Name: Form:

“The view from space is really very special. From the window, you can look back at the Earth and see the stars around you. I just hope that more people from Britain get the chance to experience it.”

Helen Sharman

Helen Patricia Sharman, OBE, is a British chemist who became the first British astronaut and the first woman to visit the Mir space station in 1991.

Born: 30 May 1963

Bluecoat Wollaton
believe in yourself, in others, in God

YEAR 8
KNOWLEDGE ORGANISER:
Autumn Term 2020

CONTENTS PAGE:

Instructions for using your Knowledge Organiser

Every school day you should be studying at least **1** section of your Knowledge Organiser (KO) for homework.

The timetable on the next page tells you which subjects you should be studying on which days (it doesn't matter if you have that subject on that day or not, you should follow the timetable).

You are to use your exercise book to show the work you have done. Each evening you should start a new page and put the date clearly at the top.

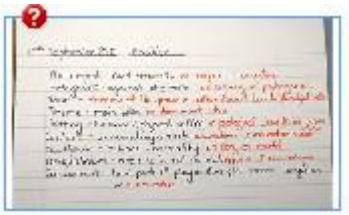
You need to bring your KO and exercise book with you **EVERYDAY** to the academy.

Your parents should tick off your homework every evening using the grid in your KO on page 4. Parents should also sign off your reading using the reading log on page 5, this will be checked in your library lesson.

Your KO and exercise book will be checked regularly in form time, failure to show homework for **ALL FIVE** days of the week will result in an after school detention that day.

You will also be tested in your lessons on knowledge from the organisers.

Self-testing



You can use your KOs and book in a number of different ways but you **should not just copy** from the Knowledge Organiser into your book. Use the ***'How to self-test with the Knowledge Organiser'*** booklet to help you. It can also be found here: http://www.bluecoatwollaton.co.uk/learning/knowledge-organisers/

Below are some possible tasks you could do in your workbooks, **no matter which task you do you should always check and correct your work in a different coloured pen.**

- Ask someone to write questions for you
- Write your own challenging questions and then leave it overnight to answer them the next day
- Create mindmaps
- Create flashcards
- Put the key words into new sentences
- Look, cover, write and check
- Mnemonics
- Draw a comic strip of a timeline
- Use the 'clock' template to divide the information into smaller sections. Then test yourself on different sections
- Give yourself spelling tests
- Definition tests
- Draw diagrams of processes
- Draw images and annotate/label them with extra information
- Create fact files

Presentation

You should take pride in how you present your work:

- Each page should be clearly dated at the top left hand side with Subject 1 written in the middle.
- Half way down the page a line should divide it in two with Subject 2 written above the dividing line.
- Each half of the page should be neatly filled with evidence of self-testing. There should be an appropriate amount of work.
- Failure to show pride in your presentation or wasting space on your page with large writing or starting a number of lines down will result in a **negative point.**

You are expected to study the subject(s) shown on your timetable each day.

Each day use a page of your exercise booklet to evidence your work.

Autumn Term 1

Week starting: 7th Sept	Subject 1	Subject 2	Signed off
Monday	English	History	
Tuesday	RE	PE	
Wednesday	Maths	Computing	
Thursday	Bedrock	Geography	
Friday	Science		

Week starting: 14th Sept	Subject 1	Subject 2	Signed off
Monday	English	Art	
Tuesday	Music	Drama	
Wednesday	Maths	DT	
Thursday	Bedrock	Spanish	
Friday	Science		

Week starting: 21st Sept	Subject 1	Subject 2	Signed off
Monday	English	History	
Tuesday	RE	PE	
Wednesday	Maths	Computing	
Thursday	Bedrock	Geography	
Friday	Science		

Week starting: 28th Sept	Subject 1	Subject 2	Signed off
Monday	English	Art	
Tuesday	Music	Drama	
Wednesday	Maths	DT	
Thursday	Bedrock	Spanish	
Friday	Science		

Week starting: 5th Oct	Subject 1	Subject 2	Signed off
Monday	English	History	
Tuesday	RE	PE	
Wednesday	Maths	Computing	
Thursday	Bedrock	Geography	
Friday	Science		

Week starting: 12th Oct	Subject 1	Subject 2	Signed off
Monday	English	Art	
Tuesday	Music	Drama	
Wednesday	Maths	DT	
Thursday	Bedrock	Spanish	
Friday	Science		

EXAMPLE	Subject 1	Subject 2	Signed off
Monday	English ✓	Art ✓	Signature
Tuesday	Music ✓	Drama ✓	Signature
Wednesday	Maths ✓	DT ✓	Signature
Thursday	Bedrock ✓	Spanish ✓	Signature
Friday	Science ✓		Signature

You are expected to study the subject(s) shown on your timetable each day.

Each day use a page of your exercise booklet to evidence your work.

Autumn Term 2

Week starting: 2nd Nov	Subject 1	Subject 2	Signed off
Monday	English	Art	
Tuesday	Music	Drama	
Wednesday	Maths	DT	
Thursday	Bedrock	Spanish	
Friday	Science		

Week starting: 9th Nov	Subject 1	Subject 2	Signed off
Monday	English	History	
Tuesday	RE	PE	
Wednesday	Maths	Computing	
Thursday	Bedrock	Geography	
Friday	Science		

Week starting: 16th Nov	Subject 1	Subject 2	Signed off
Monday	English	Art	
Tuesday	Music	Drama	
Wednesday	Maths	DT	
Thursday	Bedrock	Spanish	
Friday	Science		

Week starting: 23rd Nov	Subject 1	Subject 2	Signed off
Monday	English	History	
Tuesday	RE	PE	
Wednesday	Maths	Computing	
Thursday	Bedrock	Geography	
Friday	Science		

Week starting: 30th Nov	Subject 1	Subject 2	Signed off
Monday	English	Art	
Tuesday	Music	Drama	
Wednesday	Maths	DT	
Thursday	Bedrock	Spanish	
Friday	Science		

Week starting: 7th Dec	Subject 1	Subject 2	Signed off
Monday	English	History	
Tuesday	RE	PE	
Wednesday	Maths	Computing	
Thursday	Bedrock	Geography	
Friday	Science		

Week starting: 14th Dec	Subject 1	Subject 2	Signed off
Monday	English	Art	
Tuesday	Music	Drama	
Wednesday	Maths	DT	
Thursday	Bedrock	Spanish	
Friday	Science		

EXAMPLE	Subject 1	Subject 2	Signed off
Monday	English ✓	Art ✓	Signature
Tuesday	Music ✓	Drama ✓	Signature
Wednesday	Maths ✓	DT ✓	Signature
Thursday	Bedrock ✓	Spanish ✓	Signature
Friday	Science ✓		Signature

Reading Log

Use this reading log to record the books you read, how long you have spent reading, plus AR quizzes and Bedrock lessons.

Week starting	Mon	Tues	Weds	Thurs	Fri	Sat	Sun	Total no. of minutes read	Bedrock lesson complete?	Parent/Carer Signature
31.8.20										
7.9.20										
14.9.20										
21.9.20										
28.9.20										
5.10.20										
12.10.20										
2.11.20										
9.11.20										
16.11.20										
23.11.20										
30.11.20										
7.12.20										
14.12.20										

'The more that you read, the more things you will know.
The more that you learn, the more places you'll go.'

Bedrock

Don't forget the drip feed! **24 hour block** between lessons

Use this page to note down what days you have your Library lesson and what days you can access Bedrock without being locked out by the 24 hour drip feed...

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday

Monday morning Bedrock reports sent to your English teacher(s) to check your progress

Add to the grid when you have your Library lesson

Shade with a pencil the days you can't do Bedrock due to the 24 hour block

Highlight/colour the days you can complete your Bedrock

Remember that the weekly minimum is:

1 x Bedrock Lesson (ideally during library lesson)

1 x Bedrock homework

= 2 per week

Aim to get everything done in plenty of time to grow your brain and get plenty of prizes for your progress :)

English—The Art of Rhetoric—Autumn Term 1

Section A: Key Vocabulary

Tier 3 vocabulary	Definition
Anecdote (n)	A short interesting story about a real incident or person: *'I had a friend who…'*
Fact (n)	Something that can be proven to be true.: *'smoking is bad for your health'*
Opinion (n)	A personal belief : *I believe schools need more money for books'*
Rhetorical Question (n)	A question designed to get the listener to think: *'Do you know what it's like to…'*
Emotive Language (n)	Language designed to convey strong emotions *'The litter around school is a disgrace'*
Statistics (n)	Numerical facts, often expressed as percentages *'65% of students would prefer…'*
Tricolon (n)	A series of three parallel words, phrases or clauses: *'Friends, Romans, Countrymen…'*
Pronouns (n)	A word that you use to refer to something or someone when you do not need to use a noun.
Imperatives verbs (n)	Command phrases to force the listener to act *'You must'*
Anadiplosis (n)	Where the speaker uses a word at the end of a clause and then repeats that word to begin the next clause.
Antithesis (n)	If there is an antithesis between two things, there is a contrast between them.
Anaphora (n)	The same phrase repeated at the start of succeeding sentences.
Rhetoric (n)	The skill of using language effectively
Tier 2 vocabulary	**Definition**
Vehemently (adv)	To have strong feelings about something
Preposterous (adj)	ridiculous
Moral (adj)	Decent, honest, respectable
Obligation (n)	A sense of duty
Reckless (adj)	Irresponsible
Tyrannical (adj)	Unfair to other s they have authority over
Proposal (n)	Idea or suggestion
Compromise (n)	Coming to an agreement or settlement
Convincing (adj)	Believable
Compelling (adj)	Gripping or interesting

Section B: Key Facts

Questions:	Answers:
What is the **Aristotelian Triad?**	Aristotle suggested there are three main ways that writers and speakers appeal to their audience. These three methods of appeal have become known as the 'Aristotelian Triad'.
What is '**Ethos'**?	Ethos is how we portray **ourselves** in an argument: it is the image persuaders present of themselves, to those they attempt to persuade. '*You should believe in me because..'*
What is '**Logos'**?	Logos is a Greek term meaning 'word' and refers to using logic and reasoning as your appeal. Logos is the clarity of the message itself, the credible arguments used and the supporting evidence on which arguments are built: **facts,** rather than emotion.
What is '**Pathos'**?	Pathos is the **emotional influence** of the speaker on the audience. Its goal is to make the audience feel something. Whether this is fear, joy, or patriotism, appealing to people's emotions is a really powerful way to get them onside.

