



**BRISTOL
METROPOLITAN
ACADEMY**

Monday 7th September	Week B
Monday 14th September	Week A
Monday 21st September	Week B
Monday 28th September	Week A
Monday 5th October	Week B
Monday 12th October	Week A
Monday 19th October	Week B

Please note: Maths homework will be on an online platform for this term. It will be set and checked weekly separately from the timetable.

Knowledge Organisers

2026-27

Year 9 – Term 1

Complete your homework on the night stated e.g. if it is a Monday Week A you will complete ICT/DT

	Week A	Week B
Monday	ICT/DT	MFL
Tuesday	English	English
Wednesday	Science	Science
Thursday	History	Geography
Friday	RS	Music/Art

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This Knowledge Organiser is to help you see the key information for each subject for this term. You can use this to help you both with homework and with revision, supporting your learning at home. In the table below you will find the instructions for each subject to be completed on the correct day.

Subject	Tasks
Maths	Homework question tasks/sets will be set weekly on an online platform. You will have one week to complete this online, before it is checked for competition and the next set is published.
Science	For term 1 this will be directed by your classroom teacher. It could involve an online platform too.
English	Using the separate question booklet, divide your homework book page in half length ways, write the questions out on the left hand side. First, attempt to answer the questions from memory/your own knowledge. Then use your knowledge organiser booklets to check your answers and fill in the missing ones.
MFL	Find the correct date in the KO and the question booklet. With the list of 10 key words for that week, complete the look – say - cover – write – check method in your homework book. Complete this process for each word/phrase 4 times each.
Geog/Hist/RS /DT	Same process as outlined for English above. DT have 5 questions and not 10.
ICT	For term 1, continue to use the KO to do revision/key words etc in your homework books.
Music/Art	For music and art, you will have two practical tasks to complete each term for each subject. These will be found in the question booklets and will be checked by you classroom teacher.

At the back of this booklet, you will find: Sentence starters, a history chronology, DT sentence starters, a periodic table, maps of the world, subject websites, a RAG sheet and a timetable.

How to present your homework:

Subject written on the left-hand side of the page and underlined.
For example: Food

Topic written on the centre of the page and underlined.
For example: Sugars

One single straight line between both pieces of homework.

Subject: Food Tuesday 25th June 2019

Topic: Sugars

Keyword	Definition
Monosaccharides	
Disaccharides	
Intense sugars	
Polysaccharides	

Subject: English Topic: Macbeth

- Who are the four most important characters in Macbeth?
Macbeth, Lady Macbeth, Banquo and Macduff.
- What are three character traits of Banquo?
Gullible, superstitious and ambitious.
- How would you describe Lady Macbeth?
She is manipulative, cold-blooded and cruel.
- How is Lady Macbeth two-faced?
She is warm and welcoming to Duncan, and then manipulates her husband to kill him.
- What is the name of Banquo's son?
Fleance

Date written fully on the right-hand side of the page and underlined. This should be the day you complete the homework.

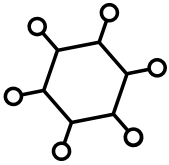
Home Learning Strategies to help you revise

Brain Dump



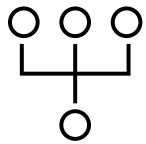
Write down everything you know about a certain topic on a page. Use your KO to add extra notes in a different colour.

Mind Map



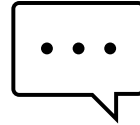
Condense a topic showing the important links and connectors between key parts. Use your KO to add in extra notes.

Diagram



Draw a clear diagram for a subject including labels and key features. Make sure you use correct vocabulary and spellings.

Vocabulary



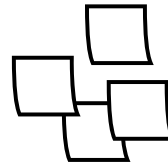
Learn the key words associated with a topic and commit the word and spelling to memory. Test yourself or ask someone else to test you.

Retrieval Quiz



Write key questions about a topic as well as the answers. Use the content of the KO to help you. Check to see if you can remember the answers without looking.

Compare



Complete a comparison table showing two different sides of a topic. Can you use it to create an argument for one viewpoint?

THE ART OF PROTEST



A **protest** is a public expression of disagreement, towards an idea or action.

A **protest** is a mass group that gather for or against a political cause.

It often consists of walking in a mass march formation, beginning with or meeting at a designated endpoint, or rally, to hear speakers.

Symbol- in art and visual language is an image that represents an idea. For example the dove is recognised as a symbol of peace.



ALL POWER



Frank Cieciorka

April 26, 1939 – November 24, 2008)

He was an American graphic artist, painter, and activist.

Member of the socialist party.

Created many protest posters and badges for multiple causes.

Content: In this project you will learn about protest art as well as some graphic design and communication skills.

Knowledge – learn about different artists who have created protest art and how to design a poster or flyer

Understand – how and why artists and designers protest art.

Skills – You will learn how to analyse artists work, improve drawing skills, typography and font design, lino printing skills

Outcome – Posters, flyers, badges that could be used to protest or raise awareness of a cause or issue.

KEYWORDS

Protest
Raise Awareness
Discrimination
Human Rights
Allyship
Cause
Graphic Design
Symbol
Typography
Font
Lino Print
Lino cutting tool
Printing roller
Printing Ink

YEAR 9 TERMS 1-3 KNOWLEDGE ORGANISER PROTEST ART PROJECT



Material:

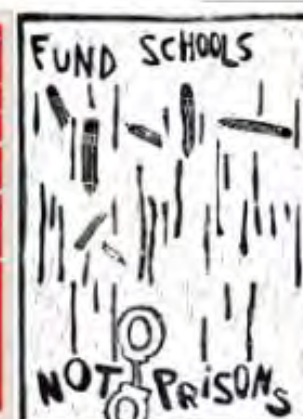
- poster
- work on paper

Date: 1995

- PAPER
- SCREEN PRINT

Dimensions:

22 in HIGH x 17 in WIDE



Computational thinking:

Algorithm:

A sequence of instructions that carries out a task.

Abstraction:

The process of removing unnecessary detail in a problem.

Decomposition:

Breaking down a task into manageable tasks.

Programming:

Pseudocode – A way of representing algorithms using a common language.

Python – A general-purpose programming language.

IDE – Integrated Development Environment. Two examples are **Thonny** and Python IDLE. Benefits:

- + It highlights errors for you
- + Functions are colour-coded
- + Autocomplete and auto-indent
- + Allows debugging with breakpoints
- + Better user interface design



Python



Thonny IDE

Variables:

A memory location where values are stored.

The value can be changed later. E.g.:

```
score = 34
name = "Miss Thomas"
name = input("What is your name?")
pets = int(input("How many pets do you have?"))
```

Data types:

Each variable is associated with a data type.

String – any mix of letters, numbers and symbols, e.g. "apple12" or "Miss Thomas"

Integer – A whole number e.g. 42

Real/float – A decimal number e.g. 3.14

Boolean – True or False

Sequence – Executing instructions in order:

```
score = 34
score = score + 1
print("Your score is", score)
```

Selection – A decision or question. The code makes a choice between two paths:

```
if score > 20:
    print("You rock!")
else:
    print("You should practice more.")
```

Iteration – Repeating or looping code:

```
while timer > 0:
    playGame()
    timer = timer - 1
```

Mathematical operators:

Symbol	Meaning
+	add
-	subtract
*	multiply
/	divide

Comparison operators:

Symbol	Meaning
<	Less than
<=	Less than or equal to
>	Greater than
>=	Greater or equal to
==	is equal to
!=	is not equal to

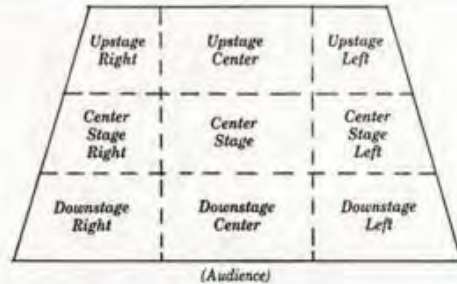
Errors:

Logic error – a fault in the logic or structure of the program.

Syntax error – syntax is the spelling and grammar of a programming language. An error occurs when you type in the code incorrectly.

Stage positioning

Where actors stand while onstage.



Proscenium Arch

An arch framing the opening between the stage and the auditorium. This create a 'window' around the scenery and performers. IT gives everyone in the audience a good view because the performers need only focus on one direction rather than continually moving around the stage to give a good view from all sides. A proscenium theatre layout also simplifies the hiding and obscuring of objects from the audiences view (sets, performers not currently performing, and theatre technology). End on staging is a proscenium without the wings and picture frame.

Audience is predominantly on two sides of the stage, facing towards each other. Also known as alley or corridor stage. Sometimes on end of the stage space may also end in audience, making it similar to thrust or three-quarter round stage. Other times, the ends of the stage are much larger than the traverse stage itself allowing for more space for actors, sets and scenery.



Thrust

A **thrust stage** extends into the audience on three sides and is connected to the backstage area by its upstage end. A thrust has the benefit of greater intimacy between performers and the audience, while retaining the utility of a backstage area. Entrances onto a thrust are most readily made from backstage, although some theatres provide for performers to enter through the audience.

Stage Configurations



Promenade

Promenade theatre is extremely versatile. With no formal stage, and the audience and actors occupying the same space, it allows for experimentation with both new and old plays and explores what the theatrical experience can entail for an audience. In moving the audience around throughout the performance, promenade theatre also pushes boundaries of setting in a way that can't be achieved in regular theatre.



In-the-Round

The audience is seated in a circle around the **stage** or on at least three of its sides. The stage is always in the centre with the audience arranged on all sides. Actors entering and exiting through the audience from different direction.

