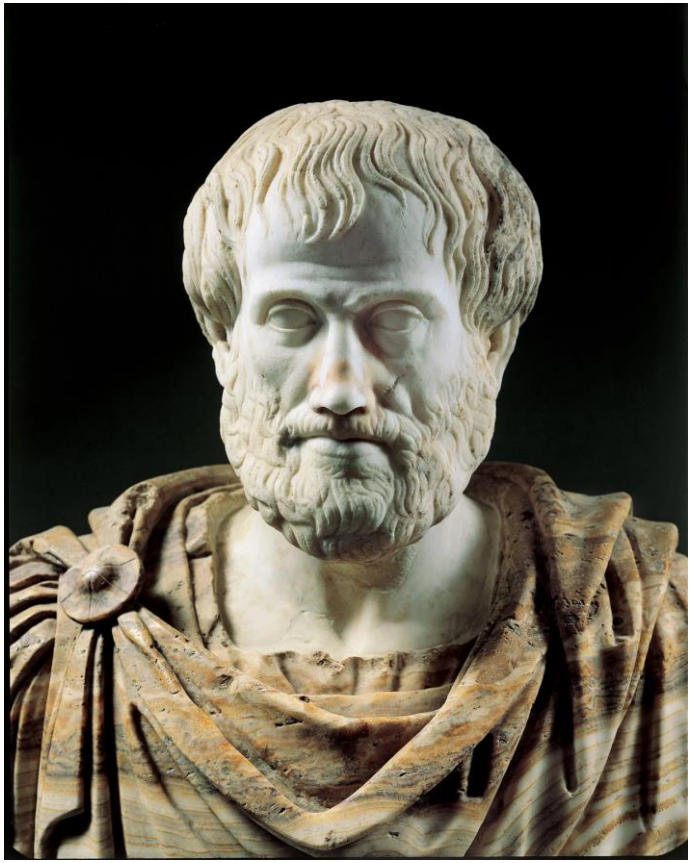


Name:	Form:

"We are what we repeatedly do.
Excellence, then, is not an act, but a habit."
Aristotle

Aristotle was a Greek philosopher during the Classical period in Ancient Greece. His writings covered a range of subjects such as physics, biology, zoology, metaphysics, logic ethics, poetry, theatre, music, psychology and linguistics. His ideas became the framework for Christian Scholasticism and medieval Islamic philosophy.

Lees Brook Academy

Year 9 Knowledge Organiser:
Spring Term 1 – 2024
8TH January – 17th February

CONTENTS

Instructions for using your Knowledge Organiser

Every school day you should be studying **2** subjects from your knowledge organiser 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 yellow homework 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 sign off your homework every evening using the grid in your KO on pages 4 and 5.

Your KO and exercise book will be checked by your class teacher. Failure to show homework will result in an after school detention that day. Completion of your homework means you will receive a positive point.

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

On a Friday, you will read one piece of **Principal's Reading**, following them in order. You then answer the questions in your yellow homework book.

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:

https://www.leesbrook.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 mind maps
- 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
- Create flowcharts

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 subjects shown on your timetable each day.
Each day use a page of your exercise booklet to evidence your work.

The week you do this work.

Year 9: Spring Term 1

Week starting: 8th January	Subject 1	Subject 2	Signed off
Monday	English	Art	
Tuesday	Music	CT—English	
Wednesday	Maths	DT	
Thursday	CT - Science	French	
Friday	Science	Principal's Reading	

Week starting: 15th January	Subject 1	Subject 2	Signed off
Monday	English	History	
Tuesday	RE	PE	
Wednesday	Maths	Computing	
Thursday	German	Geography	
Friday	Science	Principal's Reading	

Week starting: 22nd January	Subject 1	Subject 2	Signed off
Monday	English	Art	
Tuesday	Drama	CT—English	
Wednesday	Maths	DT	
Thursday	CT—Science	French	
Friday	Science	Principal's Reading	

Week starting: 29th January	Subject 1	Subject 2	Signed off
Monday	English	History	
Tuesday	RE	PE	
Wednesday	Maths	Computing	
Thursday	German	Geography	
Friday	Science	Principal's Reading	

Week starting: 5th February	Subject 1	Subject 2	Signed off
Monday	English	Art	
Tuesday	Music	CT—English	
Wednesday	Maths	DT	
Thursday	CT—Science	French	
Friday	Science	Principal's Reading	

Week starting: 12th February	Subject 1	Subject 2	Signed off
Monday	English	History	
Tuesday	RE	PE	
Wednesday	Maths	Computing	
Thursday	German	Geography	
Friday	Science	Principal's Reading	

Your teachers may set work beyond this linked to your learning. For example, Maths teachers will set homework using Sparx in addition to the below.

How do I self-quiz?

How to use...Flashcards

1. On one side of the flash card, write the word or question.
2. On the other side, write the definition for the word, or answer to the question.
3. Once you have completed your set of cards, put them in a pile. Then for each card, see if you can remember the definition or answer to the question. Tick or cross when you get it right or wrong.
4. When you get the card right, place it in the 'correct' pile. When you get it wrong, place it in the 'wrong' pile. Repeat until all cards are in the 'correct' pile.

You can also use the Leitner Method:

https://www.youtube.com/watch?v=C20EvKtdJwQ

How to use… Look, Cover, Write, Check and Correct

1. Write your key words into the 'Look, Cover' column and then cover it.
2. Write out the meaning, definition or spelling in the 'Write' column.
3. Put a 'tick' or 'cross' in the 'Check' column depending on if you got the answer right.
4. If you got the answer incorrect, write the correct answer in the 'Correct' column.

Look , Cover	Write	Check	Correct
Noun	A person, place or thing.		
Algorithm	Algorithim	X	Algorithm

How to use… Mind Maps

1. Write out your topic or idea in the centre. E.g. The First World War.
2. Off of the main bubble, write out important categories to organise your ideas. E.g. causes of WWI and events in WWI
3. Then add your knowledge off of these branches. You might even be able to make connections between them.
4. Once made, then redraw as many of the connections as possible from memory. Correct any errors.

How to use… Explaining a process/ idea further

Your teacher might ask you to explain a key idea, process or event from your learning. This could be the water cycle (Geography), photosynthesis (Science) or something else. In your answer, try to use the words **because, but**, and **so.** These will help you to:

1. **Because:** helps to explain a reason, cause or why something works.
2. **But:** helps to explain a limitation or problem.
3. **So:** helps to explain what happens next in a sequence, process or event.

Check your sentences to see if your explanations or right or wrong. Correct any errors.

How to… Summarise a process/idea

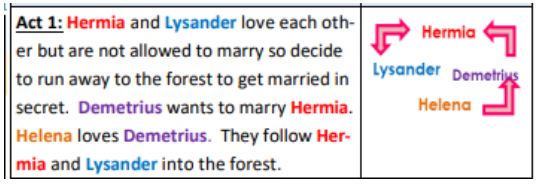
Rather than expand or explain a process, your teacher might ask you to summarise it into its key parts. E.g. summarising the plot 'A Midsummer Night's Dream' in English.

1. Read through the relevant part of your knowledge organiser as directed by your teacher.
2. Write out the (up to) 5 most important parts in your KO book, leaving a two lines in-between.
3. For each part, add **one** main idea.
4. E.g. here, the 4 key characters are picked out, and the direction of love is shown through the arrows. Check and correct any errors.

How to use… Subject Specific Tasks or Questions

Your teacher might choose to set a task that is not outlined here, and which is specific to that topic or their subject.

In this case, your teacher will outline specifically what it is you need to do, and how. This will still include you checking and correcting any errors.



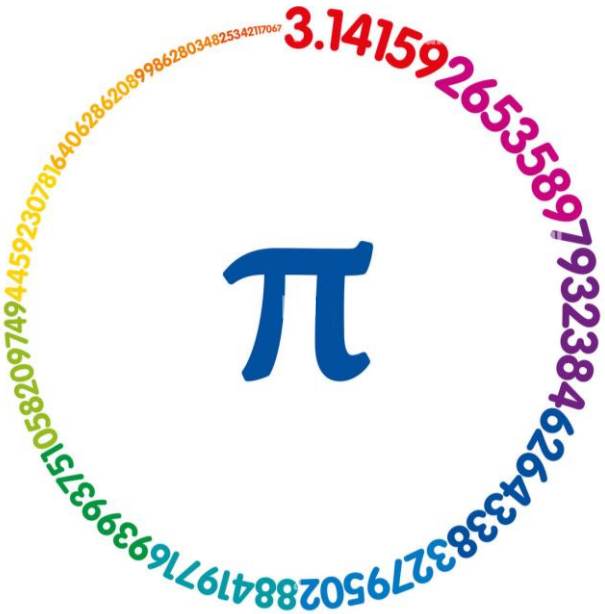
Year 9 Mathematics Principal's Reading
Week Beginning: 08/01/24

A Brief History of Pi (π)

The ancient Babylonians calculated the area of a circle by taking 3 times the square of its radius, which gave a value of pi = 3. One Babylonian tablet (ca. 1900–1680 BC) indicates a value of 3.125 for π, which is a closer approximation. The Rhind Papyrus (ca.1650 BC) gives us insight into the mathematics of ancient Egypt. The Egyptians calculated the area of a circle by a formula that gave the approximate value of 3.1605 for π.

The first calculation of π was done by Archimedes of Syracuse (287–212 BC), a Greek mathematician and one of the greatest mathematicians of the ancient world. Archimedes approximated the area of a circle by using the Pythagorean Theorem to find the areas of two regular polygons which gave upper and lower bounds for the area of the circle. In this way, Archimedes showed that π is between 3 1/7 and 3 10/71.

A similar approach was used by Zu Chongzhi (429–501), a brilliant Chinese mathematician and astronomer. Zu Chongzhi would not have been familiar with Archimedes' method—but because his book has been lost, little is known of his work. He calculated the value of the ratio of the circumference of a circle to its diameter to be 355/113 using an inscribed regular 24,576-gon. Mathematicians began using the Greek letter π in the 1700s. Introduced by William Jones in 1706, use of the symbol was popularised by Leonhard Euler, who adopted it in 1737.



