother



Father

	C	c
C	CC	Cc
c	Cc	cc

Disorder of the hands and feet

Caused by a dominant allele

Causes extra digits, fingers and toes.

Embryo screening

Parents that have inherited disorders may opt for embryo screening

1. Multiple embryos are made in IVF
2. One cell is removed from each embryo
3. The cells are screened for faulty genes
4. Only embryos without the genes for disorders are transferred to the womb of the mother.

+ Babies born free of that inherited disorder

- no guarantee child will be free of other health issues
- Many embryos are destroyed, which are potential human lives

T1 Y11 a2 and a3 Science/Biology B6 Reproduction

1. What two sex chromosomes do females carry?

2. What two chromosomes do males carry?

3. What is the probability of having a boy?

4. Complete the punnet square:

	D	d
d		
d		

5. What is the chance of having an offspring with the allele pair dd?

1. What is cystic fibrosis a disorder of?

2. Is the allele for cystic fibrosis dominant or recessive?

3. Why do cystic fibrosis sufferers struggle to get oxygen into the body?

4. What is polydactyly?

5. Is the allele for polydactyly dominant or recessive?

6. Give one advantage of embryo screening

7. Give one disadvantage of embryo screening

T1 Y11 a2 and a3 Science/Biology B6 Reproduction

Variation

May be due to differences in:

- Genes that have been inherited (genetic causes)
- Conditions which they have lived in (environmental causes)
- Combination of genes and the environment.

Mutation = a change in the DNA during copying (randomly). Often has no effect on the gene, but sometimes leads to new proteins being made and a new characteristic being seen

Evolution

Evolution = a change in inherited characteristics of a population over time through natural selection – could lead to a new species.

A **species** is a group of organisms that can successfully breed.

Theory of evolution states that all species have evolved from a simple life forms more than 3 billion years ago.



Natural Selection

Described by Darwin

1. **Variation** within a species – different genes. (due to **mutation**)

2. One gene may give characteristics that are better **adapted** for survival in the environment.

3. Those with **advantageous genes** will survive and reproduce – passing genes to **offspring**.

4. Over long periods of time, all members of that species have the characteristic, may even lead to a new **species**.

Resistant Bacteria

- Bacteria **evolve** rapidly as they reproduce at a fast rate. (reproduce approx. every 20 mins)

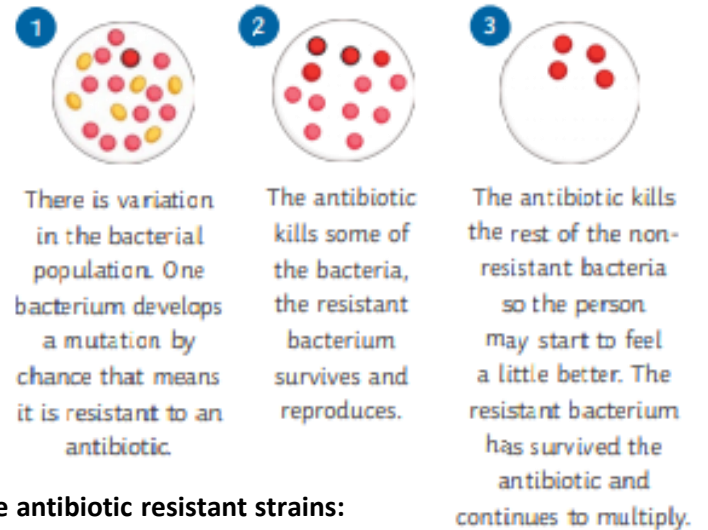
- Mutations of bacteria can produce new strains.

- Some strains are **resistant** to antibiotics (so are not killed).

- They **survive** and **reproduce** – population of resistant strain rises.

- Resistant strain will spread because people are not **immune** and there is no effective treatment.

- **MRSA** is **resistant** to antibiotics.



How to reduce antibiotic resistant strains:

- Doctors should not prescribe antibiotics for viral infections
- Patients must complete courses of antibiotics
- Agricultural use of antibiotics should be restricted.

T1 Y11 a2 and a3 Science/Biology B6 Reproduction

1. What are the two causes of variation?
2. What is a mutation?
3. Which scientist proposed the theory of evolution by natural selection?
4. What is the theory of evolution?
5. What is a species?
6. Why do mutations sometimes lead to new characteristics being seen?

1. Why do bacteria evolve rapidly?
2. What can cause new strains of bacteria?
3. Name a bacteria which is resistant to antibiotics.
4. What are the three ways to reduce antibiotic resistance strains?

T1 Y11 a2 and a3 Science/Biology B6 Reproduction

Genetic Engineering

- Process which involves modifying the **genome** of an organism by introduction a gene from another organism to give a **desired characteristic**.

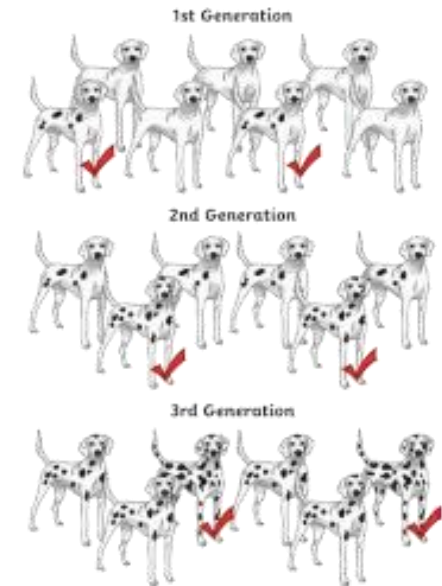
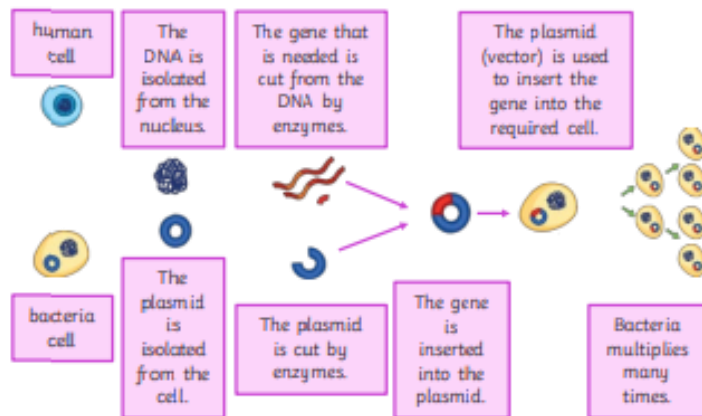
Uses of genetic engineering:

- Plant crops to be **resistant** to diseases or produce bigger, better fruits.
- Bacteria cells to produce useful substances, such as human insulin to treat diabetes.

Genetically modified (GM) crops

Advantages	Disadvantages
Resistant to insect attack	Not sure on long term effects when eating GM crops
Produce increased yields	Could affect populations of wild flowers and insects

Process of Genetic Engineering (HT only)



Selective Breeding

- Process which humans breed plants and animals for particular **genetic characteristics**.

Steps of selective breeding:

1. Choose a male and female with **desired characteristics**.
2. Breed together
3. Pick the offspring which have the desired characteristic and breed together.
4. Continue over many generations, selecting the best offspring each time, until all offspring show desired characteristics.

T1 Y11 a2 and a3 Science/Biology B6 Reproduction

1. What is genetic engineering?
2. State two uses of genetic engineering.
3. What does 'GM' stand for?
4. State two advantages of GM crops.
5. State two disadvantages of GM crops.
6. Describe the stages of genetic engineering (HT only).

1. What is selective breeding?
2. Describe the four stages of selective breeding.
3. Why might a characteristic be chosen?
4. Give 3 examples of characteristics humans may choose.

T1 Y11 a2 and a3 Science/Biology B6 Reproduction

Extinction

Extinction = no remaining individuals of a species still alive on Earth.

Factors which could cause extinction:

- New disease
- Rapid change in environment (e.g. meteor/volcano eruption)
- New predators
- New competitors (often man)



Evidence for evolution

Fossils

Fossils are the **remains of plants or animals** from **millions of years ago**:

They are formed in different ways:

- Remains of an organism that has not fully decayed as one of the decay conditions was absent (e.g. too cold, not enough O₂)
- Mineralised forms of the harder parts of an organisms (such as bones)
- Traces of organisms such as footprints or burrows.

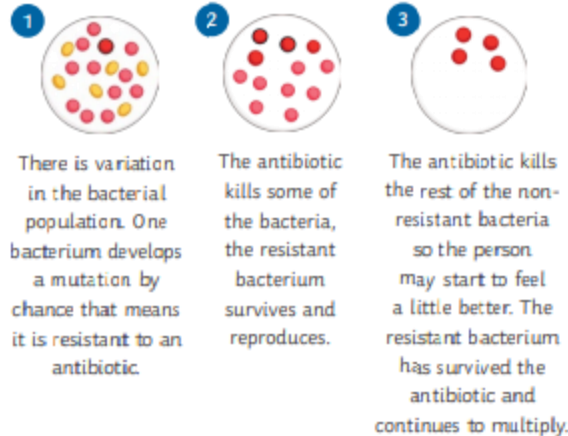
Many early life forms were **soft bodied** so have left few traces behind, as they decayed so we cannot be sure how life started on Earth. Many have been destroyed by Earth's rock cycle. Fossils help us understand how much or little organisms have changed as life developed on Earth.

Resistant Bacteria

- Bacteria **evolve** rapidly as they reproduce at a fast rate. (reproduce approx. every 20 mins)
- Mutations of bacteria can produce new strains.

- Some strains are **resistant** to antibiotics (so are not killed).
- They **survive** and **reproduce** – population of resistant strain rises.
- Resistant strain will spread because people are not **immune** and there is no effective treatment.

- **MRSA** is **resistant** to antibiotics.

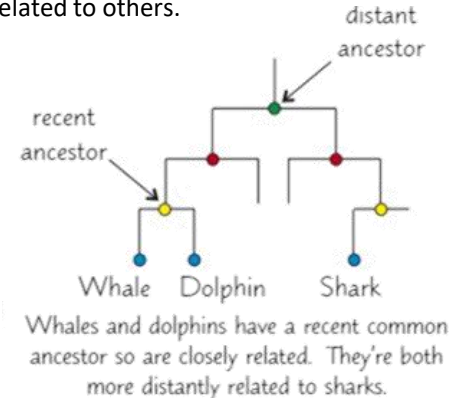


How to reduce antibiotic resistant strains:

- Doctors should not prescribe antibiotics for viral infections
- Patients must complete courses of antibiotics
- Agricultural use of antibiotics should be restricted.

Evolutionary trees

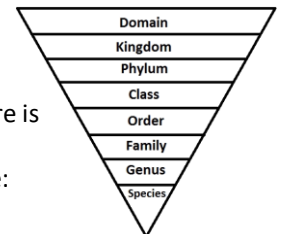
Show how species have evolved from and are related to others.



Classification

Linnaeus classified things into: Kingdom, phylum, class, order, family genus and species.

Organisms are named by the **binomial system** of genus and species. (2 names)



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

Domain	bacteria	archaea	eukaryota			
Kingdom	eubacteria	archaeobacteria	protista	fungi	plantae	animalia

T1 Y11 a2 and a3 Science/Biology B6 Reproduction

1. What does 'extinct' mean?

2. What are fossils?

3. Describe one way fossils can form

4. What do fossils show us?

5. Why is the fossil record incomplete?

6. What factors can cause extinction?

1. Why do bacteria evolve rapidly?

2. What can cause new strains of bacteria?

3. Name a bacteria which is resistant to antibiotics.

4. What are the three ways to reduce antibiotic resistance strains?

1. What do evolutionary trees show?

1. How did Linnaeus classify organisms?

2. What are Carl Woese's three domains?

3. What does 'binomial' mean?

T1 Y11 a2 and a3 Science/Chemistry C6 – Rate and extent of chemical change

Rate of reaction.

Measuring the rate of anything always involves a **measurement of time**

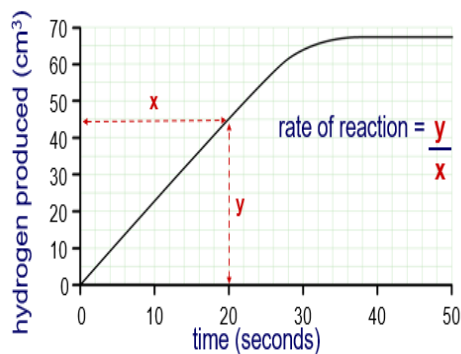
The rate of a chemical reaction can be found using:

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

$$\text{rate} = \frac{\text{quantity of product formed}}{\text{time}}$$

Quantities for reactants or products are measured in **mass in g** or by **volume in cm³**

Rate calculations can be done from tables of data or graphs:



Volume of hydrogen produced = 45cm³

Time taken = 20 seconds

$$\text{Rate} = \frac{45 \text{ cm}^3}{20 \text{ s}}$$

20 s

$$\text{rate} = 2.25 \text{ cm}^3/\text{s}$$

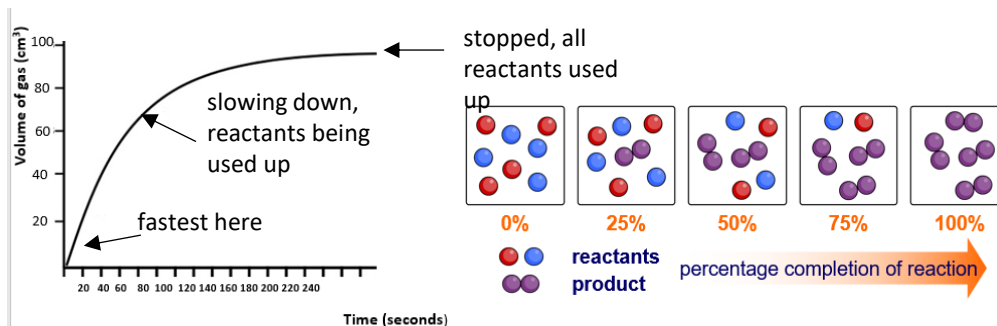
The progression of a chemical reaction

For a reaction to take place, reactant particles have to collide.

The rate of a reaction depends on the **frequency of collisions** and **the energy with which the particles collide**.

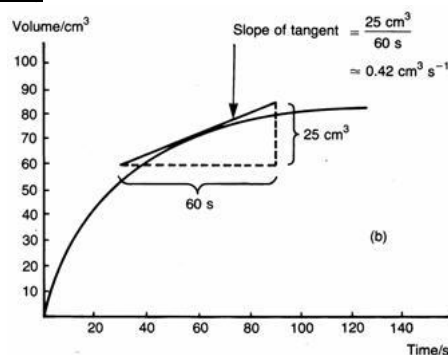
The minimum amount of energy needed to start a reaction is called the **activation energy**.

A reaction is always **fastest at the beginning** and slows down over time as the reactants get used up and the frequency of collisions decreases.



Using a tangent to calculate rate

(HT)

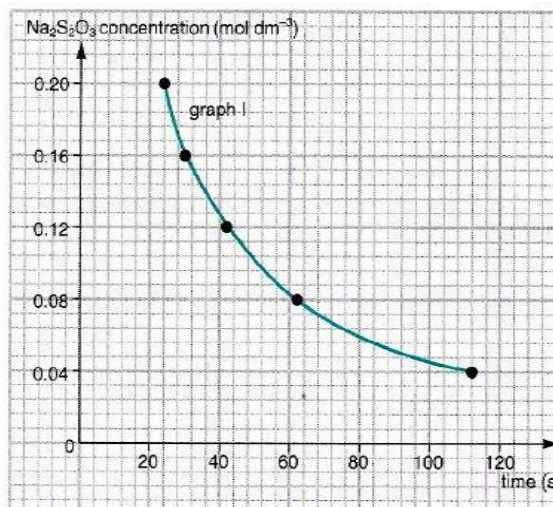


- Draw a line along the point you're interested in. The line should touch the curve at the point given.
- Make a triangle. Try to make the angles either side of the line equal.
- Measure the change in volume and change in time
- Calculate the gradient
- Use units from the axes to determine the units for rate

T1 Y11 a2 and a3 Science/Chemistry C6 – Rate and extent of chemical change

1. Give two ways of calculating the rate of a reaction
2. What does a rate calculation always have to include?
3. What are solid reactants or products measured in?
4. What are liquid or gaseous products measured in?
5. How is the rate calculated from a graph?

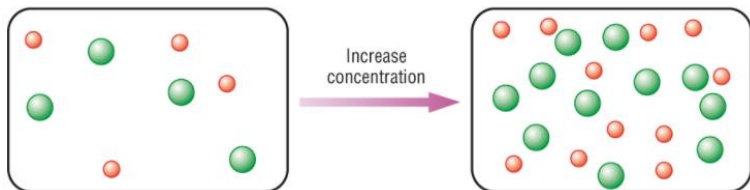
1. What point in a reaction is the fastest?
2. Why does a reaction slow down as it progresses?
3. Why do reactions stop?
4. What two factors affect the rate of a reaction?



1. Describe how to draw a tangent at 50s.
2. Draw the tangent at 50s
3. What will the units for the rate of this reaction be?

T1 Y11 a2 and a3 Science/Chemistry C6 – Rate and extent of chemical change

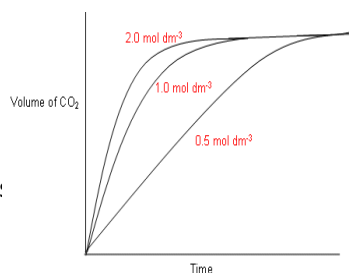
The effect of concentration



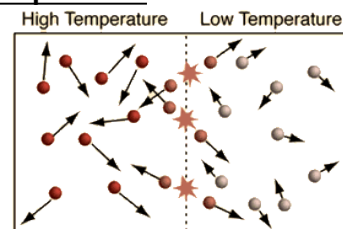
Concentration means number of particles per cm^3

Increasing the concentration of any of the reactants increases the rate of the reaction

This is because there are more particles per cm^3 so there are **more frequent collisions**, increasing the rate.

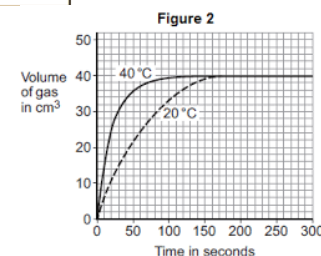


The effect of temperature



Increasing the temperature of the reactants increases the rate of the reaction.

This is because the particles have more kinetic energy and therefore move faster, so there are **more frequent collisions**, increasing the rate.

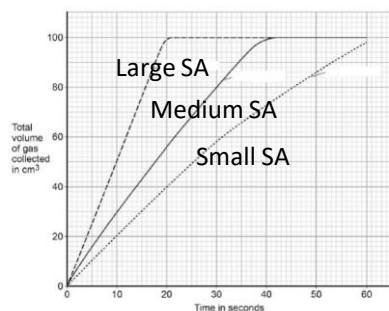


The effect of surface area

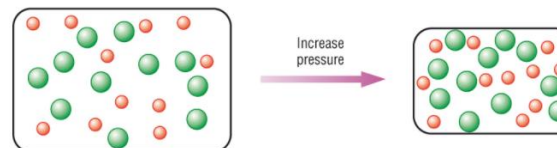


The smaller the pieces of a solid, the higher the surface area. Increasing the surface area of solid reactants increases the rate of reaction.

This is because there is a greater area available for collisions to occur so there are **more frequent collisions**, increasing the rate.

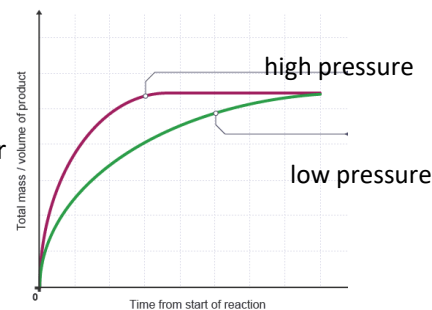


The effect of pressure



Increasing the pressure of gaseous reactions increases the rate of the reaction.

This is because the same number of particles are now in a smaller volume, so there are **more frequent collisions**, increasing the rate.

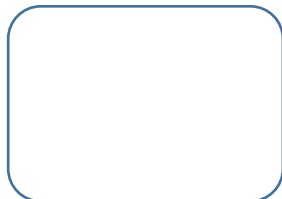
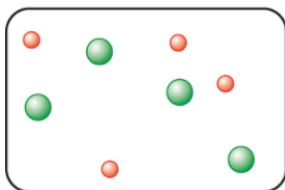


In all cases, the overall amount of product is the SAME, the end point of the reaction is just reached faster

T1 Y11 a2 and a3 Science/Chemistry C6 – Rate and extent of chemical change

The effect of concentration

1. In the box below, draw a reaction involving a higher concentration of the green reactant molecules.



2. What happens to the rate of a reaction if you increase the concentration?

The effect of temperature

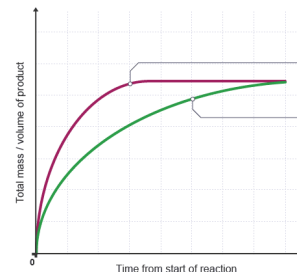
1. Describe how increasing the temperature affects the rate of a reaction.
2. Explain why this happens in terms of particles.

The effect of surface area

1. Reactions involving what sort of reactant are affected by surface area?
2. What type of piece has a large surface area?