Playwright	This is the name given to the person who writes the play.
Performer	A performer is an actor or entertainer who plays a role or performance in front of an audience.
Understudy	An actor who studies another's role so that they can take over when needed.
Lighting designer	Responsible for designing the lighting states and, if required, special lighting effects for a performance. The final design will result in a lighting plot which is a list of the lighting states and their cues.
Sound designer	Responsible for designing the sound required for a performance. This may include underscoring, intro and outro music as well as specific effects. The final design will result in a sound plot which is a list of the sounds required and their cues.
Set designer	Responsible for the design of the set for a performance. They will work closely with the director and other designers so that there is unity between all the designs and the needs of the performance.
Costume designer	Designs the costumes for a performance. The costume department of a theatre is often called the wardrobe.
Puppet designer	Designs the puppets for a performance.
Technician	A person who works backstage either setting up technical equipment such as microphones or rigging lights before a production or operating technical equipment during a performance.
Director	In charge of the artistic elements of a production. A director will often have the initial creative idea ('concept') for a production, will work with the actors in rehearsal, and will collaborate with designers and the technical team to realise this idea in performance.
Stage manager	In charge of all aspects of backstage, including the backstage crew. They will oversee everything that happens backstage before, during and after a performance. During the rehearsal period, the Stage Manager and their team will make sure that all props are found or made, scene changes are rehearsed and smooth, and all other aspects of backstage are prepared. They are also in charge of the rehearsal schedule.
Theatre manager	Responsible for and manages the front-of-house team who deal with the audience during the production (for example, the box office manager, ushers and similar staff).

Theatre Roles



Genre/Style

Naturalistic/ Naturalism – Attempts to depict things realistically.

Realism - Attempts to depict things as they actually are

Physical Theatre - The body is at the heart of the storytelling

Musical Theatre – Singing, dancing and acting. For example: Musicals

DocuDrama – A piece of theatre based on a real-life event

Tragedy – Sad or shocking

Historical – Based on a real-life historical event. For example WW1

Theatre in Education – Theatre that goes into school to educate students about a social or personal issue.

Year 9 D&T – Pewter Project

What is pewter?

- Pewter is a malleable metal alloy consisting of tin, antimony, copper, bismuth, and sometimes silver. Modern pewter consists of are 94% tin.
- Pewter has a low melting point (around 170–230 °C) making it ideal for melting on a chip forge and brazing hearth and casting

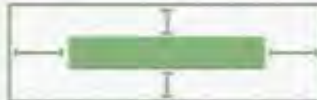
Elements of Design

LINE



A line is a mark between two points. There are various types of lines, from straight to squiggly to curved and more.

SPACE



Space is the area around or between elements in a design. It can be used to separate or group elements

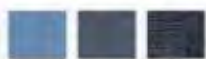
SHAPE



Height + width = shape.
There are three basic shapes: Geometric (triangles, squares, circles etc), natural (leaves, animals, trees, people) and abstract (see image)



TEXTURE



Texture relates to the surface of an object; the look or feel. Concrete is rough; metal is smooth.

2D Design Basic Tools



- SELECT** – Use this tool to select different tools and highlight objects.
- LINE** – This tool creates straight lines. Click to start the line, extend out and click to finish.
- CIRCLE** – This tool creates circle shapes. Click to start the circle, extend to the size needed and click to finish.
- PATH** – This tool creates curved lines through continual clicks.
- RECTANGLE** – This tool can be used to create both rectangular and square shapes.
- TEXT** – Use this tool to insert text onto your designs. The font, size and direction of the text can be changed.
- DELETE PART** – Use this tool to delete separate lines and objects.
- DELETE ANY** – Use this tool to delete whole lines and objects.

Computer aided design (CAD)

Computer aided design now has the capability to design new products in 3D, visualise them in a variety of materials and send images around the world for collaboration and consultation. Once production is finalised, these designs are sent to computer aided manufacture (CAM) machines to be formed. Autodesk and Solidworks are common forms of CAD software used.

Advantages of CAD	Disadvantages of CAD
Ideas can be drawn and developed quickly	Expensive to set up
Designs can be viewed from all angles and with a range of materials	Needs a skilled workforce
Some testing and consumer feedback can be done before costly production takes place	Difficult to keep up with constantly changing and improving technology

Isometric Drawing Shows Objects at 30°

- Isometric drawing can be used to show a 3D picture of an object.
- It doesn't show perspective (things don't get smaller in the distance), but it's easy to get dimensions right.
- There are three main rules when drawing in isometric:

- Vertical edges are drawn as vertical lines.
- Horizontal edges are drawn at 30°.
- Depth edges are drawn at 30°.

This drawing is better as it shows isometric 3D objects. You can use your power tools to '3D print' the object.



Crating Can Be Used to Draw 3D Shapes

Crating is where you start by drawing a box — the 'crate' — and gradually add bits on and take bits off till you get the right shape. For example, you can remove sections from a cuboid to make any other 3D shape.



- When you're sketching a 3D object, it's easier if you imagine it as a basic shape.
- First draw the basic geometric shape faintly.
- Stick to a particular drawing technique — isometric drawing, for example.
- The object can then be drawn within the box.
- Details of the object can be added by drawing more geometric shapes on top.



What is an Alloy?

Definition: A metal alloy is a substance that combines more than one metal or mixes a metal with other non-metallic elements.

Example

Iron + Carbon = Steel
Copper + zinc = Brass

What other alloys can you think of?

Malleable

Definition: A material that can be hammered or pressed into shape without breaking or cracking.

Computer aided manufacture (CAM)

By using Computer aided manufacture, designs can be sent to CAM machines such as laser cutters, 3D printers and milling machines.

Advantages of CAM	Disadvantages of CAM
Fast and accurate production	Expensive to set up
Machines can run constantly on repetitive tasks	Needs a skilled workforce of engineers

Key Text plot summary by scene/chapter/event

1. Opening & Eddie’s Household	Alfieri warns the story will end badly. Eddie, Beatrice, and Catherine prepare for the cousins’ arrival, and Eddie’s controlling behaviour toward Catherine becomes clear.
2. Arrival of Marco and Rodolpho	Marco and Rodolpho arrive illegally. Catherine is drawn to Rodolpho, but Eddie dislikes him and becomes jealous of their growing closeness.
3. Growing Tension in the Household	Catherine and Rodolpho grow closer. Eddie visits Alfieri hoping for legal help, but Alfieri warns nothing can be done and Eddie’s jealousy is dangerous.
4. Boxing Scene & Marco’s Warning	Eddie tries to embarrass Rodolpho by boxing him. Marco silently warns Eddie by lifting a chair, showing he will protect his brother.
5. Eddie’s Breaking Point	Eddie kisses Catherine and Rodolpho in anger and confusion. Feeling desperate, he secretly calls immigration to report Marco and Rodolpho.
6. Immigration Raid & Backlash	Immigration officers arrest the cousins. The community turns against Eddie for betraying them. Marco spits in Eddie’s face, accusing him of destroying their family.
7. Final Confrontation & Tragedy	Eddie demands Marco apologise to restore his honour. Marco refuses. Eddie attacks him with a knife, but Marco turns it back and Eddie dies

Key Characters and biography:

Character	Summary
Eddie Carbone	Overprotective uncle whose jealousy of Rodolpho leads him to betray his family and cause tragedy.
Beatrice Carbone	Eddie’s patient wife who sees the truth and tries to keep the family together.
Catherine	Eddie’s niece, growing independent and in love with Rodolpho, causing conflict with Eddie.
Marco	Hard-working, responsible immigrant who protects his brother and seeks justice after Eddie’s betrayal.
Rodolpho	Cheerful, talented immigrant who loves Catherine and unintentionally sparks Eddie’s jealousy.
Alfieri	Lawyer and narrator who explains the law and warns Eddie he cannot stop the coming tragedy.

Key themes:

1. Justice vs. the Law

The play shows the conflict between **legal justice** (what the law says) and **moral justice** (what the community believes is right).

2. Family and Loyalty

Characters are expected to stay loyal to their family and community, and breaking this loyalty leads to anger, betrayal, and tragedy.

3. Masculinity and Identity

Ideas about what it means to be a “real man” create tension, especially for Eddie, who feels his authority and identity slipping away.

Word	Definition
Becoming	The process of growing, developing, or changing into something over time.
Belonging	The feeling of being accepted, valued, and part of a group or place.
Immigration	The act of moving to a new country to live there permanently.
Justice	Fairness in the way people are treated, including the enforcement of laws and rights.
Honour	A sense of integrity, respect, and doing what is morally right.
Femininity	Qualities or characteristics traditionally associated with women or being female.
Dominant	Having power, influence, or control over others.
Submissive	Willing to accept or obey the authority or control of others.
Loyalty	Being faithful and committed to a person, group, or cause.
Protective	Wanting to keep someone or something safe from harm.
Nationality	The legal status of belonging to a particular country or nation.
Dignity	The state of being worthy of respect and honour.
Reputation	The general opinion or belief about someone or something based on past actions.
Obsessed	Having an overwhelming or uncontrollable focus on something or someone.
Hegemony	The dominance or leadership of one group, nation, or ideology over others.

Writing Mastery / Literacy topics:

I	...ING WORD	SMILING, HER EYES TWINKLED WITH CHARACTER
S	SIMILE	LIKE SMALL, FURRY CATERPILLARS, HIS EYEBROWS SHADED DEEP BLUE EYES
P	PREPOSITION	BENEATH HER PERFECTLY FORMED NOSE, ROSY LIPS CRACKED THE HINT OF A SMILE
A	ADVERB	ANXIOUSLY, HIS PIERCING HAZEL EYES SCANNED THE HORIZON
C	CONJUNCTION	WHEN SHE SMILES, DELICATE LINES APPEAR AROUND HER EYES AND HER FACE LIGHTS UP
E	...ED WORD	WORRIED, HE PLUCKED AT HIS SLEEVE AND A DEEP FROWN APPEARED ON HIS FOREHEAD

Simile

A simile is a comparison that uses like or as.

She is as sweet as pie.

Metaphor

A metaphor directly compares two things.

She is a ray of sunshine.

Idiom

A common expression that means something other than what the words say.

Break a leg!

Personification

Giving human characteristics to non-human things.

The tree was dancing in the wind.

Onomatopoeia

A sound word that makes its sound when you read it.

Pop! Swoosh! Zap!