Questions to answer in your yellow homework book:

1. Who was the first person to use pi?
2. What two values of pi did the ancient Babylonians calculate?
3. What is a formula?
4. What synonym could replace approximation?
5. Use your calculator to find the true value of Π (to the number of decimal places given on your calculator).

Year 9 PE Principal's Reading
Week Beginning: 15/01/24

A history of disability sport

Disability sport can be traced back to the 19th century when the first Sports Club for the Deaf was established in Berlin. Shortly after in 1914, the first International Silent Games took place in Paris bringing together hearing-impaired competitors from nine European countries. The Deaflympics, as the games would come to be known later, began important societal discussions about the welfare of deaf people at the time, who were often treated as outcasts and intellectually inferior. The event provided a valuable platform for deaf people to speak for themselves, as the games not only starred deaf athletes, but was also organised and promoted entirely by the deaf community. The Deaflympics take place every four years, with the next games scheduled for 2022 in Caxias do Sul, Brazil.

The origins of the Paralympics
The Stoke Mandeville Games (named after the London hospital where the patients were treated) took place in London 1948, on the very same day as the London Olympic Opening Ceremony, with 16 service men and women taking part in an archery competition. This was a historic and symbolic moment in disability sport.

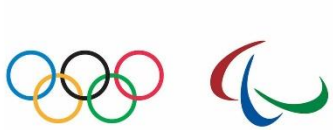
The Stoke Mandeville Games grew into an international event for spinal injury patients and by the 1950s had acquired the nickname of the 'paralympics'.

In the following years more and more of the athletes competing were no longer patients themselves but were outside of the hospital system and leading independent lives. In coming years the games became not only about individuals competing against each other, but rather national teams of athletes representing their countries. At the same time the games became a more organised and professional sporting movement, as funding and support for para-athletes increased and the event became more well known.

The Olympics and Paralympics combine
The marriage of the Olympics with the Paralympics was gradual. Days after the Rome Games in 1960, 400 athletes with disabilities gathered to compete in a number of sporting events. In 1976 the first Paralympic winter competition was held following the Winter Olympics in Sweden and included an opening and closing ceremony. Organisers of the Paralympics came up against many barriers to inclusion in the early years, like Olympic Village facilities that were not fit for purpose for people with disability (there were no lifts at the Rome games) and lack of funding.

Finally, the International Olympic Committee and the International Paralympic Committee reached an agreement to host both events at the same time, with the first official Paralympics held alongside the 1988 Seoul Summer Olympics.

Today the Paralympics and the Olympics take place together at both the Summer and Winter events. Countries bidding to host both events must demonstrate that they will provide a barrier-free experience for both Olympic and Paralympic competitors and promote both events as welcoming of diversity and inclusion.



Questions to answer in your yellow homework book:

1. Which century can disability sport be traced back to?
2. Where did the first Stoke Mandeville games take place?
3. What other sporting event took place at the same time as the first Stoke Mandeville games?
4. When did the Olympics and Paralympics combine?
5. Which year were the Olympics and Paralympics games held at the same time?

Year 9 Geography Principal's Reading
Week Beginning: 22/01/24

Climate Change

For months, Siberia has been experiencing extreme heat due to a combination of persistent sunny weather and human-caused climate change. In addition to producing Arctic temperatures that cracked 100 degrees in June, the heat has fuelled an enormous outbreak of wildfires, including fires on tundra underpinned by permafrost—normally frigid soil that is likely becoming even less frozen this year.

This rash of fires on landscapes that are typically too cold, wet, and icy to burn is raising alarms for ecologists and climate scientists, who fear it's yet another sign that the Arctic is undergoing rapid changes that could tip off a cascade of consequences both local and global.

If fire becomes a regular occurrence on Siberia's thawing tundra, it could dramatically reshape entire ecosystems, causing new species to take over and, perhaps, priming the land for more fires. The blazes themselves could also exacerbate global warming by burning deep into the soil and releasing carbon that has accumulated as frozen organic matter over hundreds of years.

"This is not yet a massive contribution to climate change," says Thomas Smith, an environmental geographer at the London School of Economics who has been tracking the Siberian fires closely. "But it's certainly a sign that something different is happening."

In addition to flames being extremely intense and widespread, scientists are struck by how far north fires are burning and the types of ecosystems that are igniting. Smith has been investigating this using a combination of land cover maps and satellite data. He's found that in addition to the huge number of fires scorching northern boreal forests, many are burning even further north on the tundra and in carbon-rich peatlands. In all cases, the ecosystems that are burning sit atop frozen soils that comprise permafrost.

While tundra fires are not unprecedented—scientists have documented a handful of large ones on Alaska's North Slope in recent history—it's unusual to see so many at once over such a large area, Smith says.

Several of the fires might even be setting geographic records. In late June, the European Space Agency's Sentinel-2 satellite detected a series of fires at latitudes close to 73 degrees north—the northernmost fires in records going back to 2003, according to satellite remote sensing expert Annamaria Luongo. The most recent one, spotted by Sentinel-2 on June 30, flared up just a few miles from the shores of the Laptev Sea, a part of the Arctic Ocean.

Questions to answer in your yellow homework book:

1. What does thawing mean?
2. What have the effects been of climate change in Siberia?
3. What does exacerbate mean?
4. How could Siberia's tundra change with the thawing ecosystem?
5. What does unprecedented mean?
6. Why would it be surprising that the fires are spreading further north?
7. How could these fires make climate change worse?

Year 9 RS Principal's Reading
Week Beginning 29/01/24

Why is religious freedom so important?
The freedom to have a relationship with God was established from the very beginning.
God created the heavens and the earth and all that is in them, including making humans alone in His image. This means that mankind is an inherently religious creature which, like God, also possesses liberty, dignity, and moral responsibility.

We see this unfold in the Garden of Eden where God gave our first parents freedom through a choice: "You may surely eat of every tree of the garden, but of the tree of the knowledge of good and evil you shall not eat, for in the day that you eat of it you shall surely die."

God will not coerce belief.

As with Adam and Eve, we are called to freely choose God.As the Apostle Paul says in Galatians 5:1, "For freedom Christ has set us free."
Religious freedom is a fundamental, inalienable, and pre-political right.

In Acts, we see the apostles resisting efforts by governing authorities to coerce belief or limit the freedom to proclaim the Gospel. Because humans are free before God, the State, which God instituted, must protect and respect the freedom to worship and live according to one's religious beliefs.

Jesus taught us that we should render unto Caesar the things that are Caesar's and unto God the things that are God's. The heart and soul of mankind belong to God, not to Caesar. Coercing or prohibiting belief constitutes a governmental invasion into the exclusive jurisdiction of God. Christians are called to live out their faith publicly in speech, action, and worship.

Yet, censorship laws, attacks on conscience and closed churches may have you believe that faith is a private matter and expressions of Christianity are harmful. This is false.

Freedom of religion or belief is a fundamental, universal human right. It is recognized in core international human rights treaties.

It protects every human person, regardless of his or her religion or belief or lack thereof. Freedom of religion or belief has an internal component and an external component.

The significance given to religious freedom in law is a recognition that a person's religion or belief, or lack thereof, is a fundamental part of who he or she is and how he or she lives.

Therefore, protection of religious freedom recognizes and preserves human dignity.
One of the Government's primary tasks is to preserve the freedom for each person to follow his own conscience.

The right to freedom of thought, conscience, and religion in the public sphere has been described as a 'precious asset' by the European Court of Human Rights.

Questions to answer in your yellow homework book:

1. What does it mean to be made in God's image?
2. What happened in the Garden of Eden?
3. What did Jesus teach us belongs to God?
4. Why might you believe that expressing Christianity is harmful?
5. Why is protection of religious freedom important?
6. Is religious freedom a human right?
7. What do you think the consequences would be if it wasn't?

European idioms

"Idiom" - a phrase which means one thing literally but another altogether. Think - "it's raining cats and dogs". Here are some idioms in different languages with a "word for word" translation:

1. French - En faire tout un fromage – to make a cheese out of it
2. German - das ist mir Wurst – it is sausage to me!
3. Spanish-mi media Naranja - My orange half
4. Latvian - pūst pīlītes - He's blowing ducks"
5. Romanian - vinde gogoși - He's selling you doughnuts"
6. Greek - Miért itatod az egereket? - "Why are you giving drinks to the mice"




Questions to answer in your yellow homework book:

1. What is an idiom?
2. Which phrase means "I don't care"?
3. Which phrase means "he's talking nonsense!"?
4. Which phrase means "to make a big deal out of something"?
5. Which phrase means "why are you crying?"
6. Which phrase means "he's lying to you"?
7. Which idiom means "my soul mate"?

Year 9 Product Design Principal's Reading
Week Beginning 12/02/24

The story of IKEA flatpacks

IKEA flat packs have revolutionized furniture-making and home furnishing history. Today, most IKEA products come in flat packs that customers can easily transport everywhere. How did the idea come about and how did IKEA change the way we see and work with furniture.

Where it all began

IKEA founder Ingvar Kamprad was only 17 years old when he established the company. When he began selling furniture, it was all bulky chars and tables, produced and manufactured by local artisans of Sweden. As the company grew, so did the expenses that came with shipping each furniture. With the size and weight of each fitting, shipping costs were stark.

Small ideas, big dreams

Gillis Lundgren is one of the people that made IKEA the brand it is today. He designed the BILLY bookcase as well as the IKEA logo. One of the many contributions of Lundgren in the organization started when he was tasked to deliver a table to a photo studio to be shot for the IKEA catalog. His car couldn't fit the table, so he thought to himself, "Why not take off the legs?" That little idea sparked big dreams not only for Lundgren but for all of IKEA.

Revolutionizing the industry

While Lundgren is not the inventor of flat-pack furniture, he's the person responsible for popularizing the idea. He revolutionized the industry by applying it on the IKEA range, advocating for the low-cost and convenient way of making furniture. Flatpacks have since become the cornerstone of the IKEA business model, influencing later designs.