The effect of pressure

1. Reactions involving what type of reactants are affected by pressure?
2. Label the diagram with 'low pressure' and 'high pressure'

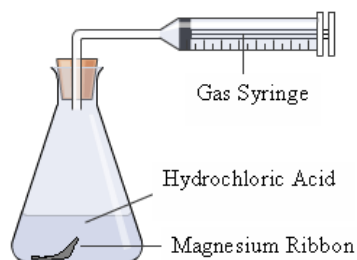
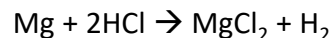


What happens to the overall amount of product if you change the rate of a reaction?

T1 Y11 a2 and a3 Science/Chemistry C6 – Rate and extent of chemical change

Experiment 1

Using volume of gas collected over time as a measure of the rate



Independent variable: concentration of HCl

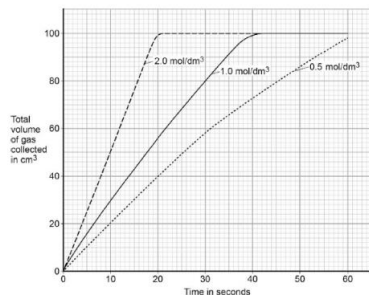
Dependent variable : Volume of gas produced / min

Control variables : volume of HCl, mass of Mg, temperature of acid

Method

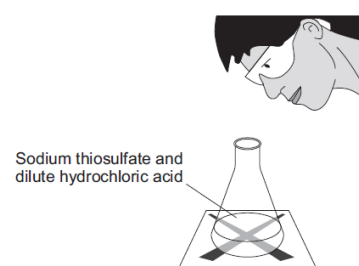
1. Measure 20cm³ 0.5M HCl into a conical flask.
2. Insert 2 x 2cm pieces of Mg and attach a gas syringe
3. Start a stopwatch and measure the volume of gas collected every 20 seconds until the reaction is over.
4. Repeat using different concentrations of HCl.

An increase in the concentration leads to an increase in the rate of the reaction, but the same volume of product overall



Experiment 2

Investigating the effect of changing the concentration of HCl on the rate of reaction



The sulphur being made is insoluble and is what makes the liquid go cloudy

Independent variable: concentration of HCl

Dependent variable : Time taken for the cross to disappear

Control variables : volume of HCl, volume of sodium thiosulphate, temperature of both solutions, concentration of sodium thiosulphate

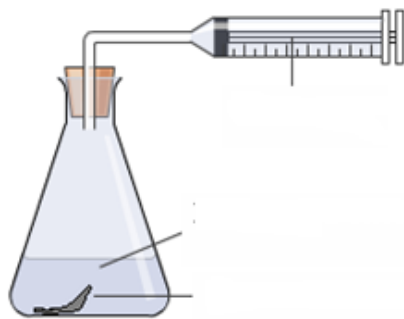
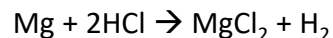
Method

1. Use a measuring cylinder to put 10 cm³ sodium thiosulfate solution into the conical flask.
2. Put the conical flask on the black cross.
3. Put 10 cm³ of 0.5M hydrochloric acid into the 10 cm³ measuring cylinder.
4. Put this acid into the flask. At the same time swirl the flask gently and start the stopwatch.
5. Look down through the top of the flask. Stop the stopwatch when you can no longer see the cross. Record the time.
6. Repeat steps 1-5 using different concentrations of HCl – 1M, 1.5M, 2M and 2.5M

T1 Y11 a2 and a3 Science/Chemistry C6 – Rate and extent of chemical change

Experiment 1

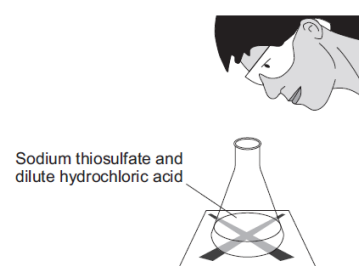
Using volume of gas collected over time as a measure of the rate



1. Label the diagram to show the equipment and chemicals used in this investigation
2. What is the independent variable?
3. Name two control variables.
4. What is a sensible volume of HCl to use?
5. Which piece of equipment, essential for a rate calculation, is not shown?

Experiment 2

Investigating the effect of changing the concentration of HCl on the rate of reaction

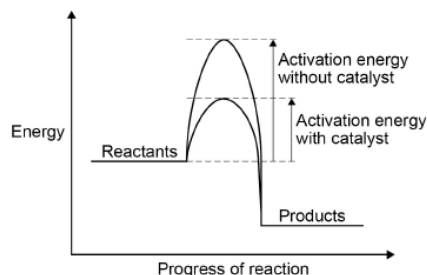


1. What is the dependent variable in this reaction?
2. Why does the solution go cloudy?
3. Name two control variables.

T1 Y11 a2 and a3 Science/Chemistry C6 – Rate and extent of chemical change

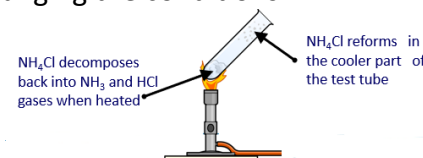
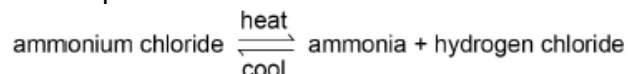
Catalysts

- Catalysts are substances that speed up chemical reactions without themselves being used up.
- They provide a different pathway for the reaction with a lower activation energy.
- Different reactions require different catalysts.



Reversible reactions

These are reactions in which the products can react to produce the original reactants. They are represented by the symbol $\rightleftharpoons$. The direction of the reaction can be changed by changing the conditions. For example:



If a reaction is exothermic in one direction, it is endothermic in the opposite direction.



When a reversible reaction takes place in sealed apparatus, then a point occurs when the forward and backward reactions occur at the same rate. This is **equilibrium**.

The effect of changing conditions on equilibrium (HT)

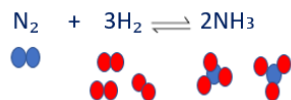
If a system is at equilibrium and a change is made to the conditions, then the system responds to counteract the change.

E.g. – if the temperature is increased, then the system will respond by increasing the rate of the endothermic reaction, to bring the temperature back down

If the concentration of the reactants is increased, then equilibrium will shift right and more products will be made.

In gaseous reactions, a change in pressure will result in equilibrium shifting to the side that restores the pressure.

E.g. :

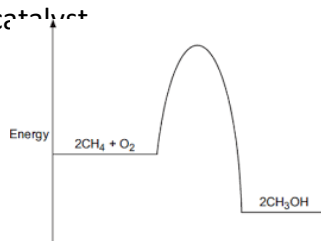


In this reaction, there are 4 moles of gas on the reactants side and only 2 on the product side. If the pressure is increased, equilibrium will shift right as there are fewer moles on the products side, and this will decrease the pressure.

T1 Y11 a2 and a3 Science/Chemistry C6 – Rate and extent of chemical change

1. What is a catalyst?
2. How do they speed up reactions?

3. Draw on the energy level diagram below to show how it would change in the presence of a catalyst



1. What is a reversible reaction?
2. What symbol is used in an equation to represent a reversible reaction?
3. If a reaction is endothermic in the forward direction, what does this tell us about the backward reaction?
4. If 300J of energy is absorbed during an endothermic reaction, how much will be released in the opposite direction?
5. What is equilibrium?

1. When a change is introduced into a closed system, what does the system respond in order to do?
2. If the temperature of a reaction mixture at equilibrium is increased, what would the change aim to do?
3. What sort of reaction would achieve a drop in temperature?
4. If the pressure is increased in a gaseous reaction, which way would equilibrium shift?

Side with fewest moles/side with most moles

T1 Y11 a2 and a3 Science/Physics P5 – Forces

Scalar and Vector Quantities

Scalar quantities – have **magnitude** only
e.g. temperature, mass and speed.

Vector quantities – have both **magnitude** and **direction**
e.g. velocity, displacement.

Vectors can be shown using **arrows**:

Size of arrow = magnitude of the quantity

Direction of arrow = direction of quantity

Contact and Non-Contact Forces

Force = a push or pull that acts on an object due to interaction with another object.

All forces are either:

- **Contact forces** – objects are physically touching
e.g. friction, air resistance, tension and normal contact force.
- **Non-Contact forces** – objects are physically separated
e.g. gravitational force, electrostatic force and magnetic force.

- Forces are **vectors** – shown by arrows.



Gravity

Weight = the **force** acting on an object due to gravity.

- Gravity close to Earth is due to the gravitational field.

- Weight of an object depends on the gravitational field strength at the point where the object is.

Weight can be calculated using:

weight = mass x gravitational field strength

$$W = m \times g$$

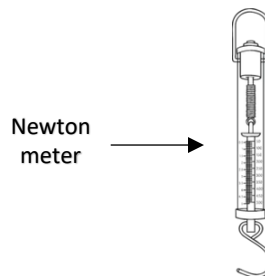
Diagram showing the units for each term in the equation $W = m \times g$:

- W (Weight) is measured in **Newton (N)**.
- m (mass) is measured in **Kilograms (kg)**.
- g (gravitational field strength) is measured in **Newton per kilogram (N/kg)**.

- Earth's gravitational field strength = 9.8 N/kg

- Weight of an object can be considered to act at a single point = object's '**centre of mass**'

- Weight can be measured using a **newton meter**.



Resultant Forces

Resultant force = The sum of all forces or overall force acting on an object



Bike is being pushed forward with a force of 13N but there are resistive forces of 13N backwards.

Resultant force = 0N

What happens to the motion depends on what the bike was doing before these forces were applied:

- If the bike was stationary, it will stay stationary
- if the bike was moving, it will continue to move at a constant velocity



Car is being pushed to the left by a force of 350N. It is also pushed to the right by 500N.

Resultant force is: 500N – 350N = 150N

What happens to the motion depends on what the car was doing before these forces were applied:

- If the car was stationary, it will **accelerate** to the right
- If the car was already moving to the right, it will move faster (**accelerate**)
- If the car was moving to the left (ie reversing), it will slow down (**decelerate**)

T1 Y11 a2 and a3 Science/Physics P5 – Forces

1. What is a scalar quantity?

2. Give 2 examples of a scalar quantity.

4. Give 2 examples of a vector quantity.

1. Define weight.

2. What does the weight of an object depend on?

3. Give the equation which links gravitational field strength, mass and weight?

4. What is 'centre of mass'?

5. How can weight be measured?

6. What is the value for Earth's gravitational field strength?

1. What is a resultant force?

2. What happens to a moving object if the forces are balanced?

3. What does 'decelerate' mean?

4. If an object is stationary and there is a 0N resultant force, what happens to the object?

5. What is needed to make an object accelerate?

1. What is a force?

2. Describe what is meant by a 'contact force'

3. Give 2 examples of contact forces.

4. Give 2 examples of non-contact forces.

5. Are forces scalar or vectors?

T1 Y11 a2 and a3 Science/Physics P5 – Forces

Vector Diagrams (HT only)

- Used to calculate resultant forces that are not acting directly opposite each other, on a straight line.

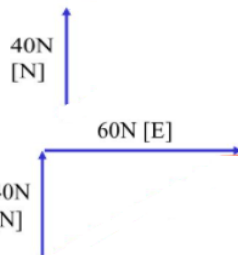
Rules ('tip to tail'):

- Draw first vector to scale, in the direction stated
- Draw second vector, from the tip of the first one in the direction stated.
- Join the two lines in a triangle and measure the resulting line
- Convert length to force using your scale – this is the resultant force

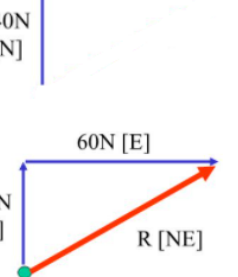
Example:

Two forces act on an toy boat - 40N acting north, 60N acting East. Calculate the resultant force and state the direction.

1. Draw the first vector to scale



2. Draw 2nd vector from tip of the first one. Again, to scale.



3. Join the two lines. Measure the resulting line.

Resultant force = 72N NE

Work done and Energy Transfer

- When a force acts on an object and makes it move – **work is done**.

Work done = energy transferred

Work done is calculated by:

$$\text{work done} = \text{force} \times \text{distance}$$

$$W = F \times s$$

Joules (J) Newtons (N) Metres (m)

- One joule of work is done when a force of one newton causes a displacement of one metre.
- 1 joule = 1 newton-metre

e.g A climber and his gear weigh 750N Calculate the energy transferred top of the cliff

$$W = F s$$

$$W = 750 \times 20\text{m}$$

$$W = 15000\text{J}$$



- Work done against the frictional forces acting on an object causes a rise in the temperature.



Forces and Elasticity

- When work is done on an elastic object (e.g. stretching or compressing a spring), energy is stored as elastic potential energy.

Elastic deformation:

- When force is applied, object changes shape and stretches.
- When the force is no longer applied, object returns to original shape.

Inelastic deformation = stretched beyond limit – will not return to original shape and size.

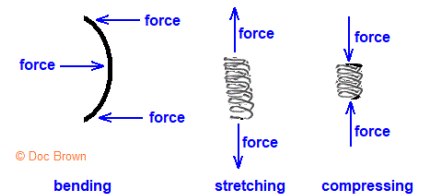
Force = spring constant x extension

$$F = k \times e$$

Newtons (N) Newtons per metre (N/m) Metres (m)

Two forces are needed to stretch or compress

Forces acting on an elastic material (steel strip, spring)



Work done in stretching (or compressing) a spring:

elastic

$$\text{potential} = 0.5 \times \text{spring constant} \times (\text{extension})^2$$

energy

$$E_e = \frac{1}{2} \times k \times e^2$$

T1 Y11 a2 and a3 Science/Physics P5 – Forces

1. What are vector diagrams used to calculate?

2. Where do you draw the second force from?

3. Two forces act on a boat, pulling it along. The first force is 3N North and the second is 4N East. Follow the rules and draw the forces acting from the point of origin below:



4. What is the resultant force on the boat?

1. When is work done?

2. Give the equation which links distance, force and work done?

3. What is work done the same as?

4. Complete this sentence: One joule of work is done when...

5. What is the relationship between joules and newton-metres?

6. What does work done against the frictional forces acting on an object cause?

1. When an elastic object is stretched or compressed, which energy store is filled?

2. What is 'elastic deformation'?

3. What is 'inelastic deformation'?

4. What happens to a stretched spring when the force is removed?

5. What is the equation linking extension, force and spring constant

6. How many forces are needed to stretch or compress an object?

T1 Y11 a2 and a3 Science/Physics P5 – Forces

Required Practical

Aim: Investigate the relationship between force and extension for a spring (or any elastic object, eg elastic band)

Method

1. Hang a spring from a clamp and stand
2. Measure original length of the spring and record this.
3. Attach a 100g mass – record the new length of the spring.
4. Continue adding 100g masses recording the length each time, up to a total of 500g.
5. Work out the extension for each mass using:

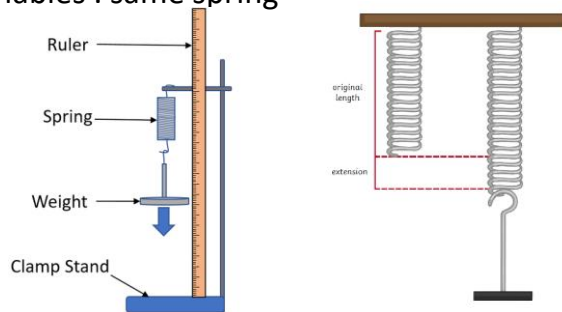
final length – original length

6. Repeat steps 1-5 twice and calculate a mean
7. Plot a line graph with extension (m) on the x-axis and force (N) on the y-axis.

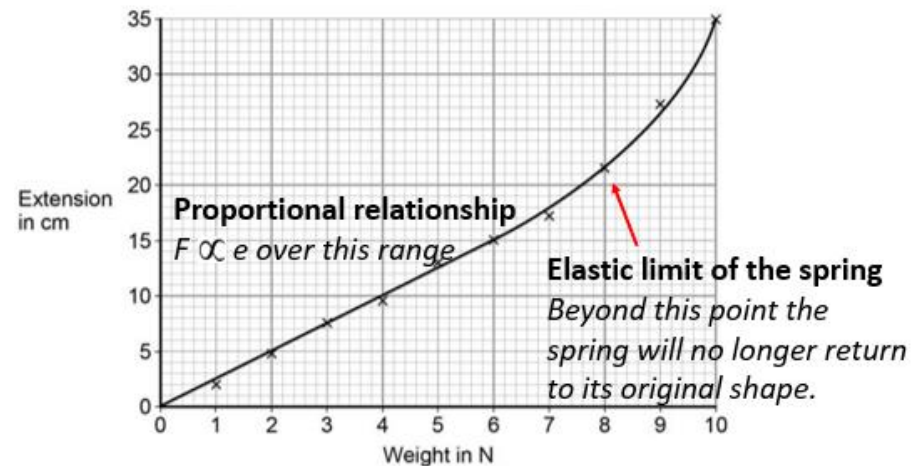
Independent variable : mass on the spring

Dependent variable : extension of the spring

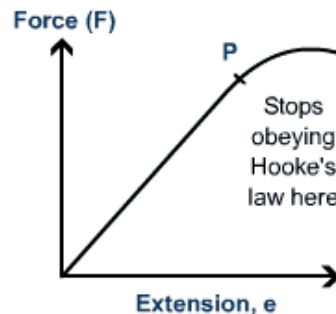
Control variables : same spring



Results :



- There is a proportional relationship (shown by a straight line through the origin) at first.
- This means: **Force $\propto$ Extension** ($F \propto E$)
- However, there comes a point when the 'elastic limit' of the spring is reached. This is also known as the **limit of proportionality**.
- If more force is applied after this, relationship is **no longer proportional**.
- After this point, the spring will not return to its original shape and size when the force is removed.

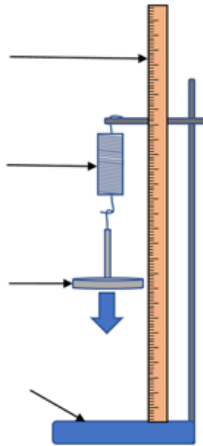


You may see the graphs with the axes switched – with extension on X and force on Y.

gradient of linear part = spring constant, k, for the spring being used.

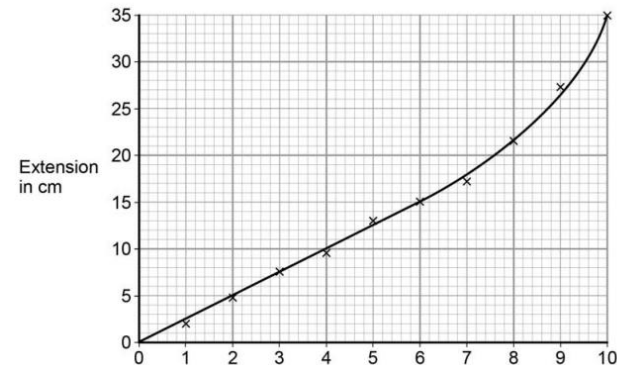
T1 Y11 a2 and a3 Science/Physics P5 – Forces

1. What is the independent variable in the investigation into the effect of force on extension of a spring?
2. What is the dependent variable?
3. How is the dependent variable measured?
4. What range of masses could be used?
5. Label the equipment used to investigate the stretching of a spring below:

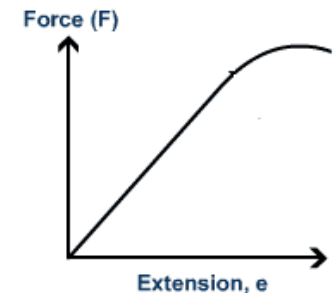


6. Why are repeated readings taken for each mass?

1. Label the X axis for the graph below, including units



2. Label the part of the graph that shows force is directly proportional to extension
3. Label the limit of proportionality for this spring
4. What is the symbol for 'proportional'?
5. How could you use a graph like this to calculate the spring constant of this spring?



T1 Y11 a2 and a3 Science/Physics P5 – Forces

Distance and Displacement

Distance

- How far an object moves
- Does not involve direction
- Distance = scalar quantity

Displacement

- Includes both the **distance** an object moves, measured in a straight line, from start to finish point and the **direction** of that straight line.
- Displacement = vector quantity

Speed

You should be able to recall the following typical speeds.

Activity	Typical Speed (m/s)
Walking	1.5
Running	3
Cycling	6
A car	25
A train	55
Speed of sound	330

Calculating speed:

$$\text{speed} = \text{distance} \times \text{time}$$

E.g. A car travels 100 metres in 3.8 seconds. What is the average speed?

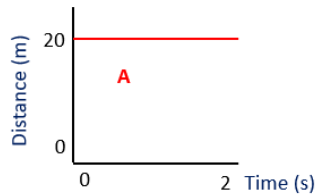
$$v = s/t$$

$$v = 100 \text{ m} / 3.8 \text{ s}$$

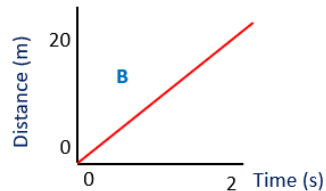
$$v = 26 \text{ m/s}$$

Distance time graphs

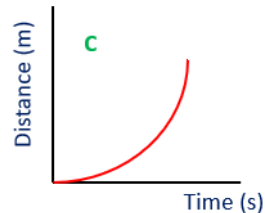
Distance time graphs show the motion of an object
The gradient tells us the speed of the object



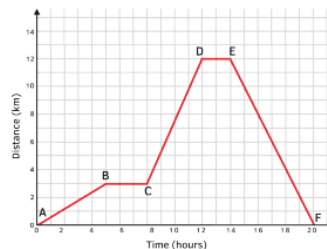
Object is stationary
(distance not changing)



Object is travelling
at constant speed
 $v = 20/2$
 $v = 10 \text{ m/s}$



Object is accelerating
(HT only) Speed can be calculated by:
- Drawing a **tangent**
and finding the **gradient** of the tangent



A journey generally
has different speeds.
Average speed can be
calculated by using
total distance ÷ time

Velocity and Acceleration

Velocity & acceleration = vector quantities

1. Velocity = **speed** in a given **direction**
 - positive velocity = forwards (eg +5 m/s)
 - negative velocity = backwards (eg -5 m/s)
2. Acceleration is a **change in velocity**
 - positive acceleration = speeding up
 - negative acceleration = slowing down

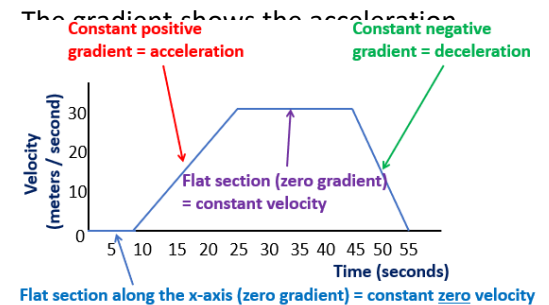
Average acceleration of an object can be calculated using:

$$\text{acceleration} = \frac{\text{final velocity} - \text{initial velocity}}{\text{time taken}}$$

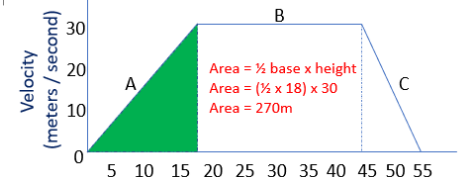
Units for acceleration are m/s^2

Velocity time graphs

Show how velocity changes during a journey



HT only - area underneath a velocity time graph is the distance travelled by an object



T1 Y11 a2 and a3 Science/Physics P5 – Forces

1. What type of quantity is distance?
2. What is 'displacement'?
3. Why is displacement a vector quantity?

Speed

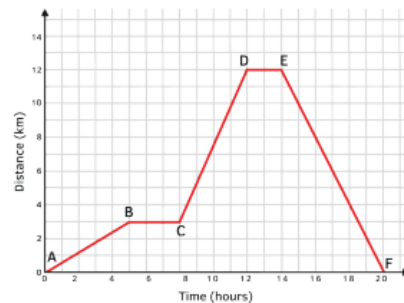
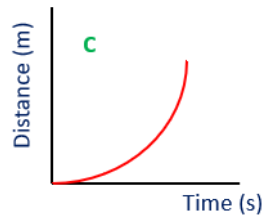
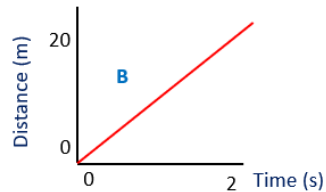
1. Complete the table:

Activity	Typical Speed (m/s)
Walking	
Running	
	6
A car	
	55
Speed of sound	

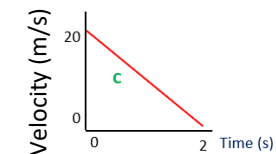
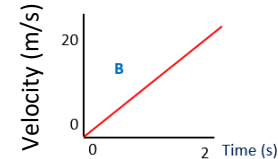
2. What is the equation linking distance, speed and time?

3. What are the units for speed?

1. Describe the motion of the objects:



1. Define velocity and acceleration. Give the units.
2. What does a negative velocity indicate?
3. What does a negative acceleration indicate?
4. What is the equation linking acceleration, final velocity, initial velocity and time?
5. Describe the motion of the objects shown in the graph (include numbers if you can!)



5. How do you calculate acceleration from a velocity time graph?
6. (HT) What does the area under the line on a velocity time graph show?

T1 Y11 a2 and a3 Science/Physics P5 – Forces – Required Practical - Acceleration

Aim: To investigate the effect of **varying force** on the acceleration of an object of constant mass.

You may be given any of the following apparatus set-ups to conduct these investigations:

Independent variable = force applied

Dependent variable = acceleration

Control variables = mass of toy car and surface car is on.

Method (using toy car)

1) Place the car on a ramp. Incline the ramp until the car just does not move. This is to remove as much of the effect of friction as possible.

2) Set up a light gate at the end of the ramp

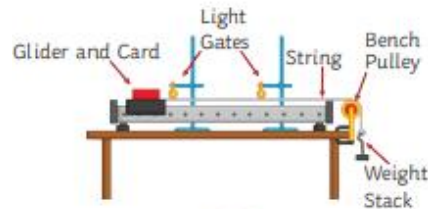
3) Place a 1N weight on the pulley attached to the toy car.

4) Allow the weight to drop and read the acceleration of the car from the light gate

5) Repeat the experiment several times, decreasing the weight on the pulley each time (e.g. 0.8N, 0.6N, 0.4N etc.) Place the removed mass onto the car to keep the mass of the system constant

Results

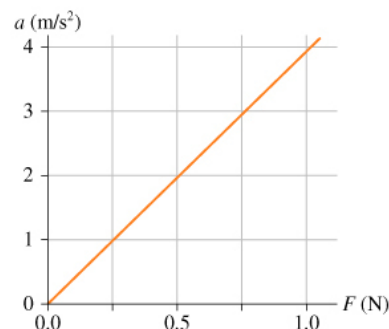
Acceleration is proportional to force applied



or



or



Aim: Investigate the effect of **varying mass** of an object on the acceleration produced by a constant force.

You may be given any of the following apparatus set-ups to conduct these investigations:

Independent variable = mass of glider

Dependent variable = acceleration of glider

Control variables = force applied and surface car is on

Method (using glider)

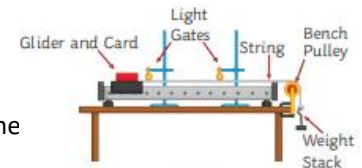
1) Place the glider on the track. Switch on the air blower and adjust until the glider just doesn't move. This is to remove as much of the effect of friction as possible.

2. Set up a light gate at the end of the air track

3) Add a 10g mass onto the glider. Place a 1N weight on the pulley attached to the glider and let go.

4) Record the acceleration from the light gate

5) Repeat the experiment several times, increasing the mass on the glider each time (e.g. 20g, 30g, 40g etc.) whilst keeping the weight (1N) on the pulley constant.



or

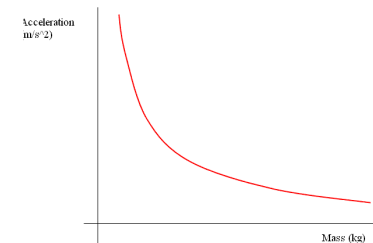


or



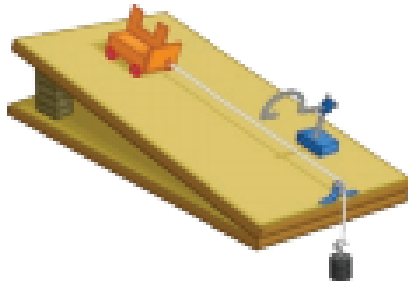
Results

Acceleration is inversely proportional to mass



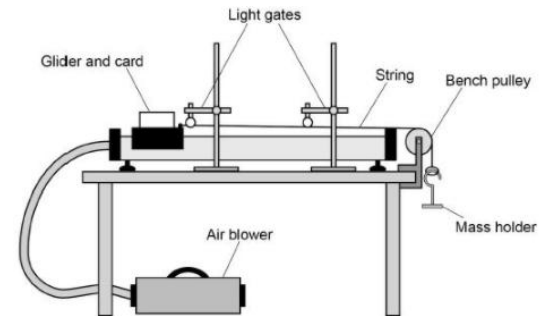
T1 Y11 a2 and a3 Science/Physics P5 – Forces – Required Practical - Acceleration

A student was investigating the effect of changing the force on the acceleration of a toy car down a ramp, using the equipment shown below:



1. What provides the force for the car to move?
2. Why is the ramp tilted?
3. What is the independent variable in the investigation?
4. What is the dependent variable?
5. How is force changed during the experiment?
6. What is the name of the piece of equipment shown that measures the acceleration?
7. How is mass kept constant throughout the experiment?
8. What relationship do you expect to see between force and acceleration?

A student was investigating the effect of changing the mass of an object on the acceleration, using the equipment shown below



1. What is the independent variable?
2. What is the dependent variable?
2. What variables need to be controlled?
4. Why is the air blower switched on?
5. Describe the relationship you would expect to find between mass and acceleration

T1 Y11 a2 and a3 Science/Physics P5 – Forces

Stopping Distance

Stopping distance = thinking distance + braking distance

- Greater the speed of vehicle – greater the stopping distance.

Thinking Distance (reaction time)

Thinking distance = distance travelled before driver reacts and presses brakes.

Reaction times are typically 0.2s to 0.9s

Factors that affect a driver's reaction time:

- Tiredness
- Drugs
- Alcohol
- Age
- Distractions (e.g. phone/music)

Momentum (HT only)

- Defined by the equation:

$$\text{momentum} = \text{mass} \times \text{velocity}$$

$$p = m \times v$$

Units:

momentum = kilograms metre per second (kg m/s)

mass = kg

velocity = m/s

- In a closed system, total momentum before an event is equal to the total momentum after the event – this is called **conservation of momentum**.

Braking Distance

Braking distance = the distance travelled by a vehicle once with **brakes are applied** until it reaches a full stop.

It can be affected by:

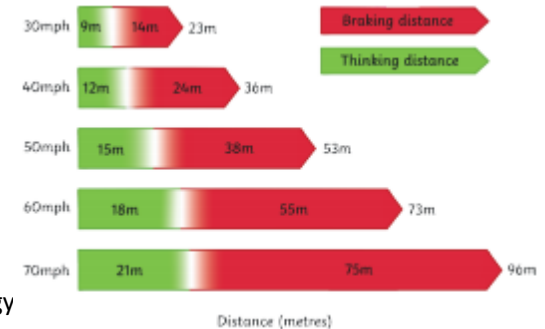
- wet/icy roads
- poor vehicle conditions (brakes/tyres)

When a force is applied to brakes, **work is done** by the friction between the car wheels and the brakes.

Work done – reduces the **kinetic energy store** and energy is transferred to **the thermal store of the brakes**, increasing their temperature.

Increased speed = increased force required to stop the vehicle

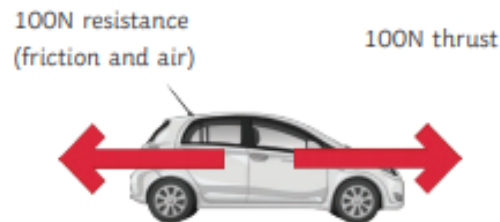
Very large decelerations can lead to brakes overheating and/or loss of control of the car.



Newton's First Law

If resultant force acting on object is zero:

- Stationary object will remain stationary
- Moving object will continue at a steady speed and in the same direction.



(HT only) Inertia = tendency of an object to continue in a state of rest or uniform motion (same speed and direction)

Newton's Second Law

Acceleration of an object is proportional to resultant force acting on it and inversely proportional to the mass of the object

Resultant force = mass x acceleration

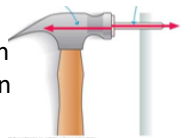
$$F = m \times a$$

(HT only) Inertial mass = how difficult it is to change an object's velocity. Defined as ratio of force over acceleration.

Newton's Third Law

When two objects interact, forces acting on each other are always equal and opposite.

e.g. a hammer hitting a nail
The hammer exerts a force on the nail, and the nail exerts an equal and opposite force on the hammer.



T1 Y11 a2 and a3 Science/Physics P5 – Forces

1. What is stopping distance?

2. What is the equation linking braking distance, stopping distance and thinking distance?

3. What is the typical reaction time range of a human?

4. What factors may affect a driver's reaction time?

1. What is 'braking distance'?

2. What factors affect braking distance?

3. Describe the energy transfers when brakes are applied to stop a moving car

4. Why are large decelerations dangerous?

1. What is the equation linking mass, momentum and velocity?

2. What are the units for momentum?

3. What happens to total momentum during a collision or explosion?

1. What happens to a stationary object when the resultant force acting on the object is zero?

2. What happens to a moving object when the resultant forces are zero?

3. (HT) What is inertia?

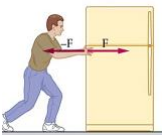
1. State Newton's second law.

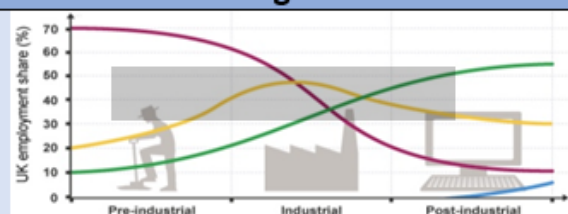
2. What is the equation linking acceleration, force and mass?

3. What is inertial mass? (HT)

1. State Newton's third law.

2. Describe the forces acting in the picture



**1. Economic change in the UK**

Primary	↓ due to mechanisation.
Secondary	↑ due to industrial revolution then ↓ due to de-industrialisation.
Tertiary	↑ due to wealth (↑ disposable income)
Quaternary	High-tech jobs including research and IT. ↑ due to government policies and the increase in technology.

Why has our economy changed?

De-industrialisation	The decline of a country's traditional manufacturing industry due to exhaustion of raw materials, loss of markets and competition from NEEs.
Government policies	A plan decided by a government to manage issues in a country.
Globalisation	The process which has created a more connected world; with increases in the movement of goods/people worldwide

2. Post industrial economy

Tertiary and quaternary sector employed 81% in 2011.	
IT	Employs over 60,000 people.
Services	Retail is the largest sector. Employs 4.4mill
Finance	London is the world's leading centre. HSBC
Research	Government invested £30bill in 2013.
Science parks	Groups of <u>high tech</u> industries and those doing scientific research. Located near universities (for graduates, share facilities).
Business parks	Purpose built areas of offices and warehouses (on edge of cities as less congestion, cheaper, good transport links).

3. Environmental impact of industry

Air and water pollution. Soil degradation.	
Releases CO ₂ increasing the rate of global warming.	
Transport of materials is by road → air pollution.	
Example of modern industry being environmentally sustainable	
Google	London Landscaper started 2018.
686 bikes spaces	Encourages cycling to work.
4 car spaces	< congestion/CO ₂ emissions.
Solar panels.	Reduces fossil fuel consumption and reduces carbon footprint.
19,800 kWh	
Rooftop gardens	Urban greening. < CO ₂ . Collects rainwater. Encourages wildlife.

4. Changes in the rural landscape

Population decline	Outer Hebrides (away from cities, limited opportunities).
Social changes	↓ Declined by >50% since 1901. ↓ ↑ aging population = care issues. ↓ Less children > schools shut.
Economic changes	↓ Services close ie post offices. ↓ ↑ tourists but infrastructure not there. ↓ Government subsidies cost of ferries.
Population growth	South Cambridgeshire (near large cities, people can commute).
Social changes	↓ Migrants from Cambridge, some now from Eastern Europe too. ↓ Proportion of elderly increasing (>65). ↓ 80% car ownership = > congestion. ↓ Young people are costed out.
Economic changes	↓ ↑ house prices. Less affordable housing ↓ Petrol prices ↑.

5. Improvements in infrastructure

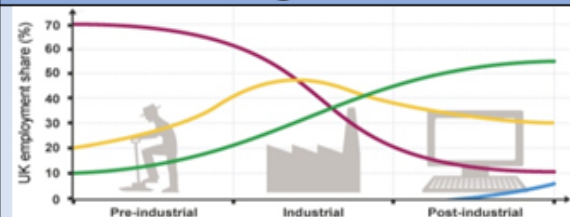
Road	Upgrading 'Smart motorways' M4. Variable speeds, reducing accidents, extra lanes. 2014 Road investment strategy £15 bill. New construction jobs, boost economy.
Rail	Crossrail in London. Puts extra 1.5 million within 45 mins commute of capital city. HS2 to reduce journey times. London to Manchester in 1 hr 8 minutes.
Port	Liverpool 2. Doubles capacity to over 1.5 million containers a year. 96% of UK imports/exports through ports.
Airports	Heathrow expansion. 3 rd runway £18.6bill

6.. North-South divide

Causes	Decline of heavy industry in North (coal) Investment in finance and service industry in the South Investment in infrastructure in South
Impacts in north	Higher unemployment / lower wages (40%) Poor health, lower life expectancy (10 yrs) Poor education. There are SOME exceptions

Strategies attempting to resolve regional differences

Devolving more powers	Give more power to local councils and Welsh and Scottish governments. Plan best how to use their money.
Northern Powerhouse	A plan to attract investment to north. Improve transport links to northern cities. e.g. HS2, Liverpool2. BUT just a CONCEPT not a plan.
Enterprise Zones	55 EZs to encourage businesses to set up in areas of high unemployment. Reduce taxes, simple planning rules, superfast broadband to the area. Created more than 15,000 jobs.

**1. Economic change in the UK**

Primary	
Secondary	
Tertiary	
Quaternary	

Why has our economy changed?

De-industrialisation	
Government policies	
Globalisation	

2. Post industrial economy

Tertiary and quaternary sector employed 81% in 2011.

IT	
Services	
Finance	
Research	
Science parks	
Business parks	

3. Environmental impact of industry**Example of modern industry being environmentally sustainable**

Google	
686 bikes spaces 4 car spaces	
Solar panels. 19,800 kWh	
Rooftop gardens	

4. Changes in the rural landscape

Population decline	
Social changes	
Economic changes	
Population growth	
Social changes	
Economic changes	

5. Improvements in infrastructure

Road	
Rail	
Port	
Airports	

6.. North-South divide

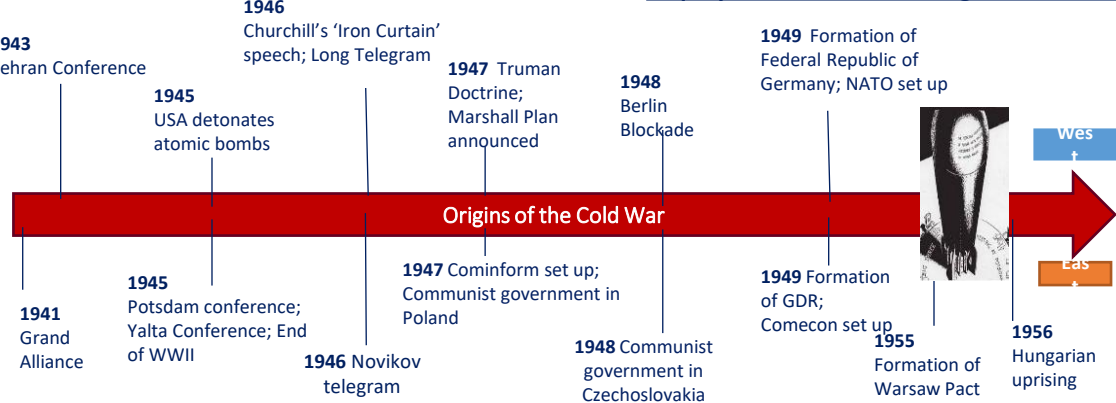
Causes	
Impacts in north	

Strategies attempting to resolve regional differences

Devolving more powers	
Northern Powerhouse	
Enterprise Zones	

Knowledge Organiser Paper 2, Section A: Superpower Relations and the Cold War, 1941-91

Enquiry 1: What were the origins of the Cold War?

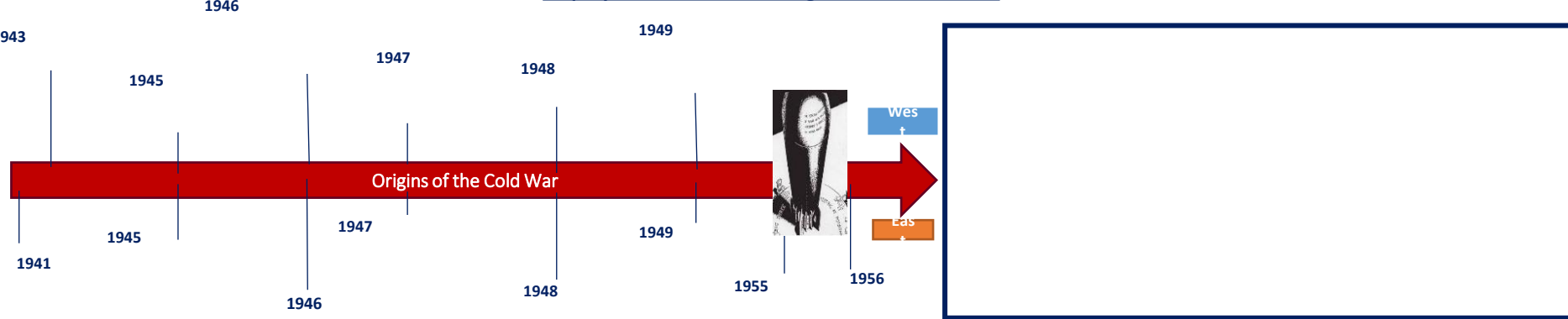


During World War II the alliance between the USA, Britain and the Soviet Union was very much one of necessity. But as it became clear that the Nazi threat had been defeated, the alliance became an uneasy one. Wartime conferences saw distrust between the western leaders and the communist dictator, Stalin, who wanted security against future invasion by controlling eastern Europe. The West feared the spread of Soviet Communism and the Cold War would begin as the West began to attempt to contain its spread. A rivalry between East and West developed between 1947 and 1949 that intensified the Cold War. President Truman set out his doctrine to contain Communism and introduced the Marshall Plan to provide economic aid. Stalin's retaliation to Truman ultimately led to the first crisis of the Cold war – the Berlin Blockade. This led to an increase in tensions going forward as it brought about the formation of rival military alliances - NATO and the Warsaw Pact. Tensions increased further when the Soviet response to an uprising in Hungary led to a brutal military response that shocked the West.

Enquiry 1 Keywords:			
Alliance When two or more countries agree to work together	Containment The US policy of stopping Communism from spreading	ICBM Inter-continental ballistic missile	Superpower An unusually strong country
Arms Race When countries compete against each other to make more powerful weapons	De-Stalinisation The policy of eradicating the influence of Stalin's dictatorship	Marshall Plan Loans from the USA to Europe for reconstruction after WWII	Trizonia The name for the joined German zones of the western allies
Capitalism Where trade and industry are run by private individuals for profit	Deterrent Something that prevents one country from attacking another	NATO A military alliance in the west	Truman Doctrine The idea that it was the USA's duty to contain communism
Comecon Council for Mutual Economic Assistance	Federal Republic of Germany Under western control, known as West Germany	Satellite States Countries that came under direct control of the Soviet Union after WWII	United Nations An international organisation set up in 1945 to maintain peace around the world
Cominform Communist Information Bureau	German Democratic Republic Under Soviet control, known as East Germany	Soviet Union A group of Communist countries controlled by Russia	Uprising When the people in a country become so unhappy that they rebel against the government
Communism Where the state owns trade and industry and profits are shared among citizens according to need	H-Bomb To Hydrogen bomb	Sphere of Influence Region of the world in which one Superpower is dominant	Warsaw Pact A military alliance in the east

Key people:	
Churchill	Prime Minister of Britain. Distrusted Stalin and saw his role as preventing the Soviet Union taking control of eastern Europe.
Roosevelt	President of the USA. Believed strongly in democracy. Wasn't as tough on Stalin in peace negotiations as he believed long-term peace would only come with acceptance of the Soviet Union as a superpower.
Stalin	Authoritarian leader of the Soviet Union Believed the West wanted to destroy Communism, so the Soviet Union had to stand firm in negotiations.
Truman	Took over from Roosevelt as President of the USA in 1945. Differed from Roosevelt in that he totally distrusted Stalin and was determined to stand up to him.

Enquiry 1: What were the origins of the Cold War?



Enquiry 1 Keywords:			
Alliance	Containment	ICBM	Superpower
Arms Race	De-Stalinisation	Marshall Plan	Trizonia
Capitalism	Deterrent	NATO	Truman Doctrine
Comecon	Federal Republic of Germany	Satellite States	United Nations
Cominform	German Democratic Republic	Soviet Union	Uprising
Communism	H-Bomb	Sphere of Influence	Warsaw Pact

Key people:	
Churchill	
Roosevelt	
Stalin	
Truman	



26-27 TERM 1Year 11 KO

Topic: Neighbourhood and global issues

5.2G ¿Qué se puede hacer donde vives?

el barrio	neighbourhood, area
la biblioteca	library
la bolera	bowling alley
el bolso	handbag
la carnicería	butcher's
el césped	lawn
el collar	necklace
descansar	to rest
el dinero	money
divertirse	to enjoy oneself, to
have a good time	
el estanco	tobacconist's (also sells stamps)
los grandes almacenes	department stores
la joyería	jeweller's
la juguetería	toy shop
el mercado	market
la muñeca	doll
el museo	museum
la panadería	baker's
el parque	infantile park, playground
la pastelería	cake shop
los pendientes	earrings
la plaza de toros	bull ring
la ropa (de marca)	(designer) clothes
la tienda de comestibles	grocery store, food

What we are learning this term:

- A. Saying what your house is like
- B. Describing your house and where it is
- C. Talking about the amenities in your area
- D. Discussing the advantages and disadvantages of living in the town and country

6 Key Words for this term

- | | |
|----------------|----------------|
| 1. vivir | 4. el hogar |
| 2. alojamiento | 5. la casa |
| 3. alquilar | 6. las afueras |

Key Verbs

Vivir To live	alquilar To rent	Comprar To buy	Hacer – to do/make	Mudarse To move
Vivo I live	Alquilo I rent	Compro I buy	Hago I do	Me mudo I move
Vives You live	Alquilas You rent	Compras You buy	Haces You do	Te mudas You move
Vive He/she lives	Alquila He/she rents	Compra He/she buys	Hace s/he does	Se muda He/she moves
Vivimos We live	Alquilamos We rent	Compramos We buy	Hacemos We do	Nos mudamos We move
Viven They live	Alquilan They rent	Compran They buy	Hacen They do	Se mudan They move

5.1G Mi casa

la alfombra	carpet, rug
el armario	cupboard, wardrobe
el ascensor	lift
la butaca	armchair
la cocina	kitchen, cooker, cuisine
cómodo	comfortable, convenient, handy
compartir	to share
el cuarto de baño	bathroom
el dormitorio	bedroom
los electrodomésticos (electrical) appliances	
la escalera	stairs
el espejo	mirror
la estantería	shelves, shelving unit
el fregadero	kitchen sink
la habitación	room
el lavabo	washbasin
la lavadora	washing machine
el lavaplatos	dishwasher
el microondas	microwave oven
la nevera	fridge
la pared	wall
el salón	lounge, living room
el sillón	armchair
el suelo	ground, floor
la terraza	terrace

5.2F Mi ciudad

la avenida	avenue
el ayuntamiento	Town Hall
bienvenido/a	welcome
el centro comercial	shopping centre
la ciudad	city, large town
el club de jóvenes	youth club
Correos	Post Office
construir	to build
convertirse en (+ noun)	to become
los espacios verdes	open spaces
la fábrica	factory
fundar	to found
el/la habitante	inhabitant
la iglesia	church
ir de compras	to go shopping
el país	country
la plaza	square (in a town)
el polideportivo	sports centre
el pueblo (small)	town, village, people
el puente	bridge
el puerto	port, harbour
el siglo	century

5.1H Mi casa y mi barrio

abajo	under, downstairs
amplio/a	spacious, roomy
arriba	above, upstairs, up
el balcón	balcony
la calefacción	heating
la cocina amueblada	fitted kitchen
el comedor	dining room
el comercio	business, shop
imprescindible	essential, indispensable
inferior	lower
el jardín	garden
lujoso/a	luxurious
la mascota	pet
la piscina	swimming pool
la planta	floor (of a building), plant
la planta baja	ground floor
superior	upper, higher
la tienda	shop
la torre	tower, tower block
la vista	view, sight

5.1F ¿Cómo es tu casa?

las afueras	outskirts
antiguo	old
el árbol	tree
el campo	countryside,
field, sports ground	
el chalet / chalé	bungalow, detached
house, villa	
la costa	coast
el estante	shelf
encontrar	to find
encontrarse	to be situated
encontrarse con	to meet up with
la granja	farm
guardar	to keep, to put
away, to save	
la librería	bookcase, bookshop
la montaña	mountain
el mueble	piece of furniture
los muebles	furniture
peor	worse

GCSE Unit 5 SPANISH Knowledge organiser.
Topic Home, Town, Neighbourhood and Region

What we are learning this term:

- A. Saying what your house is like
- B. Describing your house and where it is
- C. Talking about the amenities in your area
- D. Discussing the advantages and disadvantages of living in the town and country

6 Key Words for this term

- | | |
|----------------|----------------|
| 1. vivir | 4. el hogar |
| 2. alojamiento | 5. la casa |
| 3. alquilar | 6. las afueras |

5.1G Mi casa

la alfombra	_____
el armario	_____
el ascensor	_____
_____	armchair
la _____	kitchen, cooker, cuisine
_____	comfortable, convenient, handy
compartir	_____
el cuarto de baño	_____
el dormitorio	_____
los _____	(electrical) appliances
la _____	stairs
el espejo	_____
la _____	shelves, shelving unit
la fregadero	_____
la habitación	_____
_____	washbasin
_____	washing machine
el lavaplatos	_____
el microondas	_____
la _____	fridge
la pared	_____
el salón	_____
el _____	armchair
el _____	ground, floor
la terraza	_____

5.2G ¿Qué se puede hacer donde vives?

el _____	neighbourhood, area
la biblioteca	_____
la _____	bowling alley
el _____	handbag
la carnicería	_____
el _____	lawn
_____	necklace
descansar	_____
_____	money
_____	to enjoy oneself, to
have a good time	_____
el _____	tobacconist's (also sells
stamps)	_____
los grandes almacenes	_____
la joyería	_____
la _____	toy shop
el mercado	_____
_____	doll
el _____	museum
la panadería	_____
_____	infantil park, playground
la _____	cake shop
los pendientes	_____
la plaza de toros	_____
la ropa (de marca)	_____
la tienda de comestibles	_____

5.2F Mi ciudad

la avenida	_____
el ayuntamiento	_____
bienvenido/a	_____
_____	shopping centre
_____	city, large town
el club de jóvenes	_____
Correos	_____
construir	_____
convertirse en (+ noun)	_____
los _____	open spaces
la _____	factory
_____	to found
el/la habitante	_____
la iglesia	_____
_____	to go shopping
_____	country
la _____	square (in a town)
el _____	sports centre
el pueblo (small)	_____
el puente	_____
_____	port, harbour
el siglo	_____

Key Verbs

<u>To live</u>	<u>alquilar</u>	<u>Comprar</u> To _____	<u>Hacer –</u> _____	<u>Mudarse</u> To _____
Vivo _____	Alquilo _____	Compro _____	Hago I do	Me mudo _____
<u>You live</u>	<u>You rent</u>	<u>Compras</u> _____	<u>You do</u>	<u>You move</u>
Vive _____	Alquila _____	Compra He/she buys	Hace _____	Se muda _____
<u>We live</u>	<u>We rent</u>	<u>Compramos</u> _____	<u>Hacemos</u> _____	<u>Nos mudamos</u> _____
<u>They live</u>	<u>They rent</u>	<u>They buy</u>	<u>They do</u>	<u>They move</u>

5.1H Mi casa y mi barrio

_____	under, downstairs
_____	spacious, roomy
_____	above, upstairs, up
el balcón	_____
la calefacción	_____
la cocina amueblada	_____
el _____	dining room
el _____	business, shop
_____	essential, indispensable
inferior	_____
el jardín	_____
lujoso/a	_____
_____	pet
_____	swimming pool
_____	floor (of a building), plant
la planta baja	_____
superior	_____
la _____	shop
la _____	tower, tower block
la _____	view, sight

5.1F ¿Cómo es tu casa?

_____	outskirts
antiguo	_____
el _____	tree
el campo	countryside
field,sports ground	_____
el chalet / chalé	_____ house, villa
la costa	_____
el _____	shelf
_____	to find
_____	to be situated
_____	to meet up with
la granja	_____
_____	to keep, to put
away,to save	_____
la _____	bookcase, bookshop
la _____	mountain
el mueble	_____
los _____	furniture
peor	_____

GCSE Unit 5 SPANISH Knowledge organiser. Topic Home, Town, Neighbourhood and Region

Translation Practice. G – blue F – orange H - Green	
La nevera _____ en la cocina	The fridge is in the kitchen
¿Dónde _____ el cuarto de baño?	Where is the bathroom?
En ____ casa hay muchos libros.	In his / her house there are many books.
Creo que esta _____ es muy bonita.	I think that this house is very beautiful.
¿Qué _____ ?	What do you think ?
Estoy en _____ de esto.	I am against this.
Los libros están _____ de la mesa	The books are under the table
Vivo muy _____ de la ciudad	I live very far away from the city
Mi abuelo vive en el _____	My grandfather lives in the countryside
La _____ está debajo de la ventana.	The bookcase is under the window
La casa de mi amigo _____ cerca del colegio	My friend's house is near the school
Mi casa está _____ de la costa	My house is near to the coast
¿Cómo es tu _____ casa?	What is your new house like?
Es un _____ moderno	It's a modern apartment
_____ vivir en la ciudad	I prefer to live in the city
_____ falta un ascensor	It's missing a lift
¿Dónde _____ exactamente?	Where is it exactly?
Si _____ hay vistas del mar	If there are sea views

Key Questions: Answer the following in your own words. Use these model answers	
¿Cómo es tu casa y describe la casa de tus sueños? ¿Compartes piso? ¿Qué piensas de tu casa?	Vivo en una casa adosada en las afueras de Swindon. Mi casa tiene dos plantas. Abajo tenemos una cocina grande, un cuarto de baño pequeño y el salón acogedor. Arriba tenemos el dormitorio de mis padres y mi dormitorio. También tenemos un jardín enorme detrás del jardín con muchos árboles y flores. La casa de mis sueños estaría en los Estados Unidos, cerca de Los Ángeles en California. La casa de mis sueños estaría en la costa cerca de una playa bonita. La casa tendría una piscina enorme, cuatro plantas y un garaje doble. Habría mucho espacio para todas mis cosas y todos mis coches. No tengo que compartir mi dormitorio pero cuando era joven tenía que compartir mi dormitorio con mi hermano Lo que me gusta de mi casa es que está cerca de mis amigos y es bonito y caliente en invierno. Lo que me molesta de mi casa es que la cocina es muy vieja (tenemos que renovar la cocina) y también lo que odio es que no tenemos mucho espacio en el salón.
¿Cómo es tu habitación, donde está tu casa exactamente?	Mi habitación está arriba/en la segunda planta. Mi habitación está cerca del cuarto de baño y la habitación de mis padres. Me encanta mi habitación porque no tengo que compartir con mi hermano. Me encanta mi habitación porque tengo muchos posters de mis grupos favoritos y mi consola porque me encanta jugar con video-juegos.
¿Cómo es/era tu pueblo/región ahora/antes y como era en el pasado? ¿tu opinión de tu pueblo? ¿Qué puedes hacer en tu pueblo? ¿Qué hay en tu pueblo?	Mi pueblo se llama Swindon. Está en el sur-oeste de Inglaterra. Creo que mi pueblo es muy industrial y poco bonito. En el centro hay muchas tiendas de ropa donde se puede ir de compras durante el fin de semana. También hay buenas instalaciones si te gusta hacer deporte. Hay muchos polideportivos donde se puede ir al gimnasio, hacer musculación y hacer deportes de equipo. Antes el barrio era más bonito que ahora. Antes había muchas granjas y había mucho campo pero ahora hay más edificios, más industria y más contaminación del aire. Antes no había tanta contaminación del aire o basura en las calles pero ahora hay más basura y contaminación. Lo que me gusta/me chifla/me mola de mi barrio es que es/hay...

Key Grammar	
Forming the preterite (past tense). Always remove the –AR, -ER, -IR endings first	Remember the preterite (past) tense endings for –AR, -ER, -IR verbs. They are: -AR: -é, -aste,-ó, -amos, -astéis, -aron -ER: -í, -íste, -ió, -imos, -istéis, -ieron -IR : -í, -iste, -ió, -imos, -istéis, -ieron
Imperfect Tense (<i>Past, ongoing actions, descriptions, 'used to' or 'was doing'</i>)	-ar -aba, -abas, -aba, -ábamos, -abais, -aban -er and -ir -ía, -ías, -ía, -íamos, -íais, -ían
Future Tense ('will...')	All verb groups: -é, -ás, -á, -emos, -éis, -án <i>With this tense, do NOT take the verb ending away but ADD it on to the infinitive.</i>

GCSE Unit 6 SPANISH Knowledge organiser.

Topic Social Issues

What we are learning this term:

- A. Talking about different ways of volunteering
- B. Talking about charities and voluntary work
- C. Talking about healthy eating
- D. Talking about healthy and unhealthy lifestyles
- E. Listening for different tenses

6 Key Words for this term

- | | |
|--------------------|-----------------------|
| 1. un voluntario/a | 4. comedor social |
| 2. ecologista | 5. banco de alimentos |
| 3. los sin techo | 6. quiero |

6.1G ¿Quieres ser voluntario/a?

arreglar	to tidy, to fix, to arrange
ayudar (a)	to help (to)
el banco de alimentos	food bank
charlar	to chat
el comedor social	soup kitchen
el concurso	competition
cultivar	to grow, cultivate
disfrutar	to enjoy
ecologista	environmental
la gente mayor	old people
hogar	home
limpiar	to clean
marcar (un gol)	to score (a goal)
necesitado	needed, required
los necesitados	the needy
la organización benéfica	charitable organisation, charity
participar (en)	to take part (in)
pasarlo bien	to have a good time
proteger	to protect
la residencia de ancianos	old people's home
los "sin techo"	the homeless
el Tercer Mundo	the Third World
la tienda con fines benéficos	charity shop
/tienda solidaria	
el/la voluntario/a	volunteer

6.1F Me gustaría ayudar

agradecer	to thank
aprender	to learn
el asombro	amazement, surprise
contar (que)	to tell, to relate
el curso	school year, course
los/las demás	the others, the rest
esperar	to wait for, to hope, to expect
formar parte	to be part (of)
hacer la cama	to make the bed
el centro de menores	children's home
tutelados	
el idioma	language
inútil	useless
propósito	aim, purpose, objective
repartir	to deliver, to hand out
tener sueño	to be sleepy
la tienda solidaria	charity shop
útil	useful

6.2G ¿Comes bien?

acostarse	to go to bed
las bebidas alcohólicas	alcoholic drinks
las bebidas azucaradas	sugary drinks
borracho/a	drunk
el dolor	pain, ache
emborracharse	to get drunk
evitar	to avoid
glotón	greedy
la grasa	fat
grasiento/a	fatty, greasy
intentar (+ infinitive)	to try to
el ladrón	thief, robber
malsano	unhealthy
musulmán	Muslim
poco sano	not healthy
la ración	portion
saludable	healthy
sano	healthy

Key Verbs

Ayudar To help	Ir To go	Soportar To stand	Hacer – to do/make	Limpiar To clean
Ayudo I help	Voy I go	Soporto I can stand	Hago I do	Limpio I clean
Ayudas You help	Vas You go	Soportas You can stand	Haces You do	Limpias You clean
Ayuda He/she helps	Va s/he goes	Soporta He/she can stand	Hace s/he does	Limpia He/she cleans
Ayudamos We help	Vamos They go	Soportamos W can stand	Hacemos We do	Limpiamos We clean
Ayudan They help	Van They go	Soportan They can stand	Hacen They do	Limpian They clean

6.1H La importancia de hacer obras benéficas

andar	to walk
el bolsillo	pocket
contribuir	to contribute
dar asco	to nauseate
el dibujo	drawing
donar	to donate
en vías de extinción	threatened (threatened with extinction)
escaso/a	scarce
la exposición	exhibition
el ganador	winner
ganar	to win
gastar	to spend
las instalaciones	facilities
el medio ambiente	environment
las obras benéficas	charity, charitable works
la pérdida	loss
perteneciente a	belonging to
el/la político/a	politician
los recursos	resources
seropositivo/a	HIV positive
el sida	AIDS
temer	to fear

6.2H ¿Qué opinas?

aguantar	to put up with, to bear
asqueroso/a	disgusting
ataque cardíaco	heart attack
aumentar	to increase
el botellón	drinking party in the street
cada vez más	more and more
el cerebro	brain
el consumo	consumption
el corazón	heart
cuanto antes	as soon as possible
el/la drogadicto/a	drug addict
la edad	age
la encuesta	survey
enfrentar	to face
grave	serious
hacer daño a	to injure, to harm
el hígado	liver
nocivo/a	harmful
participar (en)	to take part (in)
pedir	to ask (for), to ask (someone to do something)
los primeros auxilios	first aid
prohibir	to prohibit, to forbid
provocar	to cause, to provoke
el pulmón	lung
reducir	to reduce
síndrome de abstinencia	withdrawal symptoms
el sobrepeso	excess weight, obesity
subir	to go up
el tabaquismo	addiction to tobacco
la venta	sale

Key Verbs				
To help	Ir	Soportar To stand	Hacer –	Limpiar To clean
Ayudo I _____	Voy I go	_____ I can stand	Hago _____	_____ I clean
_____ You help	Vas _____	Soportas _____	Haces You do	Limpias _____
Ayuda _____	_____ s/he goes	Soporta He/she can stand	_____ s/he does	_____ He/she cleans
Ayudamos We help	Vamos _____	Soportamos W can stand	Hacemos _____	Limpiamos _____
_____ They help	_____ They go	_____ They can stand	_____ They do	Limpian They clean

What we are learning this term:	
A. Talking about different ways of volunteering B. Talking about charities and voluntary work C. Talking about healthy eating D. Talking about healthy and unhealthy lifestyles E. Listening for different tenses	
6 Key Words for this term	
1. un voluntario/a	4. comedor social
2. ecologista	5. banco de alimentos
3. los sin techo	6. quiero

6.1G ¿Quieres ser voluntario/a?	
_____	to tidy, to fix, to arrange
_____	to help (to)
el banco de alimentos	_____
charlar	_____
el comedor social	_____
_____	competition
_____	to grow, cultivate
disfrutar	_____
ecologista	_____
_____	old people
_____	home
limpiar	_____
marcar (un gol)	_____
_____	needed, required
los necesitados	_____
la organización benéfica	_____
participar (en)	_____
_____	to have a good time
proteger	_____
la residencia de ancianos	_____
_____	_____
el Tercer Mundo	_____
la tienda con fines benéficos	_____
/tienda solidaria	_____
el/la voluntario/a	_____

6.1F Me gustaría ayudar	
agradecer	_____
_____	to learn
el asombro	_____
_____	to tell, to relate
_____	school year, course
los/las demás	_____
_____	to wait for, to hope, to
expect	_____
formar parte	_____
hacer la cama	_____
el centro de menores	_____
tutelados	_____
_____	language
_____	useless
_____	aim, purpose, objective
repartir	_____
_____	to be sleepy
la tienda solidaria	_____
útil	_____

6.2G ¿Comes bien?	
acostarse	_____
las bebidas alcohólicas	_____
las bebidas azucaradas	_____
_____	drunk
_____	pain, ache
_____	to get drunk
evitar	_____
glotón	_____
la grasa	_____
_____	fatty, greasy
intentar (+ infinitive)	_____
el ladrón	_____
_____	unhealthy
musulmán	_____
_____	not healthy
la _____	portion
saludable	_____
_____	healthy

6.1H La importancia de hacer obras benéficas	
andar	to _____
el _____	pocket
contribuir	to _____
_____	to nauseate
el dibujo	_____
donar	to _____
en _____	threatened (threatened
with extinction)	_____
escaso/a	_____
la _____	exhibition
el _____	winner
ganar	to _____
gastar	to _____
las _____	facilities
el medio ambiente	_____
las _____	charity, charitable works
la pérdida	_____
perteneciente a	_____
_____	politician
_____	resources
seropositivo/a	_____
_____	AIDS
temer	_____

6.2H ¿Qué opinas?	
_____	to put up with, to bear
asqueroso/a	_____
ataque cardíaco	_____
aumentar	to _____
el _____	drinking party in the
street	_____
cada vez más	_____
el _____	brain
el _____	consumption
el corazón	_____
_____	as soon as possible
el/la drogadicto/a	_____
la _____	age
la _____	survey
enfrentar	to _____
_____	serious
_____	to injure, to harm
el hígado	_____
nocivo/a	_____
_____	to take part (in)
_____	to ask (for), to ask
(someone to do something)	_____
los primeros auxilios	_____
_____	to prohibit, to forbid
_____	to cause, to provoke
el pulmón	_____
reducir	to _____
síndrome de abstinencia	withdrawal symptoms
el _____	excess weight,
obesity	_____
subir	_____
el _____	addiction to tobacco
la venta	_____



Translation Practice. G – blue F – orange H - Green	
Trabajo _____ voluntario	I work as a volunteer
_____ comida a los clients	I serve food to the customers
Pienso _____ en el instituto	I'm thinking about working in the school
_____ ayudar a otra gente	I hope to help other people
_____ muchas horas el fin de semana	I work many hours on the weekend
Pienso que _____ a otra gente es muy importante	I think that helping other people is very important
_____ ser voluntario/a	I'd like to be a volunteer
_____ ayudar	I would like to help
Quisiera _____ las comidas	I'd like to prepare the meals
Me gustaría _____ fondos	I'd like to raise funds
_____ en un hospital	I used to help in a hospital
_____ el trabajo un poco difícil	I find the work a little difficult
No _____ hacer nada	I don't want to do anything
_____ imposible hacer todo ese trabajo	It would be impossible to do all that work
¿Qué _____ tú?	What would you do ?
_____ de estudiar por voluntar	I stopped studying to volunteer
A mi _____ le encanta voluntar	My boyfriend loves volunteering
No _____ nada	I wouldn't give anything
No _____ el tiempo	I wouldn't have the time

Key Questions: Answer the following in your own words. Use these model answers	
¿Llevas una vida sana? ¿Comes demasiada comida rápida?	Pienso que llevo una vida sana. Todos los días como un poco de fruta y bebo agua que es sano aunque de vez en cuando como las patatas fritas que son grasientas y malsanas. Solo como la comida rápida a menudo porque lo que no me gusta es la comida grasienta. No fumo y nunca voy a fumar. Es asqueroso pero mi padre fuma. Hago también mucho ejercicio. Ayer comí una ensalada que fue muy sana y hice ciclismo y deporte en colegio.
¿Cómo te mantienes en forma? ¿te acuestas tarde? ¿haces ejercicio?	Creo que como suficiente fruta y verdura porque como frutas y verduras todos los días. Mi fruta favorita es la manzana porque es dulce y fácil a comer, aunque como bastante comida rápida también. Ayer para la cena comí dos manzanas y un plátano. ¡Qué sano! Cuando tengo calor bebo mucha coca light con hielo sin embargo los gaseosas/las bebidas azucaradas no son muy sanas. Cuando tengo frío bebo chocolate caliente con mucha leche que es delicioso. Ayer bebí demasiado coca light Normalmente hago bastante ejercicio, que es muy sano. Todos los días voy a pie al colegio y los fines de semana hago ciclismo con mis amigos en el campo que es entretenido y bueno para el cuerpo/la salud. No me acuesto tarde durante la semana. Me acuesto a las diez pero los fines de semana me acuesto a los doce de la noche porque veo películas y videos de Youtube en mi móvil. Ayer me acosté a las once.
¿Qué comes para el desayuno, la cena, tu almuerzo? ¿es sano?	Para el desayuno, como normalmente los cereales que son deliciosos con zumo de naranja. Para la cena como normalmente carne con patatas y verduras con mi familia en casa que es un poco sano. Para mi almuerzo, como un bocadillo con jamón y queso en el colegio con agua o coca. Ayer desayuné ... cené ...comí para mi almuerzo ...
¿Crees que es necesario llevar una vida sana/es necesario para los jóvenes llevar una vida sana?	Creo que es muy importante llevar una vida sana/Creo que es muy importante para los jóvenes llevar una vida sana. Es importante llevar una vida sana para ayudar con el trabajo en el colegio, para mantenerse en forma, para no ser gordo, para tener un buen aspecto físico, para mantener una buena salud, porque ayuda con tus estudios
Key Grammar	
Forming the conditional ('would like to' tense). Always remove the –AR, –ER, –IR endings first	Remember the conditional ('would') tense endings for –AR, –ER, –IR verbs. They are: –AR, –ER, –IR: –ía, –ías, –ía, –íamos, –íais, –ían
Perfect Tense ('have done...')	Formed with the verb ' haber ': he, has, ha, hemos, habéis, han + past participle: –ar: -ado –er/ir: -ido e.g. <i>He estudiado</i> = <i>I have studied</i>

What we are learning this term:		7.1F Protegiendo el medio ambiente	
A. Talking about reusing things, reducing waste and recycling		la basura rubbish	
B. Talking about ways of protecting the environment		la bombilla (de bajo consumo)(low-energy) light bulb	
C. Talking about poverty		el combustible fuel	
D. Talking about homelessness		combatir to fight, to combat	
		la contaminación atmosférica air pollution	
6 Key Words for this term		desaparecer to disappear	
1. la libertad	4. el destrozo	el desastre disaster	
2. pensamientos	5. violento/a	desconectar to disconnect, to unplug,	
3. asistir a	6. la culpa	switch off	
		deshacer to undo	
		los desperdicios rubbish, refuse, waste	
		la especie species	
		incluso even	
		inquietante worrying	
		luchar to struggle, fight	
		la medida measure, means	
		medioambiental environmental	
		el motor engine	
		los residuos refuse, waste, rubbish	
		salvar to save	
7.1G Reutilizar, reducir, reciclar		7.2G Los necesitados	
ahorrar to save		a favor (de) in favour (of)	
la basura rubbish		la alimentación feeding,	
la bolsa de plástico plastic bag		nourishment,food	
el cartón cardboard		la asistencia médica medical care	
cerrar to shut, to close,to turn off (tap)		asistir a to attend	
el contenedor container		buscar to look for	
en vez de instead of		contribuir to contribute	
intentar to try to		la creencia belief	
la lata tin, can		la culpa blame, fault	
el malgasto waste		la enfermedad illness	
el papel (reciclado) (recycled) paper		en contra against	
la papelera wastepaper basket		estar dispuesto/a a to be prepared to, to be	
la pila battery		ready to	
el plástico plastic		faltar to be lacking, to be	
ponerse to put on (clothes)		missing	
los productos químicos chemicals, chemical		fresco fresh	
products		hace(n) falta to be necessary, to need	
el proyecto project		la libertad (de pensamiento) freedom (of thought)	
recargable rechargeable		merecer to deserve	
reciclar to recycle		necesitar to need	
reutilizar to reuse		perder to lose	
la Tierra Earth		perezoso/a lazy	
tirar to pull, to throw away		querer to love	
tratar de to try to			
el vidrio glass			

Key Verbs				
Reciclar To recycle	Ir To go	Apagar To turn off	Hacer – to do/make	Encender To turn on
Reciclo I recycle	Voy I go	Apago I turn off	Hago I do	Enciendo I turn on
Reciclas You recycle	Vas You go	Apagas You turn off	Haces You do	Enciendas You turn on
Recicla Sh/e recycles	Va s/he goes	Apaga He/she turns off	Hace s/he does	Enciende He/she turns on
Reciclamos We recycle	Vamos They go	Apagamos We turn off	Hacemos We do	Encendemos We turn on
Reciclan They recycle	Van They go	Apagan They turn off	Hacen They do	Enciendan They turn on
7.2F Los “sin techo”			7.1H Problemas ecológicos	
el destrozo damage, destruction			acercarse a to approach	
escoger to choose			el agujero hole	
la falta lack			la aldea (small) village	
formar parte de to be part of			alejarse to move (something)	
el/la gamberro/a hooligan, lout,			further away	
troublemaker			alejarse de to move further away	
maltratar to mistreat, to ill-treat			from	
los niños de la calle street children			amenazar to threaten	
la ONG (organización NGO (non-governmental organisation)			arruinar to ruin	
no gubernamental)			el atasco traffic jam, hold-up	
			el ave (marina) (fem.) (sea) bird	
la pobreza poverty			el calentamiento global global warming	
recoger to pick up			la capa de ozono ozone layer	
robar to steal, rob			el casco helmet, hull (of ship)	
el vertedero rubbish dump, tip			el centenar about a hundred	
la violencia violence			la central eléctrica power station	
violento/a violent			la circulación traffic	
7.2H Es importante ayudar a los demás			constituir to constitute	
el agua corriente (fem.) running water			cortar to cut, to cut off	
bastar to be enough			el efecto invernadero greenhouse effect	
la comisaría police station			extender to spread, to stretch	
consumir to consume			frenar to brake, to put a stop	
la corriente (electric) current,			to	
electricity supply			el humo smoke	
crear to create			el huracán hurricane	
la criminalidad crime			el incendio fire	
cualquier(a) any			la lluvia rain	
el empleo job			la mancha stain	
el/la encargado/a person in charge			la marea negra oil slick	
el éxito success			la muerte death	
			el nivel level	
			el petrolero oil tanker	
			el/la pescador/a fisherman/fisherwoman	

What we are learning this term:	
A. Talking about reusing things, reducing waste and recycling B. Talking about ways of protecting the environment C. Talking about poverty D. Talking about homelessness	
6 Key Words for this term	
1. la libertad	4. el destrozo
2. pensamientos	5. violento/a
3. asistir a	6. la culpa

7.1G Reutilizar, reducir, reciclar	
ahorrar	_____
la basura	_____
la bolsa de plástico	_____
el cartón	_____
_____	to shut, to close,to turn off (tap)
el contenedor	_____
_____	instead of
intentar	_____
la lata	_____
_____	waste
el papel (reciclado)	_____
la _____	wastepaper basket
la _____	battery
el _____	plastic
ponerse	to _____
los _____	chemicals, chemical products
el proyecto	_____
_____	rechargeable
_____	to recycle
reutilizar	to _____
la _____	Earth
_____	to pull, to throw away
tratar de	_____
el _____	glass

7.1F Protegiendo el medio ambiente	
la basura	_____
la bombilla (de bajo consumo)(low-energy) light bulb	_____
el _____	fuel
_____	to fight, to combat
la contaminación	_____
atmosférica	_____
desaparecer	to _____
el desastre	_____
_____	to disconnect, to unplug,
switch off	_____
deshacer	_____
los _____	rubbish, refuse, waste
la especie	_____ -
_____	even
inquietante	_____
_____	to struggle, fight
la _____	measure, means
medioambiental	_____
_____	engine
_____	refuse, waste, rubbish
salvar	_____

7.2G Los necesitados	
a favor (de)	_____
la alimentación	feeding,
nourishment,food	_____
la asistencia médica	_____
_____	to attend
_____	to look for
contribuir	to _____
la _____	belief
la culpa	_____
la enfermedad	_____
en contra	_____
estar dispuesto/a	to be prepared to, to be
ready to	_____
_____	to be lacking, to be
missing	_____
fresco	_____
_____	to be necessary, to need
la libertad (de pensamiento)	_____
_____	to deserve
necesitar	to _____
_____	to lose
perezoso/a	_____
_____	to love

Key Verbs				
Reciclar	Ir	Apagar	Hacer –	
_____	To go	To turn off	_____	To turn on
_____	Voy	Apago	_____	_____
I recycle	I go	_____	I do	I turn on
Reciclas	Vas	_____	Haces	Enciendas
_____	_____	You turn off	_____	_____
_____	Va	Apaga	Hace	_____
Sh/e recycles	s/he goes	He/she turns off	_____	He/she turns on
Reciclamos	Vamos	Apagamos	Hacemos	Encendemos
_____	They go	We turn off	We do	_____
Reciclan	Van	Apagan	_____	_____
They recycle	They go	They turn off	They do	They turn on

7.2F Los “sin techo”	
el _____	damage, destruction
escoger	to _____
la falta	_____
formar parte de	_____
_____	hooligan, lout,
troublemaker	_____
_____	to mistreat, to ill-treat
los niños de la calle	_____
la ONG (organización NGO (non-governmental organisation)	_____
no gubernamental)	_____
_____	poverty
_____	to pick up
_____	to steal, rob
_____	rubbish dump, tip
la violencia	_____
violento/a	v _____

7.2H Es importante ayudar a los demás	
el agua corriente	_____
_____	to be enough
la _____	police station
consumir	to _____
la _____	(electric) current,
electricity supply	_____
_____	to create
la criminalidad	_____
cualquier(a)	_____
_____	job
el/la encargado/a	_____
_____	success

7.1H Problemas ecológicos	
acercarse a	to _____
el agujero	_____
la aldea	_____
_____	to move (something)
further away	_____
_____	to move further away
from	_____
_____	to threaten
arruinar	to _____
el _____	traffic jam, hold-up
el ave (marina) (fem.)	_____
el calentamiento	_____
global	_____
la _____	ozone layer
el _____	helmet, hull (of ship)
el _____	about a hundred
la central eléctrica	_____
la circulación	_____
c _____	to constitute
_____	to cut, to cut off
el efecto invernadero	_____
_____	to spread, to stretch
_____	to brake, to put a stop
to	_____
el humo smoke	_____
el huracán	_____
el _____	fire
la lluvia	_____
la mancha	_____
la marea negra	_____
la _____	death
el nivel	_____
el petrolero	_____
el/la pescador/a	_____

1. Methods of growth

When a market is growing, it is important for a business to grow in order to retain market share.

Method of growth	Explanation
Internal/organic growth	A business can grow by creating new products, entering new markets, increasing their advertising and opening new premises.
External/inorganic growth	A business can grow by merging with another company or by winning a takeover of another company.

2. Finance for growth

A business must find sources of capital to pay for growth.

Term:	Definition:
Internal sources of financing.	A business can use 'retained profit' (capital they have saved from profit) or they could 'sell assets' (selling old or unused machinery/equipment). Internal sources of funding are from an internal sources such as an existing business owner or the business itself rather than from someone or an organisation outside of the business.
External Sources of financing.	A business could take out a loan (loan capital), or sell shares (share capital). External sources of funding are from an external sources such as a bank or an investor rather than from the business owners or the business itself.

3. Why do aims & objectives change?

As businesses evolve, they need to adapt their aims and objectives to changing circumstances.

Changing market conditions	Controlled by customer behaviour, what do customers want?
Changing technology	As technology changes, business needs to adapt to how customers use technology.
Changes in performance	If costs increase, the chances are the profit margin of the business will decrease. A business needs to be clear on whether they are aiming for quality or price.
Changes in legislation	If the law changes, this can bring uncertainty as the business may have to stop manufacturing/selling a certain product or be unable to predict future trends.
Internal Reasons	Changes in management or changes to the culture of the company.

1. Methods of growth

When a market is growing, it is important for a business to grow in order to retain market share.

Method of growth	Explanation
Internal/organic growth	
External/inorganic growth	

2. Finance for growth

A business must find sources of capital to pay for growth.

Term:	Definition:
Internal sources of financing.	
External Sources of financing.	

3. Why do aims & objectives change?

As businesses evolve, they need to adapt their aims and objectives to changing circumstances.

Changing market conditions	
Changing technology	
Changes in performance	
Changes in legislation	
Internal Reasons	

4. Globalisation

The increasing tendency for countries to trade with each other and to buy global goods such as Coca-Cola or services such as Costa Coffee.

Imports	Goods brought into one country from another.
Exports	Goods sold to one country from another

4. Globalisation

Barriers to trade	Definition: Measures put in place by a government to control the numbers of goods imported into a country.
Tariffs	Import taxes – taxes on imported goods.
Trade blocs	An agreement between some countries to trade freely without any tariffs, but countries not within the agreement will be charged tariffs.

5. Ethics & business

How the behaviour of a business is judged against human morals.

Term	Definition
Fair Trade	A global scheme that states that farmers or producers are paid a fair price for their goods. Business costs are higher, but customers will pay more for Fair Trade products.
Environmental	Businesses are constantly monitored for their environmental impact. Behaving in an environmentally ethical manner means to not pollute or damage the local/national/global environment – sea, land or sky.
Labour	Human morals dictate that a business should pay its workers fairly and that working conditions should be safe and clean. If a business sub-contracts work to international manufacturers in Asia, human morals dictate that those workers of the contractor are paid fairly and work in safe, clean conditions also.

6. Ways to extend the Product Life Cycle of a Product

Idea:	Explanation
Find new uses for the product	If a product can be used for multiple purposes, ensure that your target audience is aware of this
Change the appearance, format or packaging	Changing the appearance of a product can give it a new lease of life and allow the customer is perceive it as new again.
Encourage use of the product on more occasions	If a product can be used for multiples different occasions make sure the customer base is aware of this
Adapt the Product	Continue to make small adaptations to products to improve the quality of the product on offer.

4. Globalisation

The increasing tendency for countries to trade with each other and to buy global goods such as Coca-Cola or services such as Costa Coffee.

Imports

Exports

4. Globalisation

Barriers to trade

Tariffs

Trade blocs

5. Ethics & business

How the behaviour of a business is judged against human morals.

Term

Fair Trade

Environmental

Labour

6. Ways to extend the Product Life Cycle of a Product

Idea:

Explanation

Find new uses for the product

Change the appearance, format or packaging

Encourage use of the product on more occasions

Adapt the Product

1. Product (Part of the Marketing Mix)

When designing a new product, the key is to design a product that matches the needs or wants of your chosen target market.

Every product needs the right balance between:

Product strategy	Explanation
Economic Manufacture	Making sure that the design of the product to be made cost effectively. A complex or expensive design can lead to increased costs.
Function	The design of the product is crucial. The product must work/function effectively
Aesthetics	How much does the design of the product appeal to the senses. When designing a product it is crucial to consider the way it looks

2. Product (Key Terms)

At the heart of the marketing mix is the product

Term:	Definition:
Product Differentiation	The extent to which consumers see your product as being different from its rivals
Product Life Cycle	The theory that every product goes through the same four stages of introduction, growth, maturity and design

4. Ways to extend the Product Life Cycle of a Product

Idea:	Explanation
Find new uses for the product	If a product can be used for multiple purposes, ensure that your target audience is aware of this
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Adapt the Product	Continue to make small adaptations to products to improve the quality of the product on offer.



3. Stages of the Product Life Cycle

Term:	Explanation:
Introduction	First a company needs to spend time researching the product and the marketplace. The product will be developed, tested, and launched.
Growth	At this stage the product becomes known in the market. At this stage customer awareness increases, prices will still be high.
Maturity	At this point the market may become saturated as 'me too' products are launched into the market. Advertising is increasing to remind consumers about the quality of the product. Brand image needs reinforcing with its customers. The market is highly competitive, and prices are lower as a result
Decline	The product's sales and profit's start to fall. The product is no longer offering what customers want or new technology has made the product obsolete.

5. Promotional Strategy (Part of the marketing mix)

Promotional strategy is the plan for how to communicate effectively with customers in order to meet sales revenue targets.

Promotional Strategy:	Explanation:
Advertising	Advertising is how a business promotes its products and communicates with its customers.
Sponsorship	Sponsorship is where a business pays to have a brand or company name attached to an activity that has credibility with its customers.
Branding	Branding is a way that businesses can give their products an identity that appeals to its target audience.
Product Trials	A product trial means giving potential customers a free taste of a new product. This may entice new customers.
Special Offers	Businesses can use special offers such as 'buy one get one free' to entice customers to purchase their products.
Using Technology	In recent years, online advertising through social media and other platform such as websites and e-newsletters has become commonplace for firms.

6. Pricing Strategy

Pricing strategy is vital for any business – pricing your products can be the difference between business success and business failure.

Market Segment:	Pricing Strategy
Mass Market	In mass markets where both competition and customer consumption are high. These markets are generally characterised by low prices and very similar products.
Niche Markets	A niche market is based on a type of customer needs or wants something different to the majority. Generally these markets have few competitors but high prices.

Pricing at each stage of the Product Life Cycle

Introduction	Pricing at the introduction phase of the product life cycle in some cases will be low to entice new customers to sample the product.
Growth	Once a product is established within a market and has a customer base, businesses will sometimes increase prices to increase revenue.
Maturity	When product growth is at an end, new pricing decisions may be needed. Business will ensure that pricing is competitive to ensure continuous revenue, other firms may decide that the brand may be in irreversible decline and will keep prices high to make a short-term profit.
Decline	When sales have made a decisive step downwards, firms tend to lower prices to ensure a steady stream of revenue. However some firms with a loyal customer base may decide to increase prices in an attempt to gain short term profits.

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7. Placing Strategy

This element of the marketing mix is about how to get the product from the producer to the customer. There are three main distribution channels – traditional, modern and direct.

Type of Distribution	Explanation:
Direct Distribution	This is where a product is distributed directly from the producer to the consumers. An example of this is buying things directly from firms on the internet.
Modern Distribution	This method is common in the grocery sector, where producers will deliver to distribution depots and then the products will be taken to stores to be sold. This method became popular when supermarkets became common place in the 1980s
Traditional Distribution	This method, in the first instance involves a wholesaler buying goods directly from the producers. From there the wholesaler will sell the products directly to firms who will then sell onto the consumers.

8. Placing Strategy – Key Terms

Term	Definition
Distribution	How ownership changes as a product goes from producer to customer
E-Tailer	An electronic retailer; in other words selling products electronically, either by e-commerce or, more likely these days, mobile commerce.
Retailer	A shop or chain of shops, usually selling from a building in a high street or shopping centre

9. Marketing mix and Business Decisions – Key Terms

Business decisions are always about the future. So, when the marketing mix is being used to inform and carry out business decisions.

Term	Definition
Budget	A ceiling on the amount of money that can be spent; a marketing budget of £1 million means the marketing manager can spend up to that figure, but no more.
Informed Decisions	Evidence that can be used to make a better decision; a company can gain a better understanding of its customers through the 4p's, which helps in decision making



Year 11 PRODUCT DESIGN Term 1



A. New and emerging technologies

Companies are trying to **save money**, **improve products**, **develop new materials** and become more **efficient**. New technologies are developed to positively **impact** the **manufacturing industry** and **society**.

Crowdfunding Uses websites to advertise products as investment opportunities, where people can choose to back a project with a financial donation

Virtual marketing and retail Promotion of products online and sharing experiences, reviews and recommendations

Cooperatives Cooperatives are organisations with lots of people working together towards common goals.

Fair trade Fair trade is a trading partnership that ensures workers in developing countries are given suitable working conditions and are paid a fair wage.



B. Sustainability

If materials are not reused or recycled, the planet will run out of them. If trees are not replanted as quickly as they are felled, we will run out of timber. A material is said to be sustainable if it can be replaced continuously or if it can be recycled or reused indefinitely.

What we are learning this term:

A. New and emerging technologies B. Sustainability
C. Impact on environment D. Impact on People E. Informing design decision

C. Impact on the environment

Modern companies are encouraged to be less wasteful and more considerate of how they affect the natural environment.

Continuous improvement

Continuous improvement is the practice of continually making small adjustments to production techniques to improve speed and quality and save resources.

Efficient working

It is important to ensure that companies work in an efficient manner. This includes increasing the speed of production, reducing errors and reducing waste, which can be done by utilising **automation** or **computer aided manufacture (CAM)**.

Pollution

Pollution is caused when harmful substances are released into the natural environment. Pollution can occur in the air, water or natural land. Legislation has been brought in to help with this issue.

Global warming

- Manufacturing processes in factories or the use of day-to-day products like cars can cause harmful chemicals, such as carbon monoxide and nitrogen oxides.
- These chemicals pollute the air and natural land.

D. Impact on people

People influence how technology is developed to suit their own wants and needs; however, technological developments can change people's lifestyle and behaviours.

Technology push

- Research and development in science and industry can lead to new discoveries
- This is known as technology push, and it happens before there is consumer demand for a product.
- SMART phones are a good example of technology push

Market Pull

- Market pull is when product ideas are produced in response to market forces or customer needs.

Changes in culture

- Fashion trends continue to be influenced by changing technology.
- Wearable items embrace new technology, such as high-tech watches, while textile technology utilises electrically-conductive material or 3D-printing technology.

E. Informing design decision

Physical Disability

Products aimed at users with physical disabilities will ensure they can use the product with ease.

- User needs are met by understanding the nature of the physical disability, eg visual impairment, mobility restrictions or motor control.

Elderly

When designing products aimed at elderly users, it is important to understand –

- The difficulties this user group may experience, such as mobility issues, visual impairment and hearing loss.

Religious Groups

Religious groups have a variety of preferences that can be addressed through design. The use of certain symbols, dietary restrictions and clothing requirements all need to be considered so that beliefs are upheld.

User centred design

User-centered design (UCD) is a design process in which designers **focus on the users** and **their needs** in each **phase of the design process**. In UCD, design teams **involve users** throughout the design process via a **variety of research and design techniques**, to create highly **usable and accessible** products for them.

Universal Design

Universal Design: focuses on serving the broadest range of users as possible (90%), rather than trying to address individual accessibility or inclusion objectives.



Year 11 PRODUCT DESIGN Term 1



A. New and emerging technologies

Companies are trying to _____
improve products, _____
 _____ and become more _____. New
 technologies are developed to positively
impact the _____ and **society**.

Crowdfunding

Virtual
marketing and
retail

Cooperatives

Fair trade



B. Sustainability

What we are learning this term:

A. New and emerging technologies B. Sustainability
 C. Impact on environment D. Impact on People E. Informing design decision

C. Impact on the environment

Modern companies are encouraged to be
 _____ and more considerate of how
 they affect the _____.

Continuous improvement

Efficient working

Pollution

Global warming

D. Impact on people

People influence how technology is
 developed to suit their own _____ and
 _____; however, technological
 developments can change people's
 _____ and _____.

Technology push

Market Pull

Changes in culture

E. Informing design decision

Physical Disability

Elderly

Religious Groups

User centred design

Universal Design

Universal Design:



Year 11 Food & Nutrition Term 1



What we are learning this term:

A. Proteins B. Carbohydrates C. Fibre & Water D. Fats E. Minerals F. Vitamins

A. Proteins – contain amino acids		B. Carbohydrates – used for energy		D. Fats		F. Vitamins	
	Used for growth, repair and maintenance of the body.		Sugars – digested quickly & energy released quickly. Monosaccharides or Disaccharides		Needed for energy, vitamins, insulation (warmth) and protecting your bones & organs, making cholesterol.		Micronutrients which help the body to function.
Source 	Seeds, meat, fish, dairy, nuts and beans. Alternative: soya, mycoprotein, TVP & tofu.	Source 	Fruit or added to food.	Saturated Fats	Unsaturated Fats	Fat Soluble Vitamins	
Excess 	Strain on liver and kidneys. These organs process the proteins consumed.		Starch – digested slowly & slow released of energy. Polysaccharides.	Usually come from animal sources	Mostly from vegetable sources.	Found in fatty food. Stored in fat tissue if not used up.	
Deficiency 	Slows growth, weak immune system, oedema, kwashiorkor, poor hair /skin / nails.	Source 	Potatoes, cereals. Have a lot of nutrients & fibre.	Excess 	Obesity, Type 2 Diabetes, higher Cholesterol (increased risk Coronary Heart Disease).	A	For good eyesight, healthy immune system / skin
High Biological Value Proteins 	These contain ALL the essential amino acids. These come from mainly animals sources (as well as soya and quinoa).	Excess 	Gets converted into fat (may lead to obesity), tooth decay, type 2 diabetes.	Deficiency 	Vitamin deficiency, weight loss, less insulation / bone & organ protection.	D	Helps absorb minerals (especially calcium)
Low Biological Value Proteins 	These are missing <u>one or more</u> of the essential amino acids. These come from plant sources.	Deficiency 	Low blood sugar (hunger, dizziness, tiredness), body starts to use up fat & protein (weight & muscle loss).	E. Minerals		E	For healthy skin, eyes & immune system
Protein Completion: when you combine LBV proteins to get all the essential amino acids.		Glycaemic Index (GI): show how quickly carbohydrates affect blood sugar levels.		Calcium	Strong bones & teeth, healthy nerves & muscles, blood clotting	K	Helps heal wounds, keeps immune system / bones healthy
C. Fibre & Water				Iron	Forms part of haemoglobin in red blood cells	Water Soluble Vitamins	
Fibre		Water		Sodium	Controls body's water content, helps nerves / muscle function	Vitamins that dissolve in water & lost through urine – need to take daily! They are also lost when fruit and vegetables are exposed to air.	
- Helps with digestion - Prevents constipation - Found in fruit, pulses, nuts, veg, wholegrain foods		- Helps get rid of waste & digest food - Controls body temperature 6-8 glasses of water a day - More during a hot day or exercising		Phosphorus	Healthy bones & teeth	B	Keep the nervous system healthy
				Fluoride	Helps strengthen teeth & prevent tooth decay	B1, B2 & B3	Help with energy release
				Iodine	Helps make some hormones	B9 & B12	Help make red bloody cells.
						C	Protects body from infection, heals wounds
						Antioxidants	
						Vitamins A, C & E are antioxidants which may protect cells from free radicals - chemicals you encounter every day.	



Year 11 Food & Nutrition Term 1



What we are learning this term:

A. Proteins B. Carbohydrates C. Fibre & Water D. Fats E. Minerals F. Vitamins

A. Proteins – contain amino acids	

Source	_____
Excess	_____
Deficiency	_____
High Biological Value Proteins	These _____ essential amino acids. These come from mainly _____ sources (as well as _____ and _____).
Low Biological Value Proteins	These _____ essential amino acids. These come from _____ sources.
Protein Completion: _____	

B. Carbohydrates – _____	
	Sugars – digested _____ & energy released _____ _____ saccharides or _____ saccharides
Source	_____
	Starch – digested _____ & energy released _____ _____ saccharides.
Source	_____
Excess	_____
Deficiency	_____
Glycaemic Index (GI): _____	

D. Fats are needed for:	
	1. _____ 2. _____ 3. _____
Saturated Fats	Unsaturated Fats
Usually come from _____ sources	Mostly from _____ sources.
Excess	_____
Deficiency	_____

E. Minerals	
Calcium	_____
Iron	_____
Sodium	_____
Phosphorus	_____
Fluoride	_____
Iodine	_____

F. Vitamins	

Fat Soluble Vitamins	

A	_____
D	_____
E	_____
K	_____
Water Soluble Vitamins	

B	_____
B1, B2 & B3	_____
B9 & B12	_____
C	_____
Antioxidants	

C. Fibre & Water	
Fibre	Water
• _____	• _____
• _____	• _____
• _____	• _____



What we are learning this term:

- Client briefs and building specifications
- Product analysis
- Design generation and analysis
- Planning production

A. Client briefs and building specifications

As an engineer you may be given a **brief** of what the customer wants from their product. The steps to analyze this are:

- Highlight the **key information**, what are they actually asking for?
- Consolidate the information into a **bullet point list**
- Rank** the list in terms of importance, most important first. Make those points the focus of your design.

Specifications: Documents listing the specific properties a design should have. These are most useful when given as **quantitative information**, as you can more easily check if you have completed it. **Quantitative information** – can be measured/counted i.e number of wheels on a car, how much it weighs. **Qualitative information** – opinions based/ descriptive i.e how beautiful something is

C. Design generation and analysis

S	C	A	M	P	E	R
Substitute	Combine	Adapt	Modify	Put to another use	Eliminate	Reverse
Replace a part, material, or process with something else.	Join elements, ideas, or functions together in new ways – or find a new element you can merge with.	Modify something to better suit a new purpose, person or context.	Enlarge, reduce, change the shape, or alter attributes. Can a small change have a big effect?	Rather than changing the thing itself, consider changing the context it exists in.	Remove elements, simplify, or pare down to essentials.	Flip the script, re-order your priorities, invert cause and effect, and turn it all upside-down.

Strengths

- key features that match the design brief
- Key features that match the specification
- Things that the target market would like

Weaknesses

- Limitations of the idea
- Things the target market might not like
- Points on the specification it did not meet

SWOT evaluation for new design ideas

Opportunities

- The ways in which the design could be improved
- New ideas or technology that could change the way the product could be used

Threats

- Other products in the market that are similar
- Extra resources needed to make it
- Extra money / time/ skills needed to make it

B. Product analysis

A is for **Aesthetics**



Aesthetics means **what does the product look like?**
What is the: Colour? Shape? Texture? Pattern? Appearance? Feel? Weight? Style?

C is for **Cost**



Cost means **how much does the product cost to buy?**
How much does it: Cost to buy? Cost to make?
How much do the different materials cost? Is it good value?

C is for **Customer**



Customer means **who will buy or use your product?**
Who will buy your product? Who will use your product?
What is their: Age? Gender?
What are their: Likes? Dislikes? Needs? Preferences?

E is for **Environment**



Environment means **will the product affect the environment?**
Is the product: Recyclable? Reusable? Repairable? Sustainable?
Environmentally friendly? Bad for the environment?
6R's of Design: Recycle / Reuse / Repair / Rethink / Reduce / Refuse

S is for **Size**



Size means **how big or small is the product?**
What is the size of the product in millimeters (mm)? Is this the same size as similar products? Is it comfortable to use? Does it fit?
Would it be improved if it was bigger or smaller?

S is for **Safety**



Safety means **how safe is the product when it is used?**
Will it be safe for the customer to use? Could they hurt themselves?
What's the correct and safest way to use the product? What are the risks?

F is for **Function**



Function means **how does the product work?**
What is the product's job and role? What is it needed for? How well does it work? How could it be improved? Why is it used this way?

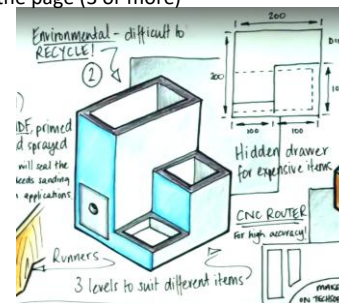
M is for **Material**



Material means **what is the product made out of?**
What materials is the product made from? Why were these materials used? Would a different material be better? How was the product made? What manufacturing techniques were used?

C. Design generation example

Is part of a range of ideas on the page (3 or more)



Notes link designs to the brief and specification

Very clear drawings, use of rendering to show depth

Notes on material/production choices and why

D. Planning production

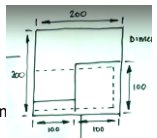
Calculating the cost of a product:

- Calculate area/volume of material used
- Research what **stock** is used and what price a **unit** of stock is
- Calculate how many **whole products** can be made from that unit of stock
- Divide the cost of the unit of stock by the number of **whole products** can be made from it

Worked example

Calculate the cost of the 20x20cm component if it is Made from a sheet of 100x100cm plywood that cost £4.

- Component area = $20 \times 20 = 40 \text{ cm}^2$
- Stock = $\text{£}4 \text{ for } 1000 \text{ cm}^2$
- $1000 / 40 = 25$
- $\text{£}4 / 25 = 400\text{p} / 25 = 16\text{p}$





A. Client briefs and building specifications

What we are learning this term:

- A. Client briefs and building specifications
- B. Product analysis
- C. Design generation and analysis
- D. Planning production

Analyse this brief. Show you can: Highlight the **key information**, **bullet point list** the info, **Rank** the list.

A company which sells products online is creating a new range of designs. Create a concept for a pendant light. The light must be low cost to manufacture so suitable processes and materials should be considered. To keep transportation costs down, the light must be lightweight. The dimensions of the light must not exceed 45cm in any direction.

Ranked Bullet points:

C. Design generation and analysis

Use the SWOT tool to analyse the design of the existing lampshade.

Strengths

Weaknesses

Opportunities

Threats

Draw below how you would **adapt** the design to be more lightweight or attractive

B. Product analysis

A

C

C

M

E



Analyse this collapsible plywood shade using ACCESSFM

F

S

S

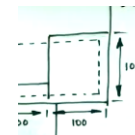
D. Planning production

Calculating the cost of a product:

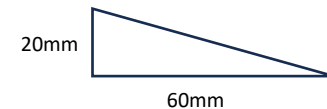
1. Calculate area/volume of material used
2. Research what **stock** is used and what price a **unit** of stock is
3. Calculate how many **whole products** can be made from that unit of stock
4. Divide the cost of the unit of stock by the number of **whole products** can be made from it

Practice questions:

1. What is the cost of the 100x100mm component if it is made from 1000x1000mm plywood that costs £4?



2. What is the cost of this component if it is made from 1000x1000mm plywood that costs £4?



What we are learning:	
A.	Key words
B.	What are the different types of health care services?
C.	What are the different types of social care services?
D.	What barriers are there to accessing care services?

A.	Key words for this Unit
Primary care	First point of contact when seeking health care
NHS	National Health Service – Tax funded health care in the UK.
Secondary care	Specialist health treatment and/or care
Tertiary care	Advanced specialist health treatment and/or care.
Allied health professionals	Professionals who are involved in patient care from diagnosis to recover
Clinical support staff	Support allied health professionals with the treatment and care of patients.
Foster care	A stable family home where care is provided on either a short or long-term basis.
Residential care	Accommodation and care for a number of children, young people or adults living together in one building.
Respite care	Short-term care which provides relief for family member who are carers.
Domiciliary care	Care received in the person's own home.
Sensory impairment	Difficulties with senses, most commonly vision and hearing.
Braille	Raised lettering to help visually impaired.
Occupational therapist	Offers support to develop independence for daily living activities.

B	What are the different types of health care services?
Primary Care	- Primary care is the first point of contact a patient is likely to have with the NHS – you can refer yourself to primary care providers. - Primary care providers include pharmacists, Registered GPs/doctors, walk-in centres, accident and emergency departments (A&E), dentists and Opticians.
Secondary Care	- Secondary care is specialist treatment or care. A primary care provider will refer a patient for secondary care if they feel it is necessary for the patient to receive further advice, tests or treatment. - Secondary care providers include cardiologists (heart), gynaecologists (female reproduction), paediatrics (children), obstetrics (childbirth and midwifery), psychiatry (mental health) and dermatology (skin).
Tertiary Care	- Tertiary Care is advanced specialist treatment or care. A secondary care provider will refer a patient for tertiary care for long-term treatment and/or care. - Tertiary care areas include spinal, cardiac (heart), cancer care, chronic pain, burns and neonatal (premature and ill new born babies).
Allied Health Professionals	- Allied health professionals work in a range of specialities They support patients through all stages of care – from diagnosis to recovery. To work with the public they must register with the Health and Care Professions Council (HCPC). - Allied health professionals include art therapists, dieticians, paramedics, physiotherapists, speech and language therapists and radiographers.
Clinical Support Staff	- Clinical support staff work within a range of departments under the guidance of allied health professionals. They are trained in their roles but are not required to register with the HCPC. - Clinical support staff include theatre support workers, prosthetic technicians, dietetic assistant, phlebotomist (collects blood samples), hearing aid dispensers and maternity support workers.

C.	What are the different types of social care services?
Children and young people	- Children and young people may need support on a temporary or permanent basis because their parent or carer is ill; they have family problems, they have behavioural issues or additional needs. - Types of support for children and young people include foster care, residential care and youth work.
Children or adults with specific needs	- Children and adults may need support with specific needs including learning disabilities, sensory impairments and long-term health issues. - Types of support for children and adults with specific needs include residential care, respite care and domiciliary care.
Older Adults	- Older adults may need support with a range of needs including arthritis, cardiovascular disease, dementia and depression. - Types of support for older adults include residential care, carers and personal assistants.
Informal Social Care	- Not all carers get paid for what they do – they are known as informal carers and social services would really struggle without them. - Informal carers include a spouse or partner, children, friends and neighbours. - Informal carers do practical household duties, shopping, laundry, walk the dog and help with personal care.



What we are learning:	
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A.	Key words for this Unit
Primary care	
NHS	
Secondary care	
Tertiary care	
Allied health professionals	
Clinical support staff	
Foster care	
Residential care	
Respite care	
Domiciliary care	
Sensory impairment	
Braille	
Occupational therapist	

B	What are the different types of health care services?
Primary Care	
Secondary Care	
Tertiary Care	
Allied Health Professionals	
Clinical Support Staff	

C.	What are the different types of social care services?
Children and young people	
Children or adults with specific needs	
Older Adults	
Informal Social Care	



D.	What barriers are there to accessing care services?
Physical Barriers 	• Difficulty accessing care due to mobility and/or disability. • Obstacles include uneven and rough pavements and services, narrow doorways, no lift and transport. • Access could be improved by planning journeys in advance and reporting any problems to the council.
Sensory Barriers 	• Sensory impairments can be a barrier to accessing care. • A person with poor vision may need glasses or documents in large print. Profound sight problems may benefit from Braille. • A person with a hearing impairment may benefit from a hearing aid or sign language interpreter.
Social, Cultural and Psychological Barriers 	• Social, cultural and psychological barriers may leave people feeling nervous about accessing support. • These can include: religion/cultural barriers, negative experience, self-diagnosis, substance misuse, opening hours. • Care services can give individuals opportunities to share their concerns, offer different gender practitioners, facilities to worship and show respect and understanding.
Language Barriers 	• Language can be a barrier to accessing care services because individuals and care providers may struggle to understand each other. • Support for individuals could include translated documents, translators and interpreters and support from family members.
Geographical Barriers 	• Individuals may struggle to reach care services because public transport may not run regularly, specialist treatments may require long distance travel and travel can be expensive. • Support could include being provided with direct travel or having travel costs reimbursed.
Intellectual Barriers 	• If an individual has a learning disability it can cause difficulty in them accessing care services. • Support might include a learning disability nurse, speech and language therapist or occupational therapist.
Resource Barriers 	• As the population ages and more disorders are being successfully treated, there is a huge strain on health and social care resources – at times it might seem that not everyone can access what they need. • There are huge staff shortages which puts strain on people that work in the health and social care sector.
Financial Barriers 	• Seeing a GP or using emergency services are free but some services, such as optical and dental care, often involve some payment. • This can be difficult for people if they are from a low-income household as they may not feel they can afford to access the care they need.

D.	What barriers are there to accessing care services?
Physical Barriers 	
Sensory Barriers 	
Social, Cultural and Psychological Barriers 	
Language Barriers 	
Geographical Barriers 	
Intellectual Barriers 	
Resource Barriers 	
Financial Barriers 	

What we are learning:	
E.	Define the key words
F.	What are the care values and how can they be implemented?

E.	Define the key words
Self-respect	Valuing yourself
Person centred approach	Planning care around the wants and needs of a service user
Empowerment	Supporting people to take control of their lives and futures by involving them decisions on their care and treatment
Confidentiality	Not passing on information or discussing a private conversation to anyone
Dignity	Being respected and treated with care
Safeguarding	Policies to ensure children and vulnerable adults are protected from harm, abuse and neglect
Discrimination	Treating a person or group of people unfairly or less well than others
Compassionate	Feeling or showing sympathy and concern for others
Competence	The ability to do something successfully and efficiently
Consequences	A result or effect, typically one that is unwelcome or unpleasant
Review	Involves assessing or inspecting something with the intention of making change if necessary
Empathy	Being able to understand and share feelings and views of another person.
Insomnia	Difficulties in sleeping

F.	What are the care values and how can they be implemented?
Empowering and promoting independence 	- Empowerment is when an individual feels in control of their own life and have a say in what happens to them. - Some people might need help with empowerment because of their age, circumstances or confidence e.g. elderly people, children, adult with learning disabilities. - You can promote empowerment and independence by involving individuals, where possible, in making choices about their treatment.
Respect for others 	- You can show respect for the individual by respecting their privacy, needs, beliefs and identity. - Show respect by being patient when someone takes longer to perform simple tasks due to their age, disability or injury. - Do not leave personal files around for others to see or discuss your patients' case with friends. - Gain permission before entering a room, provide private place for personal conversations.
Maintaining confidentiality 	- It is a person's right by law to have information about them kept confidential. - Care workers are not allowed to talk about one service user to another, or someone who is not involved in helping them get better. This involves not having those private conversations in public places where other can overhear. - Paper and electronic files are to be kept confidential and only shared with care workers which are involved in the treatment of the patient.
Preserving dignity 	- Preserving the dignity of individuals to help them maintain self-worth, privacy and self-respect. - You do this by involving the person in their own care; helping them go to the bathroom; giving the person time they need, checking what they would like to be called; closing door or curtain when they are changing; making sure their clothes are clean; dealing with embarrassing situations sensitively and professionally.
Effective communication 	- In health and social care it is important to communicate effectively with service users in order to build trusting relationships. These can be lost if the care worker appears not to care or listen. - Recognising different communication needs and trying to overcome them shows that care workers respect the individual e.g. when visually impaired providing a leaflet in braille; if can't speak English well, have a translator organised beforehand. - Show you value the person through showing empathy, asking questions, not judging, smiling, using their name, giving appropriate eye contact, open body language, giving time to process.
Safeguarding and duty of care 	- Health and social care workers have a legal duty to protect service users from harm, neglect or abuse. They must recognise the signs and symptoms of abuse so they can protect people. - Signs of abuse include low self-esteem, STDs, unexplained injuries or bruises, insomnia, change in appetite, change of personality, self-harming, fear of being alone etc. - What to do: report the abuse, never promise to keep the abuse secret, make it clear that you will have to tell someone e.g. your supervisor or the police. DUTY OF CARE - Care workers must work in ways that never put individuals at any risk or harms. They need to know their responsibilities, procedures, deliver care as the care plan states and always report and record any concerns about the service user even if they appear minor.
Promoting anti-discriminatory practice 	- Discrimination can be obvious but sometimes it can be subtle and hidden, and The Equality Act 2010 makes it illegal to discriminate against people because of their e.g. age, gender, race, disability, religion, sexual orientation, marital status etc. - You can promote anti-discriminatory practice by: having patience with someone who doesn't speak English well; communicating in a way that the person will understand; showing tolerance towards people who have different beliefs and values from you; challenging unkind behaviour.

What we are learning:

- E. Define the key words
- F. What are the care values and how can they be implemented?

E.	Define the key words
Self-respect	
Person centred approach	
Empowerment	
Confidentiality	
Dignity	
Safeguarding	
Discrimination	
Compassionate	
Competence	
Consequences	
Review	
Empathy	
Insomnia	

F.	What are the care values and how can they be implemented?
Empowering and promoting independence 	
Respect for others 	
Maintaining confidentiality 	
Preserving dignity 	
Effective communication 	
Safeguarding and duty of care 	
Promoting anti-discriminatory practice 	

What we are learning:	
G.	How to apply care values in a compassionate way.
H.	Identifying own strengths and areas for improvement against the care values

G	How to apply care values in a compassionate way?
Show empathy and care by:	• Being patient • Showing sensitivity • Understanding • Actively listening • Having a positive outlook • Being encouraging • Having genuine concern for other people.
Care workers can check themselves against the ' Six C's of Compassionate Care ' checklist to make sure they are applying care values with compassion.	
Care	Helps to improve an individual's health and wellbeing. Care should be tailored to each person's needs and circumstances
Compassion	Shows the care worker understands what the individual is experiencing. Being empathetic to their situation shows care and value to the individual
Competence	Shows that care workers can safeguard and protect individuals from harm
Communication	How to adapt to individuals and their circumstances to ensure important information is given and shared- keeping the individual at the heart of everything that is done
Courage	Protecting individuals by speaking up if you think something is wrong; being brave enough to own up if you have made a mistake.
Commitment	Carrying out your duties to care for others to the best of your ability.

H	Identifying own strengths and areas for improvement against the care values
Working together	• All care works have the responsibility to uphold care values. If everyone works together, doing their 'bit', service users and colleagues alike will all be able to have positive experiences. • Put any feelings aside, some clients can show anger or aggressions towards you, continues to work in a way that respects each of the care values. Staff training: • Staff training keeps everyone updated. Even if they also ready had care values training it is important to have it again and remind them of their importance.
Making mistakes	• Everyone sometimes make mistakes. It is crucial that staff own up to mistakes that they have made, not matter how small. This is part of the duty of care to safeguard individuals, it demonstrates respect. • You need to be honest about your mistake, do not pretend it never happened and do not blame someone else. • You can: • Tell your supervisor, admit it and apologise • Be honest and accurate about what happened, • Suggest ways to avoid it happening again • Earn back the trust of the person involved • Prove you can do the job • Do no be too hard on yourself; seek help and guidance from others.
Reviewing own applications of care values	• One way to improve skills is to look carefully at the areas you are good at, what you are able to do well and things that you find difficult. • Knowing your strengths will allow you to take on task with ease and make you feel confident that you are doing a good job. • Knowing your weaknesses and what needs improving will help you work on them and develop. It is important to be open with yourself and others in order to progress further and be better at your job. • Regularly review your strengths and weaknesses because they change overtime
Receiving feedback	• The purpose of feedback is to let you know what you are doing well and the areas you need to improve. • This can be formal- like reports and following an observation at work and Informal- like chatting to colleagues at break time. • Both types encourage you to feel pleased with what you have done well and motivate you to improve in weaker areas, perhaps even provide a way forward. • Remember: when giving and receiving feedback, positives must be noted so that you know what you are doing well and continue to do so. Negatives are hard to uncomfortable to hear, but do not take them personally, you need them to get better at your job and feel more confident.
Using feedback	• Create yourself a SMART action plan to set yourself Specific, Measurable, Achievable, Realistic and Time-related targets or goals to help plan for your improvements

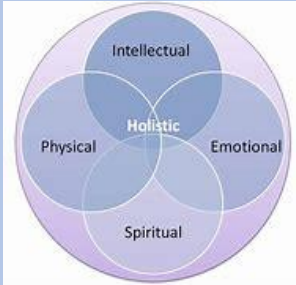
What we are learning:	
G.	How to apply care values in a compassionate way.
H.	Identifying own strengths and areas for improvement against the care values

G	How to apply care values in a compassionate way?	
		
Care		
Compassion		
Competence		
Communication		
Courage		
Commitment		

H	Identifying own strengths and areas for improvement against the care values	
Working together		
Making mistakes		
Reviewing own applications of care values		
Receiving feedback		
Using feedback		

What we are learning in LAA:	
A.	Key words
B.	Definitions of health and wellbeing
C.	Genetic inheritance

A.	Key words for this Unit
Genetic inheritance	The genes a person inherits from their parents
Predisposition	Someone is more likely to suffer from a particular condition
Chronic	Gradual illness that is long term (longer than 3 months) and generally can be treated but not cured
Acute	A short-term illness that can be cured
Monitor	To check progress over a period of time.
Person-Centred	Planning care around the wants and needs of a service user
Bereavement	The process of coming to terms with the death of someone close.
Circumstances	Events that change your life, over which you have no control
Physiological	Relates to how a person and their bodily parts function normally.
Interpret	understand an action, mood, or way of behaving as having a particular meaning
Collaboratively	Working well together with other people or services
Obstacles	Difficulties a person might face when they implement a plan.
Goal	What you want to achieve in the long term
Norm	Something that is usual, typical or standard
Targets	Challenges to help you reach your goal

B	Definitions of health and well-being	
Positive Definition		Looks at how physically fit and mentally stable a person is. You have a positive attitude towards health and wellbeing if you realise that there is something you can do to improve your health and wellbeing and do it.
Negative definition		Looks at the absence of physical illness, disease, and mental distress. You have a negative attitude towards your health and wellbeing if you: • Base your attitude on not having anything wrong with you. • Continues as you are- Inc. keeping bad habits like smoking. • Assume that because you currently feel fine you will stay healthy in the future.
Holistic definition		It is a combination of physical health and social and emotional wellbeing. It is not just the absence of disease or illness; it looks at all aspects of a person's health and wellbeing. You have a holistic attitude towards health and wellbeing if you look after your: • Physical Health: By meeting the needs we have to keep our bodies working as well as they can, e.g. Food, water, shelter, warmth, clothing, rest, exercise and good personal hygiene. • Intellectual health: By meeting the needs we have to develop and keep our brains working as well as possible; these include mental stimulation to keep us motivated and interested. • Emotional aspects of wellbeing: By meeting the needs we have that make us feel happy and relaxed, e.g. being loved, respected and secure. Knowing how to deal with negative emotions, having positive self-concept and being respected by others. • Social aspects of wellbeing: By meeting the needs we have to help us develop and enjoy good relationships with others, including mixing with others in appropriate environments and having access to leisure facilities/ activities.

C.	Genetic inheritance		
Inherited physical Characteristics		Genes and environment	
• Children inherit their physical; characteristics from their parents e.g. height, skin and eye colour and hair type and colour. • These characteristics can affect social and emotional wellbeing because they influence a person's self-concept (self-image and esteem).		• Chromosomes carry genes that determine aspects of persons physical makeup. • Gene is a section of DNA that carries a code. Different versions of a gene are called alleles (they can be faulty). • Environmental factors such as diet, also influence physical appearance. For example, a person may not grow to their full, genetically determined height if they do not have enough food.	
Allele type	Dominant: If a gene is dominant a child inheriting it from only one birth parent will have the condition, e.g Huntington's disease.	Effects of inherited disorders	• Physical health: Body systems, growth and mobility • Intellectual wellbeing: learning, thinking, problem solving and decision making. • Emotional wellbeing: how people feel about themselves. • Social wellbeing: the ability to build relationships and maintaining them.
	Recessive: If the gene is recessive a child would only develop the condition if it was inherited from both birth parents, e.g. Cystic fibrosis.		

What we are learning in LAA:

- A. Key words
- B. Definitions of health and wellbeing
- C. Genetic inheritance

A. Key words for this Unit

Genetic inheritance	
Predisposition	
Chronic	
Acute	
Monitor	
Person-Centred	
Bereavement	
Circumstances	
Physiological	
Interpret	
Collaboratively	
Obstacles	
Goal	
Norm	
Targets	

B**Definitions of health and well-being**

Positive Definition



Negative definition



Holistic definition

**C.****Genetic inheritance****Inherited physical Characteristics****Genes and environment**

Allele type

Effects of
inherited
disorders

What we are learning in LAA:

- D. Balanced diet
- E. Chronic and acute illness
- F. What are the effect of exercise?
- G. What are the effect of excessive substance use?



D.	Balanced diet
What is a balanced diet?	- Diet that contains the correct nutrients in the right proportions to keep out bodies and minds healthy. - It is also a lifestyle choice - Choosing to eat too much or too little might make us less able to take all the opportunities that life offers.
Overweight or underweight may:	A person over weight or under weight may: - Be prone to illness and conditions - Have their life expectancy reduced - Be less able to exercise effectively - Miss out on learning experiences - Miss out on some sporting activities - Be less successful in job interviews - Feel embarrassed and self-conscious about their appearance in social situations.
Essential parts of a healthy diet:	- Fats (saturated and unsaturated) - Carbohydrates (sugars and starches) - Minerals - Vitamins - Proteins
Eat well guide says you should eat:	- Eat at least 5 portions of a variety of fruit and vegetables every day. - Base meals on potatoes, bread, rice, pasta or other starchy carbohydrates; choosing wholegrain versions where possible. - Have some dairy or dairy alternatives (such as soya drinks); choosing lower fat and lower sugar options. - Eat some beans, pulses, fish, eggs, meat and other proteins (including 2 portions of fish every week, one of which should be oily). - Choose unsaturated oils and spreads and eat in small amounts. - Drink 6-8 cups/glasses of fluid a day.
If you eat more than you need:	- The body will store food as fat and this can lead to: - Obesity, heart disease, high blood pressure, Strokes, Tooth decay or cancer
If you eat less than you need	- The body does not get enough nutrients to grow and develop properly and this can lead to: - Eating disorders, stunted growth, anaemia, heart failure, depression, tiredness, cancer or rickets.

E	Chronic or Acute Illness
Chronic illness- Illness comes on gradually, is long term (more than 3 months) and generally can be treated but not cured. E.g Asthma, Diabetes, epilepsy, bipolar disease, Alzheimer's disease	Acute illness- Illness comes on quickly, is short term and can be cured. E.g. Cold, flue, broken bones, heartburn, appendicitis or Diarrhoea.
Some chronic conditions are acute but may develop because of chronic conditions. For example: osteoporosis (a chronic condition that weakness bones) making their bones fragile and more likely to break. Broken bones are then an acute condition.	
Possible negative effects of chronic illness	
Physical: - poor rate of growth - Unusual physiological change during puberty - Restricted movement	Emotional: - Negative self-concept - Stress - Decision making
Intellectual: - Disturbed learning because of missing school - Difficulties in thinking and problem solving - Memory problems.	Social - Isolation - Loss of independence - Difficulties developing relationships

F.	What are the effect of exercise?
Positive effects of exercise	Physical: maintain a healthy weight, reduce BMI, boosting energy levels. Improved flexibility, stamina, endurance and stronger bones and muscles. Reduce risk of heart disease and diabetes. Intellectual: improved brain function like mental and thinking skills. Emotional: improves confidence and mood and reduces stress. Aid relaxation and sleep and lead to better self concept. Social: encourages social interaction, reducing isolation and improving social skills.
Negative effects of exercise	Physical: Obesity and associated health problems. Intellectual: Reduced pain performance, hard to concentrate and retain information. Emotional: poor self-concept and reduced ability to cope with stress. Social: Fewer opportunities for social interactions.

G.	What are the effect of excessive substance use?
Negative effects of excessive alcohol consumption	Physical: Alcohol dependence, damage to major organs: liver, heart, kidneys, pancreas. Cancers: mouth, throat, oesophagus, liver, breast. Infertility and impotence, weight gain. Intellectual: difficulty in making decisions, depression and anxiety, chance of stroke and brain damage, impaired brain development of unborn baby. Emotional: poor self-concept, poor judgement leading to a risk of accidents and unsafe sex, can have an impact on relationships, depression. Social: breakdown of relationships, domestic violence, social isolation

What we are learning in LAA:

- D. Balanced diet
- E. Chronic and acute illness
- F. What are the effect of exercise?
- G. What are the effect of excessive substance use?

**D. Balanced diet****What is a balanced diet?****Overweight or underweight may:****Essential parts of a healthy diet:****Eat well guide says you should eat:****If you eat more than you need:****If you eat less than you need****E****Chronic or Acute Illness****Possible negative effects of chronic illness****F.****What are the effect of exercise?**

Positive effects of exercise



Negative effects of exercise

G.**What are the effect of excessive substance use?**

Negative effects of excessive alcohol consumption



What we are learning in LAA:

- H. The effects of social interactions on wellbeing
- I. What are the effects of stress on health and wellbeing
- J. What are the hazards of smoking
- K. What are the effects of personal hygiene

H. The effects of social interactions on wellbeing

Social integration	When people feel they belong to a group and can interact with others. Social interactions can happen between family members and friends, work colleagues, school learners, members of a community or interest groups.
Social isolation	Occurs when people do not have regular contact with others. This may be because they don't go out much because of physical illness, reduced mobility or unemployment. They might have a difficulty in communicating if they have a mental illness, depression or learning difficulties. Lastly, a person might be discriminated against because of culture, religion or disability.

Positive effects of relationships

Physical: physical support and day to day care and practical assistance.
Intellectual: shared experiences, supported learning and thinking
Emotional: unconditional love, security and encouragement, positive self-concept, feeling content, ability to build relationships with people outside the family, independence and confidence.
Social: Companionship, social circle increases.

Negative effects of social isolation

Physical: poor lifestyle choices like smoking and drinking, poor diet that can cause eating disorders.
Intellectual: reduced ability to use thinking skills, missing school/work
Emotional: feelings insecure, depression, anxiety, negative self-concept, feeling of hurt, loneliness and distrust, lack of independence, difficulty in controlling emotions.
Social: difficulties in building relationships as lack skills.

I. What are the effects of stress on health and wellbeing

Physical effects	Intellectual effects	Emotional effects	Social effects
Increased heartbeat Increased breathing rate Tense muscles Sweaty palms Dry mouth High blood pressure Loss of appetite Sleeplessness Digestive problems	Forgetfulness Poor concentration Difficulty in making decisions	Difficulty in controlling emotions Feeling insecure Negative self-concept Feeling anxious and frightened Loss of confidence	Difficulty in making friends and building relationships Breakdown of close relationships Social isolation

J. What are the hazards of Smoking

Heart disease and poor circulation mean:

- increased blood pressure
- increased risk of heart attack
- narrowing of the arteries.

Carbon monoxide causes:

- decreased oxygenation
- poor growth
- extra work for the heart
- increased risk of thrombosis.

Exposure in childhood means that children:

- are prone to chest infections and asthma
- tend to be smaller and weaker
- do less well at school.

Irritant particles cause:

- bronchitis
- emphysema
- asthma
- smoker's cough.

Nicotine causes:

- addiction
- increased blood clotting leading to thrombosis.

Conditions such as:

- stroke
- gum disease.

Tar causes cancers of the nose, throat, tongue, lungs, stomach and bladder.

The hazards of smoking

Exposure in pregnancy causes:

- smaller babies
- more stillbirths
- more miscarriages.

Smokers':

- breath and clothes smell of smoke
- hands and nails are nicotine stained
- faces often become wrinkled from the effects of smoking.

K. What are the effects of Personal Hygiene?

Positive effects of good personal hygiene



- Helps prevent the spread of infection
- Improves self-concept
- Reduces number of bacteria that lives on us.

You must:

- Brush you teeth
- Shower daily or bath
- Wash your hair regularly
- Keep fingernails and toenails clean and trimmed

Negative effects of poor personal hygiene

Physical: catching and spreading disease like food poisoning, sore throat, meningitis and athlete's foot. Bad body odour, bad breath and tooth decay.
Emotional: loss of friendships and social isolation. Might be bullied and poor self-concept.
Social: low social interactions as people don't want to be friends with someone that neglects their hygiene. Social isolation.

When caring for others:

- Bad hygiene can stop effective communication.
- Negative effect on the person being cared for and their health and wellbeing- pass on infection
- Discomfort for the person being cared for because of the odour or visible dirt under fingernails.

What we are learning in LAA:

- H. The effects of social interactions on wellbeing
- I. What are the effects of stress on health and wellbeing
- J. What are the hazards of smoking
- K. What are the effects of personal hygiene

H. The effects of social interactions on wellbeing

Social integration

Social isolation

Positive effects of relationships



Negative effects of social isolation



I. What are the effects of stress on health and wellbeing

Physical effects

Intellectual effects

Emotional effects

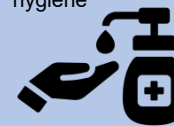
Social effects

J. What are the hazards of Smoking

The hazards of smoking

K. What are the effects of Personal Hygiene?

Positive effects of good personal hygiene



Negative effects of poor personal hygiene

When caring for others:

What we are learning in LAA:

- L. What are the barriers to seeking help.
 M. What are the effects of unexpected life events on health and wellbeing
 N. What are the effects of economic factors (e.g, income) on health and wellbeing
 O. What are the effects of expected life events on health and wellbeing

L. What are the barriers to seeking help.

Culture	Accessing HSC services can be influenced by values, traditions, way of life and beliefs of the society or group. - Some may have received discrimination when accessing other services. - Some may not speak English well enough. - Values and traditions not understood e.g. eye contact means respect in some cultures but not others. - Some cultures a woman must be treated only by a female professional. - Alternative therapies are used in some cultures
Gender	Research shows that men are less likely to talk about their health and wellbeing than women. This is because men are: - Often less open about their feelings - Sometimes reluctant to appear vulnerable by asking for help - Not aware of poor health signs as health campaigns target women's health more - Unhappy to be examined by a female health worker.
Education	Research shows that people who are better educated are more likely to seek help. This is because: - They like to research symptoms and know when help is needed - Understand the importance of early diagnosis and treatment - Know how and where to access services.
Stigma	In some cultural groups there is a stigma attached to certain conditions like depression. Stigma is a word used to describe something that people feel embarrassed about. Therefore, they wouldn't seek help.

M. What are the effects of unexpected life events on health and wellbeing

Life event	Negative Effects:	Positive Effects:
Imprisonment	- Depression - Loss of contact with family and friends - Social isolation - Restrictions on physical activity	- Opportunity to study - Improvement in health through balanced diet, lack of alcohol, reduced use of nicotine
Redundancy	- Poor self-concept - Anxiety about finances - Fewer opportunities	- Opportunities to study or train for a new job - More time to spend with family and friends
Exclusion or dropping out of education	- Loss of contact with friends - Social isolation - Poor self-concept - Lack of learning opportunities	- Catalyst for change of behaviour - Opportunities for more suitable study or work situation

N. What are the effects of economic factors (e.g, income) on health and wellbeing

	Positive Effects:	Negative Effects:
Physical	- Better financial resources can result in good housing conditions and healthy diet - Manual jobs may improve muscle tone and stamina.	- Low wages can affect diet and housing, leading to poor health. - Manual jobs can cause muscular and skeletal problems - Desk jobs lead to less activity and weight gain.
Intellectual	- Better financial resources can result in more leisure time for intellectual activities - Work, education or training helps to develop problem solving and thinking skills	- Some people work very long hours to improve their financial position, leading to less leisure time and reduced learning opportunities. - Being unemployed can result in poor mental health.
Emotional	- A well-paid job gives a feeling of security. - Being financially secure promotes positive self-concept	- Financial worries can result in stress and breakdown of relationships. - Unemployment or low-status work can lead to low self-concept
Social	- Better financial resources provide opportunities for socialising. - Work gives opportunities for socialising with colleagues.	- Lack of financial resources reduces opportunities for socialising. - Unemployment reduces opportunities for relationships, leading to social isolation.

O. What are the effects of expected life events on health and wellbeing

Life event	Positive Effects:	Negative Effects:
Starting school, college or uni	- Build new relationships - Extend knowledge and learning - Develop new skills - Improve confidence	- Anxiety about new routines and meeting new people - Insecurity about leaving parents and other families
Start a new job or career	- Develop independence - Improve thought processes - Improve self-concept	- Stress about learning new skills and routines - Anxiety about meeting new people
Moving to a new house or area	- Excitement - Develop new friendships and relationships	- Unhappiness at loss of old life - Stress of moving - Social isolation
Retirement	- Reduced stress - Time to socialise with family and friends - Opportunities for leisure of physical activities	- Loss of relationships with colleagues - Possible loss of fitness and mobility - Loss of intellectual stimulation and status

What we are learning in LAA:

- L. What are the barriers to seeking help.
 M. What are the effects of unexpected life events on health and wellbeing
 N. What are the effects of economic factors (e.g, income) on health and wellbeing
 O. What are the effects of expected life events on health and wellbeing

L. What are the barriers to seeking help.

Culture

Gender

Education

Stigma

M. What are the effects of unexpected life events on health and wellbeing

Life event Negative Effects: Positive Effects:

Imprisonment

Redundancy

Exclusion or dropping out of education

N. What are the effects of economic factors (e.g, income) on health and wellbeing

Positive Effects:

Negative Effects:

Physical

Intellectual

Emotional

Social

O. What are the effects of expected life events on health and wellbeing

Life event

Positive Effects:

Negative Effects:

Starting school, college or uni

Start a new job or career

Moving to a new house or area

Retirement

What we are learning in LAB:

- A. Physiological health indicators
- B. What are health indicators?
- C. Interpreting lifestyle data

A.	Physiological health indicators
Pulse	Resting pulse rate is measured when a person has been still for about 5 minutes. Health reading for an adult is 60-100 bpm. Pulse rate during exercise: 220bpm minus the person's age.
Blood pressure	- This is the pressure exerted by blood against the artery walls. - It is measured in millimetres of mercury (mm Hg) and is shown in two numbers: - Systolic pressure: (the top number) is the maximum pressure in the blood vessels as the heart pushes out blood. - Diastolic pressure: (the bottom number) as the minimum pressure in the vessels when the heart relaxes between the beats.
Peak flow	- Measured how quickly you can blow air out of your lungs. - it is measured in litres per min (L/min).
BMI	Measures the amount of fat on your body in relation to your height to tell you if your weight is healthy.

B.	What are health indicators?
Importance of understanding indicators	- Detect health problems at an early stage - Track improvements or deterioration in health - Make recommendations about health and treatments - Give advice about future health risks - Support individuals to make different lifestyle choices.
What are lifestyle indicators?	- These indicators can be used to assess risks to an individual's health and wellbeing now and in the future. - Professionals collect information about lifestyle choices by asking about a person's: - Weekly alcohol consumption - Smoking habits - Levels of physical activity and exercise.
What are physiological indicators?	- They show how well the body's systems are functioning. - Health professionals check a person's health by taking measurements. - They compare the results with published guidance.

C.	Interpreting lifestyle data
Interpreting data on smoking 	- Smoking causes around 96,000 deaths in the UK annually. - Smoker under the age of 40 are 5 times more likely to have a heart attack than non-smoker. - Smoking causes 80% of deaths from lung cancer, 80% of bronchitis and 14% of deaths from heart disease. - More than 25% of all cancer deaths are caused by smoking. - On average a smoker will die 10 years earlier than a non-smoker. - Smokers are more likely to develop facial wrinkles. - Smoking is a cause of impotence and can lead to sperm abnormalities.
Interpreting data on alcohol 	- Strongly linked to at least 7 types of cancer - Alcohol-related liver disease accounts for 37% of liver disease and deaths. 2/3s of cases of chronic pancreatitis are caused by heavy drinking - You are between 2 and 5 times more likely to have an accident or injury - Each drink per day increases the risk of breast cancer in woman between 7-13% - Men and woman should not drink more than 14 units a week and not all in one go.
Interpreting data on inactivity 	- Increased risk of breast cancer by 17.8% and colon cancer by 18.7% - Increased risk of type 2 diabetes by 13%. - Increased risk of coronary heart disease by 10.5% - Leads to obesity and joint pain 16.9% of all premature deaths are caused by inactive lifestyle. - Active people have a lower risk of premature death. - People who are inactive visit their GP more often and they spend 38% more time in hospital.

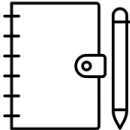
What we are learning in LAB:

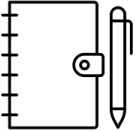
- A. Physiological health indicators
- B. What are health indicators?
- C. Interpreting lifestyle data

A.	Physiological health indicators
Pulse	
Blood pressure	
Peak flow	
BMI	

B.	What are health indicators?
Importance of understanding indicators	
What are lifestyle indicators?	
What are physiological indicators?	

C.	Interpreting lifestyle data
Interpreting data on smoking 	
Interpreting data on alcohol 	
Interpreting data on inactivity 	

What we are learning in LAC:		C.	Recommended action to meet health and wellbeing improvement goals	
A. What is a person-centred approach B. Health improvement plan C. Recommended action to meet health and wellbeing improvement goals D. SMART targets for health improvement plan E. Sources of support			<u>To lower blood pressure:</u> • Eat five or more portions of fruit and veg a day • Cut out salt • Use relaxation techniques to reduce stress • Join a gym • Drink water alongside alcohol to reduce consumption	<u>To reduce BMI:</u> • Reduce fat and sugar intake • Do not exceed the recommended daily calories intake • Get off the bus a stop early and walk the rest of the way • Drink water instead of sugary drinks.
A.	What is a person-centred approach.			
Person-centred approach	A holistic approach that puts the individual at the heart of health care planning, so that the whole range of physical, intellectual, emotional and social health needs are met.			
When planning for health improvements include:	• The needs: physical, intellectual, emotional and social. • The wishes: likes, dislikes, choices and desired health goals. • Circumstances: illness or disability, access to facilities, previous experiences, family and relationships, responsibilities.			
Benefits of person-centred approach:	• Will feel involved • Is more likely to trust a health professional who listen to them • Will feel more secure • Is more likely to follow the plan and achieve the targets • Will take responsibility for their own health.			
B.	Health improvement plan			
What is it?	Health and wellbeing improvement plans are often based on an individual's physiological and lifestyle indicators. Plans should be person-centred and include goals, actions and targets and possible sources of support.			
The plan will identify:	• The health issues and goal • The recommended actions to take • A set of targets for health improvement • The supports that are needed • Possible obstacles to progress and way to overcome them.			
Positive effects of a health improvement plan	• Be fitter • Lose weight • Have improved self-concept • Lower blood pressure, healthier heart • Reduced risk of cancer • Taking control of their health outcomes and reaching health goals			
		D.	SMART targets for health improvement plan	
		Specific	The target must be clearly stated. It should say exactly what you mean, such as to 'lose 2 kg in weight in a week'. The target should be clear and not open to any misunderstanding.	
		Measurable	A target of to 'lose weight' is too vague. A specific amount must be stated so you can prove you have met your target.	
		Achievable/attainable	If you are following a health and wellbeing improvement plan you must feel it is possible to achieve it. If you do not, you will probably give up before you have even started. An achievable target is to 'lose 1kg this week'. An unachievable target would be to 'lose 20kg this week'.	
		Realistic	The target set must be realistic in that you must be able to physically do it. It is not realistic to expect a person who is older and not very fit to run for 30 minutes a day to help weight loss, but it is realistic to ask the same of a fitter, younger person.	
		Time-related	The target must have a deadline, so that you know when you need to achieve the target by, and progress can be assessed.	
		E.	Sources of support	
		Informal support	Informal support is the support an individual receives from partners, family and friends. It is usually the first form of support an individual experiences after and expected or unexpected life event. Informal support can provide reassurance, encouragement, advice, a sense of security, someone to talk through options with and practical help.	
		Professions (formal) support	Formal support may be provided by statutory care services (the state), private care services and charitable organizations. Professional support may include counsellors, teachers, careers advisers, occupational therapists, social workers and health specialists. Professional support may be needed to help people with a health condition, regain mobility, deal with life changes and emotions, get advice and information or change their lifestyle.	
		Voluntary support	Organizations offering voluntary support are charities, community groups and religious groups. At voluntary support services, many staff are volunteers (they work for free), but they also employ qualified people who are paid by donations. Community groups work at a local level to meet the needs of people living in a specific neighbourhood i.e. foodbanks. Religious groups are formed by people who share the same religious or spiritual beliefs but they help all people in need regardless of their beliefs and background i.e. a church run soup kitchen for the homeless.	

What we are learning in LAC:		C.	Recommended action to meet health and wellbeing improvement goals
A. What is a person-centred approach B. Health improvement plan C. Recommended action to meet health and wellbeing improvement goals D. SMART targets for health improvement plan E. Sources of support			
A.	What is a person-centred approach.		
Person-centred approach			
When planning for health improvements include:			
Benefits of person-centred approach:		D.	SMART targets for health improvement plan
		<u>S</u> pecific	
		<u>M</u> easurable	
		<u>A</u> chievable/ attainable	
		<u>R</u> ealistic	
		<u>T</u> ime-related	
B.	Health improvement plan	E.	Sources of support
What is it?		Informal support	
The plan will identify:		Professions (formal) support	
Positive effects of a health improvement plan		Voluntary support	

F.	What are the potential obstacle to implementing plans?	G.	What are the possible obstacles to accessing services?		
Emotional/ psychological- Lack of motivation	• A conflict between choices such as worrying that giving up smoking could result in weight gain • Other priorities in a person's life- such as getting married or bereavement. • Having negative attitude- believing change will be too difficult • Lack of progress for example losing eight quickly in the first weeks but then slowing down. • Having a blip- thinking there is no point in continuing the plan after briefly returning to an old lifestyle.	Type of obstacle	Possible obstacles	Suggestions to overcome obstacles	
Emotional/ psychological- Low Self- concept	• People with low self-concept don't value themselves, • Feel powerless to change their lifestyle or that there's no point in starting because the task seems too big. • Some thin that because they were unsuccessful in other aspects of their life, they won't achieve their health goals. • They may not feel they have support and approval from family and friends even if they really do.	Geographical	• Service is difficult to get to because of poor bus or train services.	• Arrange hospital transport • Suggest telephone helplines or internet support groups.	
Emotional/ psychological- Acceptance of the current state	• People my accept their present health problems or lifestyle choices, as it Is easier to stay the same than to make changes. • Have no incentive to make a change because they do not understand the health risks. • Have no desire to change, for example, if they are happy with their weight or don't want to give up smoking.	Financial	• Charges to use the services • Time off from work would mean loss of pay	• Check for entitlements, such as medicines and treatments • Direct the person to advice on benefits and employee rights.	
Time constraints	People find that they do not have the time to achieve their health improvements targets because of: • Care of young children, family members that are not well. • Regular and additional work and study commitments • Domestic chores • Medical appointments	Psychological	• Fear of being judged because there is stigma around a health problem (mental health, obesity)	• Talk about concerns and reassure • Direct the person to a charity that supports people with a particular health problem.	
Availability of resources	Financial obstacles: • Gym memberships, entry fee for a swimming pool • Cost of attending exercise classes • Cost of travel to the gym. pool or to attend health appointments • Higher costs of some healthy foods. • Lack of and the cost of exercise equipment	Physical	• Difficulty getting into the buildings where the service is provided (no wheelchair access). • No where to park near the service	• Be aware of services that are adapted for easy access • Ask a friend or family member to drop the person off at the service	
Unachievable targets	• Expectations too high • Targets are not clear • There are too many targets • Timing is wrong/poor • Targets are not suitable for the individual • Fear of not being able to meet targets • Not being in the right frame of mind to commit to the plan, e.g. due to depression.	Personal needs	• Communication difficulties because of pool language skills, sensory or learning disability . • Concern that cultural needs are not understood	• Provide support services that meet the person's needs, such as a BSL signer, interpreter, advocate • Use anti-discriminatory practice and encourage others to do so	
Lack of support	• Diet- find it difficult if a person on a healthy eating plan is surrounded by others that eat junk food or tempted by the chocolate and biscuits in the cupboard, Family and friends go out for meals instead of doing other activities. • Smoking- friends and family smoking and offering them cigarettes. Lacking will power to quit. • Alcohol consumption- someone that is used to drinking with family and friends will find it difficult to stop without their support. It would be hard to quit if the family and friends drink wine with their meals, friends centre a night out around heavy drinking at pubs and clubs.	Resources	• Limits on services, such as support aids and equipment • Staff shortages, leading to long waits for appointments and support.	• Suggest sources of second-hand equipment • Look for alternative strategies, for example an exercise DVD if there are no places at an exercise class.	
Ability, disability and addiction	• Understand what they need to do • Learn how to make the required changes in their lives. • Any places the person uses are wheelchair accessible • Any exercise advised is wheelchair friendly. • If stop smoking, then can put on weight- put people off. • Like the way alcohol makes them feel but cant admit that they have a problem				

F.	What are the potential obstacle to implementing plans?	G.	What are the possible obstacles to accessing services?		
Emotional/ psychological- Lack of motivation		Type of obstacle	Possible obstacles	Suggestions to overcome obstacles	
Emotional/ psychological- Low Self- concept		Geographical			
Emotional/ psychological- Acceptance of the current state		Financial			
Time constraints		Psychological			
Availability of resources		Physical			
Unachievable targets		Personal needs			
Lack of support		Resources			
Ability, disability and addiction					

JS Bach: Badinerie

Form and structure:

The piece is in **Binary** form (**AB**).
Section A is 16 bars long.
Section B is 24 bars long.
Each section is repeated (**AABB**).

Dynamics:

Mostly **forte** throughout, although no markings appear on the score.
On some recordings, **terraced dynamics** (sudden changes) are included.

Background details:

Composed by **Johann Sebastian Bach** (1685 – 1750), one of the main composers of the **Baroque** era in music.

Badinerie is the last of seven movements from a larger piece called **Orchestral Suite No.2**.

The piece was composed between **1738-1739**.

Tonality:

Section A begins in **B minor** (tonic) and ends in **F# minor** (dominant minor).

Section B begins in **F# minor** (dominant minor) and ends in **B minor** (tonic).

Section A modulates from B minor through **A major** before arriving at F# minor.

Section B modulates from F# minor through **E minor**, **D major**, **G major** and **D major** before arriving at B minor.

Harmony:

Diatonic; mixture of root position and inverted chords; uses V7 chords and a Neapolitan sixth chord.

Imperfect and perfect cadences are clearly presented throughout. Both sections end with a **perfect cadence**.

Metre and rhythm:

Simple duple time – 2/4 – with two crotchet beats in every bar.

Uses **ostinato rhythms** which form the basis of two short musical ideas (X and Y), consisting almost totally of **quavers and semi-quavers**.

Instrumentation:

Flute, string orchestra and harpsichord.

The score has five parts (flute, violin 1, violin 2, viola and cello). The harpsichord player reads from the cello line and plays the notes with their left hand whilst filling in the chords with their right hand.

Melody:

The movement is based on **two musical motifs**.



Both motifs begin with an **anacrusis**. Motif X is entirely **disjunct** whilst motif Y **combines disjunct and conjunct** movement.

Typical **ornaments and compositional devices** of the period are used including **trills**, **appoggiaturas** and **sequences**.

Texture:

Homophonic: melody and accompaniment.

The flute and cello provide the main musical material; however, the 1st violin participates occasionally.

The 2nd violin and viola provide harmony with less busy musical lines.

Tempo:

The tempo is **Allegro** (quick, lively, bright), although not marked on the score.

Question	Answer	Question	Answer
This piece is in Binary form . Explain what binary form means.		Which key term best describes the dynamics (even though they aren't written on the score)	Piano Forte
How many bars long is section A ?		How many bars long is section B ?	
Each section in Badinerie is repeated, circle the correct symbol that shows this	  	Define terraced dynamics	
Define simple duple time		Both motifs begin with an anacrusis , what does this mean?	
State the name of the Minor key this piece of music is in		Section A modulates through which key? Underline the correct answer	A minor A major D major G major
Give an appropriate tempo for this piece		What year was this piece composed ?	
Which two note values form the basis of motif X and Y .		From which larger work does this belong to?	
Section A begins in B minor (tonic) and ends in F# Minor , state the relationship between these two keys.		Give the full name of the composer of this piece.	

Sentence Stems: Year 10 to Year 13



Listen and Mark

Pay close attention to others and point out important moments.

- I notice you used the word / phrase ___, which implies ___ .
- When you said ___, it anchored the idea that ___ .
- Did anyone notice what ___ said about ___ ? This seems important because ___ .

Defend and Unpack

Defend your perspective and explain your thought process.

- I understand your perspective on ___, but have you thought about ___ ?
- I actually think this because ___. (Furthermore, finally).
- Actually, [evidence] suggests that ___ .

Introduce and Invite

Begin your contribution and encourage others to participate.

- I suggest that ___ because ___ .
- ___, what is your perspective on ___, and why?
- We should discuss ___ because ___ .

Build and Support

Add to others' ideas and bolster points by giving evidence.

- Your point about ___ implies ___, and I would like to further this by saying ___ .
- ___ supports the idea that ___ .
- Drawing upon points made by ___ and ___, we can conclude that ___ because ___ .

Challenge and Verify

Disagree and ask others to prove or clarify information.

- You said ___ . How do you know?
- I think you said ___, which implies that you believe ___ . Is that right?
- I disagree with what you said about ___ because ___ .

Summarise and Map

Draw together big themes and track the discussion.

- Our main findings were ___ .
- On the whole, we believe that ___ .
- Initially, we thought ___, but we eventually decided ___ .



SWINDON ACADEMY READING CANON

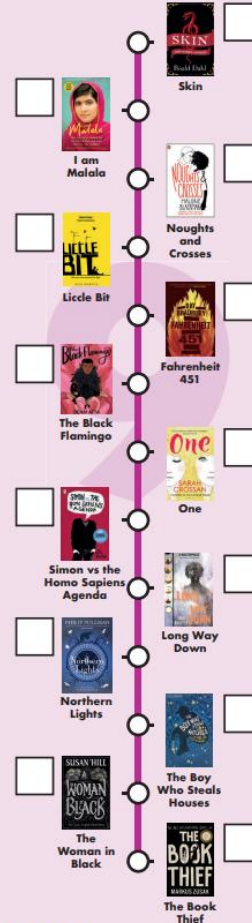
Year 7



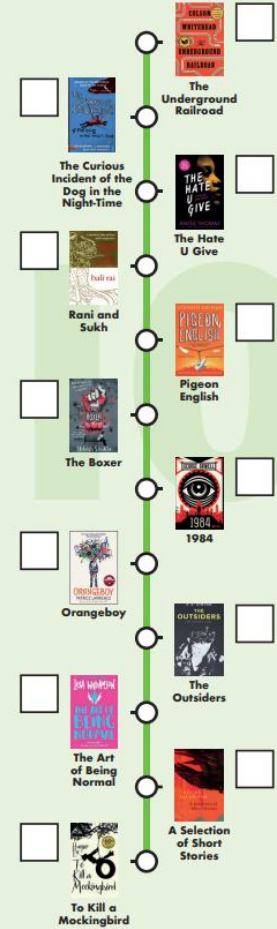
Year 8



Year 9



Year 10



#ReadingisPower