Hyperbole

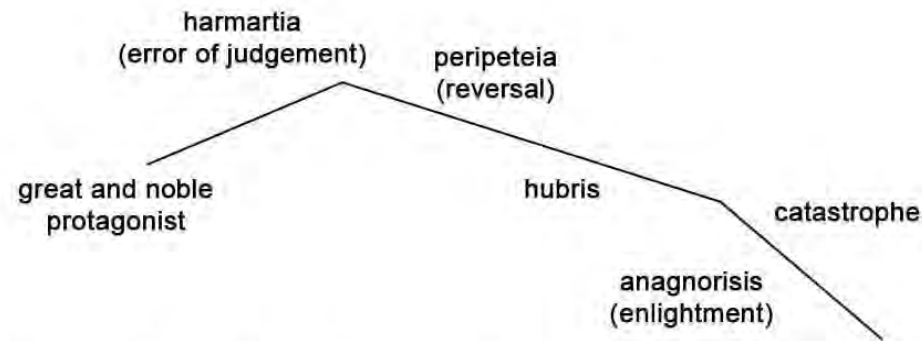
An expression that is an exaggeration.

I'm never going to finish my homework.

Historical Context

- The play was written in **1955**, a time when many people from **Italy** were moving to the United States to find work and escape poverty.
- Many Italian immigrants settled in **Red Hook, Brooklyn**, a tough dockside area where jobs were hard and life was often unstable.
- Communities were close-knit and followed strong traditions about **family loyalty, honour, and protecting your own people**.
- Reporting someone to the authorities — known as “**snitching**” — was seen as a deep betrayal in many immigrant communities.
- The play was also shaped by the political climate of the **1950s**, especially **McCarthyism**, when people in America were pressured to accuse others of being communists, often without evidence.

McCarthyism was a period in 1950s America when Senator Joseph McCarthy accused many people of being communists **without proper evidence**, creating fear, suspicion, and unfair punishment.



Aristotle's Tragic Hero Character Arc

- **Arthur Miller** (1915–2005) was an American playwright who wrote powerful plays about ordinary people facing difficult moral choices.
- He grew up during the **Great Depression**, which influenced his interest in poverty, fairness, and the struggles of working-class families.
- Miller became famous for plays like **Death of a Salesman**, **The Crucible**, and **A View from the Bridge**.
- In the 1950s, he was questioned by the government during **McCarthyism** because he refused to accuse others of being communists — an experience that shaped his writing.

What do we need **proteins** for?Fu
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- Build enzymes and hormones
- Build cell membranes
- Repair and maintain tissues
- Defend the body (antibodies)
- Secondary source of energy

What happens if we have too much or too little?

Ex
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- Kidney and liver diseases
- Weight gain

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- Kwashiorkor
- Slowing growth rate
- Swelling

Protein alternatives

Vegetarians and vegans don't consume meat so instead they use protein alternative products which are manufactured in order to provide protein in a diet and protein rich foods.



Soy chunks



Tofu



Textured vegetable protein (TVP)



Tempeh



Beans, lentils, chickpeas

What do we need **carbohydrates** for?Fu
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- Primary source of energy
- Store energy for later
- Build DNA
- Prevent the body from using proteins as an energy source

What happens if we have too much or too little?

Ex
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- Tooth decay
- Type 2 diabetes
- Weight gain and obesity
- Hyperglycaemia

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- Weight loss
- Lack of energy, tiredness
- Severe weakness
- Hypoglycaemia

What do we need **fats** for?Fu
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- Source of energy
- Insulation
- Dissolve vitamins
- Build hormones
- Build cell membranes

What happens if we have too much or too little?

Ex
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- Obesity
- Hypertension
- Coronary heart disease
- Fatty liver disease
- Type 2 diabetes

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- Weight loss
- Vitamin deficiency
- Heart disease
- Feeling cold

There are two different types of fats

Proteins can denature when:



They are heated



They come into contact with acidic/alkaline ingredients



They are whisked, beaten or kneaded



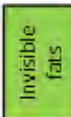
Proteins unravel becoming firm when heated

<https://www.ifst.org/lovefoodlovescience/resources/carbohydrates-gelatinisation>
<https://www.ifst.org/lovefoodlovescience/resources/fats-and-oils-aeration>
<https://www.ifst.org/lovefoodlovescience/resources/fats-and-oils-plasticity>

Visible fats



Fats you can see, such as on meat are often saturated.



Unsaturated fats you cannot see, such as in nuts and avocados. They are often good for the brain,



Butter



Cream



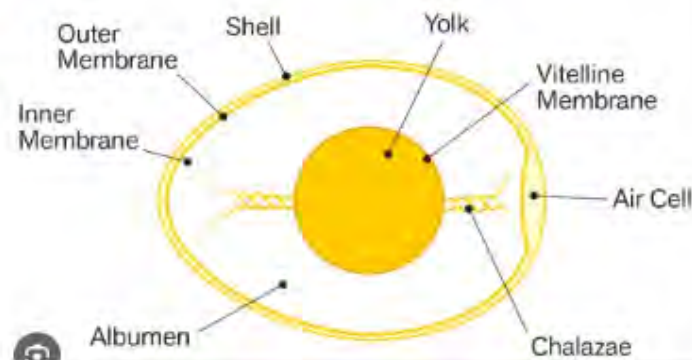
Eggs



Olive oil



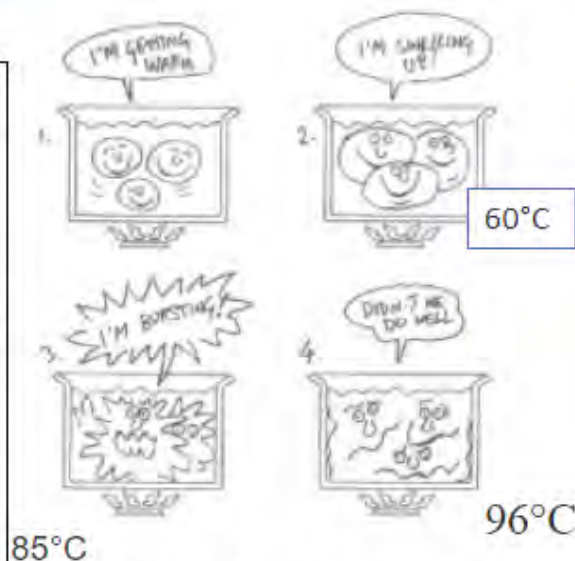
Avocado



The food science bit!

Thickening sauces with starches.

- **Gelatinisation** happens when a **starch** and liquid mixture are heated.
- The water enters the **starch** granules and they **swell** and change texture.
- As more water is taken in, the granules expand, and the mixture becomes **viscous** and **thick**.
- This results in a **gel** which thickens sauces by the process of **gelatinisation**.



Gelatinisation happens when **starch** and liquid such as water are heated together.



What can we do about climate change?

Key words	Definitions
Activism	The policy or action of using vigorous campaigning to bring about political or social change.
Adaptation	The process of change in order to deal with a situation. In this instance, changing behaviours to deal with changes in our climate, learning to live in a warmer world.
Climate Change	a long-term change in the earth's climate, especially a change due to an increase in the average atmospheric temperature
Development	the progress of a country and the linked improvement to quality of life
Enhanced greenhouse effect	Increased global warming due to human activity.
Fossil Fuels	non-renewable energy sources, eg coal, oil and natural gases.
Glacial Period	A period of global lower temperatures.
Inter-glacial	A period of increasing global temperatures.
Mitigation	The action of reducing something. In this instance, actions to reduce greenhouse emissions.
Sustainability	Meeting the needs of the present without compromising future generations to meet their own needs
Extreme Weather	a weather event is significantly different from the average or usual weather pattern. This may take place over one day or a period of time. A flash flood or heat wave are two examples of extreme weather in the UK

Man-made causes of climate change

- Rapid industrialisation
- Deforestation
- Agriculture
- Burning of fossil fuels to produce energy
- Overconsumption

Natural causes of Climate change

Orbital theory



The amount of heat & light (energy) the sun produces changes. Cycles have been detected which show **times when there are more or less energy from the sun.**

Sunspot theory



Volcanic eruptions produce ash and sulphur dioxide gas. If the eruption is big enough, the sulphur and gas is spread around the world by high level winds. This creates a **blanket of sulphur and ash** around the world.

Eruption theory



Big volcanic eruptions can change the earth's climate. Small eruptions have no effect- the eruption needs to be very large and explosive. **This blanket of ash and gas will stop solar energy (sunlight) reaching the earth.**

Mitigation strategies



Using windfarms to generate energy means less energy is generated from fossil fuels: less CO2 entering the atmosphere!



Encouraging bike usage and walking this reduces the amount of driving which reduces the burning of fossil fuels meaning less CO2 entering the atmosphere.

Adaptations



Houses built on stilts prevents housing from being flooded. This saves the owner money but can be expensive.



Tidal barrages are used to prevent flooding in major cities such as London. They prevent tidal waters from entering rivers at high tide.

Long term impacts of global warming

- Glacier's melting
- Sea levels rising
- More frequent extreme weather events (floods, forest fires)
- Loss of biodiversity leading to mass extinction
- Global food shortages

Short term impacts of global warming

- More localised flooding
- Displacement of people (people moving from one area to another)
- Migration of animal species
- Heat waves
- Warmer ocean temperatures

9.9 Technology and Media - German

Technology verb infinitives	
löschen	to delete, erase
hochladen	to upload
chatten	to chat online
Fotos teilen	to share photos
kommunizieren	to communicate
antworten/beantworten	to answer
schaffen	to create
geben	to give
herunterladen	to download
schicken	to send
funktionieren	to work, to function
speichern	to save (data on computer)
sprechen	to speak, to talk
das Internet surfen	to surf the internet
können	to be able to
Fotos nehmen	to take photos
bekommen	to get
simsen	to text
streamen	to stream
benutzen	to use
anrufen/ telefonieren	to call / phone
kaufen/ einkaufen	to buy / shop
lesen	to read
reden	to speak
sammeln	to collect
schreiben an	to write to
schützen vor	to protect against
aufladen	to charge
drohen	to threaten
stehlen	to steal

Technology nouns	
eine Datei	file
Junk-Mail	spam, junk mail
ein E-Mail	email
Computerfestplatte	hard drive
Spiele	games
die Nachrichten/SMS	text message
das Handy/das Smartphone	mobile/smartphone
der Computer	computer
der Laptop	laptop
die Computerspiele	video game
das Lied	song
der Bildschirm	screen
der Post	post
das App	app
der Blog	blog
das Internet	internet
soziale Medien	social media
das soziale Netzwerk	social network
eine Zeitschrift	magazine
Chatroom	chat room
die Kamera	camera
das Gerät	device / equipment
der Tablet- PC	tablet
Die Technologie	technology
WLAN	Wifi

Technology adjectives	
langweilig	boring
alt/altmodisch	old
spannend	exciting
schwer	difficult
kurz	short
modisch	fashionable
langsam	slow
unterhaltsam	entertaining
gruselig	scary
aufregend	stimulating
lehrreich	informative
interessant	interesting
nutzlos	useless
lang	Long
gefährlich / der Gefahr	Dangerous /danger
praktisch	practical
schnell	fast
dumm	stupid
modern	modern
witzig	funny / witty
kreativ	creative
sicher	safe / secure
kaputt	broken
beliebt	popular
traditionell	traditional
einfach	easy
nützlich	useful

9.9 German Technology and Media Knowledge Organiser

3 time frames
Infinitives
Time phrases and connectives

Negative constructions
Opinions and justifications
Comparatives and superlatives

Comparisons

Add 'er' to the adjective. You can't add the word 'mehr' = more.

Er ist **kleiner** = he is smaller es ist **billiger** = it is cheaper

Exceptions are besser (better)/größer(bigger)/älter(older)

Superlative

You add an '-ste' to the adjective, sometimes '-este' to make it easier to say. Fred ist der **Kleinste** = Fred is the **smallest**. Ellie ist die **Lauteste**

Comparing Things

Joe ist älter **als** Fred = Joe is older **than** Fred

Joe ist **weniger** alt **als** Fred = Joe is **less** old **than** Fred

Joe ist **so** alt **wie** Fred = Joe is **as** old **as** Fred

Joe ist **genauso** alt **wie** Fred = Joe is **just as** old **as** Fred

Opinion phrases

Opinion phrases help make your work more interesting- have a look at the list on your vocabulary list. Try to use a range of opinions in your work e.g., ich mag (I like), ich denke, dass (I think that)

Verbs and the present tense in German

When you look up a verb in the dictionary, you find its original, unchanged form which is called the **infinitive** (machen, essen, trinken, spielen, haben, sein, etc.). The infinitive ends in **-en** or **just -n**

Forming the present tense in German

For regular verbs follow the pattern opposite

However, the irregular verbs don't follow the pattern exactly. Your teacher will help you with these. (haben/sein/lesen/fahren)

Opinion phrases

Meiner Meinung nach
Ich denke, dass
Ich glaube, dass
Ich würde sagen
Persönlich
Ich interessiere mich für
einerseits/andererseits

In my opinion

I think that

I believe that

I would say that

Personally

I'm interested in

On the one hand/on the other hand

I find ...great

I am against

Ich finde...toll

Ich bin gegen

Connectives

und
aber
denn/weil
obwohl
außerdem
zum Beispiel
dann
schließlich/endlich
dennoch

and
but
because
however
furthermore
for example
then
finally
nevertheless

Time phrases

heute
normalerweise
ab und zu
am Wochenende
zweimal pro Woche
oft
immer

gestern
vorgestern
Letztes Wochenende
Letzte Woche
Letzten Monat
Letztes Jahr
gestern Abend
vor 2 Tagen/2 Jahren

morgen
in der Zukunft
Nächstes Wochenende
Nächste Woche
Nächstes Jahr

Today
Normally
Sometimes
On the weekend
(Twice) a week
Often
Always

Yesterday
The day before yesterday
Last weekend
Last week
Last month
Last year
Last night
(Two days/years) ago

Tomorrow
In the future
Next weekend
Next week
Next year

Causes of WW1 background: Historians disagree about what caused the First World War. Due to the MAIN causes of WW1 the 'balance of power' between the nations of Europe became unstable. It was a global conflict involving the main European powers and their empires from August 1914 to November 1918.

Key Events

1	1879 – Dual Alliance between Germany and Austria-Hungary signed.
2	1882 – Triple Alliance formed when Italy joined the Dual Alliance.
3	1904 – Entente Cordiale signed between Britain and France.
4	1905 – Germany creates the Schlieffen Plan to avoid facing a war on two fronts.
5	1906 – Britain launches HMS Dreadnought, starting the Naval Arms Race .
6	1907 – Russia joins the alliance with Britain and France, becoming the Triple Entente .
7	28th June 1914 – Assassination of Archduke Franz Ferdinand .
8	28 July 1914 – Austria-Hungary declares war on Serbia WW1 began .
9	1st August 1914 – Germany declares war on Russia.
10	2nd August 1914 – France mobilises in support of Russia.
11	3rd August 1914 – Germany declares war on France.
12	4th August 1914 – Britain declares war on Germany.

Key People

13	Franz Ferdinand	Heir to the throne of Austro-Hungarian Empire. Assassinated by Gavrilo Princip.
14	Gavrilo Princip	A Bosnian Serb from a peasant family, who succeeded to kill Franz Ferdinand, the trigger event for World War One.
15	Kaiser Wilhelm II	The Kaiser was the official head (Emperor) of Germany before and during World War 1.

History – Year 9 Knowledge Organiser Term 1 Causes of WW1



MAIN Causes of WW1

M: Militarism: A country wanting to have a strong army and navy.
A: Alliances: A group of countries that promise to protect and support each other.
I: Imperialism: A act of growing an empire. This brought conflict with other countries keen to expand their empires.
N: Nationalism: The belief that your country is stronger and better than others.

Find out more:

<https://www.bbc.co.uk/bitesize/guides/z4n4jxs/revision/1>

Key Historians

Max Hastings	A military historian who believes Germany was to blame for the start of WW1.
Gerhard Hirschfeld	A modern historian who believes that WW1 was due to the countries in alliances.
Richard Evans	A modern historian who believes that the Serbians are to blame for the start of WW1.

Key Terms

17	The Triple Alliance	The Triple Alliance was the treaty by which Germany, Austria-Hungary and Italy agreed to support each other militarily in the event of an attack against any of them.
18	The Triple Entente	The Triple Entente was a diplomatic and military agreement between France, Great Britain, and Russia, formed in part as a response to the formation of the Triple Alliance.
19	Black Hand Gang	Serbian Nationalist group aimed to unite all Serbian people in a Greater Serbia.
20	Naval arms race	The race between Germany and Great Britain between from 1906 to 1914 following Britain launched the first dreadnought a ship that meant all others were redundant before its awesome fire power.
21	Schlieffen plan	The German idea to avoid a war on two fronts. It would quickly defeat France. It assumed the Russian's would be slow to mobilise. The plan did not work.

Key Skills

Source A: The man in the bath is Kaiser Wilhelm, the leader of Germany.



22	Interpretation	a viewpoint or opinion. <i>What viewpoint is being given in the source about the cause of WW1?</i>
23	Long term cause	Factors or causes which happen a long time before an event takes place.
24	Short term cause	Factors or causes which happen just before an event takes place. Usually a catalyst.

Y9 Maths Term 1**Key ideas**

- Recall key number facts including factors, multiples and prime numbers
- Be able to find product of prime factors and use this to find HCF and LCM
- Apply the product rule for counting to different scenarios

Factors: are numbers that divide exactly into another number

Multiples: appear in the multiplication tables of a given number

Prime numbers: Number with exactly two factors e.g. 2, 3, 5, 7, 11,

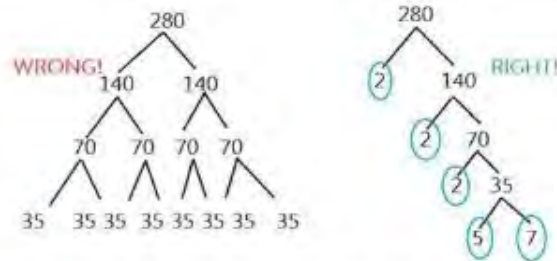
$$2 \times 3 = 6$$

Factor Factor

2 and 3 are factors of 6

Product of Prime Factors: Find the prime factors of a number which multiply to make the original number

Whilst there is often more than one way to do a factor tree, we need to find factor pairs for each branch. These will multiply to make the number above.



Index form: Once we have found the product of prime factors we write the solution in index form (using powers)

For example, using the factor tree above

$$280 = 2 \times 2 \times 2 \times 5 \times 7$$

$$= 2^3 \times 5 \times 7$$

We write them in size order when written in index form

There is often more than one way to draw the tree diagram but you will still end up with the same product of prime factors.

Here we have $60 = 2^2 \times 3 \times 5$ in both cases

**Finding HCF and LCM**

Highest Common Factor (HCF): The greatest number that is a factor of two (or more) other numbers

Lowest Common Multiple (LCM): The smallest positive number that is a multiple of two or more numbers

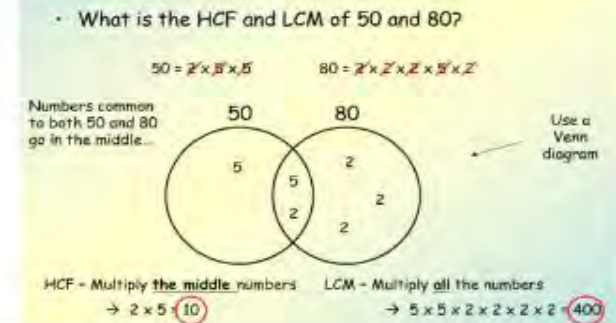
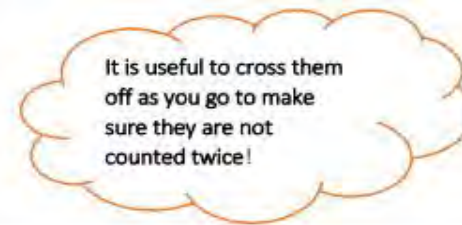
Once we have a factor tree we can use this to find the HCF and LCM of two (or more) numbers.

We do this by using a **Venn diagram**

First we need to find the product of prime factors for each number.

Now we can place them in a Venn diagram.

Common numbers go in the middle of the Venn diagram

**Product Rule for Counting**

Product: The answer when two or more values are multiplied together.

To find the total number of outcomes for two or more events, multiply the number of outcomes for each event together. This is called the **product rule for counting** because it involves multiplying to find a **product**.

A restaurant serves 5 starters, 3 mains and 4 desserts. How many different two course meals can I have?

Option 1: Starter & Main $\begin{matrix} 5 \\ \times 3 \end{matrix} = 15$

Option 2: Main & Dessert $\begin{matrix} 3 \\ \times 4 \end{matrix} = 12$

In total there are $15 + 12 = 27$ options

Katie has 52 different playing cards.

She gives one card to Grace, one card to Bill and one card to Jenny.

In how many different ways can Katie do this?

$52 \times 51 \times 50 = 132,600$

Useful Links:

<https://vle.mathswatch.co.uk/vle/>

<https://www.bbc.com/bitesize>

<https://mathsmadeeasy.co.uk/ks3-revision/>



Film and Game Music

Year 9 – Topic 1

Keywords

Leitmotif – A short piece of music that represents a character

Underscore – Quiet music that plays underneath dialogue

Dialogue – The characters voices

Foley – All non-music sounds

Composer – The person who writes the music

Film score – The music that accompanies a film

Mickey-Mousing – Use sound and rhythm to imitate the action on screen

Genres

Horror Sci-fi Comedy
Romance Action Adventure
Thriller Kids Fantasy
Comic-book Film Noir

Garageband Shortcuts

Cmd + Space = Search

Cmd + T = Cut

Cmd + C = Copy

Cmd + Z = Undo

Cmd + V = Paste

+ (On screen) = Add new instrument

Double Click (on a part) = Edit Music



Key Stage 3 Knowledge Organiser – Core PE Unit 3: Analysis Of Performance

Anatomical Movements		
1	Flexion	Decreasing the angle at the joint.
2	Extension	Increasing the angle at the joint.
3	Adduction	Limb moves towards the mid-line of the body .
4	Abduction	Limb moves away from the mid-line of the body .
5	Rotation	A circular movement around a fixed joint .
6	Circumduction	When the limb moves in a circle .
7	Dorsi Flexion	Bending the foot up towards the shin.
8	Plantar Flexion	Bending the foot downward towards the ground.



Methods of Performance Analysis													
	Method of analysis	Explanation	Example										
9	Verbal feedback	Spoken feedback used to improve performance levels.											
10	Tally chart	Visual information on the number of items or happenings.	<table border="1"><thead><tr><th>Sport</th><th>Votes from kids</th></tr></thead><tbody><tr><td>Football</td><td> </td></tr><tr><td>Swimming</td><td> </td></tr><tr><td>Basketball</td><td> </td></tr><tr><td>Tennis</td><td> </td></tr></tbody></table>	Sport	Votes from kids	Football		Swimming		Basketball		Tennis	
Sport	Votes from kids												
Football													
Swimming													
Basketball													
Tennis													
11	Peer observation	When someone else in the class watches you perform and feeds back to you.											



Year 9 Religious Studies: Situational ethics

Key terms	
Morality	The distinction between right and wrong or good and bad behaviour.
Absolute morality	The belief that what is right will always be right regardless of situation, culture, religious tradition, time or age.
Relative morality	The belief that that different courses of action might be needed/justified in different situations.
Abortion	A procedure to end a pregnancy so that it does not result in the birth of a child.
Sanctity of life	The belief that life is precious or sacred (special). For many religious believers, only human life holds this special status.
Utilitarianism	The theory that states that you should do the action that creates the most happiness for the most amount of people.
Situation Ethics	The theory that states right and wrong always depend on the situation, there are no absolute rules, only to do what is the most loving thing.
Autonomy	The freedom to act on your own values and interests.



Views on abortion

Some of the arguments against abortion

- Every human being, including an embryo or foetus, has the right to live and to reach their potential.
- There are alternatives to abortion, eg adoption.

Some of the arguments for abortion

- A woman has the right to choose whether or not she wants to have the baby. It is her body.
- The embryo or foetus does not have the same rights as the mother.

MY BODY
MY CHOICE

Religious views:

- Roman Catholics believe that life begins at conception and therefore abortion is morally wrong.
- Islamic scholars agree that the termination of a pregnancy for foetal anomalies is allowed before ensoulment
- Most Sikhs accept that life begins at conception and abortion is generally forbidden.
- Majority of religions may allow abortions in certain situations, such as to protect the mother's health.



Views on euthanasia

Some of the arguments against euthanasia

- euthanasia would weaken society's respect for the value and importance of human life.
- it would lead to worse care for the terminally ill

Some of the arguments for euthanasia

- Human beings should have the right to be able to decide when and how they die
- It is expensive to keep people alive when there is no cure for their illness.

CAMPAIGN FOR
DIGNITY
IN DYING.

Religious views:

- Roman Catholic Church teaches that no person has the right to deliberately end the life of another person, or his or her own life.
- Some Christians, however, accept that if a person is terminally ill and in extreme pain or distress, euthanasia may be an act of compassion.
- The Sikh Gurus rejected suicide (and by extension, euthanasia) as an interference in God's plan.
- Islam is against euthanasia. They believe that all human life is sacred because it is given by Allah

Year 9 Religious Studies: Situational ethics

Key terms	
Anti-abortion	opposing abortion and euthanasia.
Pro-choice	advocating the legal right of a woman to choose whether or not she will have an abortion.
Dignity	quality of existing with respect.
Euthanasia	the painless killing of a patient suffering from an incurable and painful disease or in an irreversible coma.
Passive euthanasia	Intentionally letting a patient die by withholding artificial life support such as a ventilator or feeding tube.
Active euthanasia	killing a patient by active means, for example, injecting a patient with a lethal dose of a drug.
Capital punishment	the legally authorized killing of someone as punishment for a crime.
Conscience	The individual feeling of right and wrong a person has

! DEATH PENALTY

Views on capital punishment

Capital punishment in the UK:

The Human Rights Act formally abolished the death penalty in the UK. This means that a public official, including the police or courts, cannot execute someone or sentence them to death as punishment for something they have done. This applies in all circumstances, including during peacetime and times of conflict.

Some of the arguments against capital punishment

- Jesus amended the Old Testament teaching on retribution in Matthew 5:38-39 when he said: You have heard that it was said, 'If anyone slaps you on the right cheek, turn to them the other cheek also.
- Sikhs believe that the punishment that God has set for us collectively and individually is enough and we should not mess with God's plan

Some of the arguments for capital punishment

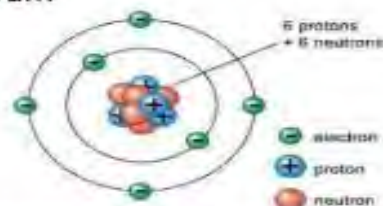
- The Bible sets down the death penalty for some crimes, so it must be acceptable to God. This is often seen as retribution.
- Muslims believe that capital punishment is a most severe sentence but one that may be commanded by a court for crimes of suitable severity.



Who owns my body? Am I special? Are we simply the sum of the chemicals and minerals that make up our bodies or do we have greater worth than that? Whose life is it anyway?



Atom Structure Diagram

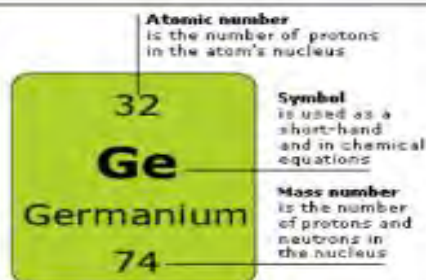


Subatomic Particles

Subatomic particle	Location	Mass	Charge
Proton	Nucleus	1	+1
Neutron	Nucleus	1	No charge
Electron	Shells	0 (negligible)	-1

Atom Symbols

Bigger number is the mass number.
To find neutrons subtract the smaller number



History of Atom



Dalton

Solid sphere
Thomson
Protons/
electrons randomly
arranged

Rutherford/Bohr
Positive nucleus
with electrons
around

Modern Periodic Table

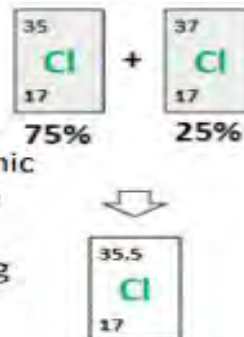
- Arranged by increasing atomic mass (proton number) in rows called periods
- Metals on the left, non-metals on the right

Key

- reactive metals
- transition metals
- post-transition metals
- non-metals
- noble gases
- separates metals from non-metals

Isotopes

- Elements with the same number of protons but different numbers of neutrons
- This explains why relative atomic mass (M_r) isn't always a whole number



H - e.g. M_r of Cl is calculated using
The abundance of each of the
Atomic masses of the isotope
 $(35 \times 75/100) + (37 \times 25/100) = 35.5$

History of Periodic table

- Dimitri Mendeleev was the first to publish an organised table of elements
- He arranged by relative atomic mass
- But he also left gaps so that elements with similar properties were in the same group
- Using the gaps he was able to predict elements that had not been discovered yet

Electronic Configuration

- Using the rules to draw the first 20 elements
- Rule 1



- Rule 2/3

	Group								
	1	2	3	4	5	6	7	0	Number of occupied energy levels
Period 1								2 He	1
Period 2	3 Li	4 Be	5 B	6 C	7 N	8 O	9 F	10 Ne	2
Period 3	11 Na	12 Mg	13 Al	14 Si	15 P	16 S	17 Cl	18 Ar	3
Period 4	19 K	20 Ca							4
	1	2	3	4	5	6	7	8	

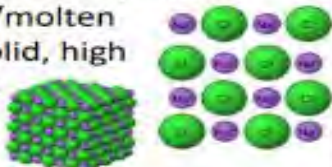
Number of electrons in highest occupied energy level (except for helium)

Ions

- Atoms are more stable with full outer electron shells
- Metals lose electrons resulting in a positive ion. E.g. sodium in group 1 $\rightarrow$ Na^+ ion and calcium in group 2 $\rightarrow$ Ca^{2+} ion
- Non-metals gain electrons resulting in a negative ion, e.g. oxygen in group 6 $\rightarrow$ O^{2-} ion and chlorine in group 7 $\rightarrow$ Cl^- ion

Ionic Compounds

- Positive and negative ions arrange in a regular lattice
- This explains properties including ability to dissolve, conduct electricity when dissolved/molten but not solid, high melting & boiling points

**Fullerenes, Allotropes**C60

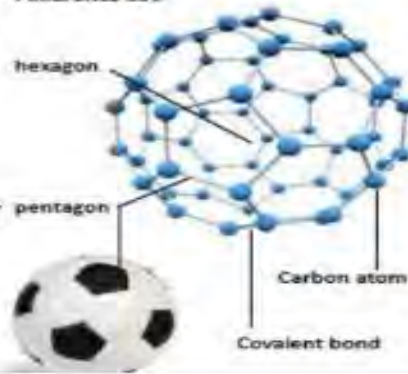
Strong, weak intermolecular forces (like graphite)
Can be used as lubricants

Graphene

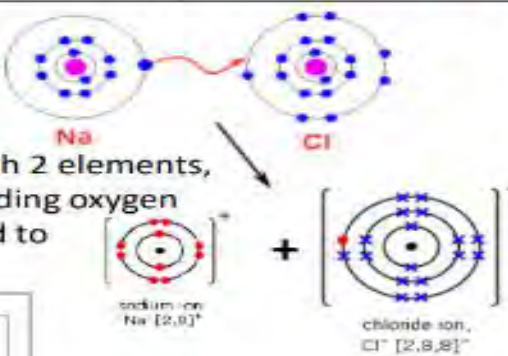
Strong, light, good electrical conductor
Can be rolled into tubes



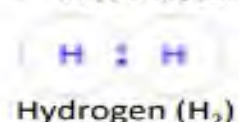
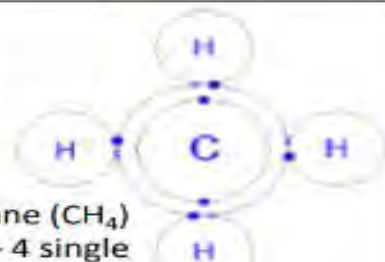
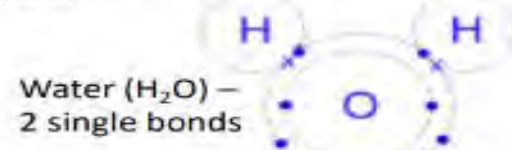
Fullerenes C60

**Ionic Bonding**

- Positive and negative ions are attracted and form a compound
- Compound name –ide with 2 elements, –ate with 3 elements including oxygen
- Use the crossover method to determine the formula

**Covalent Bonding**

- Electrons are shared to complete the outer shell
- Simple molecular, strong bonds between atoms
- Weak between molecules $\rightarrow$ gases at room temp

Hydrogen (H_2)
– 1 single bondOxygen (O_2) – 1 double bondMethane (CH_4)
– 4 single bondsCarbon dioxide (CO_2) – 2 double bondsWater (H_2O) – 2 single bonds**Metallic Bonding**

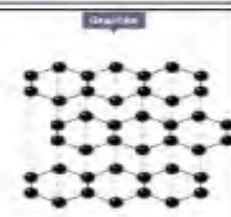
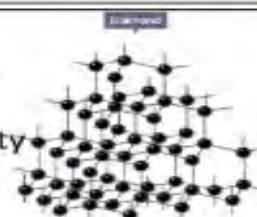
- Metal atoms lose electrons to become positive ions surrounded by a sea of free electrons
- Allows metals to conduct electricity/heat and be malleable

**Bonding Models**

Ball and stick models are limited: they don't show electrons and appear to have large gaps between atoms. Dot and cross diagrams are limited: they are 2D and don't show bond angles.

Giant Covalent Structures, Allotropes

- Bonding between many non-metal atoms
- Diamond, each C atom forms 4 bonds
- Rigid, strong and doesn't conduct electricity
- Used for cutting tools
- Graphite, each C forms 3 bonds leaving a free electron and weak bonds between layers
- Soft, good electrical conductor
- Used as a lubricant

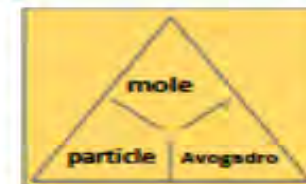
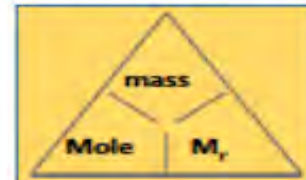


Conservation of mass

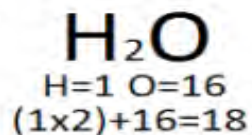
- In a closed system the total mass of the reaction before and after doesn't change
- This is because no atoms are destroyed or created, they are just rearranged
- If mass goes up it's because one of the reactants has joined from the air
- If mass goes down it's because a gas has been released

**H - Moles**

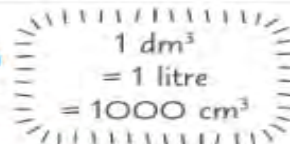
- A mole is an amount of particles equal to Avogadro's constant (6.02×10^{23})
- One mole of any substance will have a mass in grams equal to the relative particle mass (A_r or M_r) for the substance
- The number of particles of substance in a given mass of that substance can be found by using the 1st equation to find the number of moles and the 2nd equation to find the number of particles

**Relative Masses (M_r)**

- To find M_r add the relative atomic mass (A_r) of the elements making up a compound

**Calculating Concentration**

- The more solute dissolved in in a given volume, the more crowded the particles are = more concentrated
- Volume must be in g/dm^3
- 1 gram dissolved in 1 dm^3 = 1 g/dm^3 concentration

**Calculating Reacting Masses**

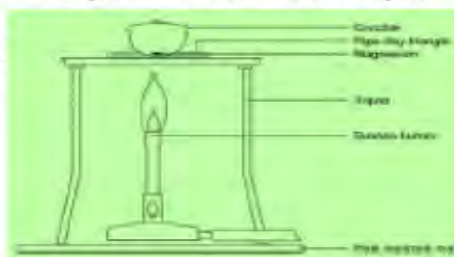
- In reactions there will be a limiting reactant which is used up, other reactants are in excess
1. Write out the balanced equation
 2. Work out M_r of the reactant and product you're interested in
 3. Divide both by the M_r of the limiting reactant
 4. Multiply both by the given mass of the limiting reactant
- To find the mass of limiting reactant needed to make a certain mass of product
1. Write out the balanced equation
 2. Work out the M_r of the reactant and product you're interested in
 3. Divide both by the M_r of the product
 4. Multiply both by the given mass of the product

Empirical Formulae

- Tells you the smallest ratio of atoms in a compound
- To find it divide the molecular formula by the highest common multiple

Compound	Molecular Formula	Empirical Formula
Butane	C_4H_{10}	C_2H_5
Octane	C_8H_{18}	C_4H_9

- Use empirical formula along with M_r to find molecular formula, divide M_r of the compound by the M_r of the empirical formula, then multiply everything in the empirical formula by 2

Experimental Technique

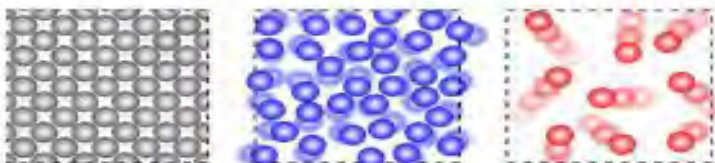
If 9.6g of Mg reacts with 6.4g of O:
 $9.6 / 24$ (A_r Magnesium) = 0.4
 $6.4 / 16$ (A_r Oxygen) = 0.4
 Ratio 0.4 : 0.4 or 1:1 (MgO)

H - Balancing Equations with Reacting Masses

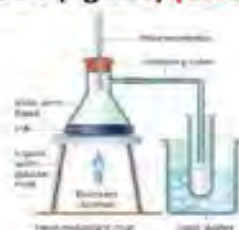
1. Divide mass of each substance by $M_r \rightarrow$ moles
2. Divide all moles by the smallest number of moles
3. Multiply by an amount to make them all whole numbers
4. Write a balanced equation using these numbers

States of Matter (Pg 97)

- Arrangement of particles in the three GCSE states of matter



State	Arrangement of particles	Movement of particles	Attractive forces (None/Few/Many)
Gas	Random Far apart	Fast in all directions	None
Liquid	Random Close together	Move around each other	Few
Solid	Regular Close together	Vibrate around fixed positions	Many

Changes of state (Pg 98)**Distillation (Pg 100) (Core Prac)****Predicting states (Pg 98)**

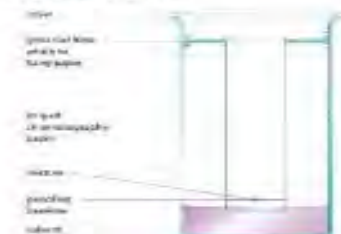
- When given data regarding the melting and boiling point of a substance, you need to be able to predict which state these substances are in given a temperature.
- What state is substance D in at 1000°C?

Substance	Melting point / °C	Boiling point / °C
A	-218.4	-183.0
B	1535	2750
C	1410	2355
D	801	1413

- D is a solid below its' melting point of 801°C and a gas above its' boiling point of 1413°C.
- Therefore, at 1000°C, substance D is a liquid.

Chromatography (Pg 102)**(Core Prac)**

- Uses the different **solubilities** of solutes in the same **solvent** to separate them

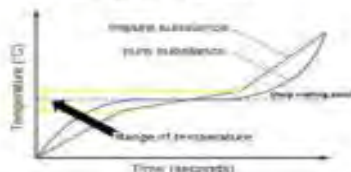


- R_f measured from baseline

$$R_f = \frac{\text{distance moved by chemical}}{\text{distance moved by solvent}}$$

Purity (Pg 99)

- Purity** is the word used to describe a substance where its composition...
 - Cannot be changed
 - Is the same in all parts of the substance.
 - Has a sharp melting point.
- Mixtures** contain elements and/or compounds that are NOT chemically bonded together.
 - Use a physical process to separate mixtures
 - Mixtures do not have a fixed composition.
 - Melts over a range of temperatures.

**Distillation (Pg 100)**

- To separate two liquids with different boiling points

**Fractional Distillation (Pg 100)****Filtration & crystallisation (Pg 101)**

To separate a solid and a liquid

- Filtration** to separate an **insoluble** solid from a liquid
- Crystallisation** to separate a solid **dissolved** in a liquid.

**Water purification (Pg 104)**

- Ground water, waste water and surface water all need **purification**.
- Filtration** to remove solid matter
- Sedimentation** to remove finer particles
- Chlorination** to kill bacteria



- Sea water is purified by distillation.
- Water for chemical tests must be purified or dissolved ions etc. will interfere with the tests.



9.9 Technology and Media SPANISH

TECHNOLOGY VERBS

borrar	to delete, erase
cargar	to load
chatear	to chat online
colgar fotos	to post photos
comunicarse	to communicate
contestar	to answer
crear	to create
dar	to give
descargar	to download
enviar	to send
funcionar	to work, to function
guardar	to save
hablar	to speak, to talk
mandar	to send
navegar la red	to surf the Internet
poder	to be able to
recibir	to receive
sacar fotos	to take photos
transmitir	to stream
usar	to use
utilizar	to use

TV GENRES

las comedias	comedies
los concursos	game shows
los dibujos animados	cartoons
los documentales	documentaries
las noticias	the news
los programas de deporte	sports programmes
las series policiacas	crime series
las telenovelas	soap operas

TECHNOLOGY NOUNS

 el archivo	file
 el correo basura	spam, junk mail
 el correo electrónico	email
 el disco duro	hard drive
 el juego	game
 el mensaje de texto	text message
 el móvil	mobile/smartphone
 el ordenador	computer
 el ordenador portátil	laptop
 el videojuego	video game
 la canción	song
 la pantalla	screen
 la red	internet
 la red social	social network
 la revista (digital)	(digital) magazine
 la sala de chat	chat room
 la tableta	tablet
 la tecnología	technology

FILM GENRES

las películas de acción	action films
las películas de amor	romantic films
las películas de ciencia ficción	sci-fi films
las películas de drama	dramatic films
las películas de suspense	suspense films
las películas de terror	horror films



TECHNOLOGY ADJECTIVES

aburrido/a	boring
antiguo/a	old
animado/a	exciting
confuso/a	confusing
corto/a	short
de moda	fashionable
despacio/a	slow
entretenido/a	entertaining
escalofriante	scary
estimulante	stimulating
informativo/a	informative
interesante	interesting
inútil	useless
largo/a	long
lento/a	slow
peligroso/a	dangerous
práctico/a	practical
rápido/a	fast
ridículo/a	ridiculous
roto/a	broken
útil	useful



THE PERFECT TENSE

HABER

he	(I have)
has	(you have)
ha	(he/she have)
hemos	(we have)
habéis	(you have)
han	(they have)

INFINITIVE

COMUNICAR	→	-ADO
TENER	→	-IDO
ELEGIR	→	-IDO

9.9 Spanish Technology and Media Knowledge Organiser

3 time frames
Infinitives
Time phrases and connectives

Negative constructions
Opinions and justifications
Comparatives and superlatives

Comparatives – to express more or less than

... es más...adjective...que - is more...adjective...than

... es menos ...adjectiveque - is less...adjective... than

... es tan...adjective....como – is as...adjective...as

For example:

Es más grande que su hermano. (He is taller (more tall) than his brother.)

Esta casa es menos grande que nuestra casa. (This house is smaller (less big) than our house.)

Este perro es tan grande como mi gato. (This dog is as big as my cat).

Make a Spanish comparison from good to better or from bad to worse:

Like in English the words for bad and good are irregular. Good > better (bueno > mejor) and bad > worse (malo > peor).

For example:

Esta pizza es mejor que la otra. (This pizza is better than that other one.)

La gripe es peor que un resfriado. (Flu is worse than a cold)

**Notice that the adjective always agrees with the first noun*

Superlatives – to express the biggest, the most interesting etc...

... est el/la/los/las más + adjective – is the most + adjective

....est el/la/los/las menos + adjective - is the least + adjective

For example:

La más inteligente de la clase (the most intelligent in the class)

El menos grande de la familia (the shortest (least tall) in the family)

Adjectives describe nouns e.g. a blue phone.

In Spanish, adjectives normally go after the words they are describing e.g. un móvil azul (a blue mobile phone) and they have to agree with the noun they are describing.

In Spanish, adjectives must agree with the noun (or pronoun) they describe in gender and in number.

This means that if the noun an adjective describes is feminine, the adjective must be feminine e.g.

una televisión negra (a black televisión). If that same noun is also plural, the adjective will be feminine AND plural as well e.g. las televisiones negras (black televisions).

Opinion phrases

En mi opinión

Pienso que

Creo que

Diría que

Personalmente

A mi juicio

Considero que

Desde mi punto de

vista

Lo / Las encuentro

In my opinion

I think that

I believe that

I would say that

Personally

In my opinion

I consider that

From my point of

view

I find it / them

Time phrases

Hoy

Normalmente

De vez en cuando

A veces

El fin de semana

(Dos) veces por semana

A menudo

Siempre

Ayer

Anteayer

La semana pasada

El fin de semana pasado

El mes/año pasado

Anoche

Hace (dos días/años)

Mañana

En el futuro

El fin de semana próximo

La semana próxima

El año próximo

Today

Normally

From time to time

Sometimes

On the weekend

(Twice) a week

Often

Always

Yesterday

The day before yesterday

Last week

Last weekend

Last month/year

Last night

(Two days/years) ago

Tomorrow

In the future

Next weekend

Next week

Next year

Connectives

y

pero

porque

sin embargo

además

por ejemplo

luego

finalmente

no obstante

and

but

because

however

furthermore

for example

then

finally

nevertheless

Year 9 Textiles Knowledge Organiser

Equipment	Use
Bobbin 	A bobbin is a cylinder, to which cotton thread is wrapped around. It is found in the bottom part of a sewing machine.
Overlocker machine 	An overlocker does not replace a sewing machine. Its primary function is to clean finish a raw edge, giving the project a professional appearance.
Quick unpick 	It is used to quickly remove stitches and seams.
Tailor's chalk 	Used to mark on to fabric. It is easily washed off.
Measuring Tape 	It is a flexible ruler that can be used for body measurements, tailoring and dressmaking. It is flexible to measure fabric and curves of the body.

The 6 R's when it comes to sustainability



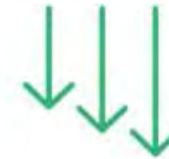
RETHINK



REFUSE



REPAIR



REDUCE



REUSE

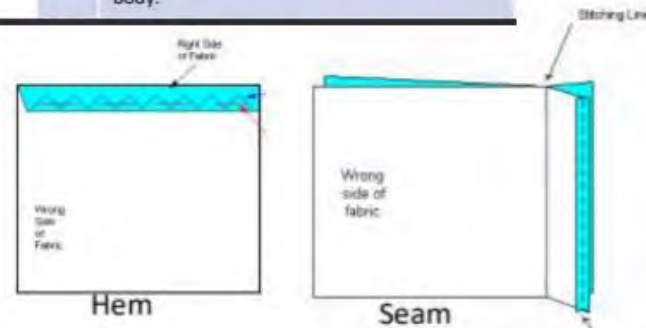


RECYCLE



Batik

Batik is a type of resist printing process in which wax is applied to the fabric in specific areas. When the wax hardens, the fabric is submerged in dye. The wax prevents the dye from reaching the fibers. The fabric is then boiled to remove the wax. This fabric-dyeing method makes cotton look cracked. Batik is characterised by a unique, nearly pattern-less appearance.

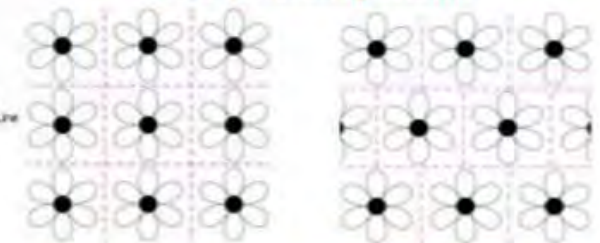


What is the difference between a hem and a seam?

A hem is a neat non fraying edge made by folding fabric over and stitching it down. A seam is a line along which pieces of cloth are joined by sewing.



The motif has been repeated to make two different patterns



plain repeat pattern

brick repeat pattern/
offset repeat pattern

Textiles Hierarchy of Key words

Tier 3 Academic keywords.	analyse embellishment Woven/ bonded/ knitted Free machine embroidery	Plain seam sustainable function develop
Tier 2 Valuable keywords used in most lessons every lesson.	Complementary colours contrast compare context effect	environment fastening embroidery equipment appliqué improve
Tier 1 Basic keywords used in almost every lesson.	colour pattern theme thread	design machine line Fabric shape Texture tone sew

Use these in your writing and speaking

Use connectives to link each paragraph!	Explain an idea: - Although - Except - Unless - However - Therefore	Sequencing: - Firstly - Secondly - Next - Finally - Since
Adding to: - Furthermore - Also - As well as - Moreover	Cause and effect: - Thus - So - Therefore - Consequently	Contrasting: - Whereas - Instead of - Alternatively - Otherwise - Then again
To empathise: - Above all - Ultimately - Especially - Significantly	To compare: - Likewise - Equally - In the same way - Similarly	Give examples: - Such as - For example - In the case of - As revealed by - For instance

Sentence starter phrases

Most people would agree...
Only a fool would think...
We all know...
A sensible idea would be...
The fact is that...
Surely you would agree that...
Without a doubt...
I am certain that...
Some people might argue...
However...
Also...

DESCRIBE



I believe that...
I think that...
The main idea is...

EXPLAIN



This means that...
Therefore...
This maybe because...

JUSTIFY



This is positive because...
This is negative because...
It is useful/not useful because...

ANALYSE



One strength is...
One weakness is...
One argument is...

EVALUATE

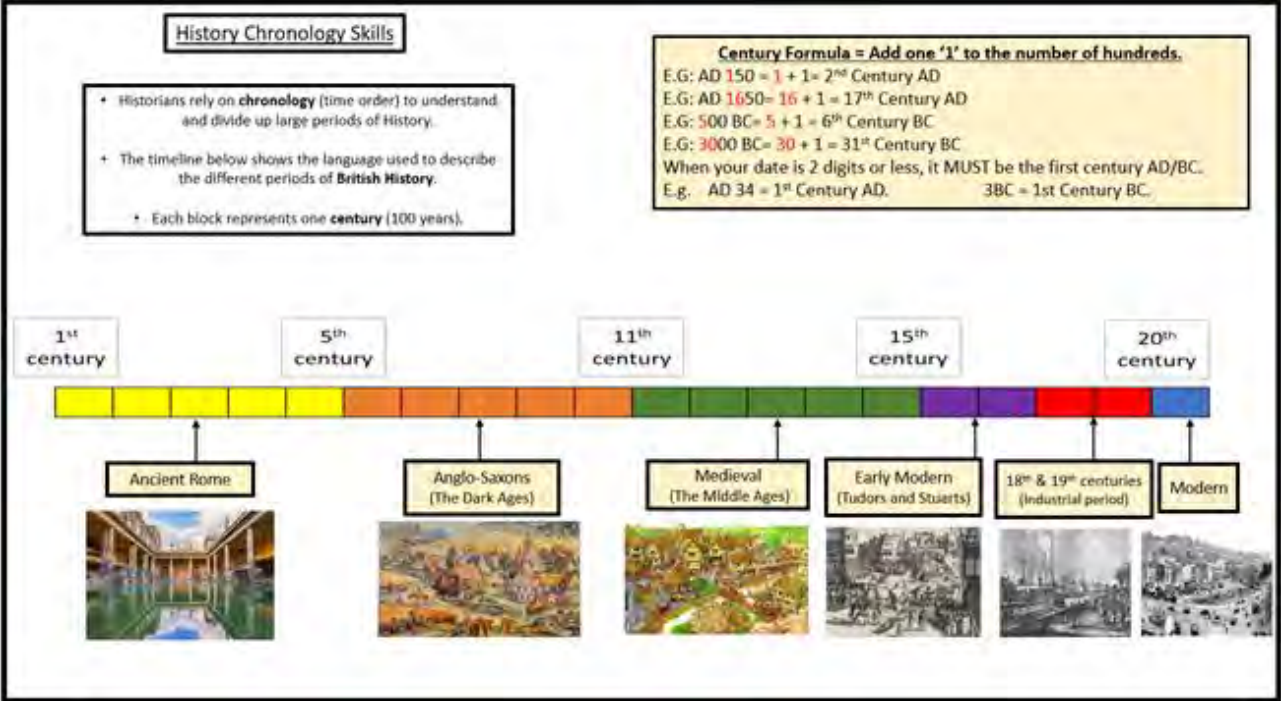


One advantage is...
One disadvantage is...
The best option is...

COMPARE AND CONTRAST



One similarity is...
One difference is...
On the other hand...



Use these in your writing and speaking in DT



Design and Technology Keywords

Food and Nutrition	Design and Technology	Textiles
Caramelisation	Carbon footprint	Plain seam
Aeration Amino acids	Planned Obsolescence	analyse sustainable
Plasticity Shortening	Iterative Design Tolerance	embellishment
Denaturation	Technology Push	Woven/ bonded/ knitted
Coagulation	Anthropometrics	Free machine function
Gelatinisation	Consumer Social Footprint	embroidery develop
Emulsification	Ergonomics Forming Processes	
Pasteurisation		
Unsaturated Protein	Aesthetics Target Market	Complementary colours
Radiation Saturated	Properties Deciduous	contrast environment
Carbohydrates	Automation Coniferous	fastening
Conduction	Functionality	compare embroidery
Deficiency	Primary Source Sustainability	iron equipment
Digest Convection	Continuous Improvement	context appliqué
Cross-contamination		effect improve
Micro-organisms		
Flavour Claw grip	Cost Customer	colour design shape
Texture Aroma	Materials Annotation	machine
Nutrients	Product	pattern line Texture
Energy	Safety Environment	theme tone
Appearance Bridge hold	Design Prototype	thread Fabric sew
Mix Smell	User	



Sentence Starters - DT

I have designed...because
My project was about...
I found... during my research
My design is suitable for...
I have learnt how to...
The most enjoyable part of my project was....
The area I found the most challenging was...
Equipment I have used include...
I would improve my work by...
I am pleased with my finished product because...



Sentence Starters- Food and Nutrition

In order to work hygienically/safely I made sure I
I worked safely when in the kitchen by...
If I could improve any skill, I would improve...because...
Overall, I am happy/unhappy with my progress/dish because....
The texture of my dish is... this is because...

Sentence starters- Textiles

I have designed....
The context of my design is...
My research is useful because...
By researching, I am able to.....
By researching I have found out....
I researched into....
My design is suitable for.....
My design is based upon...
I have planned to..
The order I will work in is...
The most enjoyable part of m project was...
The area I found most challenging was...
I am most pleased with...
I am pleased with my finished project because...
Equipment I used was...

The periodic table of the elements

1	2											3	4	5	6	7	0	
Key relative atomic mass atomic symbol name atomic (proton) number																	1 H hydrogen 1	4 He helium 2
7 Li lithium 3	9 Be beryllium 4											11 B boron 5	12 C carbon 6	14 N nitrogen 7	16 O oxygen 8	19 F fluorine 9	20 Ne neon 10	
23 Na sodium 11	24 Mg magnesium 12											27 Al aluminium 13	28 Si silicon 14	31 P phosphorus 15	32 S sulfur 16	35.5 Cl chlorine 17	40 Ar argon 18	
39 K potassium 19	40 Ca calcium 20	45 Sc scandium 21	48 Ti titanium 22	51 V vanadium 23	52 Cr chromium 24	55 Mn manganese 25	56 Fe iron 26	59 Co cobalt 27	59 Ni nickel 28	63.5 Cu copper 29	65 Zn zinc 30	70 Ga gallium 31	73 Ge germanium 32	75 As arsenic 33	79 Se selenium 34	80 Br bromine 35	84 Kr krypton 36	
85 Rb rubidium 37	88 Sr strontium 38	89 Y yttrium 39	91 Zr zirconium 40	93 Nb niobium 41	96 Mo molybdenum 42	[98] Tc technetium 43	101 Ru ruthenium 44	103 Rh rhodium 45	106 Pd palladium 46	108 Ag silver 47	112 Cd cadmium 48	115 In indium 49	119 Sn tin 50	122 Sb antimony 51	128 Te tellurium 52	127 I iodine 53	131 Xe xenon 54	
133 Cs caesium 55	137 Ba barium 56	139 La* lanthanum 57	178 Hf hafnium 72	181 Ta tantalum 73	184 W tungsten 74	186 Re rhenium 75	190 Os osmium 76	192 Ir iridium 77	195 Pt platinum 78	197 Au gold 79	201 Hg mercury 80	204 Tl thallium 81	207 Pb lead 82	209 Bi bismuth 83	[209] Po polonium 84	[210] At astatine 85	[222] Rn radon 86	

* The elements with atomic numbers from 58 to 71 are omitted from this part of the periodic table.

The relative atomic masses of copper and chlorine have not been rounded to the nearest whole number.





Subject websites

These websites will help you with homework, reading around the subject and revision

English

<https://www.sparknotes.com/> - *Macbeth, A Christmas Carol, An Inspector Calls*

<https://app.senecalearning.com/> - *Macbeth, A Christmas Carol, An Inspector Calls, Power and Conflict Poetry*

<https://www.bbc.com/bitesize> - *Macbeth, A Christmas Carol, An Inspector Calls*

Maths

<https://corbettmaths.com/>

<https://vle.mathswatch.co.uk/vle/>

<https://www.mathspad.co.uk/>

Science:

<https://www.bbc.com/bitesize>

<https://www.senecalearning.com/>

<https://www.memrise.com/>

Geography

Time for Geography - videos (mainly focused on physical processes)

Bitesize

Cool Geography

History

Seneca Learning

BBC bitesize - use Edexcel resources for GCSE.

Art Websites

<https://www.tate.org.uk/>

<https://www.bbc.co.uk/bitesize/subjects/z6f3cdm>

<https://www.incredibleart.org/>

Computer Science and IT.

www.mrahmedcomputing.co.uk

Drama

<https://youtu.be/VeTpob9LBM8>

<https://youtu.be/wlSEU13mRBE>

<https://www.bbc.co.uk/bitesize/guides/zsf8wmn/revision/1>

DT:

<http://www.mr-dt.com/>

<http://technologystudent.com/>

<https://www.senecalearning.com/>

PE

<https://www.bbc.com/bitesize/examspecs/ztrcg82>

<https://sites.google.com/view/ocrgcseperevision/home>

RS

KS3 <https://www.bbc.co.uk/bitesize/subjects/zh3rkqt>

Timetable

	Monday	Tuesday	Wednesday	Thursday	Friday
Tutor time					
Lesson 1					
Lesson 2					
Break					
Lesson 3					
Lesson 4					
Lunch					
Lesson 5					
Lesson 6					