The effects of IKEA flatpacks

Flatpacks are some of reasons behind IKEA's global growth. Since the use of this idea, prices of furniture from the range have reached an all-time low in the industry. This also allowed more stocks to be stored in every store. Ease of transport is just another effect, conveniently moving products not only by the consumer but in bulk in between stores. Lastly, IKEA flatpacks encouraged designers to take the challenge of creating functional products that are also clean and minimalist.

Questions to answer in your yellow homework book:

1. What company is the article about?
2. What was the reason for flat pack furniture?
3. What was the first piece of flat pack furniture made?
4. How has flat pack furniture helped the consumer?
5. What does Ikea encourage designers to do?
6. Who was the Ikea founder?

Year 9 – English – Victorian Gothic – Spring Term 1

Section A: Key vocabulary

Tier 3 Vocabulary	Definition
Metaphor (n)	Describing one thing as another.
Juxtaposition (n)	Opposites in ideas, characters, settings, etc.
Motif (n)	A repeated image or symbol in a story. E.g. blood.
Symbolism (n)	Where an image or symbol represents something.
Epistolary (n)	A type of writing in the form of letters or diary entries.
Non-fiction (n)	A piece of writing that is "real" like an article.
Fiction (n)	A piece of writing that is not real.
Allegory (n)	A story that contains a moral message.
Tier 2 Vocabulary	**Definition**
Gothic (n)	Links to horror, mystery, and supernatural. Found in things such as: stories, architecture, fashion, etc.
Nature vs nurture (nouns)	The study of humans – are our behaviours due to our nature or how we were raised (nurture)?
Supernatural (n)	Things that are not natural. E.g. zombies, vampires, magic, etc.
Class system (n)	A system that separates people in society through wealth and status: upper class, working class, etc.

Section B: Key Concepts/Ideas/Questions

What is the Enlightenment?

A period of history where science began to offer explanations for how the world works; this challenged religious ideas and explanations. This led to a divide between science and religion. A lot of Victorian novels explored this theme in books such as Mary Shelley's 'Frankenstein'.

The Victorian era

Victorian society was known as a time of economic growth through the industrial revolution. These factories made it cheaper and quicker to mass produce products. However, it was also a time of huge imbalances in society. For example: rich vs. poor, men vs. women, science vs. religion, and much more! Finally, outside of charities and work houses, there was no social or financial support for the poor/lower class.

What is Gothic Literature?

Gothic fiction, sometimes called Gothic horror in the 20th century, is type of writing that focuses on fear and the supernatural. The name is a reference to Gothic architecture (designs of buildings) of the European Middle Ages, which was characteristic of the settings of early Gothic novels. These included: castles, graveyards, churches, and much more.

Section C: Subject Specific

'Dracula' summary:

A story about a Vampire from Transylvania who moves to London and begins to attack humans! A man called Harker, his wife Mina, and a man called Van Helsing hunt him down

Use the QR code for a more detailed summary!

'Frankenstein' summary:

A scientist called Victor Frankenstein creates a m stitching dead body parts together and creating new life! He abandons his creature due to fear of its appearance and is hunted by the murderous creature for the rest of his life.

Use the QR code for a more detailed summary!

'Great Expectations' summary:

The tale of a young boy called Pip and the story Along the way, we see his experiences of love, work, and how he overcomes hardship in Victorian England.

Use the QR code for a more detailed summary!

'Oliver Twist' Summary:

The story of a young orphan who flees his abusi environment and joins a group of street urchins in London who steal to survive!

Use the QR code for a more detailed summary!

Who was Jack the Ripper?

Jack the Ripper is rumoured to be a serial killer in Victorian London who killed women. He was never found but residents lived in fear of being alone in Victorian London at night.

Concepts seen before: supernatural, class system, allegory, epistolary.

Week Beginning	Tasks Year 9 English Victorian Gothic Spring 1
8/1/24	Research and then create a leaflet about Victorian England. Make sure that you include information about the Industrial Revolution, the enlightenment, famous Victorian novels and writers, the wealth divide and work houses.
15/1/24	Research and create a summary of the story 'Dracula' by Bram Stoker in your own words. Draw three images that relate to the text.
22/1/24	Research and create a character profile for the following characters from Bram Stoker's 'Dracula': Count Dracula, Jonathan Harker, Mina Murray and Van Helsing.
29/1/24	Write down five facts about Jack the Ripper and five facts about crime in Victorian London.
5/2/24	Write your own Victorian newspaper article (including a headline) reporting on the crimes of Jack the Ripper.
12/2/24	Research and create a summary of the story 'Frankenstein' by Mary Shelley in your own words. Draw three images that relate to the text.

Year 9 – Maths – Reasoning with Number – Spring Term 1

Section A: Key vocabulary

Tier 3 Vocabulary	Definition
HCF – Highest Common Factor (n.)	The largest number that divides exactly into two or more numbers
LCM – Lowest Common Multiple (n.)	The smallest positive number that is a multiple of two or more numbers.
numerator (n.)	The top number in a fraction.
denominator (n.)	The bottom number in a fraction
surd (n.)	A number containing a root ($\sqrt{2}, \sqrt{3}$, etc.) which can't be simplified to remove the root.
percent (%) (adj.) percentage (%) (n.)	Out of 100. For example, one percent (1%) means $\frac{1}{100}$.
principal amount (n.)	The total amount of money borrowed (or invested) not including any interest.
formula (n.)	A rule or fact written with mathematical symbols

Tier 2 Vocabulary	Definition
terminates (v.)	Comes to an end.
interest (n.)	How much is paid for the use of money (as a percent, or an amount).
negative balance (n.)	A negative balance in a bank account shows you have spent more money than you have.
bank statement (n.)	A list that shows how much money you have put into and/or taken out of your bank account
exchange rate (n.)	The amount of one country's money that you can buy with a particular amount of another country's money.
equivalence (n.)	Having the same amount or value.

Section B: Key Concepts/Ideas/Questions

Finding the Highest Common Factor (HCF)

Factors of 30: 1, 2, 3, 5, 6, 10, 15, 30
Factors of 20: 1, 2, 4, 5, 10, 20
The Highest Common Factor (HCF) of 30 and 20 is 10.

Exchange rates

Given the exchange rate between pound and Australian dollars is £1=$1.87, convert £70 to Australian dollars.

×1.87 ÷1.87

£1 = $1.87 AUD £1 = $1.87 AUD

$$70 \times 1.87 = 130.90$$

Compound Interest

$$Principal\ amount \times Multiplier^{Years}$$

Simple Interest

$$Principal\ amount \times Multiplier \times Years$$

£2000 is invested at 10% **simple** interest.

What is the value at the end of year 1?

10% = 200
=2000 + 200
=2200

What is the value at the end of year 2?

10% = 200
=2000 + (200 x 2)
=2400

What is the value at the end of year 20?

10% = 200
=2000 + (200 x 20)
=6000

Section C: Subject Specific

Finding the Lowest Common Multiple (LCM)

Multiples of 30: 30, 60, 90, 120
Multiples of 20: 20, 40, 60
The Lowest Common Multiple (LCM) of 30 and 20 is 60.

Increase and Decrease

Increase £50 by 10%

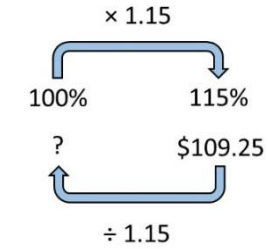
Add on percentage:	Multiplier:
10% of £50 = £5 £50 + £5 = £55	£50 x 1.1 = £55

Decrease £50 by 10%

Subtract percentage:	Multiplier:
10% of £50 = £5 £50 - £5 = £45	£50 x 0.9 = £45

Finding the Original Amount

Reverse percentages means working backwards to find an original amount, given a percentage of that amount.



Example

A car is sold at a 15% discount for £6800. What was its price before the discount? (The original price).

1. Write the percentage change as a decimal
$$100\% - 15\% = 85\%$$
$$= 0.85$$
2. Divide the amount by this decimal
$$£6800 \div 0.85 = £8000$$

Concepts seen before:
Fractions, decimals and percentages equivalence, conversions, types of number, standard form

Week Beginning	TASKS Year: 9 Subject: Maths Topic: Reasoning with Number Term: Spring 1
08/01/2024	Read, cover, write and check. Accurately copy the words you are learning. Then read the definitions, cover them up, write down what you can remember and then check what you have written. Correct in a different colour pen if you didn't quite remember it accurately. **Highest common factor, lowest common multiple, percentage, principal amount, and interest.** CH: Draw a picture or example to go with your definitions.
15/01/2024	Find the HCF and LCM for each of the number pairs below: 1) 6 and 4 2) 10 and 30 3) 24 and 8
22/01/2024	1) Increase 150 by 20% 3) Increase 295 by 7% 2) Decrease 410 by 70% 4) Decrease 230 by 13%
29/01/2024	I buy a DVD player for £40 in the sale where it was 15% off. What was the original price of the DVD please? Show your working out. Check your answer by reducing it by 15% and ensuring it gives you £40
05/02/2024	£300 is invested for 2 years at 4% simple interest per year. Calculate the total interest.
12/02/2024	Using £1 = $2.23 a) How many dollars can I buy with £100? b) How many pounds is $2676 worth?

Science - P3 Particle Model of Matter – Spring Term 1

Section A: Key Vocabulary

Tier 3	Definition
Density (n)	Mass per unit volume of a substance.
Physical change (n)	A change in which no new substances are produced.
Melting point (n)	Temperature at which a pure substance melts or freezes
Boiling point (n)	Temperature at which a pure substance boils or condenses.
Latent heat (n)	The energy transferred to or from substance when it changes it state.
Internal energy (n)	The energy of the particles of a substance due to their individual motion and positions.
Kinetic theory (n)	The model that explains the properties of different states of matter in terms of the movement of particles.
Tier 2	**Definition**
Pressure (n)	The force on a certain area. It is measured in Pascals or N/m^2
Fusion (n)	An occasion where two or more things join or are combined.
Vaporisation (n)	The process of turning, or causing something to turn, from solid or liquid state into gas.
Volume (n)	The amount of space that is contained within an object or solid shape.