Section C: Key Concepts

The concepts highlighted are focused on in this unit.

AMBITION	BELONGING
IDENTITY	ANTITHESIS
INEVITABILITY	GENDER
HIERARCHY	LOVE
OPPRESSION	HOPE
PREJUDICE	REVOLUTION
DECEPTION	LOSS
CONFLICT	PERCEPTION
POWER	ADVERSITY
REDEMPTION	HUBRIS
LOYALTY	EXPLOITATION
MORALITY	ALLUSION

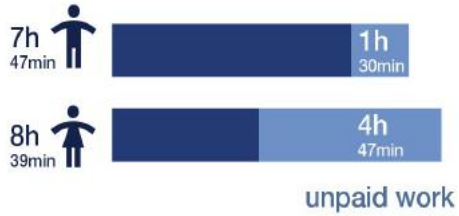
Section C: Using techniques

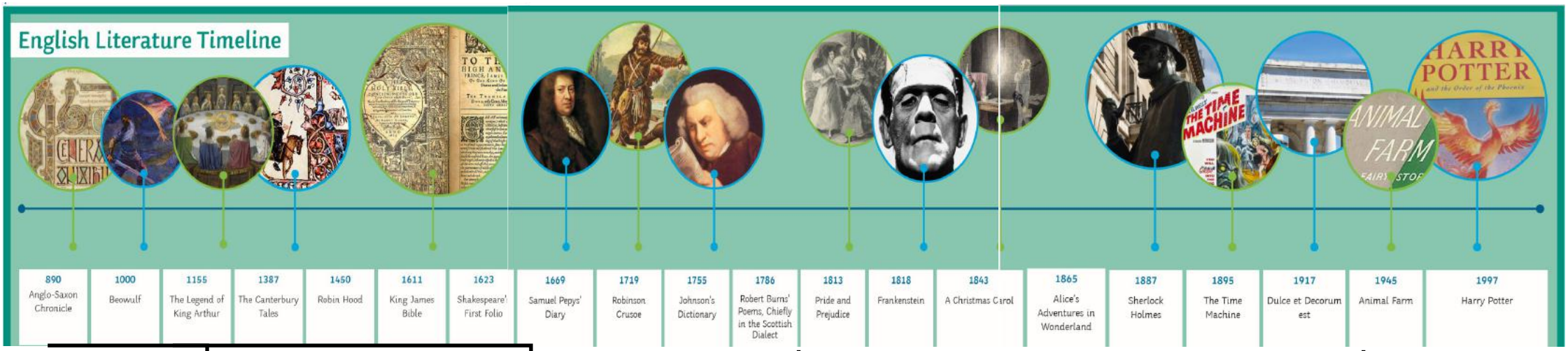
In Churchill's speech, you may have noticed that lots of his sentences begin with the phrase, 'we shall…'

*"**We shall** go on to the end, **we shall** fight in France, **we shall** fight on the seas and oceans, **we shall** fight with growing confidence and growing strength in the air, **we shall** defend our Island, whatever the cost may be, **we shall** fight on the beaches, **we shall** fight on the landing grounds, **we shall** fight in the fields and in the streets, **we shall** fight in the hills; we shall never surrender"*

Repetition of words or phrases at the beginning of successive clauses, phrases or sentences is called Anaphora. Anaphora is used for emphasis.

When you are writing a speech in you English lessons it's important you have evidence and factual information to substantiate your argument. For example, here's an infographic about the average working day for men and women:





Aristotle's Rhetoric dates from 4th century BC. It isn't instructions on how to be persuasive, but more of a review on what he thought made persuasion successful.

How has this influenced ideas of persuasion today?

In 1095 'Speech at Clermont', Pope Urban II makes a famous speech to over 300 people in which he launches the first crusade.

How does this influence our understanding why people can be persuaded to do things such as go to war?

In 1789 William Wilberforce makes his 'Abolition Speech' to British parliament. He passionately argued against the slave trade. The Slave Trade Act was passed in 1807.

How does persuasive speaking change the world?

In 1913 on her tour of the US, Emmeline Pankhurst makes her 'Freedom or Death' speech about women's suffrage. She declared women would fight to the death and the protests were violent.

Is violent protest needed to change the world or is persuasion enough?

Section D Previous and Future Learning	
Previous important learning	
A Monster Calls (Y7)	How can you view different perspectives?
Autobiography (Y7)	Non-fiction writing features: anecdote, emotive language, first person narration etc.
Future important learning	
Non-fiction political (Y9)	Non-fiction writing reflecting socio-political concerns
Big Issues (Y10)	Discussion of the big issues in society and where these come from
Expressing	How are you actually able to share your voice and persuade others?

English—Romeo and Juliet—Autumn Term 2

Maths—Proportional Reasoning– Autumn Term 1

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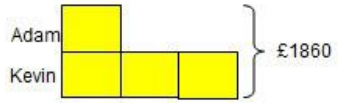
Section A: Key vocabulary

Tier 3 Vocabulary	Definition
Ratio (n)	Compares the size of one part to another part.
Equivalent ratio (n)	Two ratios which have the same value; they show the same relationship. One is a multiple of the other.
Proportion (n)	Compares the size of one part to the size of the whole.
Unitary method (n)	Finding the value of a single unit
Best Buy (n)	Comparing the cost of the same number of items and the lowest price is the best value.
Percentage (n)	Number of parts per 100
Percentage Increase (n)	Increase a quantity by a given percentage
Percentage Decrease (n)	Decrease a quantity by a given percentage
Percentage Change (n)	Comparing the initial (or before) and final (or after) quantities as a percentage.
Multiplier (n)	A number you multiply a quantity by, to increase or decrease by a percentage.
Factor (n)	A number that divides into another number without a remainder.

Tier 2 Vocabulary	Definition
Equivalent (n)	Having the same value
Reduce (v)	To decrease an amount
Calculate (v)	To work something out using mathematical reasoning

Section B: Key Facts and Processes

Adam and Kevin share the running costs of the car in the ratio 1 : 3. Last year it cost £1860 to run the car. How much did Kevin pay?



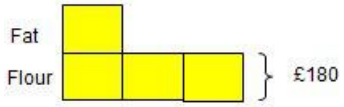
$For\ one\ part\ 1860 \div 4 = 465$

$For\ 3\ parts\ 465 \times 3 = 1395$

To make suet you need fat and flour in the ratio 1:3.

Yasmin has 180g of flour.

How much fat does she need to make the suet?

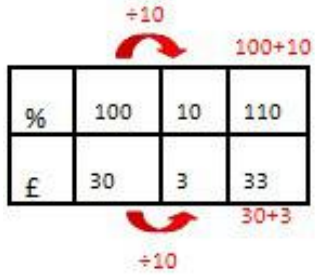


$For\ one\ part\ 180 \div 3 = 60$

$60g\ of\ fat$

Increase £30 by 10%.

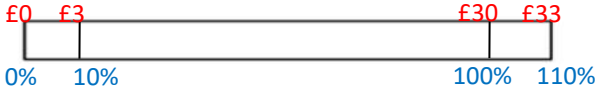
Method 1: Using a Ratio table



Method 2: Multiplier

£30 × 1.1 = £33

Method 3: Bar Model



Percentage Change = $\frac{new - original}{original} \times 100$

Section C: Support

A TV costs £320 and it is reduced in the sale by 12%. What is the new price?

100% - 12% = 88%.

