Knowledge Organiser
Year 9 Spring 1 2025

Create Your Future

BELPER SCHOOL
and Sixth Form Centre

"You can do something and give it your best and it doesn't need to be perfect for it to be a success."
"With opportunity and support, anything can happen."

Chris McCausland

Comedian and Strictly Come Dancing Champion 2024

Name:

Tutor Group:

Contents Page

Science, PE and Technology are on a rotation so have multiple pages in this booklet.
Your teacher will direct you to the appropriate pages when setting work.

Timetable

Week 1	1	2	3	4	5
Monday					
Tuesday					
Wednesday					
Thursday					
Friday					

Week 2	1	2	3	4	5
Monday					
Tuesday					
Wednesday					
Thursday					
Friday					

In Class Expectations

Create Your Future

BE CURIOUS

BE RESPECTFUL

BE RESILIENT

BE CONFIDENT

BE THE BEST VERSION OF YOURSELF

BE BELPER

Out of Class Expectations

Create Your Future

BE INVOLVED

BE KIND

BE BRAVE

BE PROUD

BE THE BEST VERSION OF YOURSELF

BE BELPER

Being in school and being on time is crucial for success and preparing for the future.

Lost learning can lead to additional anxiety and pressure to catch up work and risks the student falling even further behind.

Create Your Future

BE PRESENT
BE PUNCTUAL

THERE ARE 175 NON-SCHOOL DAYS DURING THE YEAR TO SPEND ON FAMILY TIME, VISITS, HOLIDAYS, SHOPPING, HOUSEHOLD JOBS AND OTHER APPOINTMENTS

DAYS OFF SCHOOL ADD UP TO LOST LEARNING

BE BELPER

100%
OUR TARGET FOR ALL STUDENTS

97%
6 DAYS ABSENCE
30 HOURS LOST LEARNING
EXCELLENT OR GOOD ATTENDANCE BEST CHANCE OF ACADEMIC SUCCESS

95%
10 DAYS ABSENCE
50 HOURS LOST LEARNING
WORRYING
AT RISK OF MAKING IT HARDER TO PROGRESS

90%
19 DAYS ABSENCE
95 HOURS LOST LEARNING
CONCERN
LESS CHANCE OF SUCCESS AND SIGNIFICANTLY REDUCES LEARNING

Attendance

- 90% attendance is half a day missed every week

- 90% attendance in one school year is 4 whole weeks of lessons (100 lessons) missed in that year.

- 90% attendance over 5 years of secondary school is half a year of school missed.

- Evidence suggests that, on average, every 17 days of school missed by a student equates to a drop of 1 GCSE grade.

Punctuality

- 10 minutes late each day = 50 minutes of lessons missed each week

- 10 minutes late each day = 2000 minutes (33.3 hours, 5.5 days) every academic year

- 10000 minutes (166.5 hours, 27.5 days) of missed learning from year 7 to year 11.

"Everyday you show up, you're investing in your future self. Don't underestimate the power of attendance."

BE PRESENT   **BE PUNCTUAL**

Guided Reading Tracker

Date	Title and author	Summary of reading (+interesting or new vocabulary learned)	Signed:	

As part of your library lessons, you are expected to complete **at least 20 minutes** of reading once a fortnight.

To track your reading, you need to complete a row of the table before each library lesson to show details of the book you have read.

Your table also needs to be signed by someone who has witnessed you reading. This will most likely be a parent/guardian but it can alternatively be signed by your tutor, classroom teacher, buddy reader, TA or Sarah in the library.

English: Much Ado about Nothing

BELPER SCHOOL and Sixth Form Centre

Section 1: Key Vocabulary

Tier 3 vocabulary	Definition
Subordinate	To treat someone as lesson important than someone else.
Patriarchy	A system of society or government in which men hold the power.
Satire	The use of humour, irony, exaggeration or ridicule to expose and criticise people.
Inferior	Lower in rank, status or quality
Antagonistic	Showing or feeling active opposition or hostility towards someone or something.
Tier 2 vocabulary	Definition
Comedy	fiction that is light, funny and generally has a happy ending.
Tragedy	Based on human suffering, and the terrible or sorrowful events that befall a main character. Usually, the protagonist is brought down by his/her own flaws.
Conflict	A struggle between two opposing forces – two characters, a character and nature or even an internal struggle.
Dramatic Irony	A situation in which the audience or reader has a better understanding of events than the characters do.
Antagonist	The principle opponent or foil of the main character.
Dynamic Character -	A character who undergoes some important change in the course of the story.

Section 2: New Key Skills/Strategies

CPEAT writing skills

What are Beatrice's attitudes towards Benedict at the start of the play?

Initially, Beatrice shows a dislike towards Benedick in her statement: "he is no less than a stuffed man" The noun 'stuffed man' has negative **connotations** of him being worthless and **infers** that he is of no importance. Beatrice's attitude defies gender expectations of the time; women were expected to be submissive to men, yet here she is shown to stand up to him in a very assertive way.

Key analysis words
Infer
Connotations
Impact
Reiterate
Embellishes

Section 3: Shakespeare's Life and Times

Key Themes

Appearance and reality
Shakespeare uses this play to show how appearance and reality are not always the same thing.

Love
Love is the main idea in this play and is shown through the partnerships between Claudio and Hero, Benedick and Beatrice and also through the paternal love that Leonato shows for his daughter and niece.

Nothing and 'noting'
The title of the play refers to one of its main themes. 'Nothing' implies that the concerns of the play are trivial. The word 'nothing' in Shakespearean times was pronounced 'noting' and so the title itself is a pun.

Context.

Gender
Women had little power in Elizabethan society. They lived in a patriarchal society and life was controlled by men. Women had a strict expectation to follow and were expected to remain 'pure' and virgins until marriage.

Comedy
The play is considered one of Shakespeare's best comedies. In a comedy, there's normally a problem at the beginning of the play that is solved by the end of it – the audience are confident that everything will end well.
The play contains a lot of features commonly used in his comedies, including: A happy ending, disguises, music and dancing, young lovers, marriage and puns and wordplay.

Marriage
Marriages were rarely about love and were often arranged to bring financial or social benefit to both families. People were expected to get married, the characters are very concerned with finding partners for themselves and others.

10

Section 1: Key Vocabulary

Tier 3 vocabulary	Definition
Patriarchy	A system of society or government in which men hold the power and women are largely excluded from it
Symbolism	The idea that words, phrases and images can represent other things
Authority	The power or right to give orders, make decisions, and enforce obedience
Maternal	Having the stereotypical characteristics of a mother
Determinism	The theory that everything in life is pre-decided and pre-planned.
Unrequited Love	Unrequited love or one-sided love is love that is not openly reciprocated or understood as such by the beloved
Elizabethan Era	The time in the Tudor period of the history of England during the reign of Queen Elizabeth I

Tier 2 vocabulary	Definition
Foreshadowing	To hint at something that will happen later in the play
Stage Directions	An instruction in the text of a play indicating the movement, position, or tone of an actor
Sonnet	A poem of 14 lines, in English typically having ten syllables per line
Prologue	An opening speech that introduces key themes within the play
Soliloquy	A speech delivered by a character that the other characters do not hear

Section 2: Key Skills/Strategies

Use the CPEAT format to write analytically about Shakespeare's play.

C	**CONNECTIVE**	Firstly, moreover, furthermore, in conclusion.
P	**POINT**	Use the wording of the question and identify what your paragraph will explore.
E	**EVIDENCE**	Find a relevant quotation and identify a language or structural device in it...
A	**ANALYSIS**	... and then explore the deeper meaning of this quote/technique and how it links to the question.
T	**THINK INTENTION AND IMPACT**	Explore the intentions of the author and the effect/impact of this on the reader.

FEATURES OF A TRAGEDY

Tragedy: A play dealing with tragic events and having an unhappy ending, especially one concerning the downfall of the main character/s.

The Tragic Hero:
The tragic hero describes a virtuous character who must face adversity, either caused by their flawed persona or sealed by fate. Ultimately, they pay the price with their lives, but after recognising their mistake.

The Fatal Flaw: *Hamartia*
The tragic hero's flaw, that leaves them vulnerable and causes their disastrous end.

Tragic Waste:
Often the inevitable deaths of pivotal characters in the play.

Catharsis:
The audience's immersion in the play leads to an emotional roller coaster, with mixed feelings for the hero and their antagonists. The ending of the play leads to a release of often very conflicting emotions for the audience.

Section 3: Context and Themes

VERONA
R&J is set in Verona, Italy in the fourteenth century. Verona was a rich, lively, cultured city but it had been affected by violence for centuries. Political and religious leaders clashed over power, wealth and status and often the citizens had to take sides.

WOMEN & GENDER ROLES
Society was patriarchal: men were dominant and women were seen as inferior and expected to marry as young as twelve years old. Noblewomen like Juliet would have received some education but there was little freedom of choice in life for most women.

QUEEN ELIZABETH I
The Queen while Shakespeare was writing. Elizabeth I made Protestantism the official religion of England, which angered many Catholics, and led to much conflict. Shakespeare may be referencing this in 'Romeo and Juliet', with the two warring families.

NURSES
Nurses were employed by wealthy families to feed and care for their children.

FATE
The belief that your life is mapped out for you, or 'written in the stars'. Many Elizabethans believed God decided your fate, and that astrology could help you identify your course in life.

KEY THEMES IN THE PLAY
Conflict, Power, Fate, Loyalty, Family, Religion, Love, Hatred, Violence, Death
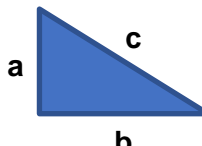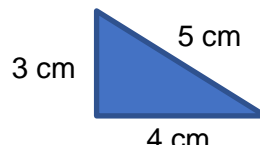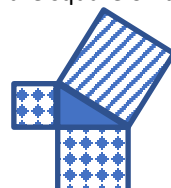
11

Section 1: Key Vocabulary

Tier 3 vocabulary	Definition
Prejudice	A liking or a dislike for someone or something, usually without good reason
Injustice	A lack of fairness
Exploitation	The action of treating someone unfairly in order to benefit from them
Vulnerability	Being exposed to the possibility of being attacked or harmed, either physically or emotionally
Thriller	Thriller is a genre of fiction which is characterised by giving readers heightened feelings of suspense, excitement, surprise, anticipation and anxiety.
Morality	The belief that some behaviour is right and acceptable and that other behaviour is wrong.
Trauma	A deeply distressing or disturbing experience

Tier 2 vocabulary	Definition
Dual Narrative	A story that is told from two different perspectives.
Colloquialisms	Colloquial language is casual, informal and conversational.
Morality Tale	A story or narrative from which one can derive a moral/lesson about right and wrong.
Protagonist	The leading character In a novel.
Antagonist	The opponent of the protagonist in a novel.

Section 2: Key Skills/Strategies

Use the CPEAT format to write analytically about Shakespeare's play.

C	CONNECTIVE	Firstly, moreover, furthermore, in conclusion.
P	POINT	Use the wording of the question and identify what your paragraph will explore.
E	EVIDENCE	Find a relevant quotation and identify a language or structural device in it…
A	ANALYSIS	… and then explore the deeper meaning of this quote/technique and how it links to the question.
T	THINK INTENTION AND IMPACT	Explore the intentions of the author and the effect/impact of this on the reader.

Features of Thriller Novels

Suspense, Surprise and Anxiety	Climax	Plot Twists and Cliff-hangers
The two seemingly distinct narratives in Stone Cold draw closer together, making the reader feel anxiety for poor Link!	Thrillers generally build towards a key moment, in which all of the suspense built over the narrative are released in one scene. This is the case when Shelter attempts to murder Link.	A plot twist is when the narrative changes from what the reader would (e.g. Ginger's murder). Cliff-hangers are also used to keep the reader interested.

Section 3: Context and Themes

ROBERT SWINDELLS

Robert Swindells is an English writer who was born in Bradford on March 20th 1939. He served in the Royal Air Force, before becoming a primary school teacher. It was at this time that he began writing novels, which he later took up full time. Swindells has stated that he feels 'constantly aware of the presence of injustice in the world', and that he tries to 'point out various manifestations of injustice... which exist in our society.' He draws upon these ideas in Stone Cold.

HOMELESSNESS

The latest data shows that on any given night, there were an average of 2440 people sleeping rough in the UK. Remember this is on any given night, so the number who slept rough over the course of a year is likely to be many times more. A study by the Evening Standard showed that more than 7,500 people slept rough in London at some point in 2015. This included 880 under 25s.

THE ARMED FORCES

The British Armed Forces are the military services responsible for the defence of the United Kingdom. They include the British Army, the Royal Navy, the Royal Marines, and the Royal Air Force. Service members can be discharged from service for a variety of reasons. A dishonourable discharge (DD – language more often used in the US military) is handed down for an offence that the military considers to be exceptionally poor conduct. Some members are also discharged on physical/ mental health grounds.

KEY THEMES IN THE NOVEL

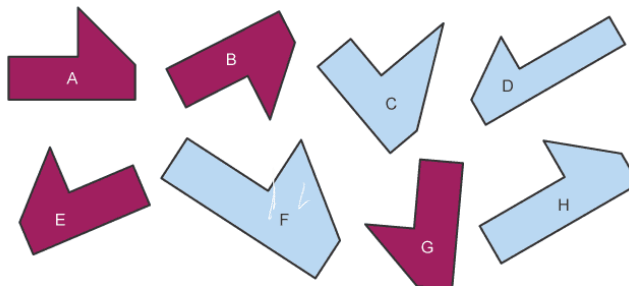Threat – Homelessness – Injustice – Hopelessness - Exploitation, Vulnerability- Prejudice

12

Maths: Pythagoras Theorem

BELPER SCHOOL and Sixth Form Centre

Section 1: Key Vocabulary

Tier 3 vocabulary	Definition
Hypotenuse	The longest side of a triangle
Right-angled triangle	A triangle which has a 90° angle
Square or **square number**	The product of a number multiplied by itself e.g. 4 x 4 = 16, so 16 is a square number, and 16 is the square of 4
Square root	The number that multiplies by itself to make a square number e.g. 4 x 4 = 16, so 4 is the square root of 16 Represented with the symbol $\sqrt{}$ so $\sqrt{16} = 4$ (find the square root button on your calculator)

Tier 2 vocabulary	Definition
Triangle	A 2D (two-dimensional) shape with three sides and three angles
Theorem	A mathematical rule which can be shown to be true and used to find things we don't know
Triple	A set of three numbers
Integer	A whole number

Revision QR codes

Pythagoras

Section 2: New Knowledge/Skills

In this topic we will find out how to find the third side-length of a right-angled triangle if we know the other two side-lengths

Pythagoras Theorem states that :
If we have a right-angled triangle with sides of length a, b and c, where c is the longest side, then…

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

We can think of this as
"the sum of the squares of the shortest sides of a right-angled triangle is equal to the square of the hypotenuse"

In other words…
- work out the squares of the three sides of the right-angled triangle
- now add the two smallest squares together – they should add up to the square of the hypotenuse

$3 \times 3 = 9$
$4 \times 4 = 16$ +
$\qquad\quad 25$
and

$5 \times 5 = 25$

!!THIS **ALWAYS** WORKS FOR **ALL** RIGHT-ANGLED TRIANGLES!!

Section 2 (cont.): New Knowledge/Skills

If we draw squares on the sides of the triangle, the **combined** area of the **smaller** squares is the same as the area of the square on the hypotenuse (biggest square)

Section 3: Using Pythagoras Theorem

1. We can find the hypotenuse if we know the two shorter sides [$a^2 + b^2 = c^2$]
2. We can find one or both of the shorter sides if we know the hypotenuse [$a^2 = c^2 - b^2$] or [$b^2 = c^2 - a^2$]
3. We can test a triangle to see if it has a right-angle by testing whether Pythagoras Theorem works for that triangle.

Section 4: Pythagorean Triples

- Right-angled triangles do not all have side-lengths which are integers, but those whose side-lengths *are all* integers are known as Pythagorean Triples.
- The example in Section 3 is an example of a Pythagorean Triple
- We can represent the triple in Section 3 as (3,4,5)

Now it's your turn!
1. Can you use the Triple in Section 3 to find any other triples?
2. Using a list of the first 100 squares (google it!), can you find any other Triples?
3. List as many as you can
4. Can you group them into 'families'? Explain how you've grouped them.

Section 5: Handy Hint

!!ALWAYS REMEMBER!!
No matter which side-lengths are given in a question, it's the two SHORTEST sides whose squares are added together – NEVER add the square of the hypotenuse to one of the other squares

BELPER SCHOOL
and Sixth Form Centre

Section 1: Key Vocabulary

Tier 3 vocabulary	Definition
Congruent	The same shape and size. All side lengths and angles are the same
Proportional	Having the same ratio
Scale Factor	When an enlargement takes place, the side lengths are multiplied by the same number called the scale factor
Hypotenuse	The longest side in a right angle triangle

Tier 2 vocabulary	Definition
Similar	Two shapes are similar if they have been enlarged by the same scale factor
Enlargement	A change in size. It can make a shape bigger or smaller
Corresponding	Equivalent

Revision QR codes

Congruency   Similarity

Section 2: Congruency

Shapes are said to be congruent if they are the same shape and the same size. In the diagram above A, B, E and G are all congruent.

Congruent Triangles Two triangles are said to be congruent if any one of the following 4 conditions are met.
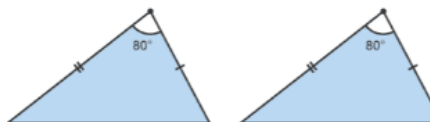
Condition 1: Side, side, side (SSS)

All three corresponding sides are equal

Condition 2: Angle, angle, side (AAS)

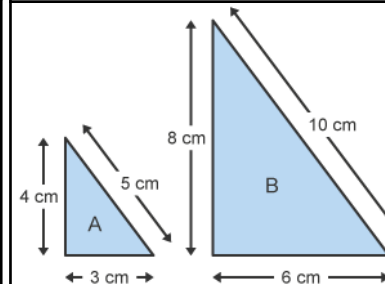Two angles and a corresponding side are equal

Condition 3: Side, angle, side (SAS)

Two corresponding sides and the angle between them are equal

Condition 4: Right angle, hypotenuse, side (RHS)

A right angle, the hypotenuse and a corresponding side are all equal

Section 3: Similarity

Triangle B is an enlargement of triangle A by a scale factor of 2. Each side length in triangle B is twice as long as in triangle A. The size of the angles has not changed. This means A and B are similar.

Example 1
These rectangles are mathematically similar. Find the length of x.
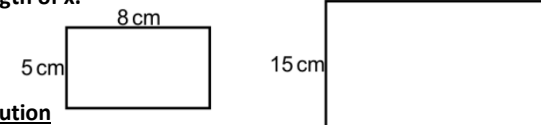
Solution
5x3 = 15, so the scale factor of enlargement is 3.
This means that x = 8x3 = **24cm**

Example 2
Find the length EA
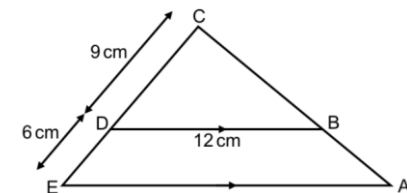
Solution
Draw the two triangles separately

Work out the scale factor of enlargement: $9 \times ? = 15$

$? = 15 \div 9$

$? = \dfrac{5}{3}$

So EA = $12 \times \dfrac{5}{3}$ = **20cm**

14

Maths: Probability

Section 1: Key Vocabulary

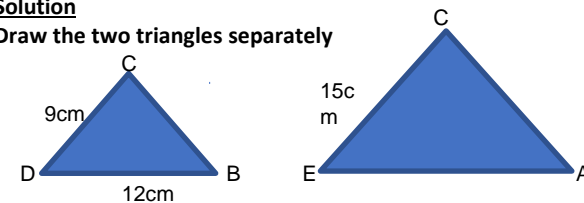| Tier 3 vocabulary	Definition
Sample Space	The collection of all possible outcomes
Conditional Probability	The probability of something happening based on the occurrence of another event
Dependent events	Those which depend on what happened in a previous event
Independent events	Those which do not depend on an event which has happened before
Mutually Exclusive Events	Events which cannot happen at the same time for example getting a Head and a Tail at the same time

Tier 2 vocabulary	Definition
Probability	The chance of something happening
Fair	Outcomes have an equal chance of happening
Combined events	Two or more events that are considered to happen together either at the same time or in succession
Desired outcome	The result that is wanted
Listing	Writing down all the options/information.

Revision QR codes

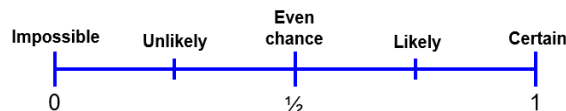Probability scale   Calculating probabilities   Venn diagrams

Listing strategies

Section 2: Representations and procedures

The probability scale:

Impossible   Unlikely   Even chance   Likely   Certain

0   ½   1

Probability of a single event:

$$\text{Probability} = \frac{\text{Number of desired outcomes}}{\text{Number of possible outcomes}}$$

The probability of rolling an even number on a fair dice.

Desired outcomes are even numbers 2,4 and 6 (**three** of them)

Possible outcomes are the numbers 1 to 6 (**six** of them)

so Probability $= \frac{3}{6}$, which simplifies to $\frac{1}{2}$

Listing strategies

Systematic listing strategies are ways of writing outcomes from an event in an organised way with none of the possibilities missed out or repeated.

To do this we need to use a method which makes listing items easier. A good method to use is to fix certain values, making only small changes between each item in the list.

A meal deal consists of a drink and a bag of crisps.
The drinks available are orange juice (O) or apple juice (A)
The crisp flavours are bacon (B), cheese (C) or plain (P)

The combinations that are possible are:

OB   OC   OP
AB   AC   AP

This gives us 6 combinations in total

Probability of two or more events:

To determine the probability of two independent events, we have to **multiply** the probability of the first event by the probability of the second event.

$$P(A \text{ and } B) = P(A) \times P(B)$$

Sample space diagrams

Sample space diagrams are useful for listing all possible outcomes of two events.

This sample space diagram shows the possible outcomes when 2 dice are rolled and are added together.

Space Diagram — 1st Die

2nd Die	1	2	3	4	5	6
1	1	2	3	4	5	6
2	2	4	6	8	10	12
3	3	6	9	12	15	18
4	4	8	12	16	20	24
5	5	10	15	20	25	30
6	6	12	18	24	30	36

$P(4) = \frac{3}{36}$ ← There are 36 possible outcomes, three of the outcomes are 4

Venn diagrams
Ven diagrams help us to organise information that overlaps.
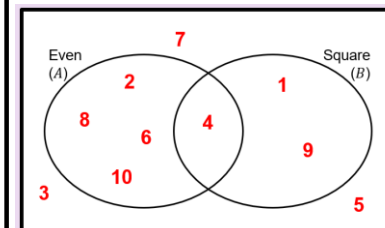
The numbers 1 – 10 are put into a Venn Diagram as shown.

A number is selected at random. What is the probability that it is square?

Answer: $\frac{3}{10}$ There are three numbers out of ten in the 'square number' ring

15

Science : Biology - Enzymes

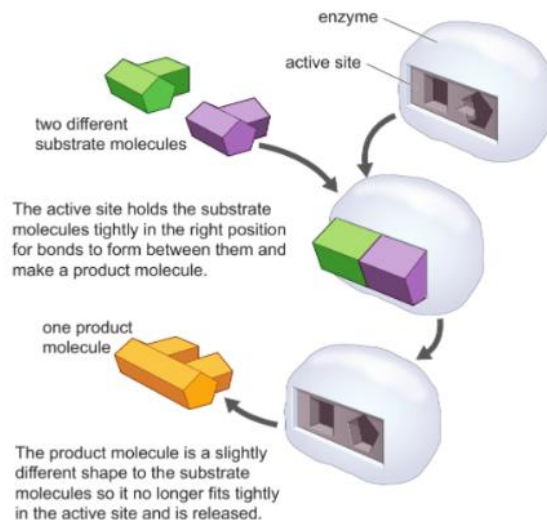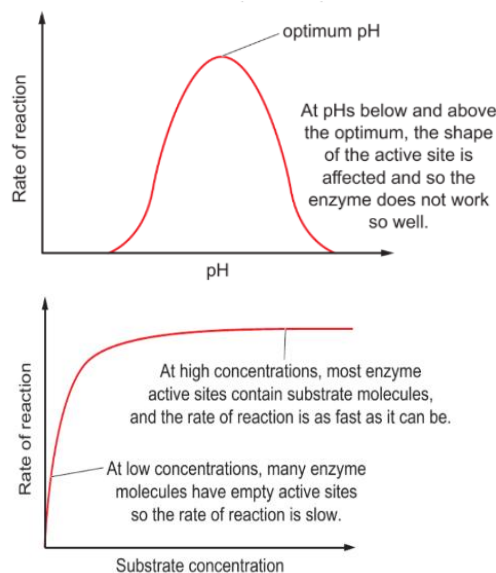| Tier 3 vocabulary	Definition
Catalyst	A substance the speeds up the rate of a reaction without being used up itself
Enzyme	A protein produced by living things that speeds up reactions without being used up itself (catalyst)
Sustrate	A substance that is changed during a reaction
Active site	The space in an enzyme where the substrate fits during an enzyme controlled reaction
Product	A substance formed in a reaction
Monomer	A small molecule that can join with other molecules like itself to form a polymer
Polymer	A long-chain molecule made by joining molecules (monomers) together
Denatured	A denatured enzyme is one where the shape of the active site has changed so much that its substrate no longer fits and the reaction can no longer happen
Lock and key model	A model that describes the way an enzyme catalysis a reaction when the substrate fits within the active site
Optimum	The best conditions at which an enzyme's rate of reaction happens at the highest rate
Limiting factor	When the rate of reaction can not get any faster despite increasing one variable, because another variable is now holding it back

Section 2: New Knowledge/Skills

Lock and key mechanism

enzyme
active site

two different substrate molecules

The active site holds the substrate molecules tightly in the right position for bonds to form between them and make a product molecule.

one product molecule

The product molecule is a slightly different shape to the substrate molecules so it no longer fits tightly in the active site and is released.

Factors affecting enzyme activity

optimum pH

At pHs below and above the optimum, the shape of the active site is affected and so the enzyme does not work so well.

At high concentrations, most enzyme active sites contain substrate molecules, and the rate of reaction is as fast as it can be.

At low concentrations, many enzyme molecules have empty active sites so the rate of reaction is slow.

Substrate concentration

Section 3 - core practical

Aim To investigate the effect of pH on the rate of digestion of starch by amylase.

Amylase is an enzyme made in the salivary glands in your mouth and in the pancreas. It catalyses the breakdown of starch into smaller sugar molecules. The iodine test identifies the presence of starch, but does not react with sugar.

A Drop one drop of iodine solution into each depression of the dimple tile.
B Measure 2cm³ of amylase solution into a test tube using a syringe.
C Add 1cm³ of your pH solution to the test tube using a second syringe. Record the pH.
D Using a third syringe, add 2cm³ starch solution to the mixture and start the stop clock. Use the pipette to stir the mixture.
E After 20 seconds, take a small amount of the mixture in the pipette and place one drop of it on the first iodine drop on the tile.
F If the iodine solution turns black, then there is still starch in the mixture and you should repeat step E (after 10 seconds). If it remains yellow, then all the starch is digested and you should record the time taken for this to happen

A blue/black colour indicates the presence of starch.
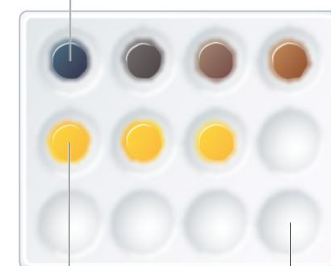
A yellow/orange colour that no longer changes indicates that the reaction is complete.   well tray

B iodine solution is used to indicate the presence of starch
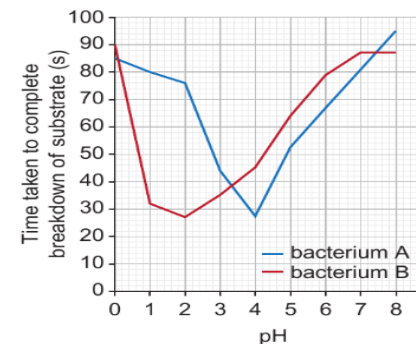
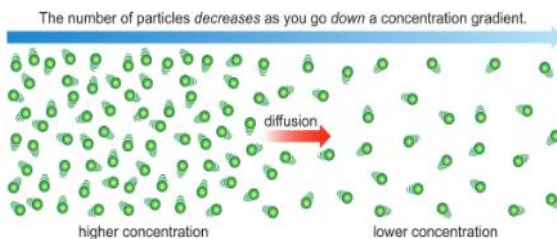| Tier 3 vocabulary	Definition
Diffusion	The movement of free moving particles from an area of a high concentration to an area of a low concentration
Osmosis	The movement of water molecules from an area of high water concentration to an area of low water concentration across a partially permeable membrane
Concentration gradient	The difference between two concentrations
Solute	A substance that dissolves in a liquid to make a solution
Solvent	A liquid in which a substance dissolves to make a solution
Partially permeable	A membrane that will allow certain particles to pass through it but not others. Another term for semi-permeable.
Active transport	The use of energy to transport substances against a concentration gradient (from a low concentration to a high concentration).
Passive transport	The transport of substances without the use for energy

$$\text{percentage change in mass} = \frac{(\text{final mass} - \text{initial mass})}{\text{initial mass}} \times 100$$
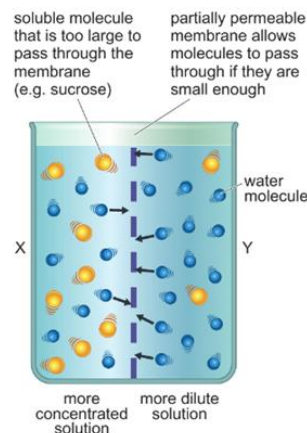
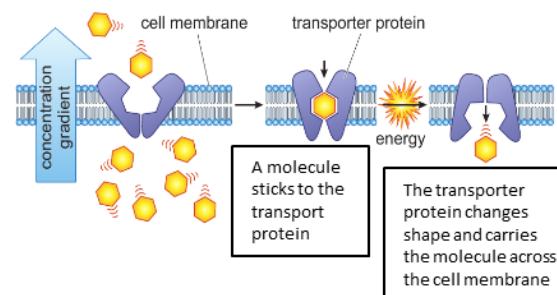### Section 2: New Knowledge/Skills

Diffusion

The number of particles *decreases* as you go *down* a concentration gradient.

higher concentration   lower concentration

soluble molecule that is too large to pass through the membrane (e.g. sucrose)

partially permeable membrane allows molecules to pass through if they are small enough

Osmosis

The diffusion of small molecules of a solvent (water) across a semi-permeable membrane

water molecule

X   Y

more concentrated solution   more dilute solution

Active transport

cell membrane   transporter protein

concentration gradient

energy

A molecule sticks to the transport protein

The transporter protein changes shape and carries the molecule across the cell membrane

A willow tree grows from 2.27kg to 76.74kg . Calculate the percentage change in mass.

Section 3: Core practical

Aim To investigate how solution concentration affects percentage change in mass of potato strips due to osmosis. *(note other vegetables may be used)*

A Using the waterproof pen, label each tube with the name of one of the solutions. Place the boiling tubes in the rack.

B Dry a potato strip carefully by blotting it with a paper towel. Measure its mass on the balance.

C Place the potato strip into one of the tubes. Record the label on the tube and the mass of the strip in your results table (see next page).

D Repeat steps B and C until all strips have been measured and placed in tubes.

E Carefully fill each tube with the appropriate solution, so that the potato is fully covered. Leave the tubes for at least 15 minutes.

F For each potato strip, use the forceps to remove it from its tube, blot dry on a paper towel and measure its mass again. Record all the masses in the results table.

Write a conclusion for the results in the table and the graph
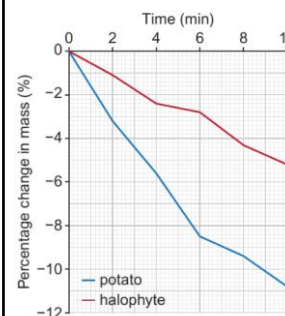
Tube	A	B	C	D
Sucrose concentration (%)	0	10	30	50
Mass of potato at start (g)	4.81	5.22	4.94	4.86
Mass of potato at end (g)	4.90	4.96	4.39	3.69

Time (min)

Percentage change in mass (%)

— potato
— halophyte

17

Section 1: Key Vocabulary

Tier 3 vocabulary	Definition
Abundance	Amount
Atomic number	The number of protons in the nucleus of an atom (symbol Z)
Mass number	The total number of protons and neutrons in the nucleus of an atom (symbol A).
Isotopes	Atoms of an element with the same number of protons (atomic number) but different mass numbers due to different numbers of neutrons.
Relative atomic mass (RAM)	The mean mass of an atom relative to the mass of an atom of carbon-12, which is assigned a mass of 12. The RAM of an element is the mean relative mass of the isotopes in the element.
Electron	Tiny particle with a negative charge that is found in shells around the nucleus of an atom
Electron shell	Area around a nucleus that can be occupied by electrons, usually drawn as a circle
Neutron	Electrically neutral subatomic particle found in the nucleus of most atoms.
Proton	A positively charged subatomic particle in the nucleus of all atoms.
Subatomic particles	The smaller particles that make up atoms – protons, neutrons and electrons.
Electron configuration	The arrangement of electrons in shells around the nucleus of an atom.

Section 2: New Knowledge/Skills

Atomic Structure

The nuclei of atoms contain subatomic particles called protons and most also contain neutrons.
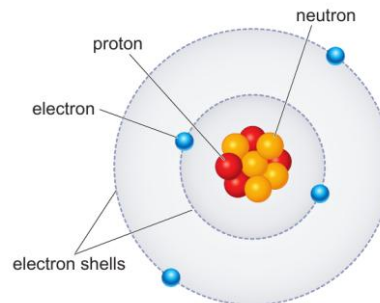

The masses of subatomic particles are very tiny. Instead of writing their actually masses in kilograms, we often use their relative masses. The mass of electrons is very small compared with protons and neutrons. Since a nucleus contains protons and neutrons, most of the mass of an atom is concentrated in its nucleus.

Subatomic particles	Relative mass	Relative charge	Position in atom
Proton	1	+1	Nucleus
Neutron	1	0	Nucleus
Electron	1/1835	−1	Shells

Calculating numbers of subatomic particles

The symbol for an atom can written to show its mass number at the top and its atomic number at the bottom.

mass number (A) (protons + neutrons)
atom symbol
atomic number (Z) (protons only)
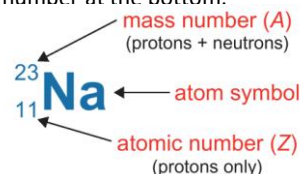
To calculate the numbers of subatomic particles in an atom use its atomic number and mass number

Number of protons = atomic number
Number of electrons = atomic number
Number of neutrons = mass number - atomic number

Section 3

Calculate Relative Atomic Mass

Chlorine naturally exists as two isotopes, chlorine-35 and chlorine-37. The abundance of chlorine-35 is 75% and the abundance of chlorine-37 is 25%.

To calculate the relative atomic mass of chlorine:

$$RAM = \frac{\text{total mass of the atoms}}{\text{the number of atoms}}$$

$$= \frac{(75 \times 35) + (25 \times 37)}{100} = 35.5$$

The answer is closer to 35 than to 37. This is because the chlorine-35 isotope is much more abundant than the chlorine-37 isotope.

Electron configuration

Electrons occupy shells starting with the innermost one

Electron shell	Max number of electrons
First	2
Second	8
Third	8

The electron configuration of sodium, Na is 2.8.1. This shows that it is in period 3 because it has 3 shells. It is in group 1 because it has 1 electron in the outer shell.

Homework task

40 Ca calcium 20	24 Mg magnesium 12	40 Ar argon 18
19 F fluorine 9	27 Al aluminium 13	31 P phosphorus 15

18

BELPER
SCHOOL
and Sixth Form Centre

Section 1: Key Vocabulary

Tier 3 vocabulary	Definition
Scalar quantity	A quantity that has a magnitude (size) but not a direction
Vector quantity	A quantity that has both a size and a direction
Velocity	The speed of an object in a particular direction.
Speed	A measure of the distance an object travels in a given time.
Displacement	The distance travelled in a particular direction.
Acceleration	A measure of how quickly the velocity of something is changing.
Momentum	A measure of motion, mass multiplied by velocity. Momentum is a vector quantity.

Tier 2 vocabulary	Definition
Magnitude	The size of something, such as the size of a force or the measurement of a distance
gradient	A way of describing the steepness of a line on a graph in numbers

Section 2: New Knowledge/Skills

All measurements are either scalar or vector quantities

Measurement	Scalar	Vector
Distance	Y	
Speed	Y	
Velocity		Y
Acceleration		Y
Weight		Y
All forces		Y
Energy	Y	

Calculating speed and acceleration

$$\text{(average) speed (m/s)} = \frac{\text{distance (m)}}{\text{time taken (s)}}$$

$$\text{acceleration (m/s}^2\text{)} = \frac{\text{change in velocity (m/s)}}{\text{time taken (s)}}$$

When objects fall they accelerate due to the gravitational field on Earth. The values for these quantities are

Acceleration due to gravity is 10 m/s^2

Gravitational field strength is 10 N/kg

Section 3: Skills

Using a Distance / time graph

Alice is walking in the park.　Alice stops to chat.　Alice in now late
She travels 80m in 100s　　　to a friend for 100s　 so she has to jog
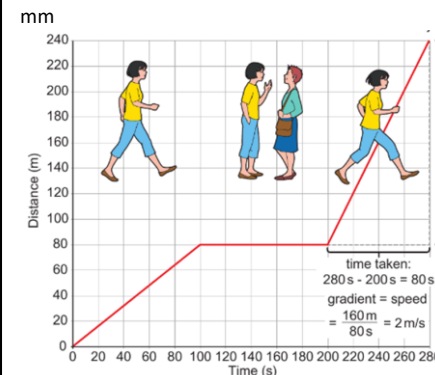
Reading a Velocity / Time graph
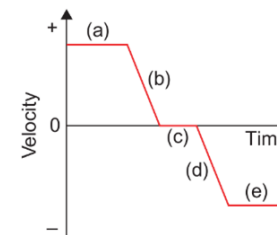
The graph shows a lift moving up at a constant speed (a), slowing to a stop (b) and waiting at a floor (c) then accelerating downwards (d) and then travelling downwards at a constant speed (e)

Distance travelled

The distance travelled can be worked out from a velocity - time graph by calculating the area under the graph for the period you are measuring.

BELPER SCHOOL and Sixth Form Centre

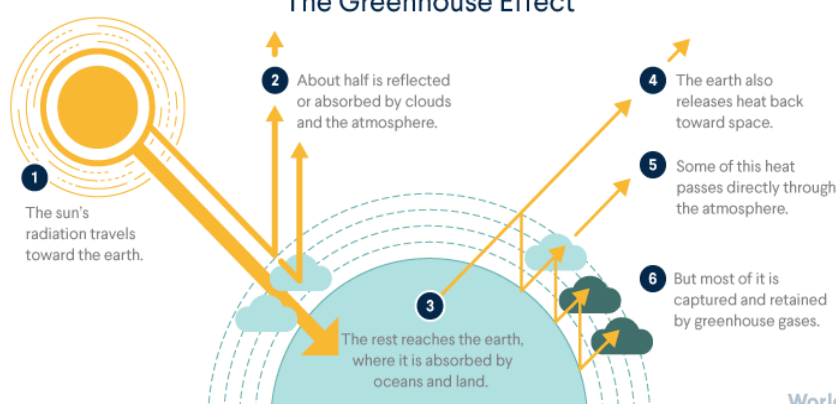| Tier 3 vocabulary	Definition
Climate change	How the long term average atmospheric conditions change over time.
Conservation	Managing nature to protect it from harm or putting it back how it was (restoration).
Ecosystem	The living and non-living parts of an environment and how they are connected.
Endangered	When a species is threatened and at risk of becoming extinct.
Enhanced greenhouse effect	How people's activities add gases to the atmosphere and this causes the climate to change.
Global warming	The gradual increase in the temperature of the Earth's atmosphere.
Greenhouse effect	The process whereby gases trap heat in the Earth's atmosphere, causing temperatures to increase.
Habitat	The place where an animal lives.
Non-renewable energy	Power sources that will run out eg. fossil fuels such as coal.
Recycling	Reprocessing a product or some of its parts to make something else.
Renewable energy	Alternatives to fossil fuels eg. solar, wind. These won't run out.

Tier 2 vocabulary	Definition
Sustainability	The practice of using natural resources responsibly, so they can support both present and future generations.
Social	Things affecting people and their community.
Economic	Things relating to money.
Environmental	Things relating to our surroundings.

Section 2: New Knowledge

The Greenhouse Effect

1. The sun's radiation travels toward the earth.
2. About half is reflected or absorbed by clouds and the atmosphere.
3. The rest reaches the earth, where it is absorbed by oceans and land.
4. The earth also releases heat back toward space.
5. Some of this heat passes directly through the atmosphere.
6. But most of it is captured and retained by greenhouse gases.

World101
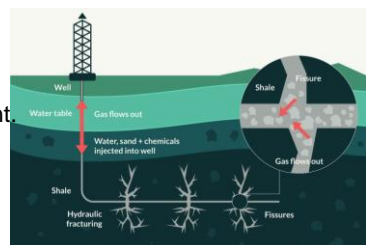
Palm oil
+ Makes lots of money, creates jobs and provides money for governments and businesses.

- Destroys the natural rainforest and the habitats of animals eg. orangutans. Takes away the biodiversity and replaces it with monoculture (one type of plant).

Fracking
For –Gas supply
Relatively cheap
Creates jobs
Make places more independent.

Against - Water pollution
Earthquake risk
Destroys habitats
Locals may not benefit.
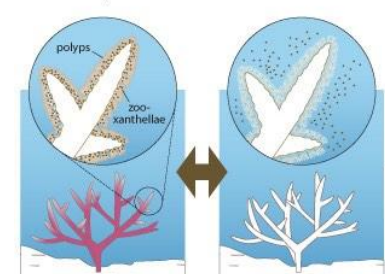
Renewable energy in Germany
Solar power in Freiburg eg. panels on football stadium and houses.
Wind power in Feldheim eg. 55 turbines.

Endangered animals
Loss due to hunting, for medicines, deforestation, climate change.

Coral reefs

Healthy coral   Bleached coral

Eg. Great barrier Reef, Australia
At risk due to :
Fishing, shipping, climate change, tourism and crown of thorns starfish.

Section 3: Geographical Skills

A geographical investigation has seven stages:
1. Decide on the hypothesis. 2. Plan the data collection. 3. Collect the data. 4. Present the results. 4. Analyse the results. 6. Conclusion. 7. Evaluation.

History: WW2 and The Holocaust

BELPER SCHOOL and Sixth Form Centre

Section 1: Key Vocabulary

Tier 3 vocabulary	Definition
Aryan	People who settled in northern Europe thousands of years ago. Nazis believed they were the 'master race'
Antisemitism	Being hostile or prejudice to Jews
Holocaust	Usually used to describe the murder of millions of Jews by the Nazis
Concentration Camps	Places where large numbers of people were kept as prisoners under armed guard.
Death camp	Killing centres established by the Nazis
Ghetto	Areas in towns or cities where Jews were separated by force.
Einsatzgruppen	Special units that conducted mass shootings of Jews
Euthanasia Programme	Secret programme conducted by the Nazis to murder anyone that wasn't Aryan.
Work Camps	Where prisoners were forced to work as slave labourers.

| Tier 2 vocabulary	Definition
Prejudice	An unfair opinion or judgement or feelings towards someone
Scapegoat	Blaming someone for something that wasn't their fault

Section 2: Unit Summaries

1. What events would be considered turning points of WW2?

In September 1939, Hitler's Nazi Germany invade Poland. This is the start of World War 2. There are many important events that happened during World War 2 but can all of them be considered a turning point? We will learn about events such as the evacuation of Dunkirk, the Battle of Britain and D-Day and assess which of these events can be considered to be a turning point of the Second World War.

"NEVER WAS SO MUCH OWED BY SO MANY TO SO FEW" THE PRIME MINISTER
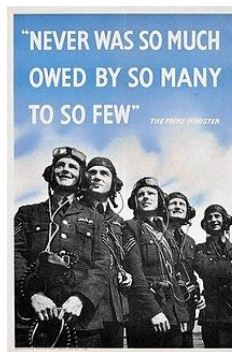
Task:

1. What can we learn about the Battle of Britain from this propaganda poster?

Consider:

What type of battle was it?

Where was it fought?

What does the quote mean?

Second order concept = Change and Continuity

2. How did antisemitism turn into mass murder?

This unit looks at the development of the Holocaust across different times and different places. We will begin looking at Jewish life in Nazi Germany in 1933 and how this changed over time. We will look at the events from Kristallnacht until the liberation of the concentration camps at the end of the Second World War. Did people have the same experience during the Holocaust? What factors might have changed their experience?

Task:
A Jewish man walks with his three young children alongside a deportation train in the Warsaw ghetto in 1942.

1. What might this train journey have meant to this man?
2. Where might they have been going?

Second order concept = Change and Continuity

World views: Is Death the End?

Section 1: Key Vocabulary

Tier 3 vocabulary	Definition
Life	The existence of an individual human being or animal.
Purpose	A person's sense of resolve or determination. Or: The reason for which something is done or created or for which something exists.
Death	The action or fact of dying or being killed; the end of the life of a person or organism.
Hedonist	A person who believes that the pursuit of pleasure is the most important thing in life; a pleasure-seeker.
Euthanasia	The painless killing of a patient suffering from an incurable and painful disease or in an irreversible coma.
Abortion	The deliberate termination of a human pregnancy
Sanctity of Life	Human life is holy, precious and sacred.

Section 2: Sources of Authority

John 5:24-25
John 5:28-29
John 14:1-7
Corinthians 15:51-576
Revelations 21:1-4

Section 2: New Knowledge/Skills

Key Questions:
What do people believe about life?

What do people believe about the afterlife?

What is the sanctity of life?

What is abortion?

What is euthanasia?

Has medicine gone too far?

Why do we have funerals?

What do Buddhists believe about life and death?

Does death matter to Humanists?

Is this life hell?

Abortion:
UK Law
Legal up to 24 weeks (in some circumstances) with the agreement of two doctors.

Christianity
Some argue we should be compassionate and permit abortion if the mothers life is in danger. Other Christians say it is a moral evil because every life is a gift from God.

Euthanasia:

UK Law
Illegal and considered either murder or manslaughter and carries a life in prison penalty.
Hospices and palliative care offer pain relief and comfort as end of life care.

Christianity
Christians are generally against Euthansia - "Do not commit murder" but some argue "the most loving action"

Section 3: Assessment Essay Question:

Assessment Essay Question:

Is Death the End?

In answering the question - you should consider:

- A range of beliefs regarding the possibility of life after death.
- Consider where these beliefs come from?
- the importance of this life compared to the hope of an afterlife. (Remembering to consider different views).
- The impact of differing views of life after death on how individuals view earthly life.
- Similarities and differences between Humanists and Christian funeral services.
- Similarities and differences between Buddhist, Christian and Humanists on the purposes of life.

Skills checklist –
As you write your essay check that you have included...
Knowledge – facts and religious or non-religious beliefs,

Impact of belief – how it affects what people think and do,

Specialist terms,

Sources of authority – where people get their ideas/beliefs from – quotations,
Judgement – how strong, valid or sound the argument is,

Opinion – at least 2 different points of view

French: Projets d'avenir

BELPER SCHOOL and Sixth Form Centre

Section 1: Key Vocabulary/Questions

Tier 2 vocabulary	Definition
Interrogatives	Question words used to seek more information.
Simple future tense	Used to talk about '**will**' happen
Conjugation	How a verb changes to show a different subject pronoun and tense
Regular verbs	Follow a pattern (-er, -ir, -re)
Irregular verbs	Follow their own pattern
Time frames	Reference to past, present or future

Questions	Translation
1. Où vas-tu normalement le weekend ?	Where do you normally go at the weekend?
2. Qu'est-ce que tu fais ?	What do you do?
3. C'est comment?	What is it like?
4. Où es-tu allé(e) le weekend dernier ?	Where did you go last weekend?
5. Qu'est-ce que tu as fait ?	What did you do?
6. C'était comment ?	What was it like?
7. Où iras-tu à l'avenir ?	Where will you go in the future?
8. Qu'est-ce que tu feras à l'avenir ?	What will you do in the future?
9. Ce sera comment ?	What will it be like?
10. À l'avenir le monde sera comment ?	In the future what will the world be like?

Section 2: Grammar

Modal Verbs
Modal Verbs are followed by **the infinitive**

	pouvoir to be able to	**vouloir** to want	**devoir** to have to
je	peux (I can)	veux (I want)	dois (I must)
tu	peux	veux	dois
il/elle/on	peut	veut	doit
nous	pouvons	voulons	devons
vous	pouvez	voulez	devez
ils/elles	peuvent	veulent	doivent

⭐ **Je veux** aider à la maison.   (I want to help at home)
⭐ **Elle peut** gagner de l'argent   (She can earn some money)
⭐ **Ils doivent** aller à l'école   (They must go to school.)
⭐ **The noun 'les devoirs' means 'homework' - something you must do!**

The simple future tense
This tense is used to talk about what **will** happen.
Formation
Future stem + future tense ending

	er verbs	**ir verbs**	**re verbs**
je/j'	jouer**ai**	finir**ai**	attendr**ai**
tu	jouer**as**	finir**as**	attendr**as**
il/elle/on	jouer**a**	finir**a**	attendr**a**
nous	jouer**ons**	finir**ons**	attendr**ons**
vous	jouer**ez**	finir**ez**	attendr**ez**
ils/elles	jouer**ont**	finir**ont**	attendr**ont**

⭐ For regular -er and -ir verbs, the future stem is the same as the infinitive.
⭐ The future stem for verbs ending in -re is the infinitive without the final -e.
⭐ Irregular verbs have their own **future stem** (verb table)
e.g. avoir- j'**aur**ai /être- je **ser**ai /faire- je **fer**ai /aller- j'**ir**ai

Section 3: WAGOLL

Pour gagner de l'argent, on peut travailler dans le jardin ou faire du babysitting. Moi, je dois aider à la maison, ce que je trouve barbant, pourtant je gagne de l'argent donc le weekend dernier j'ai acheté des billets de cinéma. Ma mère est ingénieure chez Rolls Royce mais je ne veux pas être ingénieure car c'est vraiment fatigant . Le weekend elle est venue au ciné avec moi car elle a trop travaillé !

À l'âge de seize ans, je veux faire un apprentissage ou travailler avec des personnes âgées car je veux aider les autres. À l'avenir j'habiterai à l'étranger où je travaillerai avec des enfants. À mon avis, ce sera satisfaisant. Cependant, mon ami ira en Amérique du Sud où il fera du travail bénévole. Il sera heureux car il a toujours voulu voyager.
Selon moi, le monde sera très différent à l'avenir. Je pense qu'on portera les vêtements intelligents et il y aura un robot dans chaque maison. Incroyable!
Récemment, j'ai lu un article au sujet d'une jeune inventrice. Elle a inventé des lunettes intelligentes pour traduire en anglais. Elle a même gagné un prix au concou trouvé surtout impressionnant, c'est qu'elle a tr
Bravo!

À savoir:
D'ici dix ans	Ten years from now
Dans deux ans	In two years time
Il y a	There is/are
Il y aura	There will be
Il y avait	There was/were
C'est	It is
Ce sera	It will be
C'était	It was

😊 **Quand les poules auront des dents…**

 'When hens will have teeth'

 What is the English idiom/expression for this?

Pronunciation of the future simple tense.

🗣 Remember to pronounce the **er** as *err* in the simple future
Je mangerai   ➡ Je mang-**er**-ai
Nous regarderons ➡ Nous regard-**er**-ons
Vous travaillerez ➡ Vous travaill-**er**-ez

23

FRENCH Y9 Word list Autumn 2.A/ Spring 1.A

	l'argent	money
	pouvoir	to be able to
	devoir	to have to
	aider	to help/helping
	nourrir	to feed/feeding
	l'argent de poche	pocket money
	le maquillage	makeup
	gagner	to earn/win
	pour + infinitive	in order to + infinitive
	une mauvaise idée	a bad idea

FRENCH Y9 Word list Autumn 2.B/ Spring 1.B

	continuer	to continue/continuing
	varié	varied
	dangereux	dangerous
	le lycée	secondary school
	un petit boulot	a part-time job
	utile	useful
	passionnant	exciting
	le travail bénévole	voluntary work
	il est infirmier	he is a nurse
	elle est infirmière	he is a nurse

FRENCH Y9 Word list Autumn 2.C/ Spring 1.C

	à l'avenir	in the future
	J'habiterai	I will live
	Je travaillerai	I will work
	J'achèterai	I will buy
	J'aurai	I will have
	À l'étranger	abroad
	Je serai	I will be
	J'irai	I will go
	Je ferai	I will do/make
	d'ici dix ans	In 10 years time

FRENCH Y9 Word list Autumn 2.D/ Spring 1.D

	effrayant	frightening
	en ligne	on line
	sans	without
	avec	with
	une perte de temps	a waste of tome
	en plus	in addition
	agréable	pleasant
	carrément	downright
	ranger	to tidy/tidying
	il y aura	there will be

FRENCH Y9 Word list Autumn 2.E/ Spring 1.E

	devenir	to become/becoming
	Je veux devenir	I want to become
	scientifique	scientist
	infirmier/ ière	nurse
	mécanicien/ienne	mechanic
	architecte	architect
	vétérinaire	vet
	musicien/ienne	musician
	instituteur/rice	primary school teacher
	policier/ière	police officer

FRENCH Y9 Word list Autumn 2.F/ Spring 1.F

	recevoir	to receive
	reçu	Received
	des vêtements	Clothes
	des cadeaux	Presents
	des trucs à manger	things to eat
	le prix Nobel	the Nobel Prize
	(pour) une organisation bénévole	(for)a voluntary organisation
	continuer	to continue/continuing
	les études	Studies
	J'espère + infinitive	I hope to +infinitive

Phonics: on/om

bon	compliqué
donner	comme

Phonics: in/un

intéressant	un
dessin	brun

Phonics: au/eau/o/ô

chaud	bateau
poster	hôtel

Phonics: en/an

ennuyeux	relaxant
entendre	amusant

Phonics: ail/aille

travail	paille
ail	maillot

Phonics: ill/ille

gentil	fille
lentil	juilllet

Phonics: liaison with 's' and a vowel

plus_ennuyeux	moins_intéressant
très_important	je vais_aller

REVISION:
Scan this QR code which links to the French Y9 [Quizlet word list folder](#).

German: Zukunftspläne

Section 1: Key Vocabulary/Questions

Tier 2 vocabulary	Definition
Conditional	*e.g. ich würde* This is used to say what you *would* or *would not* do.
Word Order 3 (WO3)	used in German with a subordinating conjunction. The first verb in the clause is moved to the end of that clause
WO2 Inversion	*e.g. Später möchte ich....* Where a sentence starts with an adverb, the subject pronoun and verb are swapped
clause	A group of words containing a subject and a verb
subordinate clause	a clause connected to a main clause that doesn't make sense by itself

Question	Translation
1. Hast du einen Teilzeitjob?	Do you have a part time job?
2. Warum arbeitest du (nicht)?	Why do(don't) you work?
3. Wirst du in der Zukunft einen Teilzeitjob bekommen?	Will you get a part time job in the future?
4. Hast du ein Arbeitspraktikum gemacht?	Did you do work experience?
5. Was wirst du nach deinen GCSEs machen?	What will you do after your GCSEs?
6. Wirst du studieren?	Will you study?
7. Was möchtest du in 10 Jahren machen?	What would you like to do in 10 years?
8. Was möchtest du auf jeden Fall/auf keinen Fall machen?	What would you definitely (not) like to do?

Section 2: Grammar

Conditional

ich würde	
du würdest	**+infinitive**
er/sie/es/man würde	**...studieren**
wir würden	**...wohnen**
ihr würdet	**...arbeiten**
sie/Sie würden	

The conditional is used with an infinitive at the end of the sentence.

Ich würde im Freien arbeiten, aber ich würde nie in London wohnen.
I would work outside but I would never live in London.

Modal Verbs

There are actually 6 modal verbs. Here is an *Eselsbrücke* for you to remember them!

Knowing **S**ix **M**agic **M**odals **D**oes **W**onders
können, sollen, mögen, müssen, dürfen, wollen
- man: kann, soll, mag, muss, darf, will

Um Geld zu verdienen, muss man arbeiten.
In order to earn money, you have to work.

Man kann im Ausland arbeiten, um den Lebenslauf zu verbessern.
You can work abroad, in order to improve your CV.

Ich will einen Job finden, um neue Leute kennenzulernen.
I want to find a job, in order to meet new people.

Main clauses and subordinating clauses

Ich **möchte** auf jeden Fall im Ausland wohnen, wenn ich älter **bin**.

Wenn ich älter **bin, möchte** *ich* auf jeden Fall im Ausland wohnen.

Section 3: WAGOLL

Ich arbeite zweimal pro Woche in einem Café als Kellner, um Geld zu verdienen. Ich mag die Arbeit, obwohl sie manchmal anstrengend ist. In zwei Jahren werde ich als Babysitter arbeiten, um Erfahrung zu bekommen.

Letztes Jahr habe ich ein Arbeitspraktikum in einem Büro gemacht. Ich musste Briefe zur Post bringen und ich musste Kaffee kochen, aber ich durfte nicht mit den Kunden sprechen. Meiner Meinung nach war das sehr langweilig.

Nach meinen GCSEs werde ich bestimmt in die Oberstufe gehen, um mein Abitur zu machen. Dann würde ich gern eine Lehre machen. Ich werde mich wahrscheinlich nicht um einen Studienplatz bewerben, weil ich Geld verdienen möchte.

In zehn Jahren möchte ich vielleicht als Bauarbeiterin berufstätig sein, weil ich sehr praktisch bin. Ich möchte auf jeden Fall nicht nur reich, sondern auch erfolgreich sein. Ich werde auf keinen Fall im Büro arbeiten, denn das ist sowohl langweilig als auch ruhig!

Gut zu wissen!

Click on the QR code to see information on which jobs 14 year olds can do in Germany. Can you understand the questions on the right hand side?
Can you see which types of jobs you're allowed to do?

25

GERMAN Y9 Word list Autumn 2.A/ Spring 1.A

	Lehrer*in	teacher
	Bademeister*in	lifeguard
	Kellner*in	waiter
	Küchenhelfer*in	kitchen hand
	Zeitungsausträger*in	paper boy/girl
	arbeiten	to work
	gearbeitet	worked
	verdienen	to earn
	verdient	earnt
	ich arbeite als	I work as **a**

GERMAN Y9 Word list Autumn 2.B/ Spring 1.B

	um...zu...	in order to...
	das Geld	money
	die Erfahrung	experience
	bekommen	to get/receive/got/received
	Spaß haben	to have fun
	die Leute	people
	neu	new
	viel	lots (of)
	viele	lots (of)/many
	mehr	more

GERMAN Y9 Word list Autumn 2.C/ Spring 1.C

	das Büro	office
	die Fabrik	factory
	die Baustelle	building site
	in einem	in a (m/n)
	in einer	in a (f)
	auf einem	on a (m/n)
	auf einer	on a (f)
	im Freien	in the open air
	draußen	outside
	die Schichtarbeit	shift work

GERMAN Y9 Word list Autumn 2.D/ Spring 1.D

	bestimmt	definitely
	auf jeden Fall	definitely
	hoffentlich	hopefully
	wahrscheinlich	probably
	vielleicht	maybe, perhaps
	auf keinen Fall	no way
	niemals	never ever
	ich glaube	I think, I believe
	ich würde	I would
	ich würde gern	I would like

GERMAN Y9 Word list Autumn 2.E/ Spring 1.E

	ich musste	I had to
	er/sie musste	he/she had to
	musste nicht	didn't have to (sing)
	mussten nicht	didn't have to (pl)
	ich durfte	I was allowed
	er/sie durte	he/she was allowed
	durfte nicht	wasn't allowed (sing)
	durften nicht	weren't allowed (pl)
	ich wollte	I wanted
	ich sollte	I was supposed to

GERMAN Y9 Word list Autumn 2.F/ Spring 1.F

	schicken	to send
	der Brief	letter
	die Briefmarken	stamps
	die Post	post office
	Kollegen	colleagues
	der Chef/die Chefin	the boss
	Kunden	customers
	bedienen	to serve
	abwaschen	to wash up
	aufräumen	to tidy up

REVISION: Scan the QR code above to access the word lists on Quizlet!
This QR code links to all the German Year 9 QUIZLET sets.

Phonics: **ch** (soft)

ni**ch**t	Mil**ch**
abwas**ch**en	Tei**ch**
Chef	modis**ch**
i**ch**	s**ch**le**ch**t

Phonics: **ch** (hard)

no**ch**	a**ch**t
jedo**ch**	**Ch**or
au**ch**	Bu**ch**
se**ch**s	geda**ch**t

Section 1: Key Vocabulary

Tier 3 vocabulary	Definition
Audience	The person/people who the document is aimed at.
Fitness for Purpose	The design and production of a document which meets the needs of the person who needs it.
Content	The pieces of information within a document. These could be text, image, diagram, maps, sound.
House Style	The layout, fonts, colour and images chosen by a particular business or organisation to represent its identity.
Alignment	The position of text, images and content within a document.
Proofreading	The task of checking through a document for any errors before submitting it to print/handing in.
Orientation	The direction the document is displayed in. Landscape (Sideways) Portrait (Lengthways)
Line Spacing	The amount of white space between typed text on a document.
Publication	The type of document that has to be produced
Canvas	The area to produce a digital file on.

Tier 2 vocabulary	Definition
Check	To identify any issues and errors with work.
Compose	To produce a document piece of work.
Obtain	To look/gather and use information.
Repeat	To copy a similar action from before.
Research	To gather knowledge about a subject.

Section 2: New Knowledge

Word Processing
Word Processing - This is the name given to a document which is created on a computer, usually using a piece of software such as Microsoft Word or Google Docs. Word processed documents contain primarily text based characters.
Fonts - Fonts are the name for characters word processed onto a document. Arial and Times New Roman are types of font.
Font Sizes - Word processed documents are written in fonts no bigger than size 12.
Formatting Tools - Word processed documents can be enhanced using formatting tools. These included *Italics*, **Bold** and underlining.
Spell Checking - all word processed documents should be checked for any spelling errors before submitting to final publication.
Margins - Margins are areas of blank space at the horizontal and vertical edges of word processed documents. These make the document easier to read.

Presentation
Slides - A slide is the name of the blank space which information goes onto in a presentation.
Layout - Slides can be set into different design choices dependent on the content. This is called the layout.
Animations - This is the name given to content, typically images that move on a slide.
Transitions - Transitions are effects put onto slides to make content move automatically based on different timings. Transitions keep the viewer's attention.

Graphics
Pixels - Graphic images are produced using tiny dots of colour which are called pixels.
Transparency - Graphic images can be set up on canvas setups with no background colour. These are known as transparencies.
File Format - this is the name of the type of graphic file and what it is saved as. JPEG, PNG and BMP are typical graphical file formats.

Desktop Publishing (DTP)
WYSIWYG - **W**hat **Y**ou **S**ee **I**s **W**hat **Y**ou **G**et, is a term in Desktop Publishing (DTP) for showing what is on screen is what it will look like when it is printed or exported.
Publishing Formats - DTP files can be saved as images or exported as a PDF ready for printing or viewing online.

Section 3: Useful Subject Information

Useful keyboard shortcuts for the project tasks:

Open	Save	Print
CTRL + O	CTRL + S	CTRL + P
Cut	Copy	Paste
CTRL + X	CTRL + C	CTRL + V

In Desktop Publishing (DTP), Word processing and Graphics we work with images. The quality of images depends on the resolution of the image used. High resolution images are often better quality as they contain more detail, but they create larger file sizes through increased memory usage. Lower quality images take up less memory on the computer but they lack the detail.

low resolution ------------------ high resolution
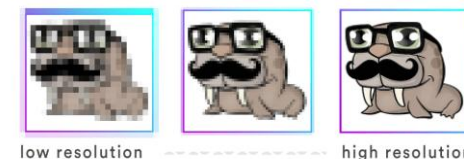
Key Timelines in the History of Word Processing, Desktop Publishing (DTP) and Graphics:

Word Processing
1978 - first commercial word processing package formally released called WordStar.
1990 - Microsoft Office suite released on sale.
2006 - Google Docs suite released online.
Graphics Software
1985 - Microsoft Paint first formally released as part of Windows 1.0.
1990 - Photoshop 1.0 first formally released on sale.
Desktop Publishing
1991 - Microsoft Publisher desktop publishing package goes on sale.

PE: Netball

Section 1: Key Vocabulary

Tier 3 vocabulary	Definition
Holding Space	Using your body to protect a space you want to move into.
Interception	Deflecting or catching the ball whilst it is on route to another player.
Repossession	Catching, dropping and then re-catching the ball.
Rebounding	Trying to reclaim the ball after an attempted shot at goal.
Driving onto the ball	Sprinting towards the ball when receiving a pass.
Throw-up	Method used to restart the game after two players simultaneously commit a foul.
Double Lead	Two players running out at an angle in different directions to give two passing options to a player in possession of the ball.

Section 2: New Knowledge/Skills

Within the netball module you will learn about :

Tactics used at the centre pass – both in terms of attacking and defending the centre pass in order to try and maintain/win possession of the ball. Think about why it is important to keep possession of the ball during your own team's centre pass.

The correct technique for defending a shot at goal. Know where to move to in order to rebound a shot and then try to regain possession of the ball. Why is this important?

Holding space – you will be able to demonstrate the correct technique and know when to throw the ball to a player who is holding space. Can you identify when this technique would be effectively used?

Intercepting the ball - focusing on the correct technique and being able to intercept a pass without causing contact. Can you identify key points of how to carry out this technique?

Driving effectively onto the ball by running out at an angle, using a change of speed and direction and looking at double leads to help maintain possession of the ball.

PE: Hockey

Section 1: Key Vocabulary

Tier 3 vocabulary	Definition
Penalty corner	An attacking set piece with the attackers lined up outside the circle and the defenders on the goal line.
Injection	Passing the ball into play from the penalty corner.
25m hit	Hockey's version of football's corner when a defender hits the ball behind their own goal line.
Jab tackle	A one-handed effort to reach in and knock the ball away from a dribbling player.

Section 2: New Knowledge/Skills

In Year 9 Hockey, you will be working towards playing the full **11 v 11** version of the game with some of the more advanced rules such as **penalty corners** and **25m restarts**.

You will develop your range of skills by considering different ways to **score** when you get in and around the **shooting circle**.

Part of your development in hockey will include leadership and you may be asked to set up a practice for your teammates, captain a team or umpire a game.

As you go through the lessons, you should be able to answer some of these questions:

- Explain the difference between the jab tackle and the block tackle?
- Why is a penalty corner awarded and how do the players line up for it to be taken?
- Where (exactly) is a 25m hit take from?
- What are your options if you find yourself dribbling towards the keeper and how would you choose which one to use?
- Name 5 rules you would be looking out for if you were umpiring a hockey game.
- Describe a playing formation you might use to set your team up if you were captain.

PE: Volleyball

Section 1: Key Vocabulary

Tier 3 vocabulary	Definition
Set	Passing the ball from in front of the forehead using the fingers and thumbs of both hands.
Dig	Passing the ball with the forearms - between the wrists and the elbows.
Spike	Volleyball's version of the smash - hitting the ball firmly over the net making it difficult for the opponents to return.
Block	The best defence against the spike is to jump up with both hands at the net to try to stop the ball coming over to your side.
Serve/service	The start of the rally can be done underarm or overarm. It must be taken by the player at the back right side corner.
Sideout	This is when the service transfers to the other team and the players move to a new position by rotating in a clockwise direction.

Section 2: New Knowledge/Skills

The Year 9 Volleyball module will provide an introduction to a sport which is hugely popular among Key Stage 4 students. You will learn the key rules and skills to enable you to take part in a 4v4 game.

You should be able to answer these questions as you go through your volleyball module:

Give 3 points of technique for performing a set.

Why should a player try to set the ball rather than dig it?

Give 3 points of technique for the dig?

How many shots is a team allowed to get the ball over the net?

How many players are there in a volleyball team?

Who takes the next serve in a game of volleyball?

Suggest 5 ways a volleyball rally comes to an end.

PE: Rugby

Section 1: Key Vocabulary

Tier 3 vocabulary	Definition
Touch judge	An important officiating role which you may need to take on in lessons.
Gain line	An imaginary line across the pitch where the breakdown occurs.
Conversion	Kicking over the bar for after a try is scored.
Drop kick	A half-volley kick to start the game.
Drop goal	A drop kick over the posts.
Kick for touch	Kicking the ball off the side of the pitch when your team is under pressure.
Props	Two forwards that support the hooker in a scrum.
Hooker	The forward who goes in the front middle of the scrum and tries to hook the ball with their feet.
Fly-half	A back who receives the ball from the scrum-half and decides how the backs will attack.

Section 2: New Knowledge/Skills

In Year 9 rugby we are working towards playing the full 15-a-side version of the games with everyone able to contribute as a back or a forward in a specific position.

Try the following questions to check your knowledge of 15-a-side rugby:

Can you explain the full scoring system in rugby?

How many of the 15 positions on the field can you name?

What is the importance of the 'gain-line'?

How many players make up a full scrum?

Which players do most of the kicking in a game of rugby?

When might a team try for a drop goal?

Where is a conversion taken from?

PE: Table Tennis

Section 1: Key Vocabulary

Tier 3 vocabulary	Definition
Back spin	Hitting down the back of the ball to make it travel more slowly over the net - a defensive tactic.
Top spin	Hitting over the top of the ball to give it topspin will cause it to dip as it goes over the net - an attacking tactic.
Variation	Doing different things to keep your opponent guessing - playing different shots to different parts of the table for example.
Attack	One playing is usually on the offensive, trying to hit the winning point.
Defence	If your opponent is on the offensive, you made need to adjust your position and your shot selection to effectively defend their shots.
Shot selection	The skill of knowing what shot to use at any point in the game.
Block	A defensive tactic of just putting your bat out to bounce the ball back over the net.
Loop	Playing the ball back high over the net when defending to give yourself time to get ready to defend the next shot.
Backhand flick	An attacking version of the backhand push. Just flick the wrist to add power.

Section 2: New Knowledge/Skills

Year 9 table tennis will provide plenty of opportunity for you to compete with your classmates. As you compete more, you will develop tactical 'answers' to what is happening in the game.

You should be able to recognise when you are in attack and when you are in defence and start to change your shot selection and your positioning.

You will be expected to umpire and keep score for your classmates, being confident in stopping rallies when faults occur.

PE: Gymnastics

Section 1: Key Vocabulary

Tier 3 vocabulary	Definition
Partners/Pairs	Performing with 1 other student.
Trios/Groups	Performing in a group of 3 or more.
Cannon/ Mirror/ Unison	Performing 1 after the other/performing in time in opposition/performing in time.
Counter balance	Leaning inward or towards a partner or group to support or maintain a balance.
Counter tension	Leaning outward or away from a partner or group to support or maintain a balance.
Weight bearing	Acting wholly or partially as the base of support in a pair or group balance.

Section 2: New Knowledge/Skills

In Year 9 gymnastics, you will be challenged to develop more complex sequences with more people involved and more complex moves. This will not only develop your gymnastic skills, you will need to use good leadership and communication skills to get your group to work as a unit to create and perform the sequence.

Try these questions to check your understanding of Year 9 gymnastics:

Describe a weight-bearing balance as a trio?

Describe a counter-tension position for a group?

Explain how a group of 4 people could perform a counter-balance position?

What qualities does a leader need in order to organise a group into an effective sequence?

PE: Basketball

Section 1: Key Vocabulary	
Tier 3 vocabulary	**Definition**
Rebound	Catching the ball after a missed shot.
Offensive rebound	Taking a rebound when your team is in attack giving your team another chance to score.
Defensive rebound	Taking a rebound when you are in defence, preventing the other team from having another shot.
Assist	Setting a teammate up to score a basket.
Outlet pass	Making a quick pass out from under your own basket to set up an attack after you have taken a rebound.
Breakout dribble	Making a quick dribble out from under your basket (2 or 3 bounces) to set up an attack for your team.
Officiating crew	The team of officials needed to run a basketball game including a referee, an umpire, a scorer and a timekeeper.
Half court defence	Running back after your team lose possession to defend close to your own hoop.

Section 2: New Knowledge/Skills

In basketball this year, you will be working towards playing the full court version of the game, with some of the more advanced rules and tactics. Hopefully, after your lessons, you will be able to answer some of the following questions:

What is the backcourt rule?

What are some of the time limits that players have to be aware of in a game of basketball?

Why is half-court defence played most of the time?

When might a team use full-court defence?

What makes a good rebounder and why are they so important to a team's success?

PE: Health and Fitness

Section 1: Key Vocabulary	
Tier 3 vocabulary	**Definition**
Components of fitness	Our fitness can be broken down into 11 components of fitness which we all possess. Examples include speed, strength, agility.
Effects of exercise	The short term effects of exercise are changes in the body which occur as a result of physical activity. We should know why they occur.
Fitness testing	Each component of fitness can be measured by a test. Using fitness tests can help performers to see if their training is having a positive effect on their fitness.
Circuit training	A method of training which involves exercising at a station then having a rest before moving to the next station.
Weight training	Using a resistance such as a dumbbell to exercise a specific muscle.
Heart rate	How fast our heart beats can be a good measure of how hard we are working and a good measure of how fit we are.

Section 2: New Knowledge/Skills

The Health and Fitness module will give students a good foundation for taking responsibility for their own fitness.

You will look at a variety of ways to measure your own fitness and a variety of ways to improve your own fitness.

Many of the exercises and activities we do can be repeated at home with little or no equipment - you take responsibility!

The unit also provides a taste of some of the content students will experience should they opt for exam PE in KS4.

Try these questions as you complete this module:
How many of the major muscles can you name?
Can you link 5 components of fitness with their fitness test?
Can you list 10 exercises you can do with a pair of dumbbells?
Can you list 10 exercises you can do without any equipment?
Which heart rate is an important measure of your health?

PE: Running

New Knowledge/Skills

You will use the same running route (3 laps/2200m) to work on endurance and work towards a **personal best** time. You will set your own targets based on previous times and set yourself **interim targets** (lap times and split times) to help you reach your goal.

We will continue to develop our **mental approach** to running by looking at some basic **tactics** (strategies) - when to run faster or when to conserve energy.

To improve our performance we will look at two **training methods** which can be used to improve running: **fartlek and interval.**

Fartlek training means running at different speeds for varying distances whereas interval training involves running a set distance or for a set time and then having a period of rest.

PE: Health and Fitness

New Knowledge/Skills

Our focus on health and fitness across the sports will be on the **components of fitness** and how they are required in different activities.

Question: Can you list the 11 components of fitness?

Hopefully, you will be able to identify the main components of fitness used in any sport you do.

PE: Leadership

New Knowledge/Skills

You will be challenged at times to take on the role of captain and help influence your team's performance.

You may be asked to lead a warm up in front of the class to help develop your confidence to stand in front of and speak to a large group of people.

You will also be given time in some activities to create your own practices for a group of classmates.

Section 1: Key Vocabulary

Tier 3 vocabulary	Definition
Emigre	A person who has left their own country to live in another.
Depiction	To represent or show something.
Fatalities	An occurrence of death by accident.
Conflict	War
Provocative	Causing anger or another strong reaction.
Dehumanizing	To deprive someone or something of human qualities or dignity.
Segregated	Set apart from each other, isolated or divided.

Tier 2 vocabulary	Definition
Charcoal	Drawing media- black , crumbly stick made from burnt wood
Blend	Merge tone/colour from one to another
Tone	Light and shade
Proportion	Comparative measurements
Ink	An ancient writing and drawing medium in a liquid or paste form, containing coloured dyes of pigment.

Section 2: New Knowledge/Skills

World War II was a global conflict between the Allies and the Axis powers. During this conflict there were around 50 to 85 million fatalities. Throughout this project, we will be looking at different artists depiction of predominantly black soldiers or of individuals overlooked in mainstream depictions of war.

Barbara Walker is a British artist known for her powerful and often provocative works that explore gender, identity, race and history. Walker's work doesn't focus on the traditional battlefield scenes or heroic depictions of soldiers, but rather on the intimate human aspects of war. Her work often combine elements of portraiture, abstraction and symbolism, creating compelling visual narratives. Her work is less about the glorification of conflict and more about the dehumanizing effect of violence, the emotional cost of war, and the resilience of individuals who endure it.

I was there IV
1964
Ink on tracing paper

Black people had participated in every major American conflict since the birth of the nation. And though by 1940, the War Department had removed a number of restrictions on permitting African Americans to join the armed forces under the Selective Service Act, society as a whole remained racially segregated. This separation of black and white people in the US was upheld by state and local laws, referred to as 'Jim Crow', and was particularly notable in the American deep south. These laws excluded black American citizens from economic and political rights.

Elizabeth Catlett was an American and Mexican sculpture and graphic artist. Her work spans over six decades and focusses on her own personal experiences as an African American women, mother and emigre living in Mexico.

"I am inspired by Black people and Mexican people, my two peoples."

Elizabeth Catlett's work directly addresses people whose perspectives and experiences, like hers, had historically been excluded from artistic representation.

Section 1: Key Vocabulary

Tier 3 vocabulary	Definition
Epic Theatre	A range of theatrical devices used to make the audience think.
Didactic Theatre	Theatre that educates and send a message to the audience.
Bertolt Brecht	A German Theatre Practitioner and playwright.
Gestus	A clear character gesture or movement used by the actor that captures a moment or attitude rather than delving into emotion.
Alienation	Familiar contents are presented in an unfamiliar way so that the audience does not empathise with the story of a drama.
Episodic Structure	Scenes are **episodic**, which means they stand alone and are constructed in small chunks, rather than creating a lengthy and slow build of tension.
Multi-Role	Actors play multiple characters within the same piece of theatre.

Tier 2 vocabulary	Definition
Socio-Political Issues	Issues and political decisions that effect the peoples lives and the world.
3rd Person Narration	Commenting upon a character as an actor is a clear way of reminding the audience of theatricality.
Direct address	The actors speak directly to the audience, sometimes in the form of questions, this reminds the audience that what they are seeing isn't real and forces them to think about what they are watching. This is called 'breaking the fourth wall'.

Section 2: Who is Brecht?

Bertolt Brecht (1898-1956) was a famous German playwright and poet.

"Art is not a mirror with which to reflect reality but a hammer with which to shape it."
Bertolt Brecht

What is the Alienation effect?
The idea of Alienation or the Verfremdungseffekt was to constantly remind the audience they were in a theatre, watching a play.

These techniques break the illusion of drama. We do not get lost in the story or the characters.

Instead we are constantly reminded that these are actors communicating ideas and situations to us.

How did Brecht make the audience step back and view the message rather than the spectacle?

This short video explains the ideas of Epic Theatre.

Epic Theatre provokes the audience to think. It often uses a parable, a story with a wider meaning as a vehicle to address social issues or viewpoints and opinions.

Epic Theatre plays with short 'stand alone' scenes, the structure often ignores the usual constraints of linear timelines. These short contrasting scenes create humour, provoke thought and make the audience reflect.

Section 3: Exploring Social Issues

An Example of a socio-political Issues Mind Map
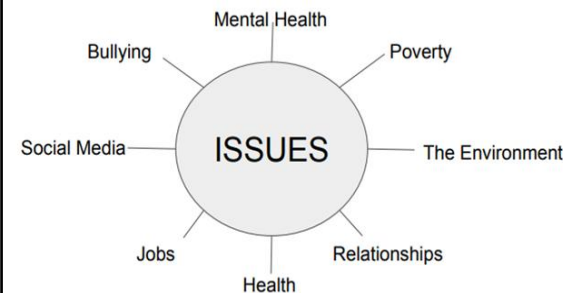
Pendulums Emporium is a production by local theatre company Maison Foo.

The production explores a wide range of social issues.

Section 3: Links to Prior Learning

In year 7 you studied Greek Theatre and were taught about the role of the narrator. In year 8 you studied Bullying and in year 9, Gangs. You were taught how to explore these issues through different drama techniques. In year 8 you were taught about abstract theatre when devising pieces of theatre about cyber bullying.

Music: Mastering Performance – Strike a Chord

BELPER SCHOOL and Sixth Form Centre

Section 1: Key Vocabulary

Tier 3 vocabulary	Definition
Chord	Two or more notes played together.
Scale	A series of notes played in order, ascending and descending.
Root	The first note of the scale.
Third	The third note of the scale, also called the median.
Fifth	The fifth note of the scale.
Seventh	The seventh note of the scale, also called the leading note.
Concord	A chord where all the notes seem to agree with each other, creating a sense of completeness and rest.
Discord	A combination of notes that sound unpleasant when played together.

Tier 2 vocabulary	Definition
Triad	A group of three. In music a triad chord contain three notes; the first, third and fifth notes of the scale.
Chord Pattern	A set of chords played in a particular pattern.
Fluency	Playing in time with a beat.
Ensemble	A musical group.

Section 2: New Knowledge/Skills

Chords form the foundation of most Western music, providing structure to melodies and melodic development.

All music is grounded in a **tonality**. This gives us the available chords to use within the piece of music. We number the notes of the scale 1-8.
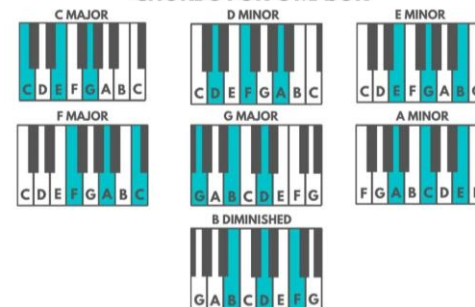
Scale Degrees

$\hat{1}$ $\hat{2}$ $\hat{3}$ $\hat{4}$ $\hat{5}$ $\hat{6}$ $\hat{7}$ $\hat{8}$

C D E F G A B C

Chords are build by using notes 1, 3 and 5 (sometimes a 7). This is the same on any instruments; it just will look different as each instrument is played differently.

Common Chord Patterns

I	V	VI	IV
C	G	Am	F

VI	IV	I	V
Am	F	C	G

I	IV	V	IV
C	F	G	F

I	VI	IV	V
C	Am	F	G

ii	V	I	VI
Dm	G	C	Am

Section 3:

CHORDS FOR C MAJOR

Chords In C Major Family

D&T FOOD: Nutrition, healthy eating & Deficiencies

BELPER SCHOOL and Sixth Form Centre
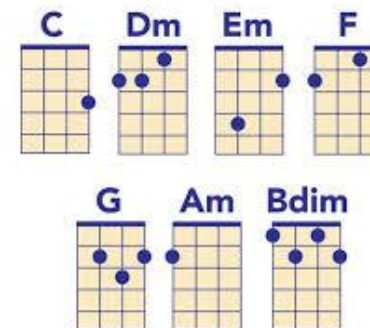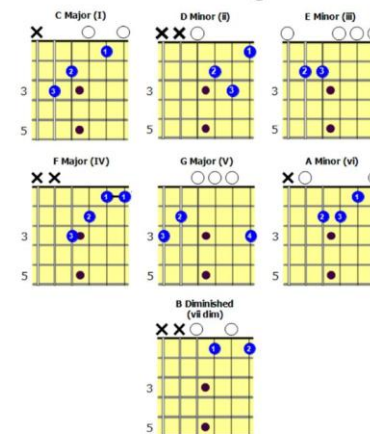
Tier 3 vocabulary	Definition
Macronutrients	The nutrients needed in larger quantities within the diet. Carbohydrates, proteins and fats.
Micronutrients	The nutrients needed in smaller quantities within the diet. Vitamins and minerals.
Deficiency disease	A health issue related to a lack of one or more nutrients in the diet. E.g. Kwashiorkor, Rickets and Anaemia.
Dietician	An individual who promotes good dietary health and treats nutritional problems by providing practical advice about food choices, based on scientific research.
Complex Carbohydrates	Also known as starchy carbohydrates. These should make up the majority of a person's carbohydrate intake. Providing slow-release energy.
Simple Carbohydrates	Also known as sugary carbohydrates. These should be consumed as a smaller proportion of the carbohydrate intake. Providing fast-release energy.
Proteins	A nutrient provided by meat, fish, diary, nuts. Peas, beans and lentils. Protein is required for growth and repair.
Saturated Fat	A unhealthier type of fat which can be linked to higher risk of obesity, CHD and type II diabetes if consumed in larger quantities. Predominantly from animal sources.
Unsaturated Fat	A type of fat containing a high proportion of fatty acid molecules with at least one double bond, considered to be healthier in the diet than saturated fat. Predominantly from plant sources.
En papillote	A cooking method where ingredients are cooked and served in a paper or foil wrap.

Tier 2 vocabulary	Definition
Obesity	The state of being grossly overweight.
Diabetes	A disease in which the body's ability to produce or respond to the hormone insulin is impaired, resulting in abnormal metabolism of carbohydrates and elevated levels of glucose in the blood.
Dietary recommendations	The daily nutritional requirements of individuals that vary depending on a number of factors including age, physical activity level, sex & body size.
Recipe Modification	Changing a recipe to suit different dietary needs or preferences.
Nutrients	a substance that provides nourishment essential for the maintenance of life and for growth.
Creaming method	Combining a fat and sugar as the first stage of a recipe to aerate the mixture.
Melting Method	A cake making method where one or more ingredients are melted prior to the addition of dry ingredients.
Dietary Fibre	A form of carbohydrate which can be soluble (e.g. in oats) and helps to lower risk of heart disease, or insoluble in wholemeal products which helps to remove waste from the body, reducing the risk of constipation, diverticular disease & colon / bowel cancer

Section 2: New Knowledge/Skills

NORMAL ARTERY   ARTERY NARROWED BY PLAQUE
BLOOD FLOW   ATHEROSCLEROTIC PLAQUE

The above diagram shows a picture the thickening and hardening of the artery walls. This build of of plaque is called

_____

Section 3

Eatwell Guide

Homework 1: The Google Classroom H&S homework on safety set by your teacher (you can ask your teacher for a paper copy of this quiz if needed).
Homework 2: Read the nutritional information on this knowledge organiser then complete the quiz about Fibre on Google Classroom (ask for a paper copy if you need it.)
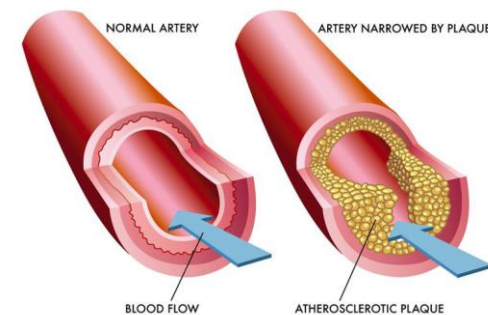
Section 2: New Knowledge/Skills

The melting method - a cake making method which involves melting margarine / butter before adding it to dry ingredients.
List 3 other cake making methods -
1.
2.
3.

D&T TEXTILES: Upcycle This

BELPER SCHOOL and Sixth Form Centre

Section 1: Key Vocabulary

Tier 3 vocabulary	Definition
Aesthetics	What a product looks like, Colour, shape, style etc
Components	Anything in the textile product that is not made of fabric. Eg. Zip, button, press stud
Embellishment	The application of stitching, trimmings, threads, braid, ribbons and beads to decorate a fabric or textile.
Pattern	Paper templates that show the shape of the fabric pieces that must be cut out to make a product
Context	The setting for an event, statement, or idea.
Couching	The process used to secure threads, fibres or yarns to a surface using hand stitching or embroidery.

Tier 2 vocabulary	Definition
Form	The shape, aesthetics. What something looks like.
Function	How well does the product perform the job it was designed to do?
Customer	Who will use your product? What Are their needs, interests etc
Evaluation	Making a judgment about a product or design

Section 2: Skills

Surface Decoration

You have worked with many different types of surface decoration in your previous textile projects. In this project you will need to pick the most relevant ones to your design:

- Stencil
- Applique
- Block printing
- Embroidery
- Cross stitch
- Buttons/beads/sequins
- Fabric crayons
- Digital Fabric design and printing

You have also learned how to create patterns/templates and sew a zip in amongst other things! Can you explain how each of these processes work? Can you decide which are the most appropriate to use in your design?

Upcycling

Upcycling is taking an old garment and making it into something new. Often this is a garment that might be destined for landfill.
You can add decorations to hide holes or stains. Combine garments, take the sleeves from one top and sew them onto another. Or completely remake some thing ie. take an old pillowcase and make it into a top.
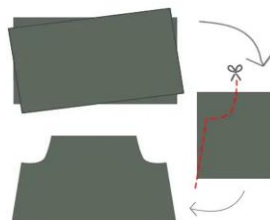
Section 3: Knowledge

Textiles and the Environment

Of all industries textiles is the second most pollutant. As designers and consumers we have a responsibility to be aware of the impact it has.

As designers we should consider the environment when picking the materials we will use to make our designs. For example considering using recycled materials, or sustainably produced fabrics.

FAST FASHION has led to a huge increase in the amount of textiles that end up in landfill. There is also the impact of the MANUFACTURE and CARE of the garments during their life. As consumers we have a responsibility to consider the impact our purchases have on the environment.

Some facts to consider:

*2,700l of water is needed to produce 1 t-shirt. This is equivalent to enough drinking water for one person for 2.5 years.

*10% of all greenhouse gases are produced by textile production.

*0.5million tonnes of MICROFIBRES are released into the oceans each year as a result of washing SYNTHETIC textiles.

The 6 R's

Whilst we are all quite familiar with the idea of recycling materials there actually 6 different 'R' words that we can use to consider our impact on the environment.
This is a list of 6 different guidelines that people can use to help them reduce their impact on the environment. These words can be applied by the designer when the they are creating new products or the consider who is looking to decide what to do with a ripped t-shirt!

REDUCE
RECYCLE
REFUSE
RETHINK
REUSE
REPAIR

Section 1: - Key Vocabulary

Tier 3 Vocabulary

Biscuit Joint	Small oval shaped piece of wood used to join two sections of larger wood together
Light Dependant Resistor	LDR – A resistor which changes it's ability to resist the flow of electricity based on the light level
Pillar Drill	A machine drill used to accurately drill holes in wood, metal and plastic
Printed Circuit Board	PCB – Plastic board which is printed with copper track and soldering pads, used to link electronic components together

Tier 2 Vocabulary

Cost	Details about the cost of materials, manufacture, and retail price of a product
Aesthetic	What the theme, colour scheme and look of a product
Function	What a product is intended to do and how
Ergonomic	Detailed about how easy it is to interact with a product, including how it feels
Quality	How well a product is made, and how it effects the durability and material choice
User	How is the intended target market of the product.
Environment	How does your product effect the environment, from raw materials to end of life

Section 2: Skills

Soldering	Being able to solder 'on and off board' components based on a schematic diagram independently. Soldered joints should be neat, use the correct amount of solder, they should be shiny to avoid 'dry joints', with errors being independently identified and repaired.
Biscuit Joint	Mark out joints, then uses a biscuit jointer under close supervision to joint join 2 panels of wood
Pillar Drill	Set up, including the changing the drill bit, to cut small and large diameter holes in wood to a fixed depth and through cut
2D design software	Use CAD software create a themed design, considering suitable and secure location of the PCB, power, and the inputs & outputs
Application of laser cutting	Understand the set up requirement needed to laser cut and engrave materials, including the use of colour to define cut type, and power/speed setting requirements for different materials
Product Assembly	Create a high quality, fully functioning, electronic product from a collection of parts. Including the use of glues and fixing techniques
Health and Safety	Consistently use a wide range of tools and equipment safety, always using the correct PPE

Section 4:- WAGOLL

Section 3:- New Knowledge

Product Analysis and Evaluation

- Complete an in depth evaluation of your own completed practical work, and a similar commercial product using the common evaluation techniques, including CAFEQUE and LCA

Design Theme Research

- Develop your knowledge of a well known designer or design house, being able to explain their style and ethos. Apply this design style to a product

PlaySam   Alessi   Memphis   De Stijl

Life Cycle Assessment

Understand the concept of LCA and how it applies to every stage of a products life. Apply the concept to your product during the evaluation.

Risk Assessment

- Understand the meaning off, and difference between a hazard and a risk.
- Identify people at risk and control measures which can be put into place to make an activity safer
- Complete a formal risk assessment for skills/tools/machines which are used to make the clock project

Processes

Be able to explain the competent safe use of the following machines using annotation and sketches.

- Pillar Drill
- Biscuit Jointer
- Strip Heater/Line Bender

36

Section 1: Key Vocabulary

Tier 2 vocabulary	Definition
Coping strategies	Healthy ways to manage emotions, thoughts, and behaviours in response to stress, anxiety, depression, or difficult life events
Wellbeing	The state of your being or self
Consequences	The negative impact which are a direct result of a person's actions
Substances	Something that is taken which alters the body or brain in some way
Gambling	Take risky action in the hope of a desired result
Risks	The possibility of something bad or unpleasant happening, and the potential consequences of that happening
Strategies	Behavioural and cognitive techniques used to manage stressful situations
Resilience	The capacity to withstand or to recover quickly from difficulties
Safe Sex	The act of sex with the removed risk of either pregnancy or contracting an STI. See definition for STI below

Tier 3 vocabulary	Definition
FGM	Short for female genital mutilation. Prevalent in some cultures, comprises all procedures that involve partial or total removal of the external female genitalia
Self-examination	Physical checks a person can perform to check their own body for risks
Contraception	The use of medicines, devices, or surgery to prevent pregnancy
STI	Short for sexually transmitted infection. A disease which is transmitted though sex or sexual acts

Section 2: Key Themes:

Supporting our wellbeing: Understand our mental health, how to build resilience and some strategies to help us manage our mental health. To be able to recognise signs of poor mental health in others.

Substances & the associated risks: Revisiting our knowledge of legal & illegal substances and personal risks and wider consequences of these.

Checking our body: The importance of looking after our body in several ways and how we can check ourselves for early signs. The introduction of the topic of FGM.

Gambling: The different types of gambling, the risks associated, and some strategies used to manage gambling addictions.

The impact of resilience on our future: The impact of resilience on our future life, including relationships, achievements and employment. Strategies to build resilience and combat negativity.

Contraception & STIs: The different forms of contraception and how they work including protection against STIs. Specific STI's, their symptoms and treatments.

Section 3: Key concepts:

Spring 1: Extra – Curricular Timetable

Monday	Tuesday	Wednesday	Thursday	Friday
Lunchtime Clubs: 12.20 – 1.00				
Football **Year 7** With James 3G **Table Tennis** **Year 10/11** With Tom GYM **Book Group** **Year 9** With Sarah Phillips Library **Art Club** **All Years** With Lucy A4 **Wargaming Hobby Painting Club** **All years** With Richard A3	**Duolingo Club** **All Years** With Sarah Knappett Languages Block **Badminton (week 1)** **Year 8/9** With Tom Sports Hall **Football** **Year 9/10** With James/Matt 3G **Ultimate Frisbee (week 2)** **Year 7/8/9** With James Sports Hall	**Technical Theatre Club** **All Years (max 10 students)** With Sarah Holme A7 **Football** **Year 11/12/13** With Matt and Tom 3G **Belper Band** **All Years** **Woodwind, Brass and Strings** With Anna MU1 **Handball** **Year 8/9** With Tom Sports Hall	**Digital Skills Drop In** **Yr10-13** With Jody A2 **Football** **All Years Girls** With Leanne Sports Hall/3G **Music Club** **All Years** With Phil MU2 **Knitting and Crochet Club** **All Years** With Emma T5 **Scalextric Racing/ Model Railways** **All Years (Max 15 students)** With Phill T1 **Foreign Language Spelling/ Translation Bee practice** **Years 7, 8, 9** With Sarah Knappett Languages Block **Belper Choir** **All Years** With Anna MU1	**Chess** **All Years** With Carlos M2 **Football** **Year 8** With Tom 3G **Games Club** **Years 7, 8** With Emma Library 12.20 – 1.00 **Multisports Club** **Year 7 (Yr10 Sports Leaders)** With Rebecca and Matt Sports Hall & Gym

Spring 1: Extra – Curricular Timetable

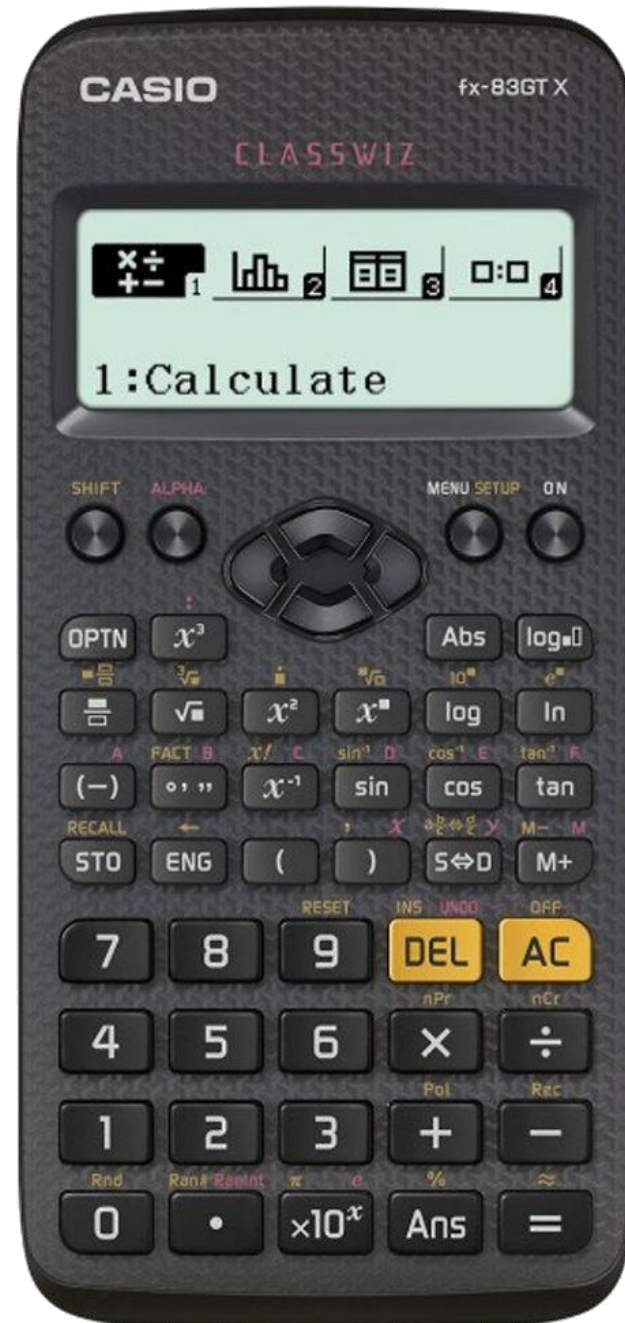|	Monday	Tuesday	Wednesday	Thursday	Friday
After School Clubs					
	Gardening **All Years** With Marc and Tony Rosie's Garden 3.05 – 4.00 **More Than Robots** **Years 8, 9, 10, 11** With Sarah Speight T1 3.05 – 4.00 **Music Producers Club** **Years 9, 10, 11** With Phil MU2/Recording Studio 3.05 – 4.00 **Football** **Year 8** With Tom Field 3.05 – 4.00 **Sports Leadership Events** **Year 9/10/12** with Rebecca, Matt & AVSSP 3.05-4.00	**Netball** **Years 7/8** With Rebecca Sports Hall 3.05 – 4.00	**Litter Picking** **All Years** With Marc P2 3.05 – 4.00 **Scalextric Racing/ Model Railways** **All Years (Max 15 students)** With Phill T1 3.05 – 4.00 **Circuit Training** **Year 7/8/9** With James Gym 3.05 – 4.00 **'Your Time' Leadership** **Year 9 Girls with Rebecca and Matt** **Sports Hall** 3.05-4.00 (week 1) **A level PE Revision** **Year 13 with Rebecca/Tom/Matt** 3.05-4.00 **Sports Studies/GCSE Sports Club** **Year 10/11** **With Tom** 3.05-4.00 (week 2)		**Friday Night Sports Club** **Year 10/11/12/13/staff** With Matt, Leanne, Tom & James 3G/Sports Hall

2 Black/Blue Pens and 1 Coloured Pen

2 Pencils

Eraser

HI·POLYMER ERASER
Pentel

Pencil Sharpener

Scientific Calculator

CASIO   fx-83GT X

CLASSWIZ

1:Calculate

Knowledge Organiser

Ruler

Helix   Shatter Resistant