Concepts you have seen before: States of matter & particle model (chemistry)

Section B: Important Ideas / Concepts / Questions

Density

$$\text{density, } \rho \text{ (kilogram per cubic metre, kg/m}^3\text{)} = \frac{\text{mass, } m \text{ (kilograms, kg)}}{\text{volume, } V \text{ (metres}^3\text{, m}^3\text{)}}$$

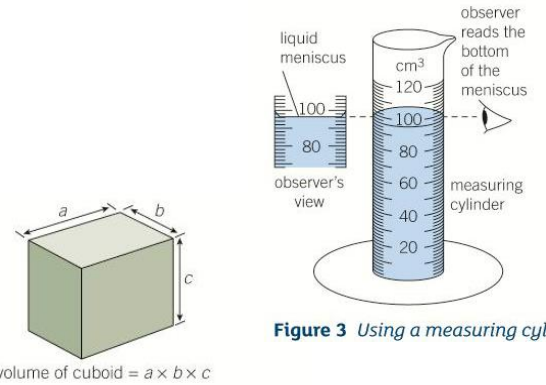


Figure 2 *The volume of a cuboid*

Figure 3 *Using a measuring cylinder*

Specific latent heat

$$\text{specific latent heat of fusion, } L_F \text{ (J/kg)} = \frac{\text{energy, } E \text{ (joules, J)}}{\text{mass, } m \text{ (kilograms, kg)}}$$

$$\text{specific latent heat of vaporisation, } L_v \text{ (joules per kilogram, J/Kg)} = \frac{\text{energy, } E \text{ (joules, J)}}{\text{mass, } m \text{ (kilograms, kg)}}$$

Section C: Diagrams and further information

Changes of state

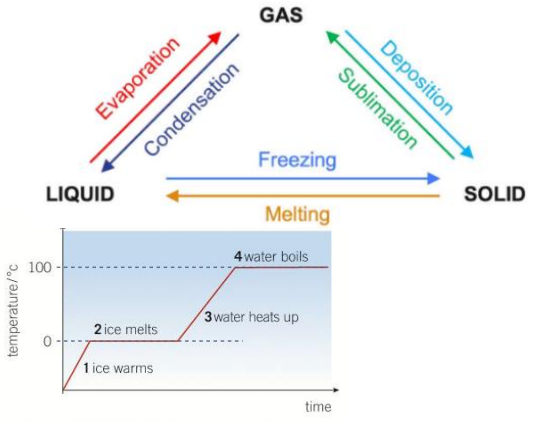


Figure 2 *Melting and boiling water*

Gas Pressure

Boyle's Law – for a fixed mass of gas at constant

$$\text{pressure, } p \text{ (pressure, Pa)} \times \text{volume, } V \text{ (metres cubed, m}^3\text{)} = \text{constant}$$

Worked example

In a chemistry experiment, 0.000 20 m^3 (= 200 cm^3) of gas was collected in a flask at a pressure of 125 kPa. Calculate the volume of this mass of gas at a pressure of 100 kPa and the same temperature.

Solution

Let $p_1 = 125\text{ kPa} = 125\,000\text{ Pa}$ and $V_1 = 0.000\,20\text{ m}^3$

$p_1 V_1 = 125\,000\text{ Pa} \times 0.000\,20\text{ m}^3 = 25\text{ Pa m}^3$

Let $p_2 = 100\text{ kPa} = 100\,000\text{ Pa}$, where V_2 is the volume to be calculated.

Applying $p_2 V_2 = p_1 V_1$ therefore gives $100\,000\text{ Pa} \times V_2 = 25\text{ Pa m}^3$

So, $V_2 = \frac{25\text{ pa m}^2}{100\,000\text{ pa}} = 0.000\,25\text{ m}^3 = 250\text{ cm}^3$

Week Beginning	TASKS Year: 9 Subject: Science Term: Spring 1
8/1/24	Learn the spellings and definitions for the 7 Tier 3 vocabulary words for this topic. You can do this by either making flashcards, doing look-cover-repeat or any other method you see fit.
14/1/24	Calculate the density of an object with a mass of 400g and a volume of $50cm^3$ Calculate the density of a block with a mass of 500g, measuring 6cm x 5cm x 5cm
22/1/24	Sketch and label a graph to show the changes of state between a solid, liquid and gas. Make a note where each state will change and explain how you know this.

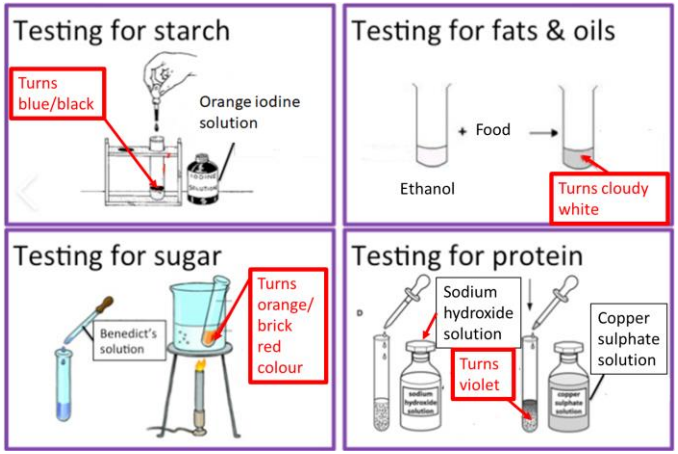
Science - B2:Cell Organisation – Spring Term 1

Section A: Key Vocabulary

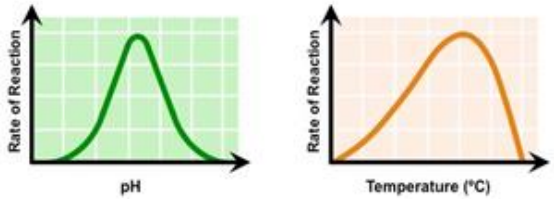
Tier 3	Definition
Denature (v)	Shape of protein changing.
Catalyst (n)	Increases rate of chemical reaction without undergoing change itself.
Metabolism (n)	The sum of all reactions in a cell or body.
Bile (n)	Fluid which is secreted by liver to aid digestion.
Enzyme (n)	Biological catalyst, it speeds up a reaction without being used up.
Translocation (n)	Movement of sugars in the phloem.
Transpiration (n)	Movement of water through the plant.
Tier 2	**Definition**
Differentiate (v)	When something becomes specialised for a particular function.
Rate (n)	Speed at which something happens.
Specific (adj)	For a particular purpose.
Excess (n)	Having more of something than needed.
Estimate (v)	Roughly calculate.

Section B: Important Ideas / Concepts / Questions

Food tests



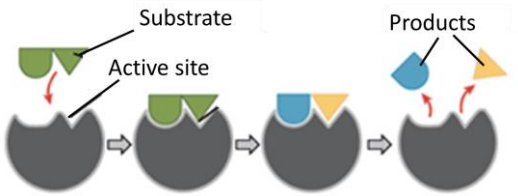
Graphs to show the effect of temperature and pH on enzyme activity



Enzymes work best at an optimum pH and temperature. If the pH is too high or low, the enzyme becomes denatured and reactions can no longer occur. If the temperature is low, the reactions between the enzyme and substrate are very slow, whereas if the temperature is too high, the enzyme can also become denatured.

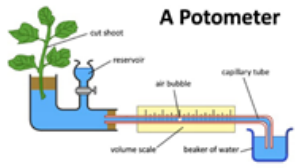
Section C: Subject Specific

How enzymes work



Enzyme	Breaks down	Broken down into
Carbohydrase	Carbohydrates	Sugars
Proteases	Proteins	Amino acids
Lipase	Lipids	Fatty acids and glycerol

A Potometer measures the uptake of water under different conditions



Concepts you have seen before: DNA, chromosome, nucleus, prokaryotic.

Week Beginning	TASKS Year: 9 Subject: Science Term: Spring 1
29/1/24	Learn the spellings and definitions for the 7 Tier 3 vocabulary words for this topic. You can do this by either making flashcards, doing look-cover-repeat or any other method you see fit.
5/2/24	Draw diagrams for the 4 main food tests. Label the equipment used and note what you would expect to see if the test has worked correctly.
12/2/24	Draw the reaction graphs for enzyme activity. Describe what would happen if the pH or temperature of an enzyme gets too high or is too low.

Religious Studies — What is right and what is wrong? — Spring Term 1

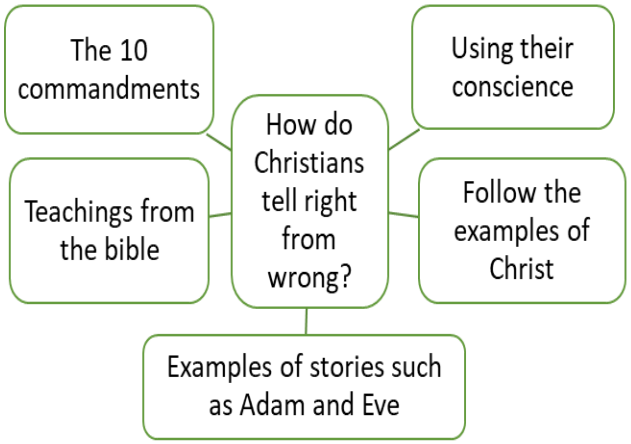
Section A: Key vocabulary	
Tier 3 Vocabulary	**Definition**
Conscience (n)	An inner feeling of right and wrong.
Stewardship (n)	To look after the world for God.
Ethics (n)	The study of right and wrong.
Moral Issue (n)	A situation where you have to decide right from wrong.
Sin (v)	An action that goes God's teachings.
Tier 2 Vocabulary	**Definition**
Environment (n)	The natural world.
Nature (a)	An unchanged state.
Action (v)	Anything that someone chooses to do.
Choice (v)	When someone has an option of multiple actions.
Outcome (n)	The result of an action.

Section B: Secular Ideas

Non-religious people usually agree that we have a **conscience.** They say our conscience is simply part of our character, and not the voice of God. It is not surprising everybody agrees on what is right and what is wrong; we are all human beings. We have similar instincts and experiences. These shape our conscience, but we are at perfect liberty to exercise free will and do something that we know is wrong.