A box of cereal that usually contains 450g has a promotional offer of 15% extra free. How much cereal is in the promotional box?100% + 15% =115%

Access **Hegarty Maths** on a computer, tablet device or smartphone for additional support:
www.hegartymaths.com
Select **Bluecoat Wollaton Academy** as your school

Topic	Videos
Basic Ratio	328—331
Sharing into Ratios	332—337
Direct Proportion	339—341
Recipe Problems	739—742
Best Buys	763—769 Challenge: 770—772

12 Maths—Expressions, Equations and Inequalities—Autumn Term 2

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Section A: Key vocabulary

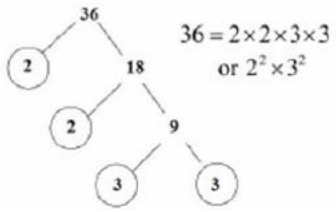
Tier 3 Vocabulary	Definition
Prime number (n)	A number is prime if it has exactly two factors: 1 and itself.
Prime Decomposition (n)	Prime numbers that multiply to make the original number.
Term (n)	Either a single number or variable or numbers and variables multiplied together.
Expand (v)	Multiply each term inside the bracket by the expression outside the bracket.
Factorise (v)	Opposite of expanding. Find the highest common factor of the terms, this goes outside of the bracket.
Highest Common Factor (HCF) (n)	The highest number that can be divided exactly into each of two or more numbers. Eg the HCF of 12 and 21 is 3
Expression (n)	A mathematical statement written using symbols, numbers or letters.
Equation (n)	A statement that shows that two expressions are equal.
Index Notation/ Indices (n)	The index shows how many times the base number has to be multiplied by itself. Eg. 4^3 or x^2
Linear (adj)	An expression / equation whereby the highest power of x is 1
Quadratic (n)	A variable having a power of 2. E.g. x^2

Tier 2 Vocabulary	Definition
Inequality (n)	When two expressions are not equal.
Solve (v)	To find the answer or value of something.
Inverse (n)	The opposite or reverse of an operation. E.g. addition & subtraction

Section B: Key Fact and Processes

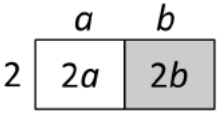
Find the prime factors of 36.

Using indices makes your answer as simplified as possible.



Expand 2(a + b) = 2a + 2b

Factorise 2a + 2b = 2(a + b)



I am thinking of a number, I multiply it by 5 then I subtract 12 and my answer is 47.

What was the number I was thinking of?

x → ×5 → -12 → 23

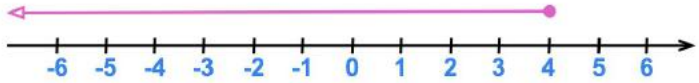
x ← ÷5 ← +12 ← 23

23 + 12 = 35

35 ÷ 5 = 7

Therefore x = 7

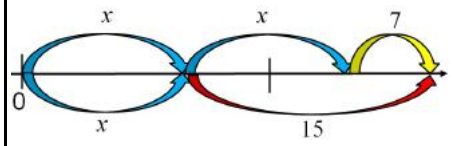
Here is x ≤ 4 on a number line.

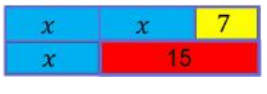


Open circles are used for numbers that are strictly less or more than.

Closed circles are used for numbers that are less than or equal, or greater than or equal.

Different representations to solve 2x + 7 = x + 15





$$2x + 7 = x + 15$$

Subtract x from both sides

$$x + 7 = 15$$

Subtract 7 from both sides

$$x = 8$$

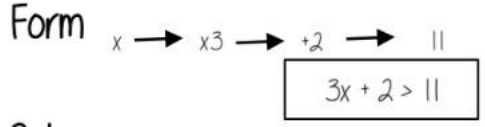
Section C: Support

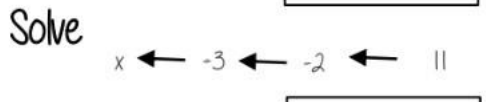
< less than ≤ Less than or equal to

> More than ≥ More than or equal to

Form & Solve Inequalities

"Two more than treble my number is greater than 11" - Find the possible range of values.





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Topic	Videos
Product of Primes	29, 30
Rules of Indices	102—107
Expanding/Factorising	160,161, 168—170
Forming/Solving Equations	176—186
Inequalities	265—272

Science—Inheritance—Autumn Term 1

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Section A: Key Vocabulary

Tier 3 vocabulary	Definition
Gametes (n)	Sex cells, e.g. sperm and egg cells.
Uterus (n)	Part of the female reproductive system where the foetus develops.
Menstrual cycle (n)	The process of ovulation (egg release) and menstruation (period) in a woman.
Hormones (n)	Chemical messengers in the body.
Progesterone (n)	Hormone responsible for maintaining the lining of the uterus.
Oestrogen (n)	Hormone responsible for building up the uterus lining.
Variation (n)	Differences between things.
DNA (n)	Genetic material of a living organism.
Allele (n)	Version of a gene.
Mutation (n)	Change in DNA.
Evolution (n)	Theory of how living things have developed over millions of years.
Tier 2 vocabulary	**Definition**
Adaptation (n)	The process of change by which an organism or species becomes better suited to its environment.
Puberty (n)	The period during which adolescents reach sexual maturity and become capable of reproduction.
Contraception (n)	The deliberate use of artificial methods or other techniques to prevent pregnancy.
Infertility (n)	Inability to conceive children or young.
Pregnancy (n)	The condition or period of being pregnant.
Birth (n)	The delivery of a baby or other young from the body of its mother.
Inherited (adj)	A quality, characteristic, or predisposition derived genetically from one's parents or ancestors.
Fossil (n)	The remains or impression of a prehistoric plant or animal embedded in rock.

Section B: Information

Menstrual Cycle

This is a cycle that occurs in women each month. The cycle length is different in every female, some are longer, some are shorter.

Day 1 is when bleeding from the vagina begins. The lining of the uterus breaks down and leaves the body. This is known as a period or menstruation. Around day 5, bleeding stops. The uterus lining starts to grow and an egg begins to mature in an ovary. Around day 14, ovulation occurs. This is when an egg cell is released from the ovary. It travels through the oviduct and heads to the uterus.
If a sperm cell doesn't fertilise an egg cell in the oviduct, the uterus lining breaks down and the cycle starts all over again.

DNA

Every living thing is made up of cells. Within these cells is a nucleus. The nucleus contains chromosomes. Chromosomes are structures made from DNA.

DNA is a molecule which contains the code for making us who we are. DNA can be split into smaller sections called genes. Each gene is a code for making a particular protein, which in turn makes a particular characteristic in our body.

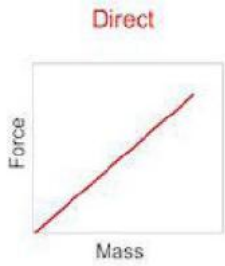
Theory of evolution by natural selection

This theory states that those organisms that are best suited to an environment will survive, whereas organisms that aren't suited will die out.

As reproduction happens, the genes for the poorly suited organisms won't be passed on, whilst the genes for the well suited organisms will. This leads to evolution of the species.

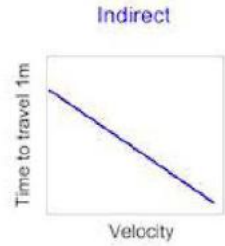
Section C: Trends in Data Diagrams

Positive correlation



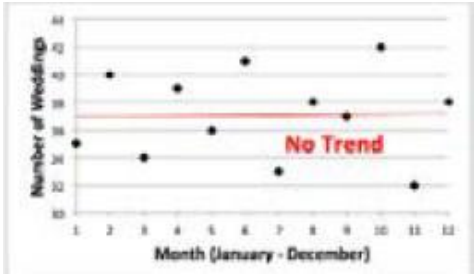
We can analyse data in science to help us identify trends in our results. For example: for this graph, we can say there is a positive correlation, as when the independent variable increase, so does the dependent variable.

Negative correlation



In this graph, we can say there is a negative correlation, as when the independent variable increases, the dependent variable decreases.

No correlation



Sometimes there is no relationship between the data. Here we can say there is no correlation.

Science—Materials— Autumn Term 2

Bluecoat Wollaton
believe in yourself, in others, in God

Section A: Key Vocabulary

Tier 3	Definition
Atom (n)	The smallest particle that can exist.
Element (n)	A substance made up of the same type
Compound (n)	Different types of atoms chemically joined together.
Mixture (n)	Different types of atoms and compounds together.
Molecule (n)	Two or more atoms joined together.
Solute (n)	A substance that dissolves.
Solvent (n)	A substance that can dissolve others.
Soluble (n)	When something can dissolve.
Insoluble (adj)	When something cannot dissolve.
Solubility (n)	The amount of substance that will
Boiling point (n)	The temperature at which a substance changes from the liquid state to the gas state.
Melting point (n)	The temperature at which a substance changes from the solid state to the liquid state.
Tier 2	**Definition**
Measure (v)	Ascertain the size, amount, or degree of (something) by using an instrument or device
Separate (v)	Cause to move or be apart.
Evaporate (v)	Turn from liquid into vapour.
Evidence (n)	The available body of facts or information indicating whether a belief or proposition is true or valid.
Rock (n)	The solid mineral material forming part of the surface of the earth and other similar planets.
Distinguish (v)	Recognise or treat (someone or
Investigate (v)	Carry out research or study into a

Section B: Important Information

Relative Atomic Mass

The relative atomic mass is the measure of the mass of one atom of an element. The periodic table will show you this.
You can use this to calculate the mass in a formula, by adding up how many of each atom there is, and multiplying that by it's relative atomic mass.
Example:

Oxygen has an atomic mass of 16.0.

When two oxygen atoms join together to make O_2, the relative formula mass will be (16.0 x 2)=**32.0**

Relative Formula Mass

This is a measure of the total mass of atoms in a compound.

H_2O is a compound with two atoms of hydrogen and one atom of oxygen. The atomic mass of hydrogen is 1 and the atomic mass of oxygen is 16. You have two atoms of hydrogen (2 x 1) and one atom of oxygen (1x 16). Therefore the relative formula mass of H2O is: 2 + 16 = **18**.

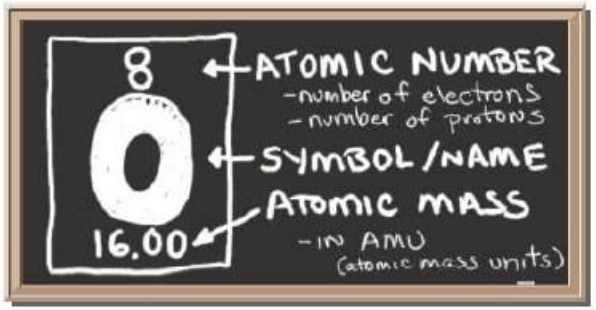
What is the formula mass of these compounds?.
CO_2 (Carbon = 12, Oxygen = 16)
H_2SO_4 (Hydrogen = 1, Sulfur = 32, Oxygen = 16)
SO_2 (Sulfur = 32, Oxygen = 16)

Distillation

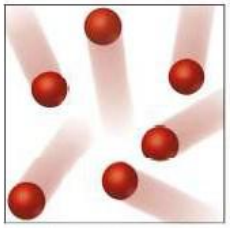
Distillation is a way of separating mixtures using boiling points. The mixture is heated up in a flask and attached to a tube, which usually has cold water flowing around the edge of it. When the mixture reaches the boiling point of one of the liquids, that liquid will evaporate, hit the inner tube and be cooled down by the water in the outer tube. This turns it back into a liquid, which can then drip out of the end of the tube, thus separating it from the mixture left behind in the flask.

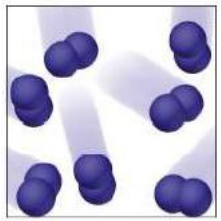
Section C: Diagrams

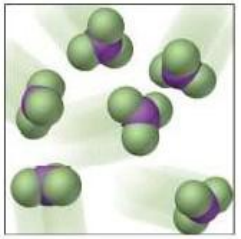
Relative Atomic Mass

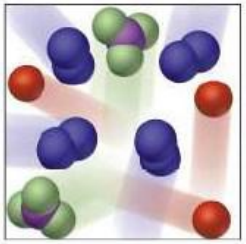


Atoms, Molecules, Compounds and Mixtures


(a) Atoms of an element


(b) Molecules of an element


(c) Molecules of a compound


(d) Mixture of elements and a compound

Previous knowledge

The Year 7 Atoms knowledge organiser will help you with this topic.

Religious Studies— Philosophy—Autumn Term 1

Section A: Key vocabulary

Tier 3 Vocabulary	Definition
Theist (n)	Someone who DOES believe in God
Athiest (n)	Someone who does NOT believe in God
Agnostic (n)	Someone who believes it is impossible to know whether God exists or not
Religious experience (n)	Someone who believes it is impossible to know whether God exists or not
Mystical experience (n)	An experience of God that is difficult to explain
Conversion (n)	An experience that makes someone follow a religion or change a religion
Tier 2 Vocabulary	**Definition**
Fact (n)	Something that actually exists or can be proved to be true
Belief (n)	Accepting that something is true that

Section B: Arguments for the existence of God

Cosmological (First Cause) argument

- Everything has a cause, so the world existing can prove God exists
- Everything in the universe comes from something. You cannot make something out of nothing.
- As everything in the universe has a cause, therefore the universe itself must have a 'First Cause'
- That First Cause is God

Teleological (Design) Argument:

- Through the design of the world and the universe you can prove God exists
- If you were walking on a heath and saw a watch on the ground you would assume that its parts had not come together by chance because it is too ordered and complicated.
- Therefore someone must have designed it or it would not work. Because the universe is also ordered and complicated, someone must have designed that too.
- That someone is God

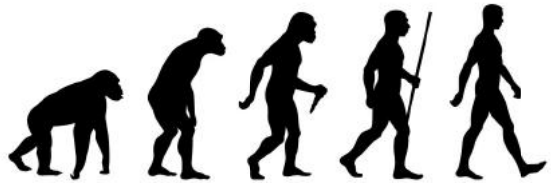
Section C: Atheist's response

Big Bang Theory

- About 13.7 billion years ago all the matter in the Universe was concentrated into a single incredibly tiny point. This began to enlarge rapidly in a hot explosion, and it is still expanding today.

Evolution by Natural Selection

- All the different species have evolved from simple life forms. These simple life forms first developed more than 3 billion years ago. They have evolved to better suit their environment.
- This explains why it might appear that they have been "designed" that way

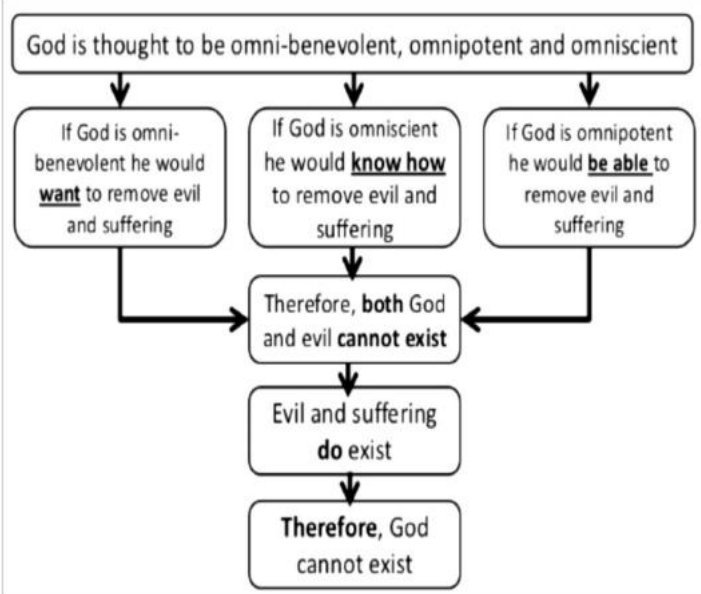


Religious Studies— Philosophy—Autumn Term 2

Section A: Key vocabulary

Tier 3 Vocabulary	Definition
The Fall (n)	When Adam and Eve disobeyed God in the garden of Evil, this brought evil and suffering into the world
Natural Evil/Suffering (n)	Evil/Suffering that is caused by nature
Mora Evil/Suffering (n)	Evil/Suffering that is caused by humans
Free will (n)	God has given humans the freedom to make choices
Humanism (n)	A non-religious view of the world
Tier 2 Vocabulary	**Definition**
Reason (n)	Using the mind to think, understand, and form judgements logically
Human rights (n)	Rights/freedoms which belong to every person
Freedom (n)	The power or right to act, speak or think as you want

Section B: The Problem of Evil



Responses to the Problem of Evil

Muslims and Christians believe that:

- it is important to learn from our mistakes and the existence of evil and suffering is God's way of allowing this to happen
- Evil and suffering is all part of God's plan of which we will never understand. Don't question God. Accept his will.
- God does not cause suffering humans do by misusing their free will

Muslims also believe that:

- Suffering is test from God to test faith, for which you will be rewarded

Section C: Humanist beliefs

- Humans only have one life
- You should give meaning to your own life by seeking happiness and helping others to do the same
- Moral decisions should be made based on reason, empathy and a concern for other human being - Everyone's human rights should be respected
- Human experience and reason provide the only source of knowledge
- The world is a natural place and we should use science and reason to make sense of

History— The Tudors and the Kingdom of Benin—Autumn Term

Section 1: Key Vocabulary

Tier 3 vocabulary	Definition
Act of Supremacy (n)	A law passed by Parliament which led to the creation of the Church of England.
Reformation (n)	A movement in the 16th Century to introduce Protestantism to England.
Excommunicate (v)	An act to remove or suspend your membership to a religious community e.g. Catholic Church.
Supreme Head of the Church of England (n)	The title given to Henry VIII following the Act of Supremacy.
Gloriana (n)	A name given to Queen Elizabeth I towards the end of her reign, from the Latin from glorious'.
Ife-Ife (n)	The sacred (holy) town of the Yoruba peoples.
Ooni (n)	The Divine Ruler of Benin—a God-like figure.
Oba (n)	This means 'King'. There were many Obas or Kings of Benin (modern day Nigeria).
Cowrie (n)	A type of flattened, yellow shell used as currency (money) in Benin.
Council of Elders (n)	Senior people in villages who gave advice to the head of the village.
Tier 2 vocabulary	**Definition**
Parliament (n)	A body of people designed to make and debate laws.
Dissolve (v)	To remove or get rid of something.
Monastery (n)	A building where a community of monks live.
Dynasty (n)	A line of rulers all from the same family.
Protestantism (n)	A type of Christianity which began during the 1500s in **protest** against Catholicism.
Tolerate (v)	To allow opinions or beliefs that you do not necessarily agree with.
Province (n)	A part of a country or empire, normally outside the capital city.
Meritocracy (n)	A society where people are given jobs or roles based on merit (how well they do).
Slave Trade (n)	The buying and selling of humans as slaves. Particularly Africans traded by Europeans from c. 16th-19th centuries.
Colony (n)	A country or region under control of another country. E.g. England was a colony of the Roman Empire.

Section 2: People and Places

Henry VIII reigned 1509—1547: Henry VIII was the second Tudor King of England. Henry VIII was known for bringing the **Reformation** to England. He is also known for closing the **monasteries.** Henry VIII married six times and was in the

Edward VI reigned 1547—1553: Edward was known as the 'boy king'. He was only thirteen years old when he became King of England. Edward, like his father Henry VIII was a **protestant.** He

Mary I reigned 1553– 1558: Mary I was the first born child of Henry VIII. She was **Catholic** and therefore was known as Bloody Mary for her punishment of **protestants** in England. She was married to Phillip II of Spain, the most powerful King in Europe

Elizabeth I reigned 1558—1603: Elizabeth was the child from Henry VIII's second marriage. She was a **Protestant** and wanted to find a way to end Catholicism in England. She introduced a law called the **Religious Settlement** which aimed to get all Christians working together. Elizabeth never married and was the last Tudor **monarch.**

The **Kingdom of Benin** existed from **circa** (around) 1200 to 1897 when the British Empire took Benin as a colony. It is located in Western Africa, in what is now known as Nigeria.

Words you have seen before: monarch (king or queen), **Catholic**, **Pope** (Head of the Catholic Church), **archbishop** (senior person in the Church), **heir** (to the throne), **succession** (process of taking over as monarch).

Section 3: Facts/Context/Historical relevance/dates

Timeline for the Tudor dynasty (c.1509-1603)	
1509	King Henry VIII becomes the King of England.
1534	Henry VIII forms the 'Church of England'.
1536-39	Henry VIII dissolves (closes) the monasteries .
1547	Edward VI becomes the King of England.
1553	Lady Jane Gray proclaims (says she is) to be Queen. She rules for two weeks before being executed .
1553	Mary I becomes Queen of England.
1558	Elizabeth I becomes Queen of England.
1587	Mary Queen of Scots is executed (killed) by Queen Elizabeth I.
1603	Elizabeth I dies without an heir. The Tudor dynasty ends. James I becomes the first Stuart king.
Timeline for the Kingdom of Benin (c.1500-1750)	
C.1200	Oba Eweka is crowned the first Oba (king) of Benin.
C.1440	Oba Ewuare becomes King of Benin and transforms parts of Benin.
C.1481 -1504	Oba Ezuola expands (increases) the territory or land that is part of Benin.
1485	The Portuguese arrive in Benin and begin trading.
1510	Traders from São Tomé (at this time a Portuguese island) begin travelling to Benin for slaves.
1516	Separate slave markets are created for male and female slaves by Oba Esigie.
1550	Benin's borders are expanded to Lagos.
1608	Oba Ohuan dies and a succession crisis begins. This is the start of the decline of Benin.

Geography—Development—Autumn Term

Section A: Key vocabulary

Tier 3	Definition
HIC (high income country) (n)	A country where the GNI per capita is $12,746 or above.
NEE (newly emerging economy) (n)	A country where the GNI per capita is between $1046 and $12, 745. They have begun to develop, and no longer rely on just farming to earn money.
LIC (low income country) (n)	A country where the GNI per capita is $1045 or below.
Large-scale development (n)	Top-down development. These are schemes to help countries to develop, involving big companies and governments investing a lot of money into big projects. E.g. Sardar Sarovar dam
Small-scale development (n)	Bottom-up development. These schemes provide communities and local people with appropriate, low-level technology. Usually low-cost and sustainable. E.g. PlayPumps.
Tier 2	**Definition**
Dense population (n)	This is when there is a high number of people per square kilometre.
Sparse population (n)	This is when there is a low number of people per square kilometre.
Population management (n)	Countries with high, rapidly increasing populations often put these schemes in place to manage their populations. E.g. China's One Child Policy.

Section B: Development measures

Development measures	Different ways of measuring standard of living or level of development of a country. Some key examples below.	Does it increase/ decrease as a country devel-
Access to safe water	The percentage of people with access to clean water for drinking and washing.	Increase
Adult literacy rate	The percentage of people aged 15 or over who can read and write.	Increase
Birth rate	The number of babies born, per every 1000 of the population, per year.	Decrease
Death rate	The number of deaths, per every 1000 of the population, per year.	Decrease
GNI (Gross national income)	The total income earned by a country's people and businesses in a year. Can be 'per capita', divided by the total population to give average income per person.	Increase
Infant mortality rate	The number of babies who die before their first birthday, per 1000 babies born.	Decrease
Life expectancy	The number of years a person can expect to live to on average.	Increase
Number of doctors	The number of doctors, per every 1000 of the population.	Increase

Section C: Barriers to development

Socio-economic factors: Factors that stop a country developing, associated with people or money and businesses.	
Corrupt government	Some governments are corrupt (or dishonest), they don't make fair decisions, or distribute money equally so people suffer as a result.
War	War leads to people being displaced (forced to move from their homes) and a huge amount of damage that needs to be repaired.
Disease	Millions of people suffering from diseases, such as AIDS, and providing healthcare is too expensive. These people are often too ill to work so the government has less money to spend on healthcare.
Historical factors: Factors linked to a country's history.	
Former colony	Some countries were ruled by others in the past, e.g. Britain. They were exploited (taken advantage of) for their people and resources and have struggled to develop since gaining independence.
Slavery	Some countries experienced slavery in the past, where several million of its healthy adults were sold as slaves.
Physical factors: Factors linked to the natural environment.	
Climate	Extreme weather, such as severe flooding every year, destroys crops, buildings and is very costly to the economy.
Natural hazards	Hazards, e.g. earthquakes, volcanoes, hurricanes, can cause damage which is very costly to repair.
Landlocked	When a country does not have a coastline (surrounded by other countries), trading is difficult, as goods can't be transported by boat.
Lack of natural resources	A country's natural resources (coal, oil, copper etc) are determined by geology (rock type). If they are limited, they can't be sold for money.

Spanish— De vacaciones —Autumn Term 1

Section A: Key terms

Tier 3 Vocabulary	Definition
Conjugate (v)	Giving the different forms of the verb depending upon who you are talking about and in which tense.
Preterite Tense (n)	A tense expressing an action or state in the past. E.g. I went to Spain. It was great.
Infinitive (n)	The basic form of a verb which doesn't reflect a specific tense or subject/person.
Cognate (n)	A word which is spelt the same / similar in two languages.

Tier 2 Key Questions	Meaning
¿Adónde fuiste?	Where did you go?
¿Cómo viajaste?	How did you go travel?
¿Qué hiciste?	What did you do?
¿Cómo fue?	How was it?

Tier 1 Key Adjectives	Tier 1 Key Time Expressions
aburrido (boring)	por la mañana (in the morning)
bonito (pretty)	por la tarde (in the afternoon)
divertido (fun)	por la noche (at night)
estupendo (brilliant)	el primer día (on the first day)
flipante (awesome)	el ultimo día (on the last day)
guay (cool)	luego (then)
raro (weird)	después (after)
rico (tasty)	más tarde (later)

Section B: Key Grammatical Points

The Preterite Tense (the past)

You use the past tense to talk about completed events in the past.
You take the infinitive form of the verb, knock off the -ar / -er / -ir ending, then add on the appropriate ending, depending on the person

Pronoun	-AR	-ER / -IR
Yo (I)	-e	-é
Tú (You sing.)	-aste	-iste
Él/Ella (He/She/It)	-ó	-ió
Nosotros (We)	-amos	-imos
Vosotros (You pl.)	-asteis	-isteis
Ellos/Ellas (They)	-aron	-ieron

To make the sentence negative, you just put a 'no' in front of the verb

E.g. No fui a la playa—I didn't go to the beach

Giving opinions in Spanish in the past

	Me encantó	I loved it
	Me gustó	I liked it
	No me gustó	I didn't like
	Odié	I hated
	Fue… (+ adjective)	It was …
	¡Qué…! (+ adjective)	How…!

Section C: EATTACO vocabulary

Tenses /verbs (v)

Ir	To go
Fui	I went
Fuiste	You (singular) went
Fue	He/she/it went/was
Fuimos	We went
Fuisteís	You (plural) went
Fueron	They went

Important verbs in the past tense

Bailé	I danced
Bebí	I drank
Compré	I bought
Conocí a	I met
Descansé	I rested
Escribí	I wrote
Escuché	I listened (to)
Mandé	I sent
Monté	I rode
Nadé	I swam
Perdí	I lost
Salí	I went out
Saqué (fotos)	I took (photos)
Tomé el sol	I sunbathed
Vi	I watched
Visité	I visited

Spanish — La tecnología—Autumn Term 2

Section A: Key terms

Previous Tier 3 Vocabulary (from Autumn 1)

Conjugate (v)	Infinitive (n)
Preterite tense (n)	Cognate (n)

New Tier 3 Vocabulary	Definition
Article (n)	An article is used to describe A (definite) or THE (indefinite). In Spanish these have genders.
Conditional (n)	A tenses expressing when someone 'would' like to do something.. E.g. I **would** like to drink water.

Tier 2 Key Questions	Meaning
¿Qué tecnología tienes?	What technology do you have?
¿Para qué lo usas?	What do you use it for?
¿Qué haces con tu móvil?	What do you do with your mobile?
¿Qué tipo de música te gusta?	What type of music do you like?
¿Qué tipo de programas te gusta ver?	What type of programmes do you like to watch?
¿Qué hiciste ayer?	What did you do yesterday?

Tier 1 Key Nouns

un móvil (a mobile)	un programa de...(a program of)
un portátil (a laptop)	deportes (sports)
una película (a film)	un documental (a documentary)
un cantante (a singer)	un concurso (a game show)
una telenovela (a soap)	el telediario (the news)

Section B: Key Grammatical Points

The Present Tense Recap

You use the present tense to talk about what usually happens. In Spanish, the verb endings change depending on who is doing the action. You take off the endings (-ar, -er, -ir) and add the ending you need.

Pronoun	-AR	-ER	-IR
Yo (I)	-o	-o	-o
Tú (You sing.)	-as	-es	-es
Él/Ella (He/She/It)	-a	-e	-e
Nosotros (We)	-amos	-emos	-imos
Vosotros (You pl.)	-áis	-éis	-ís
Ellos/Ellas (They)	-an	-en	-en

Para + infinitive—How do you use it?

In Spanish the word for 'in order to' is 'para'.

When we use 'para' in Spanish it must be followed by an infinitive verb.

Phrase	+ PARA	+ Infinitive
Uso mi móvil	para	chatear
Tengo un portátil	para	ver películas

Me gusta v Me gustan—Which do I use and when?

Me gusta is used when talking about something that's singular.

Me gusta	+ singular (el / un)	Me gusta el gato
Me gustan	+ plural (la/una)	Me gustan los gatos

Section C: EATTACO vocabulary

Tenses /verbs

Usar	To use
Uso	I use
Usas	You (sing.) use
Usa	He/she/it uses
Usamos	We use
Usáis	You (pl.) use
Usan	They use
Tener	**To have**
Tengo	I have
Tienes	You (sing.) have
Tiene	He/she/it has
Tenemos	We have
Tenéis	You (pl.) have
Tienen	They have
Conditional Tense	
Me gustaría tener	I would like to have
Me gustaría comprar	I would like to buy
Usaría	I would use
Sería	It would be
Opinions- Comparisons	
es más … que	it is more… than
es menos … que	it is less … than

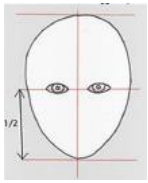
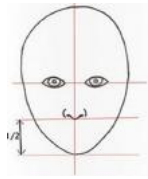
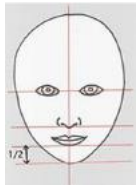
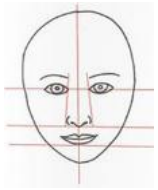
Art—Portraits—Autumn Term

Bluecoat Wollaton
believe in yourself, in others, in God

Section A: Key vocabulary

Tier 3 Vocabulary	Definition
Proportion (n)	The size relationship between different elements. Eg: height compared to width.
Symmetry (n)	When one side of an object mirrors another.
Pattern (n)	An arrangement of repeated shapes, symbols or lines.
Composition (n)	In art: Where you place objects on the page.
Tone (n)	In art: The lightness or darkness of something.
Tonal Range (n)	The full range from light , mid tone, to dark.
Negative Space (n)	The space between and around a shape.
Self Portrait (n)	A portrait that the artist produces of themselves.
Blend (v)	To create a seamless transition between two colours or tones.
Tier 2 Vocabulary	**Definition**
Balance (n)	The distribution of visual weight.
Accuracy (n)	In art– A neat or exact drawing.
Represent (v)	The person represented in the portrait.
Reflect (v)	To think carefully or deeply about .

Section B: Facial Proportions

	Draw an upside down egg shape. The eyes should be place on a line exactly halfway up.
	Add a line halfway between the chin and eye line. The bottom of the nose should sit on this.
	Add a line halfway between the nose and chin. The bottom of the lips should sit on this.
	The Eyebrows should be aligned with the outside corners of the eyes and the sides of the nose. The corners of the lips should line up with the inside of the iris
	Ad the hairline over the forehead. Refine the face shape and add jaw and chin shape.
	Rub out guidelines and sketching lines. Add fine details and tone.

Section C: A brief History of Portraits

Portraiture is a very old art form going back at least to ancient Egypt. Before the invention of photography, painted, sculpted, or drawn portrait was the only way to record the appearance of someone.

But portraits have always been more than just a record. They have been used to show the power, importance, virtue, beauty, wealth, taste, learning or other qualities of the sitter. Portraits have almost always been flattering, and painters who refused to flatter, such as William Hogarth, tended to find their work rejected. A notable exception was Francisco Goya in his apparently bluntly truthful portraits of the Spanish royal family.

Among leading modern artists, portrait painting on commission, that is to order, became increasingly rare. Instead artists painted their friends and lovers in whatever way they pleased. Most of Picasso's pictures of women, for example, can be identified as portraits of his lovers. At the same time, photography became the most important medium of traditional portraiture, bringing what was formerly an expensive luxury product affordable for almost everyone.

Ancient Egyptian Portrait

Portrait by Picasso

Drama—The Stanislavski System—Autumn Term

Section A: Key vocabulary

Tier 3 Vocabulary	Definition
The Given Circumstances	Given circumstances are what Stanislavski believed we should do as soon as we have been given a script, given circumstances are what help you answer the six fundamental questions (who, when, where, why, for what reason and how).
What if… (Magic if)	Stanislavski's Magic If may be one of the most useful tools available to actors today. This device is used to get actors to open up their imaginations in order to discover new and interesting things about the character they are playing.
Emotional Memory	Emotional Memory is part of the Stanislavski system and asks that the actor take time out to recall every detail of their memory. They must remember not just the emotion, but what they heard, tasted, touched, smelled, and saw whilst feeling it.
Tier 2 Vocabulary	**Definition**
Communicate (v)	share or exchange information, news, or
Narrative (n)	a spoken or written account of connected
Observe (v)	notice or perceive (something) and register it as being significant.
Consider (v)	think carefully about (something), typically
Articulate (v) and (adj)	(v) to speak fluently and coherently (adj) having or showing the ability to speak

Section B

Stanislavski's given circumstances

WHO? Who is your character but it is also helpful to sum up who the other characters are (acting is reacting, it is all about what your character "needs" from the other person)

WHAT? What is going on within the scene, the key talking point/ potential obstacle. What is it that the characters wish to ascertain.

WHERE? Where are you, describe the room or if outdoors, describe the area. Nothing is too specific – you are creating a world, the world is not basic.

WHEN? What time of day, what time of year – remember this will affect a change within your character no matter how slight that change may be. It is also good to know when it comes to costume should such decision become your own…. you would not put your character in a summer dress in the midst of winter.

WHY? Why is this conversation taking place? It is increasingly rare for you to find a meaningless conversation within a play, everyone wants and needs something. There are exceptions of course but this would come from a certain stylistic play.

For what reason and **HOW?** This is where you become more specific with the why, think about the reason behind this conversation, did something happen in the scene before? How did your character instigate this moment in the play or was it someone else.

REMEMBER – the text is full of clues and ideas, given circumstances is a tool to root for these clues and ideas but on a more basic level to get you started. Once you have used this tool, their is no reason for you not to dig deeper.

Section C: Practioner of the term

Theatre Practitioner	Someone who creates theatrical performance and/or writes theatrical ideas and teachings.
Konstantin Stanislavski	Russian
Born	1863
Died	1939

He taught that an actor must prepare his role in great detail, with a large amount of attention to the psychology, the motivation and the lifestyle of the character.

The preparatory work on a role can be divided into three areas. Textual analysis, establishing life (internal) and transferring it to physical form (external).

Section D: Previously visited vocabulary

Still Image	Character
Narration	Corpsing
Gesture	Proxemics
Masking	Script

Music—Blues and World Music—Autumn Term

Section A: Key vocabulary	
Tier 3 Vocabulary	**Definition**
FLAT (n/adj)	The musical name for a black note lowered one semitone lower than it's natural.
SHARP (n/adj)	The musical name for a black note raised one semitone higher than its natural
SCALE (n)	A scale is a series of notes. The word scale originally meant "ladder." There are seven notes in a major or minor scale
ENHARMONIC (adj)	Tones that are identical in pitch but are written differently according to the key in which they occur, as C sharp and D flat, for example
PENTATONIC (n)	"Penta" means five. A pentatonic scale has five notes
Tier 2 Vocabulary	**Definition**
Observe (v)	notice or perceive (something) and register
Prepare (v)	make (something) ready for use or consid-
Present (v)	show or offer (something) for others to scrutinize or consider.
Compose (v)	write or create (a work of art, especially music or poetry).
Climax (n)	the most intense, exciting, or important

Section B	
MASTER DRUMMER	Often the leader of an African tribe and someone who performs the "calls" during call and response sections
BASS SOUND	A sound produced by striking an African drum in the middle producing a "hollow" sound
CALL AND RESPONSE	One person plays (or sings) a musical phrase which is then responded to be a group performing a different phrase, like a musical conversation
IMPROVISATION	creating or performing spontaneously or 'on the spot', without preparation
TONE SOUND	A sound produced by striking an African drum between the middle and the edge producing a "shallower" sound than the bass sound
DRONE	A continually repeating bass line, normally a fifth apart, almost like the bagpipes
RHYTHM	A series of notes of different lengths that create a pattern. Usually fits with a regular beat or pulse
POLYRHYTHM	The use of several rhythms performed simultaneously, often overlapping to create a thick, "polyrhythmic" texture
CYCLIC RHYTHM	A rhythm which is repeated over and over again (looped)

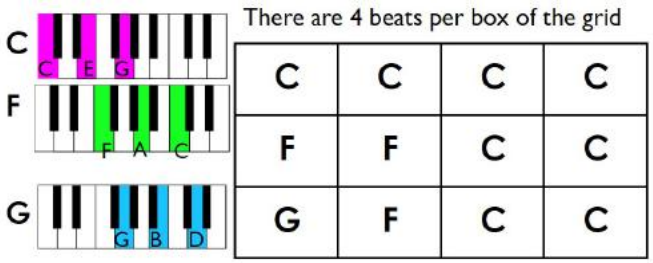
Section C: A brief History of Portraits

Common Feature of The Blues

- 12 bar structure to the verse
- Melodic lines using flattened notes (usually 3rd, 5th and 7th)
- A growling timbre used in the singing - sometimes imitated in the saxophone or trumpet too
- Lyrics expressing hardships of life for the African/ American

12 Bar Blues	A 12 bar structure over which the Blues is written
Walking bass line	Bass accompaniment which creates a feeling of regular movement, like walking
Chord	2 or more notes played together
Chord sequence	A series of chords, one after the other. Sometimes known as a chord progression

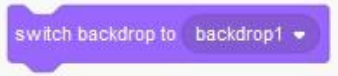
12 bar Blues in C major



Computing — "I am a Game Designer" — Autumn Term 1

Section A: Tier 3 Key vocabulary	
Iteration (n)	Repeating steps, or instructions, over and over again. This is often called a 'loop'.
Sequence (n)	The specific order in which instructions are performed in an algorithm.
Selection (n)	A decision or question which allows us to include more than one path through an algorithm.
Scratch (n)	Programming language based on graphical code blocks.
Blocks (n)	Programming commands that you snap together to create a program in Scratch.
Sprite (n)	The objects on the scratch stage that performs actions.
Backdrop (n)	Background displayed on your scratch stage.
Debug (v)	To identify and remove errors from computer code or software.
Decomposition	Is the process of splitting a big and difficult problem into smaller simpler pieces which are easier to solve.

Section B: Tier 2 Key vocabulary	
Coordinates (n)	Any of a set of two or more numbers used to determine the position of a point.
Scripts (n)	The instructions that determines what happens on the stage.
Costumes (n)	Alternate appearances of your sprite.
Algorithm (n)	A structured sequences of steps used to solve a problem.
Stage (n)	Where your project is displayed when active.
Efficiency (n)	The ability to get code to do what it needs to in the least amount of steps.
Input (n)	Information supplied to a computer or program.
Output (n)	Information provided by a computer or program.
Variable (n)	A location in memory that is used to store data.

Section C:	
	This will start our game running. When the green flag is clicked all connected blocks will be run in order.
	This creates a loop. Code inside is run over and over until the game is quit.
	This is an if block. It checks whether something is true and if so the code inside it is run.
	This block will change the appearance of your sprite if you have designed a second costume for it.
	This block allows us to move our character right or left (on the x axis).
	Moves the sprite to the coordinates that you enter in the X and Y boxes.
	Changes the current background of your game to the next (if you have made one).
	Adds 1 to your variable. This can be used to keep score in your current game.

Computing — ”I am a Computer Programmer” — Autumn Term 2

Section A: Key vocabulary

Tier 3 vocab	Definition
Boolean (n)	A data type: True or False. Stored as 1 or 0.
Constant (n)	A piece of stored data which cannot be changed by the program or user.
Integer (n)	A data type: A whole number, stored as its value
Operator (n)	An operator is a mathematical symbol, used to work with data in a program. E.g. +, -, >, <
Real / Float (n)	A data type: A decimal number, stored as its value. Also called a ‘float’ (floating point number).
Selection (n)	Used to make a decision within a program.
String (n)	A data type: A character, or characters, stored as a list, within “ ”.
Variable (n)	A piece of stored data, used in a computer program, which can be changed or altered by the program.
Tier 2 vocab	**Definition**
Algorithm (n)	A set of instructions to carry out a process or problem-especially by a computer.
Conditional (adj)	Something that will only happen or continue if another thing is true. In coding it’s a method of controlling the flow of a program.
Iteration (n)	To repeat something. In coding this is a type of **LOOP** which repeats a series of steps.
Sequence (n)	A series of coded instructions for a computer to follow, step by step, or line by line.
Syntax (n)	The spelling and grammar of a programming language

Section B: Data types

Data type	Example	Application
String	“Hello world”	Name, address, Car registration
Integer	22, 1000, 9	Number of goals scored, Level on a computer game.
Float / Real	0.5, 208.434	Pi, Height in metres, 100m running time.
Boolean	True, No, Yes	Under 18, Letter sent, Vegetarian

Section C: Operators

Mathematical Operators

ADD +
SUBTRACT –
DIVIDE /
MULTIPLY *
MOD % (remainder of division)
DIV // (will only return whole numbers)

Logical Operators

==	is equal to
>	is greater than
<	is smaller than
!=	is not equal to
>=	greater than or equal to

Section D: Example code

Output statement

```
print (“What is your name”)
```

Input statement

```
name= input ( )
```

Combined input / output

```
name= input (“What is your name?”)
```

Selection statement

```
if name = “Bob”:
    print (“My name is Bob too!”)
else:
    print (“hello”, name)
```

Errors!

Syntax errors	Logic errors
-Spelling mistakes -Misused capital letters -Missing grammar (e.g. not closing brackets or forgetting a “) -Wrong variable names	-Does not always crash but will not work as intended -E.g. using > instead of < would give a different result but would not throw an error

Physical Education—Muscular System—Autumn Term

Bluecoat Wollaton
believe in yourself, in others, in God

Section A: Key vocabulary	
Tier 3 Vocabulary	**Definition/ Location**
Pectorals *(n)*	Chest
Latissimus Doris *(n)*	Back
Trapezius*(n)*	Middle of back & neck
Quadriceps *(n)*	Front of upper leg
Hamstrings *(n)*	Back of upper leg
Gastrocnemius *(n)*	Back of lower leg
Gluteus Maximus*(n)*	Bottom
Biceps *(n)*	Front of upper arm
Triceps *(n)*	Back of upper arm
Deltoids *(n)*	Shoulder
Abdominals *(n)*	Stomach
Tier 2 Vocabulary	**Definition**
Contract *(adj)*	Shortening of the muscle
Relax *(adj)*	Lengthening of the muscle
Involuntary *(adj)*	Unconscious movement made by Smooth & Cardiac muscles
Voluntary *(adj)*	Conscious movement made by Skeletal muscles

Section B:	
Types of Muscles	There are 3 types of muscles: Skeletal—muscles which work with your bones to create movement Cardiac—the muscle that pumps your heart Smooth—involuntary muscles that keep your organs working which are controlled by your mind.
Largest Muscle	The largest muscle in the human body is the Gluteus Maximus
Muscle Movement	Muscles can only pull, they can not push
Muscle Pairs	Muscles work in pairs, when one contracts the other one relaxes, this is how movement occurs
Tendons	Skeletal muscles are attached to bones via connective tissue called tendons.
Muscle move everything	Did you know muscles move your eyeballs up to 5 times per second to check your surroundings!
Muscles	There are over 600 muscles in your body!

Section C:

Warm up stretches should be completed before you take part in any physical activity to prevent injuries. These should last 10 seconds per stretch. Cool down stretches should be completed after physical activity to prevent DOMS (delayed onset muscle soreness). These should last up to 30 seconds per stretch.

Yoga is a great form of exercise to help improve/maintain your flexibility.

Food Preparation & Nutrition- Autumn Term 1

Section A: Key vocabulary	
Tier 3 Vocabulary	**Definition**
Cross contamination (n)	Transfering potentially harmful bacteria from one thing to another
Microorganism (n)	A tiny living thing; bacteria, mould, yeast
Antibacterial (n)	Kills bacteria
Sanitiser (n)	Removes dirt and kills bacteria
Detergent (n)	A chemical used to break down food, used when washing up
De-grease (v)	Break down grease
Danger zone (n)	5'c—63'c
Pathogenic bacteria (n)	A microorganism that causes disease
Tier 2 Vocabulary	**Definition**
Yeast (n)	A microorganism used as a raising agent
Core (n)	The centre of something
Bacteria (n)	Microorganisms

Section B:	
Heat transfer (n)	When heat travels from one place to another
Radiation (n)	Heat transfer through waves, no direct contact
Conduction (n)	Heat transfer through solids
Convection (n)	Heat transfer through gases and liquids
Fermentation (n)	Process that creates alcohol and carbon dioxide
Kneading (v)	To work a dough with hands to develop gluten
Proving (v)	Resting dough to become aerated by the action of yeast; rise
Raising agent (n)	Something that releases bubbles of gas
Gluten (n)	A protein created when kneading, makes dough stretchy
Dextrinisation (n)	Dry heat on starch causing browning
Fridge temperature zone (n)	1'c—5'c
Freezer temperature zone (n)	-10'c—-18'c
Core temperature of cooked meat (n)	75'c

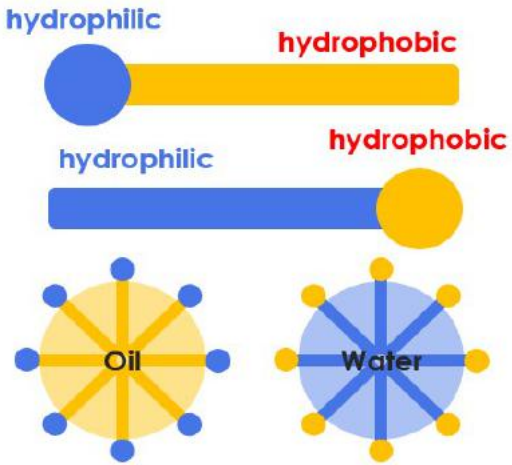
Section C:	
	Temperature probe
	A device used to measure temperature of food
	
	Fridge layout
1	Ready to eat foods
2	Ready to eat foods
3	Raw meat, always covered
4	Fruit and vegetables in box at the bottom
4 C's	Cook, clean, chill, cross-contamination

Food Preparation & Nutrition– Autumn Term 2

Section A: Key vocabulary	
Tier 3 Vocab	**Definition**
Immiscible (adj)	Two substances that don't mix eg oil and water
Viscosity (n)	The thickness of a liquid/ sauce
Synersis (n)	Protein separation
Hydrophilic (adj)	Water loving
Hydrophobic (adj)	Water hating
Calorie (n)	A unit of measurement of energy in food
Tier 2 Vocab	**Definition**
Simmer (v)	Astate or temperature just below boiling point
Boil (v)	Liquid heated continuously at 100'c
Baking blind (v)	Pastry baked before adding filling
Setting (v)	When a liquid becomes firm
Setting agent (n)	Ingredients used to thicken/set a dish

Section B:	
Food scientist (n)	Someone that studies the **physical**, **microbiological**, and **chemical** makeup of food.
Caramelisation (n)	The browning of sugar and the changes in its flavour
Fat plasticity (n)	Allowing fats to be spread when at room temperature
Evaporation (n)	Heating water to boiling point when it turns to steam
Gelatinisation (n)	When starch molecules swell and burst
Trace element (n)	A mineral needed in the body in tiny amounts
Stabiliser (n)	Added to food to stop ingredients separating
Julienne (v)	To cut vegetables into thin strips
Dice (v)	To cut food into cubes 10mm x 10mm
Finely diced (adj)	Small diced food
Best before date (n)	A quality standard for food labelling
Use by date (n)	Safety warning when food must be used by
Shortening (n)	Fat and flour combined to create crumbly textures

Section C:
Emulsions
May be water-in-oil (w/o) in which case small water droplets are dispersed through oil, e.g. butter.
May be oil-in-water (o/w) in which case small oil droplets are dispersed through water, e.g. milk, cream.



Energy source balance
Percentages of daily macro nutrient
35% Fat (not saturated fats)
15% Protein
50% Carbohydrates

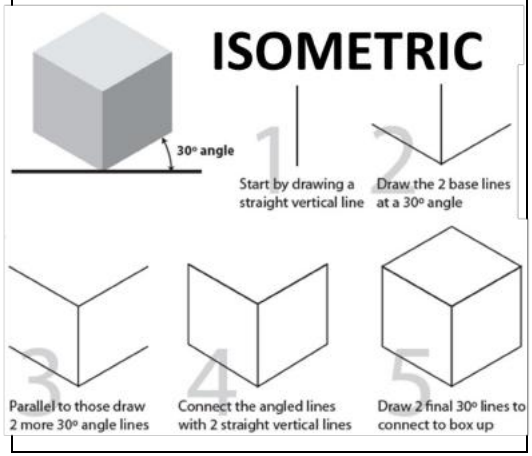
Bluecoat Wollaton
believe in yourself, in others, in God

DT—Lighting—Autumn Term 1

Section A: Key vocabulary	
Tier 3 Vocabulary	**Definition**
Ergonomics (n)	Design for ease of use
Design Brief (n)	A paragraph that describes the project/ product
Tier 2 Vocabulary	**Definition**
Aesthetic (n)	The way something looks
Sustainability (n)	Consideration of the effect on the environment through the 6R's
Specification (n)	A list of success criteria
Perspective (n)	A 2D image that makes something look 3D
Isometric (n)	A 3D drawing technique that uses 30 degree angles
Oblique (n)	Making a 2D drawing 3D by adding lines
Incorporate (v)	Use other ideas in your own
Gauge (v)	Estimate a measurement/ amount

Section B:	
Product Analysis	An in depth look at the strengths and weaknesses of existing products. A successful product analysis will include:- • The use of keywords that can be remembered through the acronym ACCESS FM • Strengths and weaknesses • Comparisons between products including trends • A conclusion of findings
Specification	A successful specification will include:- • Points that link to the brief and research and aren't generic to any product • A wide range of points that can be made with the help of ACCESSFM • Justification for each point
Drawing techniques	You will come across many different drawing techniques such as isometric, perspective drawing or even oblique. You will need to learn a range to show off your technical skills.
Design Movement	Styles of design that link to specific time periods

Section C:



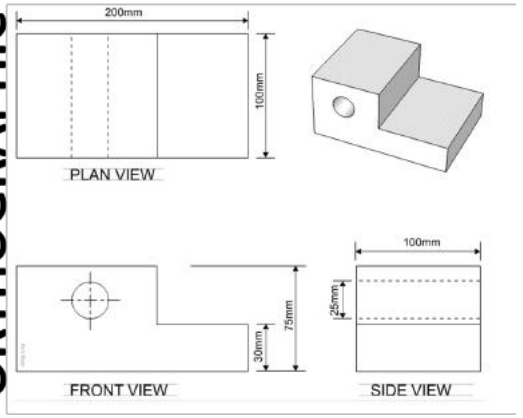
DT—Lighting—Autumn Term 2

Section A: Key vocabulary	
Tier 3 Vocabulary	**Definition**
Orthographic (n)	A 2D drawing of 2 or more sides of an object
Construction lines (n)	Faint lines that guide drawing
Jig (n)	A device that helps tools to do a job repeatedly and quickly
Soldering (v)	Melting solder to fix components in a circuit
Adhesive (n)	A substance used to fix materials together.
Tier 2 Vocabulary	**Definition**
Prototype (n)	A model/ trial run of an idea
Template (n)	A tool used to place onto a material and mark out shapes repeatedly.
Scale (n)	The ratio of the size of a something to the actual size of the object
Enhance (v)	To improve or make better
Summarise (v)	To explain the main points
Reflect (v)	Look back on and explain findings
Evaluate (v)	To look at strengths and weaknesses for improving

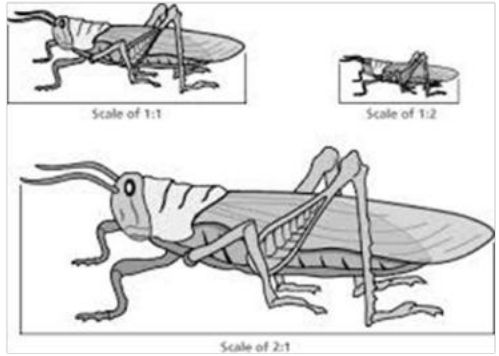
Section B:	
Ortho-graphic Projection	An orthographic projection is used as part of the planning of the final product because it gives a good idea of what the product will look like from different sides (elevations). A good drawing will :- • Be drawn in pencil with a ruler • Have construction lines to help accurate drawing • Be drawn to a scale that is appropriate • At least 2 elevations, preferably 3 • Measurements added to the drawing
Scale	Since it is not always possible to draw on paper the actual size of real-life objects such as the real size of a car or an airplane, we need scale drawings to represent the size . If a drawing is half the size of a real object we say this is a scale of 2:1 (2cm of the real object is drawn as 1cm) which is a ratio. Equally if the real object is very small you can scale up the drawing. If you double the size this is a ratio of 1:2.
Circuits	Electrical circuits are all loops of electricity that travels through components (parts). When planning circuits and understanding how they work we use circuit diagrams and symbol represent the components.

Section C:

ORTHOGRAPHIC



SCALE DRAWING



COMPONENTS