A Humanist does not look to any god for rules but thinks carefully for themselves about what might be the best way to live.

Section C: Key Beliefs



A religious person would say that because no one if perfect, we have to turn to God as the ultimate authority. Our **conscience** is the voice of God guiding us within. That's why we can always tell right from wrong if we pay attention to our conscience. However, God created humans with free will and nobody is a robot, meaning that people don't have to listen to their conscience.

Concepts you have seen before: Secularism, environmental issues

Week Beginning (DD/MM/YYYY)	TASKS Year 9—RS—Right and Wrong—Spring
15.01.2024	**Section A: Key Vocabulary** TASK: Use these key words in a sentence. Tier 3—> Libera;, Stewardship, and Conscience. Tier 2—> Action, Environment, Choice CHECK: Check the definition, Have you used them correctly?
29.01.2024	**Section B: Secular ideas** Task: Consider actions you have taken in the past week. Write a list of 5 actions you consider to be *right* and 5 *wrong.* Explain why you have made that choice for at least two of them.
12.02.2024	**Section C: Key Beliefs** Task: consider the story of Adam and Eve and write a paragraph explaining what the story can teach Christians.

9 – History– Terrorism – Spring Term 1

Section A: Key vocabulary	
Tier 3 Vocabulary	**Definition**
Militancy (adj.	aggressive attitude or approach, often associated with the use of force or violence to achieve political or social objectives.
Clandestine Networks (n)	secretive groups or organizations that operate discreetly, often involved in planning and executing activities related to terrorism.
Covert (n)	hidden, activities, operations, or strategies carried out in secret.
Islamist (n)	Advocates Islamic principles in politics, seeking societal influence, sometimes via religious governance.
Tier 2 Vocabulary	**Definition**
Extremist (n)	A person whose views are seen as extreme.
Revolution (n)	An event which causes a huge change linking to social change, political change or technology.
Propaganda (n)	Information, often misleading, used to promote a particular political, religious, or ideological point of view with the aim of influencing opinions and behaviour.
Radicalization (n)	The process by which individuals or groups adopt extreme ideologies or beliefs, often leading to the willingness to use violence to achieve their goals.

Section B: Key Concepts/Ideas/Questions

Definition of Terrorism: "A planned action intended to cause death or serious harm to civilians with the purpose of achieving political or social change" The United Nations, 17th March 2005

For an event to be classed as terrorism it must meet all parts of this definition. This definition will be referenced throughout the unit to check if each event discussed meets all parts of the definition.

Sectarian violence: refers to conflicts fuelled by differences in religious beliefs or affiliations. It involves violent actions between groups with distinct religious identities, often leading to hostility, discrimination, and aggression.

Such violence can have profound (important) social, political, and cultural impacts, deepening divisions within communities and societies.

What is radicalization?: the process through which individuals adopt extreme beliefs, often leading to a willingness to use violence. Influenced by political, religious, or social ideologies, it transforms individuals into radicals who may reject mainstream values, posing a potential threat to societal harmony. It is a complex social issue with far-reaching consequences.

British Values: emphasise democracy, rule of law, individual liberty, and mutual respect. These principles promote tolerance of diverse beliefs and backgrounds. Democracy ensures citizens have a say, the rule of law upholds justice, individual liberty safeguards personal freedoms, and mutual respect fosters a harmonious society.

Ideas/ key words you have seen before: Cold War, blockade, arms race, alliance, conference, crisis, propaganda.

Section C: Timeline of events

1605 - Gunpowder Plot (Guy Fawkes): Guy Fawkes attempts to blow up the English Parliament in protest against religious persecution, representing an early act of political terrorism.

1830-1831 - Swing Riots (Captain Swing): Protests against agricultural machinery during the Industrial Revolution, illustrating social unrest and resistance to economic changes.

Late 19th to early 20th century - Suffragette Campaign: Suffragettes advocate for women's voting rights through civil disobedience, protests, and occasional violent actions

1969-1998 - The Troubles Irish Republican Army (IRA): Sectarian (different groups) violence and conflict in Northern Ireland involving the IRA, showcasing the group's role in a prolonged period of political and social unrest.

1988 - Al-Qaeda Founded: The transnational (in more than one country) extremist organization, Al-Qaeda, is founded, becoming a prominent actor in global terrorism with ideological motivations.

September 11, 2001 - 9/11 Attacks: Al-Qaeda executes a series of coordinated terrorist attacks on the United States, including the World Trade Centre and the Pentagon, resulting in significant global consequences.

Week Beginning	TASKS Year: 9 Subject: History Topic: Terrorism Term: Spring 1
15/01/24	TASK: Create flashcards for each of your tier 3 definitions. You should have: **Militancy, Clandestine Networks, Covert and Islamist.** On one side of your flashcard you should have the word, on the other side you should write the definition. Place your flashcards in to a pile, test yourself and put a tick on the flashcard if you got it right or a cross if you got it wrong.
29/01/24	TASK: using **section B**, read through the **4** key concepts and create a dual-coded summery for each. The picture you sketch will be used to help you remember: **the definition of Terrorism, Sectarian violence, What is radicalization? And British Values.**
12/02/24	TASK: Read through the information outlined in **section C**, create a mind map covering each of the **6** events. You should include: The date, key places, key people and the key impacts

Year 9 - Geography—Climate Change—Spring Term 1

Section A: Key vocabulary	
Tier 3 Vocabulary	**Definition**
Greenhouse effect (n)	The trapping of heat inside the atmosphere which regulates temperature.
Albedo effect (n)	The reflection of heat off white ice caps which acts to cool the planet
Carbon footprint (n)	The amount of CO_2 produced by a person or activity
Quaternary period (n)	The period of time from 2.58 million years ago to the present day.
Ice cores (n)	A cylinder of ice taken from glaciers and ice sheets, used to study past climate.
Inter-glacial (n)	A period of time between glacial periods where temperatures were warmer.
Tier 2 Vocabulary	**Definition**
Emissions (n)	The product of something 'given off' by an activity.
Atmosphere (n)	The layer of gases surrounding the Earth.
Adaptation (n)	The process of changing behaviours to cope with a new environment.
Treaty (n)	An agreement between different parties

How has the climate changed?

Past climate:

The Earth's climate has always changed– but these changes take a long time!

These changes happen in a cyclical pattern over time (meaning they repeat).

Warmer periods of time are called inter-glacial periods (we are in one now!)

Colder periods are call glacial periods (ice ages).

Evidence for climate change

Ice cores	By studying the bubbles of prehistoric air trapped inside frozen ice, we can find out what the temperatures were like in the past.
Tree rings	We can study tree rings to see a yearly history of growing patterns inside trees—these are helpful in understanding weather changes.
Ice sheet data	Satellite data can be compared to see the changes in sea ice extent—this shows the amount of melting which has occurred.

What could the future look like?

Mitigation

Alternative energy production
Some energy types can be used to reduce the carbon dioxide released into the atmosphere. Examples include solar, wind power.

International agreements
Countries can and have made agreements. One example is the Kyoto Protocol (1997) where 192 countries signed up to reduce their greenhouse gas emissions.

Afforestation
By planting more trees we increase the amount of carbon removed from the atmosphere.

Carbon capture
Carbon dioxide from power stations. This carbon dioxide is collected and pumped underground -stored in rock.

Adaptation

Change in agricultural
It is possible to change the types of crops being grown or to develop crops which are more resistant to extreme weather (eg droughts).

Managing water supply
Damming of rivers or even the creation of artificial glaciers in mountainous areas to fill up during winter and provide water as they melt in the summer.

Reducing risk from rising sea levels
By building flood barriers such as the Thames Barrier. In some areas, such as Bangladesh, people have built homes on stilts to be raised above floods.

Concepts you have seen before:
- Weather and extreme weather (Year 7)
- Levels of development—capacity to cope
- Sustainability, management

Week Beginning (DD/MM/YYYY)	TASKS Year 9 — Climate change — Spring Term
15/01/2024	1) **Write out** the tier 2 and tier 3 key words from the **Climate change KO** in your knowledge book: You should have 11 words in total. 2) Now **write a summary** of each definition alongside each word. Do not copy directly from the glossary. 3) Now **check your summary** definitions. Have you included words such as 'the, is, a, of'? If so, can you replace them with more meaningful key words?
29/01/2024	1) **Draw a table** for 'Look, Cover, Write, Check and Correct' as on your 'How do I self-quiz?' page. 2) In the 'Look, Cover' column, **write out the title evidence for climate change.** 3) **Write out, from memory**, what evidence we have for past climate change using examples. Then check this against the knowledge organiser. Put a 'tick' or a 'cross'. 4) If you got the answer wrong, **write in the correct answer** in the 'Correct' column.
12/02/2024	1) On one side of the flashcards **write out headings of ways we can adapt and mitigate climate change**. You should have 7 flashcards in total. 2) On the other side, **write out how each of these will help to reduce the impacts of climate change around the world**. 3) Now put them in a pile. For each card, **test if you can remember**. Tick the flashcard if you get it right, a cross if you get it wrong. 4) When you get the card right, place it in the 'correct' pile. When you get it wrong, place it in the 'wrong' pile. Repeat until all cards are in the 'correct' pile.
Extension (optional)	Complete a piece of research on the Paris Climate Agreement. 1. What is the agreement? What is included in this? 2. How will this help people, governments and businesses to tackle climate change? 3. Do you think this will be effective (will it work)? Explain why into your books using detail.

Year 9 – French – Spring Term 1 – Le monde est petit

Tier 1: Key vocabulary	
Tier 3 Vocabulary	**Definition**
Je voudrais visiter	I would like to visit
Je veux visiter	I want to visit
J'adore la plage	I love the beach
J'aime les poisson exotiques	I like the exotic fish
Il y a les monuments historiques	There are historic monuments
Je dois nourrir les animaux	I must feed the animals
Je dois garder mon petit frère	I must look after my brother
On peut faire une excursion	You can do an excursion
Mes amis se couchant à dix heures	My friends go to bed at 10 O' clock
Le Samedi, on regarde un film cinéma	Saturdays, we watch a film at the cinema
Je me couche et je me maquille	I go to bed (sleep) and I put my make up on.
Tier 2 Vocabulary	**Definition**
Modal verb	"can" and "must" are modal verbs and are followed by an infinitive verb
infinitive verb	A verb which has not been changed to say who is doing the action or when the action is taking place.
Reflexive verb	An action done to "yourself" or "herself". It needs a reflexive pronoun to accompany the verb

Tier 3 – Core text		
J'habite en Bretagne. La où j'habite il y a beaucoup de champs	1	I'live in Brittany. That where I'live it there has lots of fields
mais c'est animé et il y a trop de touristes en été.	2	but it'is lively and it there has toomuch of tourists in summer.
Ici on peut visiter les monuments historiques et on peut faire du canoë-kayak.	3	Here one can visit the monuments historic and on can do some canoeing – Kayaking.
l'année dernière j'ai démenagé à la campagne.	4	The'year last I'have moved at the countryside
Mon nouveau collège est assez vieux	5	My new school is quite old
et mes nouveaux copains sont merveilleux.	6	and my new friends are marvellous.
Pour aider ma famille à la maison je dois garder ma petite sœur	7	To help my family at the house I must lookafter my little sister
et je dois ranger ma chambre.	8	and I must clean my room!
Je pense que ce n'est pas juste!	9	I think that it not is fair
Tous les jours je me lève à sept heures et je m'habille	10	all the days I myself getup at seven hours and I myself'dress
puis je me rase et je me lave les dents.	11	then I myself shave and I myself brush the teeth.
le week-end, comme d'habitude je retrouve mes amies	12	The weekend, like usual, I meet my friends
et on regarde un film et on se couche assez tôt.	13	and we watch a film and we ourselves sleep late.
Mes parents se lèvent normalement à six heures!	14	My parents themselves getup normally at six hours!

Concepts seen before: il y a structures. "I can" structures. Adjectives with endings for m/f/pl. Regular verbs in present tense

Week Beginning	TASKS Year: 9 Subject: French Topic: Le monde est petit Term: Spring 1
08/01/24	Look, cover, write and check the vocabulary in Tier 1 – from “ich bin” up to “definitely”. Show in your book that you have written them out and checked them in red pen.
22/01/24	Using the Tier three core text, re-write lines 1-7 making at least one change per line. You can use the vocabulary from “Tier 1” to do this or you can use vocabulary you have used in class / prior knowledge.
05/02/24	Using the Tier three core text, re-write lines 8-12 making at least one change per line. You can use the vocabulary from “Tier 1” to do this or you can use vocabulary you have used in class / prior knowledge.

Year 9 – German – Spring term 1 – Musik

Tier 1: Key vocabulary	
Tier 3 Vocabulary	**Definition**
Ich höre gern ..	I like listening to..
Ich höre nicht gern..	I don't like listening to..
Ich höre nie..	I never listen to..
Popmusik	pop music
Sie ist..	It is..
energiegeladen	Full of energy
unterhaltsam	entertaining
Sie macht gute/schlechte Laune	It puts you in a good/bad mood
Sie klingt positiv/negativ	It sounds positive/negative
Das Schlagzeug	drums
Ich spiele	I play..
Ich spiele kein instrument	I don't play any instrument
seit sechs Monaten	for six months
Am Wochenende	At the weekend
zu Hause	At home
Tier 2 Vocabulary	**Definition**
Perfect tense	Used to write in past tense and is made up of auxiliary (haben or sein) and past principle
Separable verb	A verb made up of two words. It includes both a prefix and a verb e.g. teilnehmen (teil and nehmen)
comparisons	Estimating similarities or dissimilarities between two things or people.

Tier 3 – Core text		
Ich höre gern Rockmusik, weil sie energiegeladen ist	1	I listen happily rockmusic because she energyladen is
aber ich höre nicht so gern Rap-Musik,	2	But I listen not so happily rapmusic,
weil ich sie negativ finde.	3	because I her negative find.
Ich spiele seit fünf Jahren Schlagzeug in einer Band,.	4	I play since five years drums in a band,
Obwohl ich keine Noten lesen kann.	5	although I no music read can.
Wir spielen zweimal pro Woche in der Garage	6	We play twotimes per week in the garage
Meine Lieblingsband heiβt „the Killers", weil die Musik dynamisch ist	7	My favouriteband iscalled "the Killers" because the music dynamic is
Ich denke ihre Musik ist kreativer als andere Rockbands.	8	I think their music is creativer than other rockbands
Letzten Sommer bin ich auf einem Musikfestival gegangen	9	last summer am I on a musicfestival went
Leider war das Essen sehr teuer und es gab keine Duschen,	10	unfortunately was the food very expensive and it gave not showers
Das Wetter war schrecklich	11	The weather was terrible
Nächstes Jahr werde ich auf ein Konzert in Frankreich gehen. Ich freue mich schon	12	Next year will I on a concert in France go. I lookforward myself already!

Concepts seen before:
Past tense, future tense, "haben" and "sein", weather. Use of adjectives and sub-ordinating conjunctions, such as "weil"

Week Beginning	TASKS Year: 9 Subject: German Topic: Musik Term: Spring 1
15/01/24	Look, cover, write and check the vocabulary in Tier 1 – from “Ich höre gern ” up to “zu Hause”. Show in your book that you have written them out and checked them in red pen.
29/01/24	Using the Tier three core text, re-write lines 1-12 making at least two changes per line. You can use the vocabulary from “Tier 1” to do this or you can use vocabulary you have used in class / prior knowledge.
12/02/24	Using the vocab in Tier two and reference to Tier three core text. Write two paragraphs expressing your musical interests as a summary of this topic. It must include the use of the perfect tense, comparisons and separable verbs. You can use the vocabulary from “Tier 1” to do this or you can use vocabulary you have used in class / prior knowledge.

Year 9 – Art – Yayoi Kusuma – Spring Term 1

Section A: Key vocabulary

Tier 3 Vocabulary	Definition
Transcription (n.)	Making a version of another artist's work in a new medium
Cubism (n.)	An Art movement begun by Pablo Picasso and George Braque in the early 20th Century in which different sides of an object are shown at the same time.
Pointillism (n.)	This is a method of painting scenes using tiny dabs of pure colour that appear to blend together and form different colours when looked at from a distance.
Landscape (n.)	(1)Pictures of the environment, either natural or built, form imagination or real life. (2) page layout that is wider that it is tall .
Tier 2 Vocabulary	**Definition**
Portrait (n.)	(1) A work of Art where the main subject is a person or people. (2) Page layout that is taller than it is wide.
Abstract Art (n.)	Art that is not representational or realistic, where the visual elements of art (colour, line, tome and shape) are the subject rather than a representation of a person, object or scene.
Surrealism (n.)	An Art movement of the 1920s and 193os. Surrealists explored the unconscious mind and often painted images from dreams. They used automatic drawing techniques where doodles were turned into paintings.

Section B: Techniques and Skills

A watercolour technique is a method, procedure, or process to achieve a particular desired effect when painting in watercolour. Mastering watercolour techniques gives the artist the ability to control the application of watercolours to the painting surface.

Patterns are all around us, in nature as well as in art and design.
We see patterns where shapes, lines or colours are repeated. How complicated a pattern is depending on what is repeated and the way in which it is repeated.

Section C: Artists

Yayoi Kusama is a Japanese artist who is sometimes called 'the princess of polka dots'. Although she makes lots of different types of art – paintings, sculptures, performances and installations – they have one thing in common, DOTS!

Concepts seen before: colour blending, media, pinch pots, composition.

Week Beginning	TASKS Year: 9 Subject: Art Topic: YK Term: 2
08/01/24	❑ Research the artist Kusuma and find 5 facts about her. (You can use this for your artist study) (Section C)
22/01/24	❑ Pick a piece of art by Kusuma and have a go at recreating it yourself using pencil or pens. (If you draw it on a separate piece of paper we can add it to your artist study) (Section C)
05/02/24	❑ Practice repeat pattern (Section B) in the style of Yayoi Kusuma (Section C)

Year 9 – Music - Performing and Expressive - Popular Music – Spring Term 1

Section A: Key vocabulary	
Tier 3 Vocabulary	**Definition**
Disjunct - Adjective	How loud or quiet the music is
Ostinato - Noun	A recurrent theme throughout a musical or literary composition, associated with a particular person, idea, or situation
Conjunct - Adjective	Music intended to create a particular mood or feeling
Melody - Verb	The main melodic idea (the tune you remember from a song)
Lyrics - Noun	The words of a song in popular music
Perform (Solo or Ensemble) - Verb	Usually with an audience people perform on their instruments
Harmony - Noun	Performing as a group
Tier 2 Vocabulary	**Definition**
Repeat - Noun	Something that is done again
Composer - Noun	A person who creates their own music
Chorus - Noun	A section of a song – is repeated throughout a song
Verse - Noun	A section of a song – tells a story

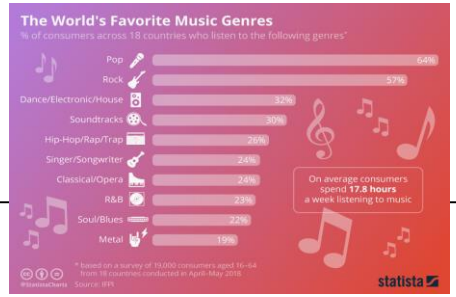
Section B: Key Ideas / Concepts/ Questions

Eduqas 'Popular Music'

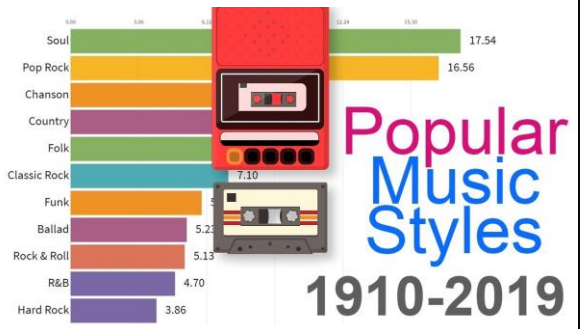
Area of study 4: Popular Music

Popular music is a wide-ranging and diverse art form encompassing several distinct genres. The popular music industry offers a wide range of opportunities for both composers and performers, including singer, song-writer, music producer, arranger and more. Through this area of study learners are encouraged to explore the musical idioms associated with a variety of popular music, and they will have the opportunity to perform popular music as well as compose music associated with a popular music genre. Learners are also encouraged to use music technology, understanding the impact this has on the way music is developed and performed in popular music.

- 32 bar song form
- Strophic
- 12 bar blues
- verse
- chorus
- riffs
- middle 8
- bridge
- fill
- instrumental break
- intros and outros
- improvisation
- loops
- samples
- panning
- phasing
- syncopation
- driving rhythms
- balance
- standard chord progressions
- melismatic and syllabic writing
- lead and backing vocals
- backing tracks
- primary chords
- secondary chords
- cadences.



Section C: Important ideas/concepts



Concepts seen before:

- What is the difference between Classical and Popular Music?
- DR P SMITH acronym musical elements
- Wider listening skills with musical analyse
- Keyboard skills
- Stave notation

Week Beginning	TASKS Year 9 - Music - Popular Music and Production – Spring Term 1
08/01/24	Pick a piece of ‘Popular Music’ which you enjoy and write your reasons using DR P SMITH acronym. This should be two paragraphs long.
05/02/24	Write an extended paragraph on your understanding so far on what ‘Popular Music’ is and its history.

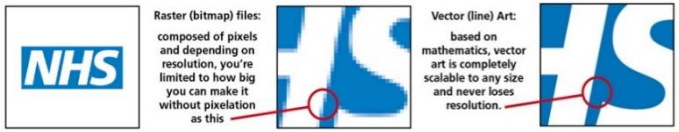
Year 9 - Computing – Photoshop Skills - Spring 1

Section A: Key vocabulary

Tier 3 Vocabulary	Definition
Raster (n)	Images made up of individual pixels.
Pixel (n)	A square/dot of single colour that make up raster images.
Copyright (n)	Legislation that protects peoples work from being copied without the authors permission.
Public domain (n)	Consists of all the creative work to which no exclusive intellectual property rights apply. Making them free to use.
Plagiarism (n)	Taking somebody else's work and saying it is yours.
Tier 2 Vocabulary	**Definition**
Manipulating (v)	To alter, edit, or move images within the computer.
Planning (v)	A series of actions or steps taken in order to achieve a particular end, in other terms planning strategies.
Sourcing/ Referencing (n)	Any Information or Imagery from which something comes, or is obtained. Example being links, books, magazines, video tutorials, etc. In other terms referencing.
Techniques (n)	A way of carrying out a particular task, the execution or performance of a piece of work through skills, software and tools being used.

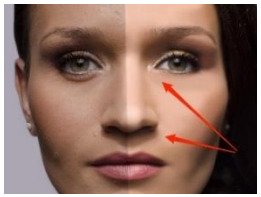
Section B: Raster images

Many different devices can be used to take photography for example digital cameras, phones, tablets and webcams. Photos are captured as **raster** files. This allows us to use software to **manipulate/edit** the **pixels** within the photograph.



Manipulate/editing is when we add, change and remove thing to get the results that we want. Many things can be edited in photographs to create different effects.

We should understand that not all photographs that we see are real. Have you heard the term **Photoshopped/ filters?**



You can change the **colours** in photographs. Different colours can give us different feelings.

You can change the **contrast** of a photograph. This can make the subjects become clearer or more blurry.

When the lighting of the photograph is not right, we can change the **brightness** of the photograph.

There are features that we can add or remove from the photograph whilst editing E.g. removing red eyes.

Section C: Sourcing

When you are using other people's work, it is important for you to be aware of **copyright** and **plagiarism.**

Material can appear freely available, especially on the Internet. Everything appears to be there for your use, but you need to be careful! Just because you can, doesn't mean you should.

Copyright is an automatic right given to authors and other creators to enable them to control who may copy and redistribute their work. As a result, only the copyright holder may copy a work unless……

- a copyright exception says otherwise
- you have the copyright holder's written permission.
- It is **copyright free**
- It is in the **Public domain**

Even with that you need to **reference/source** where the content comes from to show you aren't taking the credit for it, causing **plagiarism**, and breaking **Copyright, Designs and Patents Act 1988.**

Example below:

Sourced from:
https://unsplash.com/photos/DQPP9rVLYGQ

Concepts seen before:
Home – YouTube talking about copyright content
Year 7, 8 – Copyright, Plagiarism
Year 8, 9 – How images are represented

Week Beginning	TASKS Year:9 Subject: Computing Topic: **Photoshop Skills** Term: Spring 1
15/1/2023	Use Look, Cover, Write, Check to learn the key terms spellings.
29/1/2023	Create flash cards (or other method if you do not have flash cards) to of the meanings of the key terms (card with the word on one side and the meaning on the other). Use these to learn the terms.
12/2/2023	Find and write down links for copyright free, stock footage, stock media, public domain websites for images, video and audio for you to use in future projects.

Year 9 –PE –HRF - Spring Term 1

Section A: Key vocabulary

Tier 3 Vocabulary	Definition
Cardiovascular fitness (n)	The ability of the heart and lungs to supply oxygen to the muscles so that the whole body can be exercised for a long time
Muscular endurance (n)	The ability of a group of muscles to repeatedly contract without tiring
Muscular Strength (n)	The amount of force that a muscle can apply against a resistance
Flexibility (n)	The range of movement possible at a joint
Body Composition (n)	The percentage of body weight made up by fat, muscle and bone
Balance (n)	Maintaining the centre of mass over the base of support
Coordination (n)	The ability to use two or more body parts together accurately and fluently
Reaction time (n)	The time taken from the stimulus to the start of a response
Agility (n)	The ability to move and change direction at speed and with control
Power (n)	A combination of speed and strength

Tier 2 Vocabulary	Definition
Identify (v)	Name the key point
Describe (v)	Recall facts, events or process in an accurate way
Explain (v)	Make something clear, or state the reasons for something happening
Evaluate (v)	Using the information supplied to consider evidence for and against when making a judgement
Demonstrate (v)	To show how to do something

Section B: Key Concepts/Ideas/Questions

4 parts to a warm up:
Pulse raiser
Dynamic Stretching
Mobilisation
Skill related activity

Benefits of a warm up:
Increased oxygen supply to the working muscles.
Increased flexibility.
Increased temperature of the body, blood and muscles.
Maximises training intensity and duration
Limits fatigue

Cool down:
Low intensity exercise
Static stretching
Benefits of a cool down:
Recovery
Removal of lactic acid and waste product
Prevention of muscle soreness

Effects of exercise on the body:
<u>Short term</u>
Increased heart rate
Increased breathing rate
Increased body temperature
<u>Long term</u>
Increased strength
Improved components of fitness
Improved recovery rate

Section C: Subject Specific

Methods of Training:

- Continuous training involves exercising at a constant rate, doing activities like running or cycling for at least 20 minutes with no breaks.
- Fartlek training involves changes in the intensity of the exercise over different intervals.
- Interval training involves using fixed patterns of periods of high intensity exercise and either low intensity exercise or rest.
- Weight/Resistance training involves using your muscles against a resistance.
- Circuit training involves between 6 and 10 stations and at each station you complete a specific exercise for a set amount of time before moving to the next station.
- Plyometric training involves explosive strength and power to develop jumping or fast starts.

Each method of training has its own advantages and disadvantages

Heart rate
Your heart rate is the number of times your heart beats per minute
Your maximum heart rate is 220 – Age
Aerobic activity is with oxygen
Aerobic target zone = 60% - 80% of maximum heart rate

Anaerobic activity is without oxygen
Anaerobic target zone = 80% - 90% of maximum heart rate

Concepts seen before:
Effects of exercise on the body

Week Beginning	TASKS Year: 9 Subject: P.E Topic: HRF Term: Spring 1
15.1.24	Create a set of Flashcards for all the keywords in Section A. Then Self test yourself and create a learnt and 'developing knowledge' set of flashcards.
29.1.24	Create a 10 question quiz based on the section A, providing the answers
12.2.24	Create a 10 question quiz based on the section B, providing the answers

Year 9 - Design Technology — Engineering — Coat Hook Project

Key vocabulary	
Vocab	**Definition**
Non Ferrous Metal (N)	A category of metal used in the manufacture of products
Alloys (N)	A category of metal used in the manufacture of products
Precision Engineering (N)	A discipline of engineering that designs and manufactures very accurate components, machines etc
Vernier Height Gauge (N)	Precision measuring equipment used in engineering for marking out
Radius Gauge (N)	A radius gauge, also known as a fillet gauge, is a tool used to measure the radius of an object.
Quality Control (N)	A process used to ensure the quality of a product.
Annealing (N)	a heat treatment that alters the physical properties of a material to increase ductility & reduce brittleness & hardness, making it more workable and functional.
Ductility (A)	A materials ability to be easily bent or stretched without breaking.
Hardness (A)	A materials ability to withstand localized indentation or scratching.
Brittleness (A)	A property of a material that fractures when put under stress – impact, load etc.
Malleability (A)	A materials ability to be (de)formed by rolling, hammering, pressing.
Emery Cloth (N)	A material used during the finishing process of metals.

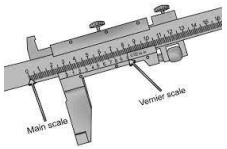
Section B: Important Ideas / Concepts/ Questions

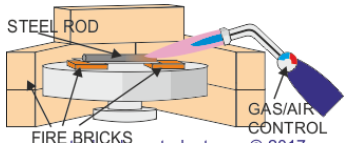
Understanding how to work from an Engineering Drawing: Engineers develop engineering drawings as a primary way to communicate not only what the product looks like but also all other relevant information such as dimensions, tolerances, materials, how its constructed and any hidden details. The drawings can portray Orthographic 2D views of each side or Oblique & Isometric 3D views showing details on 3 different sides of the product.

Understanding Quality Control: Quality Control is used in engineering to ensure the good standard of the work through each stage of a manufacturing process. This in-turn ensures a quality product is manufactured or service is offered to a specific standard

Understanding material properties: Engineers establish the unique working properties of each material so that they can use this knowledge to understand how we can use different processes to manipulate the material to our advantage. In-turn engineers can then select a particular material for a specific function.

Manufacturing Processes: When working with different materials engineers use their knowledge of the materials properties to establish the best manufacturing process needed to achieve the manufacturing goal, for example: **Precision engineering and Annealing**.

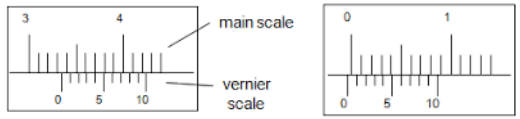




Working safely: Health & Safety regulations are used to keep all people safe within a workshop environment while manufacturing a product.

Section C: Subject Specific

Manufacturing Skills: It is essential that engineers develop skills and knowledge used to work from engineering drawings with specifications so that they can manufacture a quality product to an accurate standard.

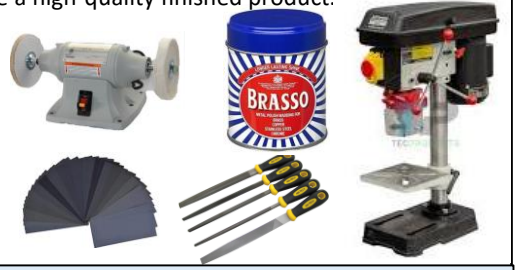


Health & Safety Knowledge: Engineers must study and then show a competency in H&S before they can start any practical work, this includes how to operate all relevant tools and machinery correctly as well as safely

Metal Properties: Engineers must learn how all metals have different properties that enable them to be used for specific functions. The properties of materials establish a materials behaviour.

Annealing is a metal heat treatment manufacturing process that alters the physical properties of a material to increase ductility, reduce brittleness & hardness, making it more workable and functional.

Metal Finishing Process This stage of the manufacturing process is used finishing process to achieve a high-quality finished product.



Concepts seen before: Drawing skills, material categories, , H&S in the workshop, practical skills / tools

Week Beginning	TASKS Year: 9 Subject: Technology (Engineering) Topic: Coat Hook Term: Spring 1
1	Using your knowledge organiser can you please 'Look, Cover, Write & Check' each of the 12 key vocabulary
2	1) Using your knowledge organiser, please identify and state an object or product from around your house whose main property is: a) Hard b) Brittle c) Ductile d) Malleable
4	Using Quality Control techniques of double checking each manufactured feature of all components, pick out a suitable component from around your house and develop a Quality Control document that could be used to ensure the quality of the component you have chosen. Please ensure there are 5 Quality Control questions for the specific component.

Year 9 – Technology - Product Design – Spring Term 1

Section A: Key vocabulary	
Tier 3 Vocabulary	**Definition**
Design movement	A style of design popular during a period of time – for example Art Deco
Isometric	A 3D drawing technique where horizontal lines are drawn at 30º to the base line.
Initial Idea	Concept / initial thoughts – usually quick sketches.
Design Development	Where a design is taken from the initial stages and developed / refined.
Prototype	A working model of a final design which, usually made before full production.
Tier 2 Vocabulary	**Definition**
Icon	Something unique that is remembered and inspires others.
Influence	To have an effect on something. For example, a design movement can influence the design of a product.
Benchmark	standard of excellence, achievement against which similar things must be measured or judged.
Style	The key features of a design.
Trend	A trend is where designs are similar in their inspiration and features.

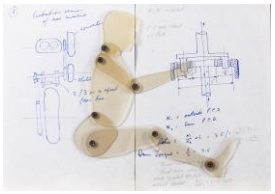
Section B: Key Concepts/Ideas/Questions

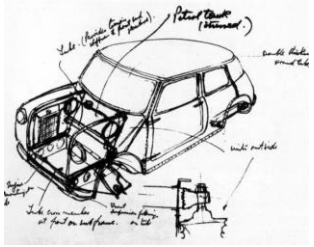
Development of Austin Mini:

The Austin Mini first rolled off the production line in 1959 and was the brainchild of **Alexander Arnold Constantine Issigonis**. It was manufactured by the British Motor Company and was developed as a result of the shortage of petrol during and after the Suez crisis of the 1950s. It had a production run of 5.3 million cars and was the bestselling British car, between 1959 to 2000. During the 1960s it became popular with celebrities and was seen in films and on TV across the world, ensuring that it became design icon. One of its most famous appearances was in the film 'The Italian Job', driven by actors including Michael Cane.
The MINI brand is now owned by BMW and they have produced a series of modern versions of the Mini, also proving to be popular.

Design Evolution

Ideas & development





Section C: Subject Specific

A STYLE BENCHMARK:
The style/shape has evolved but remains essentially the same. It is still a small car with similar curves and lines as the original 1959 car, although a slightly larger version. When comparing the sketches of the 1959 and 2010 Mini cars, the distinct shape of the Mini can be seen. The 1959 'stocky' appearance is still apparent in the 2010 model, despite decades of development. BMW has tried to keep to the original format when styling the car.

A BENCHMARK FOR OTHER MANUFACTURERS:
The Mini has set the benchmark of good design, in terms of style and engineering innovation, for similar cars produced by other manufacturers. There have been many attempts to emulate the style of the mini and its space-saving features. The two sketches on the next page, show the BMW Mini and the Suzuki Swift. The Suzuki Swift is a similar size and shape, clearly aimed at attracting the same customer type. They are competing in the same 'small car' market This emphasises how the Mini has determined design trends amongst other manufacturers.

Previously Seen Concepts
Design Influence
Initial Ideas, Isometric Drawing and Design Development

Week Beginning	TASKS Year 9 Product Design
1	Read the introduction paragraph. Create a mind map using the information in the introduction section of the knowledge organiser
2	Read the style benchmark paragraph. Highlight any key facts that stood out to you. In your exercise books explain what is meant by the style evolving. Use the picture at the bottom of the page to help you.
3	Read the benchmark for other manufacturers paragraph. In the form of bullet points explain what the key points of the paragraph are.

Year 9 - Food and Nutrition—Ready Meal Project – Spring Term 1

Section A: Key vocabulary

Tier 3 Vocabulary	Definition
Additives	A substance added to food to ensure safety, improve shelf life, or improve the taste of food
Allergen	An ingredient that someone could have an allergic reaction to.
Allergy Label	The label on packaging that shows what allergens are present
Gelatinise	The process on starch that thickens liquids, béchamel is an example
Reduce	Simmering a liquid to reduce the water content, creating a thicker mixture
Labelling	The information that is provided on food packaging
Nutritional information	The information about how much nutrients the food contains.
Tier 2 Vocabulary	**Definition**
Claim	A statement about the nutrient content or health benefit the product has
Traffic light label	A label showing nutrients in green, amber and red
Use-by date	The date when a product must be used by, unsafe after this time
Best before date	The date the product is at its best quality. After this it is safe to eat but may not be the best quality

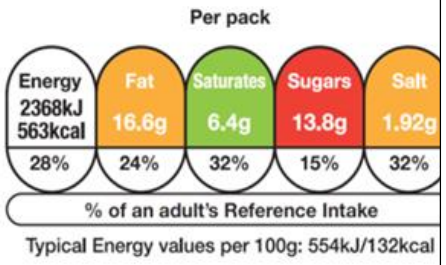
Section B: Food Packaging information

There are 12 bits of information that must be on food packaging by law

- Name of product
- Manufacturer's contact details
- Description of the product
- Weight
- Ingredients
- Cooking instructions
- Shelf life
- Storage instructions
- Conditions of use
- Place of origin
- Allergen and food intolerances
- Nutritional labelling

Nutrient	Low	Medium	High	
Fat	≤3.0g/100g	>3.0g to ≤ 17.5g/100g	>17.5g/100g	>21g/portion
Saturates	≤1.5g/100g	>1.5g to ≤5.0g/100g	>5.0g/100g	>6.0g/portion
(Total sugars)	≤5.0g/100g	>5.0g and ≤22.5g/100g	>22.5g/100g	>27g/portion
Salt	≤0.3g/100g	>0.3g to ≤1.5g/100g	>1.5g/100g	>1.8g/portion

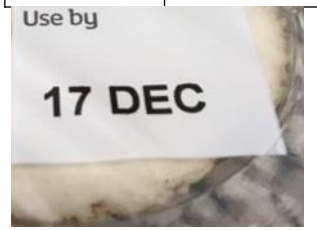
Red, amber and green colours, if used, show at a glance whether a food is high, medium or low for fat, saturates, sugars or
used to compare tw
Many companies pu
the front of the pac

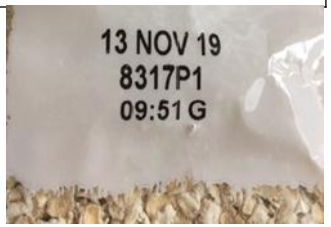


Concepts seen before: Food safety, Saturate and unsaturated fats, key temperatures

Section C: Best before/use by dates

Best before	The date after which foods may not be at their best, although probably safe to eat if stored according to instructions.
Use by	The date given to foods that spoil quickly, such as cooked meats. It is unsafe to eat foods beyond their use-by-date.





Temperatures to remember

To reduce the risk of food poisoning, good temperature control is vital:

5-63°C – the danger zone where bacteria grow most readily.

37°C – body temperature, optimum temperature for bacterial growth.

8°C – maximum legal temperature for cold food, i.e. your fridge.

5°C (or below) – the ideal temperature your fridge should be.

75°C – if cooking food, the core temperature, middle or thickest part should reach at least this temperature.

75°C – if reheating food, it should reach at least this temperature. In Scotland food should reach at least 82°C. Remember to reheat food only once!

Week Beginning (DD/MM/YYYY)	TASKS Year Group—Subject—Topic—Term/Half-Term
1	Use Look, Cover, Write, Check to learn the key terms spellings and definitions.
2	Create flash cards to learn the meanings of the key terms (card with the word on one side and the meaning on the other). Use these to learn the terms.
3	Write a paragraph explaining the differences between use by and best before. Give examples of what you find in your home.

Notes page

Notes page

Your equipment you need for learning every day: