



Year 9 Knowledge Organiser

**Autumn Term
2021/22**

Name:

Form:

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Instructions for using your Knowledge Organiser

Every school day, you should study 1 to 2 subjects from your knowledge organiser for homework lasting at least 1 hour in total.

On pages 6 and 7 there is space for you to record the subjects you have studied to make sure you are giving equal time to all of them. Your parent should sign off your homework each evening on these pages.

Your parent should also sign your reading log on pages 8 and 9.

You can use the note pages in this booklet to help with your studies.

You need to bring your Knowledge Organiser to school every day. It will be checked regularly during form time.

You will be regularly tested on knowledge contained in this booklet in your lessons and through quizzes on Show My Homework.

Self- testing

You can use your Knowledge Organiser in a number of different ways but you should not just copy from the organiser. Use the following tips and guidance to help you get the most out of learning and revising your subject knowledge.

These are some possible tasks you could try:

- Ask someone to write questions for you
- Write your own challenging questions, leave them overnight and try answering them the next day
- Create mind maps
- Create flash cards
- Put the key words into new sentences
- Look, write, cover and check
- Write a mnemonic
- Use the 'clock' template to divide the information into smaller sections
- Give yourself a spelling test
- Give yourself a definition test
- Draw images and annotate/label them with extra information
- Do further research on the topic
- Create fact files
- Create flowcharts
- Draw diagrams

How to self- test with the knowledge organiser

The Knowledge Organisers are designed to help you learn a wide range of knowledge, which will, in turn, mean you are more prepared for your lessons and make even better progress.

To get the most out of your Knowledge Organiser you should be learning sections and then self-testing.

Look, Cover, Write, Check, Correct

This should be familiar to you from primary school.

First Look, then cover this column	Next try to answer/give definition/spell	Now Check to see if you were right	Finally Correct those you got wrong
Look	Write	Check	Correct
Noun	Person place or thing		
Belief	Something you believe	X	Accept true without proof

Questions/Answers, Answers/Questions

Ask a parent, carer, study partner to write you questions (or answers) and then you write the answer (or possible question that would respond to that answer).

You can also write your own questions but if you do this leave it until the next day before you answer them to see what you can remember after a break.

Always remember to check and correct

Flashcards

These are a very good and simple self-testing tool.

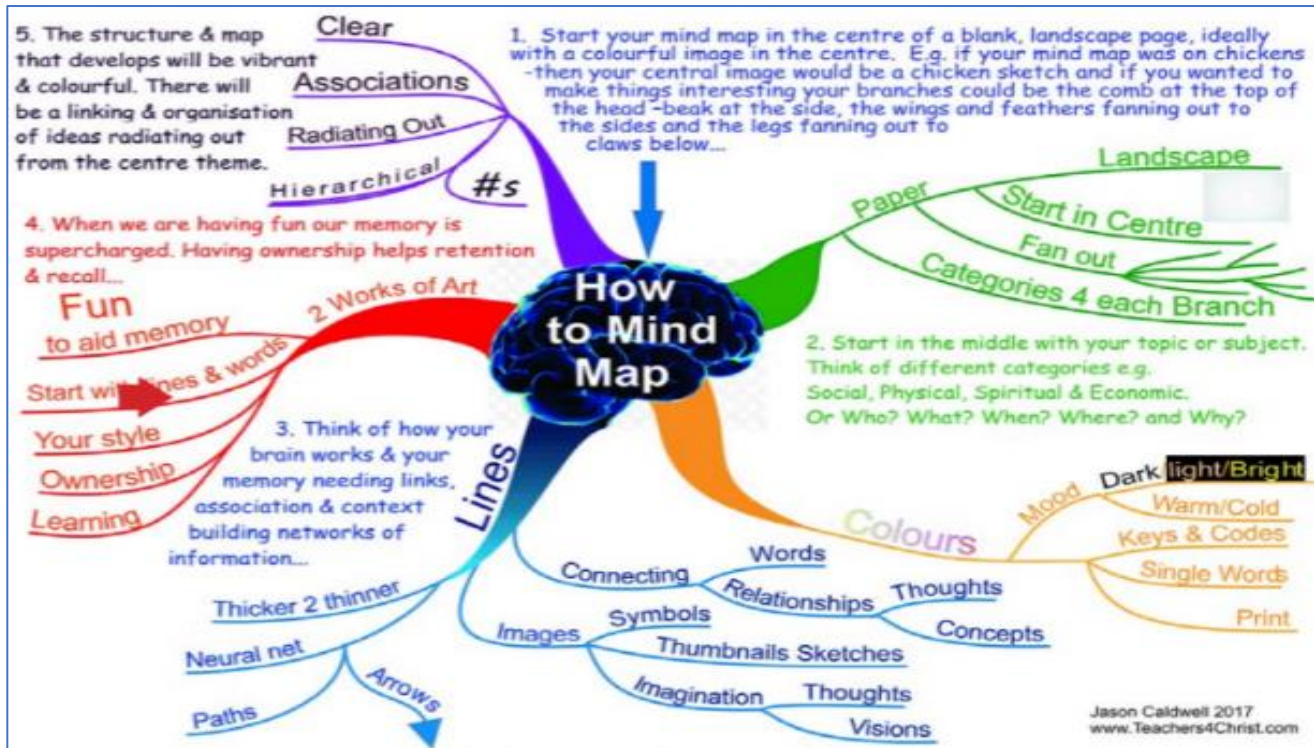
To make your own, take some card and cut into rectangles roughly 10cm x 6cm. Write the key word on one side and the definition on the other.

Then go through your cards looking at one side and seeing if you can remember the keyword/definition on the other side.

Mind Maps

Mind mapping is a process that involves a distinct combination of imagery, colour and visual-spatial arrangement. The technique maps out your thoughts using keywords that trigger associations in the brain to spark further ideas.

Once you have made your map, cover it and test yourself on different strands, e.g. how much of the 'Lines' strand can you recall.



Clock Learning

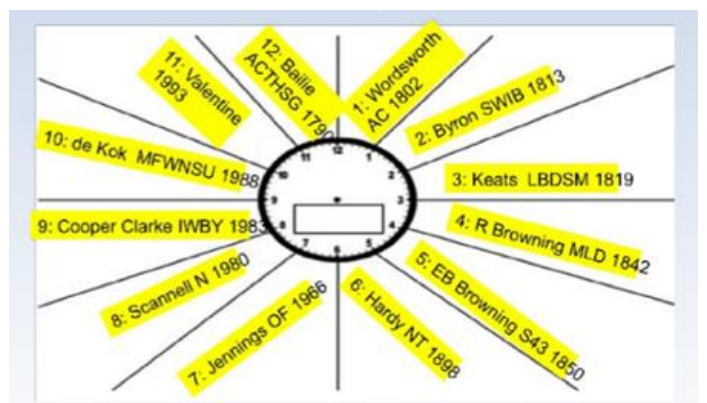
For this technique, draw a basic clock.

Take a subject or topic and break it down into 12 sub-categories.

Make notes in each segment of the clock. Revise each part for 5 minutes.

Now the clock over and try and write out as much information as you can from one of the segments.

Clocks can also be used to help to visualise a timeline



Homework log and parental check

Week 1	Subject 1	Subject 2	Signed
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			
Week 2	Subject 1	Subject 2	Signed
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			
Week 3	Subject 1	Subject 2	Signed
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			
Week 4	Subject 1	Subject 2	Signed
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			
Week 5	Subject 1	Subject 2	Signed
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			
Week 6	Subject 1	Subject 2	Signed
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			
Week 7	Subject 1	Subject 2	Signed
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			

Homework log and parental check

Week 8	Subject 1	Subject 2	Signed
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			
Week 9	Subject 1	Subject 2	Signed
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			
Week 10	Subject 1	Subject 2	Signed
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			
Week 11	Subject 1	Subject 2	Signed
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			
Week 12	Subject 1	Subject 2	Signed
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			
Week 13	Subject 1	Subject 2	Signed
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			
Week 14	Subject 1	Subject 2	Signed
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			

Reading log

Use this reading log to record the books you read along with how long you have spent reading and the Accelerated Reader quizzes you have completed.

Week	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Book(s) read (title and author)	Total time spent reading	Parent/Guardian /Staff signature
1										
2										
3										
4										
5										
6										
7										

Reading log

Use this reading log to record the books you read along with how long you have spent reading and the Accelerated Reader quizzes you have completed.

Week	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Book(s) read (title and author)	Total time spent reading	Parent/Guardian /Staff signature
8										
9										
10										
11										
12										
13										
14										

Art – Illustrative Art – Automatic Drawing:

Automatic Drawing: A drawing technique developed by surrealists as a way of expressing the subconscious. In automatic drawing, the hand can move randomly and freely across the paper.

Art Specific Language and Terms	
Contemporary Art	Contemporary art is the art of today, produced in the second half of the 20th century or in the 21st century.
Control	How carefully you work with a specific media.
Extended Drawing	When you are given a starting point for a drawing and then complete the drawing using your own creative imagination.
Doodle	Random, thoughtless drawings on whatever topics happen to be flowing through the artist's' head.
	Composition
	Where you place objects / imagery on the page or in a space.
	Illustrator
	A person who draws or creates pictures for magazines, books, advertising, etc.
	Mono-chromatic
	When something only contains one colour or is black and white.
	Murals
	A mural is a painting or illustration applied directly onto a wall, ceiling or other permanent surfaces.

Illustration as a form of art:

An illustration is a drawing, painting or printed work of art which explains or visually represents something or a particular story. Historically, book illustration and magazine/newspaper illustrations have been the predominant forms of this type of visual art, although illustrators have also used their graphic skills in the fields of poster art, advertisements, comic books, animation, greeting cards & cartoon-strips.

Lucy

McLauchlan:

Lucy is an artist from Birmingham. She makes murals, installations, painting, and other types of mixed media work. The images are often complex black and white patterns and recently she has explored the abstract forms created by large brush strokes.



Grand union canal



Out of the circle



It takes two

Art – Illustrative Art – Printmaking:

Screen printing: a printing technique where a mesh or screen is used to transfer ink onto a surface, except in areas made impermeable to the ink by a blocking stencil.

Art Specific Language and Terms		
<p>Contact Printing (Cyanotypes & Chemigrams)</p>	<p>Cyanotypes- photographic prints created by placing objects onto cyanotype paper and exposing to UV light. Chemigrams- objects dipped into photographic chemicals and then placed onto photo paper.</p>	<p>Reduction Lino Printing</p>
<p>Relief Printing</p>	<p>Relief printing is a printing method where a printing block or plate is created by removing/cutting away negative sections of an image or by adding layers to create a raised surface (collagraph). Ink is then applied to its surface, but not to any recessed areas and then brought into contact with paper. Pressure is applied to transfer the ink either by hand or by using a printing press.</p>	<p>Photo-emulsion (Screen printing)</p>
		<p>Producing reduction lino prints involves cutting and inking several layers from a single lino block to create a multi-coloured print.</p>
		<p>An emulsion which is 'scooped' across the mesh of a screen and then exposed to ultra-violet light, through a film or transparency printed with the required design. This hardens the emulsion in the exposed areas but leaves the unexposed parts soft. They are then washed away using a water spray, leaving behind the desired image.</p>

Lino Printing:

Lino printing is a form of fine art printmaking where the printing plate is cut into lino. The lino is then inked, a piece of paper placed over it, and then run through a printing press or pressure applied by hand to transfer the ink to the paper. The result is a linocut print. The advantage of this printing method is that multiple prints can be made allowing for experimentation of colour and layering of colour.

Examples of Artists that use Printmaking Techniques:



Screen printing
Shepard Fairey, Eye 2009



Cyanotype
Anna Atkins



Lino cut
Brian Reedy

Key words	
Fixed Term Parliament Act 2011	A law created by Parliament that states a General Election must take place every five years.
Democracy	A system of government based upon the consent of the people through an open and fair electoral system.
Legislator	The body that makes new laws – fancy name for Parliament.
Legislation	A law that has been passed in Parliament and must be followed.
Non-democratic	A political system of government that lacks some or all of the elements that make up a democratic political system.
First Past the Post	The voting system used in UK general elections. The person with the most votes wins a seat in Parliament, even if they only win by a single vote.

Laws are made by Parliament. They must pass through Commons, Lords and get approval from the Monarch.

Government is formed from the winning party elected in a General Election. The winners are the party with the most seats.

MPs work in the House of Commons and Peers work in the House of Lords. MPs are elected and Peers are appointed.

Government vs. Parliament

The winning party in a general election form the government

Known as the 'executive' elected to run the country

At its centre is the cabinet – a group of important, senior MPs with specific roles.

Known as the legislature

Debates and discusses new laws, can also remove old laws

Includes the Queen, Government, MPs and Peers

Challenges and scrutinises the government

Question time!

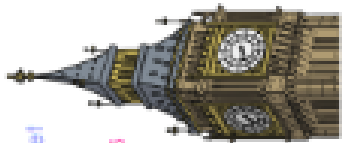
The Head of State in the UK is...?

Who is the symbolic head of the Commonwealth?

How do Life Peers get their job?

The UK constitution is uncodified... True or false?

When was the Magna Carta originally introduced?



Democratic vs Undemocratic CASE STUDY

United Kingdom	North Korea
Choice of candidates to vote for	Only one candidate to vote for
Allowed to vote in private (secret ballot)	Voting in private is seen as disloyal and disrespectful
Anyone can become a candidate	Only pre-approved loyal people can be candidates
You have the right to choose whether to vote or not	Everyone must vote – those who do not are punished




Brush up on your skills

Critical enquiry - Looking into a topic in detail. Questioning different opinions and seeking to discover a range of other views.

Informing opinions - Giving other people information in order to try and change their opinions and views.

Active Participation - Taking part by becoming involved; doing something or saying something to try and make a change or make a difference.

Making connections

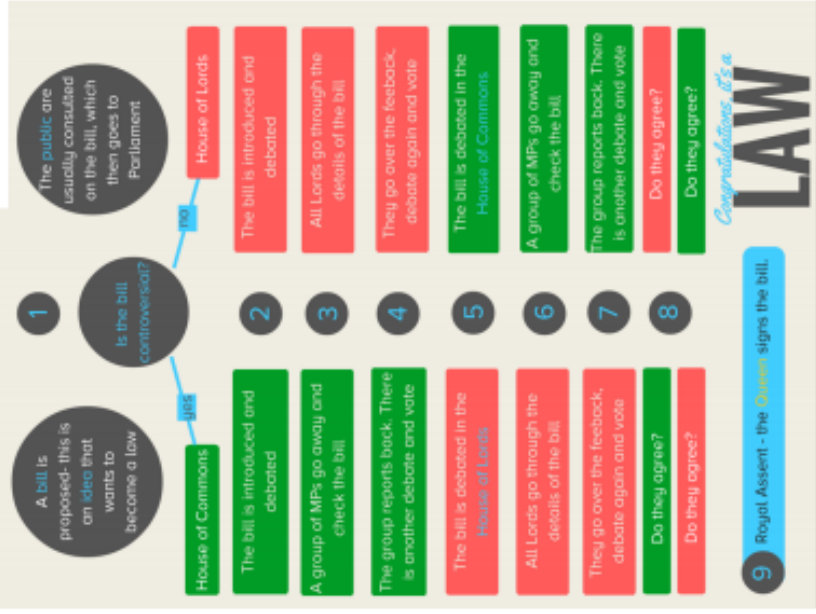
How can you link different topics together?

- Government + Parliament + MPs + Peers
- Legislature + laws + citizens
- Democracy + PR + FPTP
- Laws + Head of State + House of Lords + House of Commons
- Political parties + MPs + representative + democracy



Command Words	
Analyse	Separate information into components and identify their characteristics.
Compare	Identify similarities and/or differences.
Examine	Investigate closely and make comment.
Explain	Set out purposes or reasons.
Justify	Support a case with evidence.
Summarise	Present principal points without excessive detail.

How is a law made?



Name the political party!



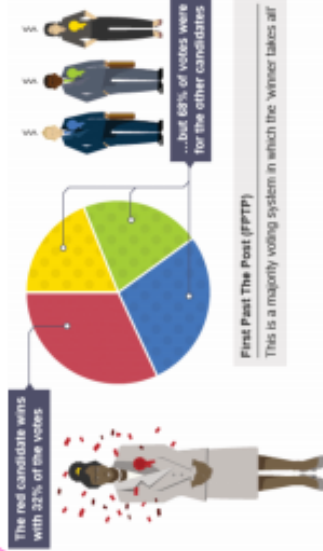
First Past the Post

Usually produces a decisive result

Allows winning party to govern strongly without relying on support from others

Not a fair representation of actual votes

Less chance of minority parties gaining seats in Parliament



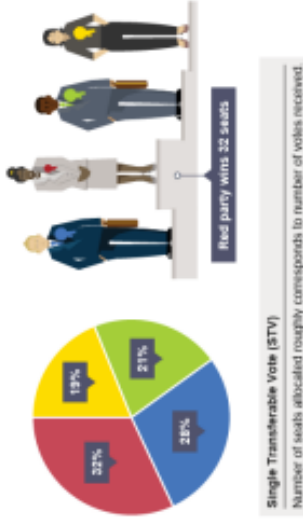
Proportional Representation

Harder for politicians to make difficult decisions when there is a bigger mixture of different parties & opinions

Fair & realistic representation of votes.

Rarely produces an absolute majority for one party to govern

Greater choice for voters by reducing dominance of larger parties



Question time!

'A rule that has been approved by government and applies to all citizens in the UK'. This is the definition for...?

What is the name for a piece of draft legislation?

Identify the two colours associated with government papers relating to proposed legislation.

At which reading is there no vote in the law making process?

True or false? We live in a representative democracy?

Parliament is made up of three parts... true or false?



Democracy & Parliament

House of Commons	House of Lords
Elected	Appointed or inherited
650 MPs	Approximately 700 peers
Represent the people in their constituency	Represent areas of expertise
Must be re-elected every 5 years	Appointed for life

Computing – Photo Editing Keywords

RGB	Colour method using Red, Green and Blue. Used onscreen.
CMYK	Colour method using Cyan, Magenta, Yellow and Black (or Key). Used for professional printing.
Bitmap image software	The software most suitable for creating bitmap images. Such as Adobe Photoshop or Microsoft Paint.
Vector image software	The software most suitable for creating vector images. Such as Adobe Illustrator or CorelDraw.
Native file types	The file types that belong to a specific piece of software. For example PSD is a Photoshop Document.
Bitmap image	Image made up of pixels.
Vector image	Image made from a set of lines and shapes/objects.
Selection	Using tools including magic wand, lasso and marquee to select specific pieces of an image/layer in Photoshop.
Resolution	Number of pixels in a fixed area. For example dpi - dots per inch.
Hi resolution	300dpi is classed as hi resolution. It is suitable for professional printing.
Lo resolution	72dpi is classed as lo resolution. It is suitable for online images. It is adequate quality for the eye to see solid colours on screen.
JPG	A common file type used for lo resolution images which uses lossy compression and produces small file sizes.
TIFF	A common file type used for hi resolution images which uses lossless compression and is able to be saved with layers.
Transform	Using the transform tools to transform, part or an entire image in ways that include scale, distortion, rotation etc.
Compression	The process of reducing the file size.
Lossy	Permanently removes data such as duplicated data elements. For example jpeg.
Lossless	Removes data from image but restores it when file is opened using an algorithm. For example .tif.
Filters	A range of filter effects that can be used on part or an entire image, such as water colour, neon glow, blur etc.
Layers	The separate parts of an image that can be edited separately. It also allows for layer styles to be applied to independent layers.
Colour Adjustments	The methods used to change the colours in an image. There are a range used for different purposes, including levels, hue/saturation and selective colours.
Retouching	Tools used to retouch or change an image. Such as the clone or healing brush tool.

Using the correct image resolutions will ensure you get the best from your images / print

Don't ruin your design by using low quality or over scaled images they will look fuzzy

Computing– Data Representation Keywords

Bit	Binary integer For example 1 or 0
Binary	Base 2 number system using only 1's and 0's
Character set	Alphanumeric characters and symbols that a computer can recognise from binary codes
ASCII	7 bit binary representation of 128 characters
Unicode	32 bit binary representation of characters from major languages
Bitmap image	Image made up of coloured pixels
Vector image	Image made from a set of lines and shapes
Colour depth	Number of bits used per pixel in an electronic image
Resolution	Number of pixels in a fixed area. For example dpi_ dots per inch
Analogue	Continually changing data that cannot be directly processed by a computer. For example a sound wave
Sampling	Reading and storing sound waves at set intervals
Metadata	Information about the image such as size, date created, author .
Bitdepth	Number of bits available for each sample
Sample rate	Number of samples a second
Compression	The process of reducing the file size
Lossy	Permanently removes data such as duplicated data elements For example .mp3, .jpeg
Lossless	Removes data from file but restores it when file is opened using an algorithm For example .flac, .png
RLE	Run Length Encoding. Stores a data value and count as a method of Lossless compression For example Blue 3 means 3 pixels in blue

Lossless compression
An example of run-length encoding compression.
You don't need to know about vectors to understand how this exercise is put on. You understand how it could work.

Common Sounds (dBA)

130	Air raid siren at 50 ft (threshold of pain)
120	Maximum levels in audience at rock concerts
110	On platform by passing train
100	Typical airplane (5237) (normal conversation) (directly under-flight path)
90	On sidewalk by passing bus
80	On sidewalk by passing typical automobile
70	Busy office
60	Typical suburban area background
50	Library
40	Bedroom at night
30	Isolated broadcast study
20	Leaves rustling
10	Just Audible
0	Threshold of Hearing

Computer Bit
ON OFF

Computer Byte
0 0 1 1 0 1 0 1

7x Magnification
Vector
Ice Cream
Bitmap

drawing with vectors

painting with pixels

Converting the text "hope" into binary

Characters:	h	o	p	e
ASCII Values:	104	111	112	101

ANALOG(U)

101 010



Year 9 Dance Knowledge Organiser – Technical Skills



Posture	The way the body is held
Coordination	The efficient combination of body parts
Extension	Lengthening one or more muscles or limbs
Alignment	Correct placement of body parts in relation to each other
Control	The ability to start and stop movement, change direction and hold a shape efficiently
Strength	Muscle power
Balance	A steady or held position achieved by an even distribution of weight
Flexibility	The range of movement in the joints (involving muscles, tendons and ligaments)
Stamina	The ability to maintain physical and mental energy over periods of time
Projection	The energy the dancer uses to connect with and draw in the audience
Spatial Awareness	Consciousness of the surrounding space and its effective use
Facial Expression	Use of the face to show mood, feeling or character
Musicality	The ability make the unique qualities of the accompaniment evident in performance

Why are these technical skills important?

Eg. Why do you need good stamina?

Stamina is crucial for the prevention of **injury**. In extended performances, the heart and lungs need to deliver oxygen to the blood and muscles as efficiently as possible. Once **fatigue** sets in, mistakes in judgement or undue stress on muscles and joints make continued dancing **unsafe**. Good stamina allows high intensity **actions** to be performed accurately throughout a dance performance.

How can you improve these technical skills?

Exercise to Improve Core strength:



Task: Bridge

Lie on your back with your knees bent and feet hip distance apart. Slowly raise hips rolling up through spine from pelvis to shoulders. Hold position for 8 counts making sure back remains straight. Slowly roll back down through spine from shoulders to pelvis. Complete 3 reps of 10 every other day.

Development over time to maintain improvement:

- 1) After 1 week increase to 3 reps of 15
- 2) After 2 weeks increase challenge by adding alternate leg lifts



Make sure back remains straight and hips do not twist.

Check your progress by...

- Watching yourself in a mirror and correct it
- Filming yourself and watching back and correcting it
- Asking a friend or teacher to watch you and give **feedback**. (look at balance, height in jumps, fluency of movement into and out of the floor)



Year 9 Dance Knowledge Organiser – Safe Practice

Remember

(Her Majesty Just Bought Five Cats!)

- Tie **H**air back
- Wear clothes that **M**ove with you
- Do not wear **J**ewellery
- Do not wear any **B**aggy clothes that you can get caught up in
- Ensure appropriate **F**ootwear is worn
- Close fitting clothes to see the lines of the dancer

Nutrition

- Carbohydrate and fat: provide energy
- Protein: muscle growth and repair
- Vitamins & Minerals: the immune system requires an assortment of vitamins and minerals from Vitamin A through to Zinc.



Hydration

- Helps prevent build-up of lactic acid
- Helps to avoid cramps
- Keeps muscles working at optimum
- Helps to prevent potential dizziness

What happens in a warm-up?

(Put Every Naughty Teenage Boy In Jail)

- **P**ulse is raised
- Muscles become more **E**lastic
- **N**erve messages from the brain to the limbs speed up
- Internal body **T**emperature is raised
- Increase of **B**lood flow to the muscles
- Reduce the risk of **I**njury
- **J**oints are mobilised



As a rule, dancers are advised that their overall diet should take at least 50-65% of its energy from carbohydrate; around 12-15% should come from protein; and less than 20-35% from fat.



Why cool down?

(Blue Peter Was Pretty Hilarious Really)

- Prevent **B**lood **P**ooling in the muscles which can make you feel dizzy due to the reduced blood supply to the brain
- Prevent the build up of **W**aste **P**roducts in the muscles (e.g. lactic acid) which helps to prevent muscle stiffness and soreness
- Allow the **H**eart **R**ate to gradually return to normal

Script Work Duologue

Key Vocabulary

Vocabulary	Definition
Duologue	A speech presented by two characters in a performance, often used to explore/develop relationships.
Interpretation	A particular way of performing a part in a play
Intention	Something that you want and plan to do in a play
Innovative	Original and creative approach
Naturalistic	Theatre that attempts to create an illusion of reality through a range of dramatic and theatrical strategies.
Period	Scripts from different time periods such as Greek, Elizabethan or Victorian.
Stylised	Non-naturalistic, performed in a particular manner or with emphasis on one element.
Physicalise	Drama technique where performers communicate their characters in a physical way (body language, movement, facial expression & gesture).
Ensemble	An approach to acting that aims for a unified effect, achieved by members of the cast working together on behalf of the play, rather than emphasising individual performances.

Learning Lines Strategies

- Write your lines out
- Run lines with someone
- Look, Cover, Write, Check
- Use line learner apps
- Record your lines and listen back
- Learn your cue lines

Skills Learnt

- Annotate text
- Interpreting text
- Exploring a plays context
- Create and communicate meaning through performance
- Realising artistic intention in text-based drama

Now you have learnt the skills, apply the knowledge. Can you answer these questions?

- How would you annotate and perform duologues?
- How can you apply interpretations and intentions to scripts?
- How would you use a range of drama elements when creating?
- How do you research and demonstrate contextual elements of a script?

Using Your Voice

Vocabulary	Definition
Pitch	Speaking in a high, low or natural voice.
Pace	The speed at which someone speaks, e.g. the speed of response in an argument.
Intonation	The rise and fall of the voice can be used to emphasise a word in a sentence and to keep interest in what is being spoken. Intonation helps us to express what we mean.
Volume	You might be considering the audibility (can we hear it) but you're more likely to be thinking about the effect of a loud, powerful voice or a quiet, nervous or sad voice.
Pause	A dramatic pause at a crucial moment could communicate meaning.
Tone	This suggests your mood and your intention towards the listener. e.g. happy or irritable.
Accent	Your character may be from a different part of the UK or another country.

Artaud 1896-1948 & Surrealism

What other theatre practitioner was around in this period? **Hint- He was German**

Artaud was a French dramatist, poet, essayist, actor, and theatre director, widely recognised as one of the major figures of twentieth-century theatre and the European avant-garde. He influenced many of Salvador Dali's art works

Wider reading:
<https://www.bl.uk/20th-century-literature/articles/antoine-artaud-and-the-theatre-of-cruelty>

Artaud's Theory

- Artaud saw both the world around him and the theatre, itself, in need of change
- He was influenced by Surrealism and at one time was a member of the movement
- His theatre set to awaken the dormant dream images of our minds
- His theoretical essays were published (during his lifetime) in 1938: 'The Theatre and Its Double'
- Artaud attempted to appeal to the irrational mind, one not conditioned by society
- There was an appeal to the subconscious, freeing the audience from their negativity
- His theatre could not communicate using spoken language (primary tool of rational thought)
- His was a return to a theatre of myth and ritual
- The Theatre of Cruelty was an enhanced double of real life. He claimed if the theatre is the double of life, then life is the double of theatre
- Artaud's theatre aimed to appeal to and release the emotions of the audience
- By bombarding the audience's senses, they underwent an emotional release (catharsis)

Movement & Gesture

- Artaud was inspired by a performance of Balinese dancers in 1931 (use of gesture and dance)
- Artaud wished to create a new (largely non-verbal) language for the theatre
- Ritualistic movement was a key element (often replacing traditional text/spoken words)
- Performers communicated some of their stories through 'signs'
- 'Signs' in the 'Theatre of Cruelty' were facial expression and movement
- Stylised movement was known as 'visual poetry'

Space & Actor/Audience Relationship

- Artaud experimented with the actor-audience relationship
- Relationships between the actor and audience in the 'Theatre of Cruelty' were intimate
- A preference for actors to perform around the audience in the centre (rectangle/ring/boundary)
- He attempted to reduce or eliminate the special space set aside for the actors (the stage)
- Performers placed in four corners / on four sides of the space
- The audience was therefore placed in a weaker, less powerful position (encircled by actors)
- The audience was often seated on swivel chairs (easily swinging around to follow the action)
- Galleries and catwalks enable the performers to look down on the audience (trapping them)

Vocabulary	Definition
Catharsis	The uncontrollable outperforming of strong emotion
Surrealism:	A 20th-century avant-garde movement in art and literature which sought to release the creative potential of the unconscious mind, for example by the irrational juxtaposition of images.
Theatre of Cruelty	"A primitive ceremonial experience intended to liberate the human subconscious and reveal man to himself". The theatre of cruelty called for a "communion between actor and audience in a magic exorcism; gestures, sounds, unusual scenery, and lighting combine to form a language, superior to words, that can be used to subvert thought and logic and to shock the spectator into seeing the baseness of his world."

Year 9, Autumn Term: Representation

Core Text: Extracts from *Othello* and other plays by Shakespeare

Representation is the depiction of a thing, person or idea. In representing the world, writers make conscious and unconscious choices. There are many different ways of seeing the world as our view is framed by context and culture. This means that representation does not offer a definitive view of reality, but, instead, each representation offers a different construction of the world and of experience in it.



Vocabulary

- ◆ representation
- ◆ perception
- ◆ influence
- ◆ derogatory
- ◆ media
- ◆ prejudice
- ◆ stereotypical
- ◆ authentic
- ◆ otherness
- ◆ tragic hero
- ◆ hamartia
- ◆ blank verse
- ◆ hyperbole
- ◆ linear argument
- ◆ semicolon

Representation

- ◆ Representation is influenced by context.
- ◆ A writer's representation of a group may or may not reflect their own context or perspective.
- ◆ Representations may or may not be authentic.
- ◆ Representations can draw on or challenge stereotypes.
- ◆ It is important for the reader to be aware that our own perspective and response can be influenced by the writer's representation of a group.
- ◆ Characterisation is a method of representation.

Representation in Shakespeare

Shakespeare's representation of 'otherness' reflects the social context and ideologies of Elizabethan/Jacobean England.



Reading

- ◆ You need to understand the impact of Shakespeare's use of language, verse, and dramatic devices. Make sure you have notes on each of these.
 - ◆ You need to know some vocabulary for comparison.
- Draw up your own list of comparative words.**





How to write a comparative essay about representation of 'otherness' across two of Shakespeare's plays

- include a thesis statement: an overarching statement, identifying whether the representation is similar or different across the two plays, linking to context
- use topic sentences
- support with embedded quotations
- analyse the writer's methods
- use your comparative vocabulary
- finish with a conclusion that links back to the thesis

Identify features a — e in the example below:

Across both 'Othello' and 'The Merchant of Venice', Shakespeare encapsulates common responses of the time towards 'the other'. Despite this, we are presented with two characters—Othello and Shylock—who, at times, challenge society's perceptions

In Act I, Scene 3 of 'Othello', Shakespeare represents 'otherness' as something to be feared and distrusted. Unable to accept that his daughter would willingly marry 'the Moor', Brabantio accuses Othello of using 'foul charms' and placing Desdemona in 'chains of magic'. The characterisation of Brabantio highlights the Elizabethan belief that Moors were heathens who practised witchcraft. The metaphor 'chains of magic' connotes imprisonment, affirming that Brabantio believes Desdemona to be a victim of Othello's supposed witchcraft.

We can see a similar representation in Act III, Scene 3 of 'The Merchant of Venice', when, on noticing Shylock, Salanio claims that the 'devil' has adopted the 'likeness of a Jew'. ...

Writing

Remember to work out:

- ◆ **the purpose**
- ◆ **the audience**
- ◆ **the form**

A structure to express a developing argument:

- ◆ title to suggest viewpoint
- ◆ intro establishing viewpoint
- ◆ logical and linear development + supported points
- ◆ inclusion of alternative views in order to refute them
- ◆ offer a solution/challenge to the problem
- ◆ concluding paragraph directing the reader/encapsulating writer's opinion

Rhetorical devices and language choices to effectively convey argument

- ◆ first person singular and plural (I and we)
- ◆ occasional use of the second person (you)
- ◆ rhetorical questions
- ◆ evidence (facts, statistics, examples)
- ◆ expression of opinion in a factual manner
- ◆ use of metaphor
- ◆ triple
- ◆ exclamatory sentences
- ◆ complex sentences—fronted subordinate clause used to aid the logic of the argument

Remember: you must consider the impact of these choices.

Preparing to write your article

- ◆ Draw on various sources for ideas to support your argument
- ◆ Plan: consider the structure of your argument
- ◆ Use your toolkit of techniques/grammar

Food Preparation and Nutrition

Topic 1: Food Allergies and Intolerances

An allergen is a substance or food that may cause an allergic reaction. Some food allergies are mild but others can be serious if the correct treatment is not given quickly. People with a severe reaction need an injection of adrenaline from an EpiPen because they can stop breathing.



very
with

There are 14 common food allergens and information for these must be highlighted in bold in the main ingredients list on the back of food packaging.

Food intolerances are more common and symptoms such as diarrhoea, bloating and weight loss are noticeable a short time after someone has eaten the food they are intolerant to.

Lactose intolerance is one of the most common with people not able to digest lactose which is the natural sugar in milk and other dairy products.



digest

Gluten intolerance happens when someone is intolerant to gluten which is the natural protein found in wheat flour and other cereals such as rye and barley. About 1 in a 100 people suffer from coeliac disease which is a more serious intolerance to gluten. Their body attacks the healthy tissues in the body by mistake.

To prevent people consuming food they are allergic or intolerant to, there are strict laws about how food is made in factories or prepared in restaurants to prevent cross-contamination.

Some manufacturers might choose to dedicate a production line or equipment to products that are free from particular allergens e.g. nut or wheat free. These production lines could still be used to make a number of different products as long as they do not contain that particular allergen.

In restaurants, allergens need to be clearly shown on menu. Most restaurants will provide more information about how they separate allergen foods from other foods in their kitchens. Use of specific areas of kitchen or chopping boards is common.



the

from
the

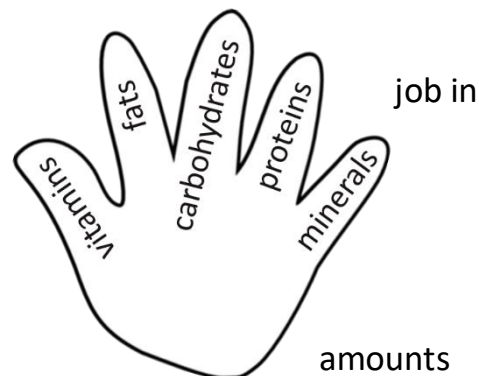
Food Preparation and Nutrition

Topic 2: Healthy Eating – Micronutrients and Water

We need food for growth and repair of cells, energy, warmth, protection from illnesses and keep our bodies working properly.

Food is made of 5 nutrients. Each nutrient does a different the body. Eating a balanced diet means we get all the nutrients we need for a long and healthy life.

Some of these nutrients you need in large amounts (protein, carbohydrates and fats) – these are called macronutrients. Some of these nutrients we need in small (vitamins and minerals) – these are called micronutrients.



Vitamins A, D, E and K are fat soluble and can be stored by the body in our body fat. A fat soluble example is **Vitamin A** which is needed for healthy eyesight, healthy skin and a healthy immune system. Its antioxidant properties also help to protect the body from cancer and cardiovascular disease (CVD)

Vitamins B and C are water soluble and need to be consumed every day because they cannot be stored by the body. A water soluble example is **Vitamin B12** which is needed to help release energy from foods such as carbohydrates and to help the nervous system function normally. It is also needed to form red blood cells.



You also need minerals such as calcium and iron, for example **Calcium** is needed for bone density and to maintain healthy, strong teeth and **Iron** is needed to make red blood cells which transport oxygen around the body.

Water is not a nutrient but it is required for life. You need to stay because your body is 70% water and you need to replace water you breathe, sweat or urinate. Water is needed to cool the body, and to digest and transport nutrients around the body. It is that you drink 6-8 glasses of water a day.



hydrated
you lose when
remove waste
recommended

Food Preparation and Nutrition

Topic 3: Food Choice

There are many factors that influence food choice.

Healthy eating – a range of reduced fat, sugar-free and low-calorie foods are now available because people are more aware of the link between health and eating a balanced diet.

Religion and culture – many faiths have specific rules regarding food, for example, Jews do not eat shellfish or pork.

Special occasions – food can play a vital role in celebrations, religious festivals and special occasions, for example eating cake on your birthday or turkey at Christmas.

Media – food trends are always emerging and food advertising can persuade people to try new products. Teenagers might be influenced by the media or their friends (peer pressure).

Availability – most of our food is available all year round but some food are seasonal, such as soft fruits, which are only available in summer months if grown in the UK.

Medical - people with allergies and intolerances are not able to eat some foods because they cause severe reactions or unpleasant symptoms. Some people should also adapt their diet due to medical conditions such high blood pressure (low salt), diabetes (low sugar) and coronary heart disease (low fat).

Moral beliefs – people become vegetarian because they are opposed to killing animals for food. Choosing to eat only organic, Fairtrade or free range products is also becoming more popular. Organic foods are produced without any chemicals. Fairtrade foods are grown by people who receive a good deal for their produce. Free range farming is when animals are allowed to roam outside during the day rather than being kept indoors in large numbers (intensive farming).

Cost – the foods we choose to eat and places we buy food may be affected by how much money we have or how much we want to spend to food.



Food Preparation and Nutrition

Topic 4: Traditional British Cuisine

Cuisine is a style of food specific to a country or region. Cuisines develop over time using distinctive ingredients, specific preparation and cooking methods or special equipment. There might also be traditional ways of serving and presenting food.



The staple foods of Britain are based on ingredients grown, reared and caught:

Foods grown in Britain – vegetables such as potatoes, onions and leeks grow well on UK farms. Fruits such as apples, plums and rhubarb also thrive. Herbs commonly used to flavour British food include mint, chives and sage.

Food reared in Britain – beef, lamb, poultry and game, pork, bacon and ham are popular. Dairy products, like cheese, butter, cream and yoghurt, are also made using the milk from dairy farms.

Food caught in Britain – as an Island nation, Britain has access to a wide range of seafood from white and oily fish to seafood such as crabs and lobsters.

From these ingredients, British people have developed a number of sweet and savoury dishes. Many of the savoury dishes incorporate a combination of meat and vegetables. Many of the desserts include milk, butter, eggs and sugar in combination with fresh fruit.

A national survey of British people identified the most popular British dishes. They included roast dinners, fish and chips, full English breakfasts, fruit crumbles, trifles and custard.

Cooking methods frequently used in Britain include roasting, casseroles, baking and steaming.



Most British people adopt the eating pattern of three meals a day – breakfast, lunch and dinner. Afternoon tea has also become popular again as an occasional treat. It consists of a mid-afternoon snack consisting of small sandwiches, a slice of cake and cup of tea.

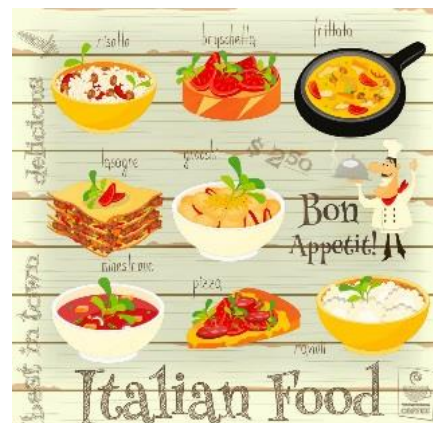
As more people from other countries come to live in Britain, and there are greater opportunities to travel, our eating habits have changed. Many traditional dishes are being replaced by ones originating in other countries.

Food Preparation and Nutrition

Topic 5: International Cuisine

British people are now more adventurous with their food choice and will regularly eat food originating in other countries. Some examples of these are:

Italian Cuisine – family and food is very important to Italians – with recipes being passed down the generations through mothers and grandmothers. Italian flavours are simple and they often use seasonal local ingredients that are home-grown or purchased in markets. Traditional dishes include pasta, pizza and risotto. Bread is freshly baked and a rainbow of fresh vegetables and salads are regularly served as accompaniments. Healthy olive oil is used instead of animal fats. Desserts include ice-cream and tiramisu (Italian trifle). Italians take a huge amount of pleasure in food and enjoy social or family occasions where food can be shared.



Chinese Cuisine – Chinese food is often quick to make, with an emphasis on colour, flavour and texture. Much of the food is stir-fried in a wok or steamed in a bamboo steamer – both healthy ways of cooking. In a very traditional Chinese kitchen there is no oven. Traditional dishes include spring rolls, crispy duck, soups and broths, sweet and sour noodles and fried rice. Chinese food often uses aromatic spices such as ginger to flavour food. At meal times, the Chinese family will have four or five dishes at the same time and each person will have a small bowl with rice in it. Food is eaten with

chopsticks. The traditional drink with a meal is green tea which is served without milk. The Chinese present their food beautifully with carved vegetables.

Indian Food – entertaining in the home is very popular in India with all the dishes placed on the table at once and shared. Many spices and herbs are blended or ground together to make Indian food – although most dishes are spicy and mild rather than overly hot. Traditional dishes include tandoori meat and fish (cooked in a clay oven), curries, samosas, bhajis and dahls (made with lentils). Main meals are served with traditional breads (naan, chapatti, poppadoms) or basmati rice. Desserts are not often served every day but are used for special occasions, for example sweets served for the festival of Diwali.



Food Preparation and Nutrition

Topic 6: Consumer Awareness

Consumers can be defined as “a person who purchases goods and services for personal use”. People are consumers on a daily basis. On your way to school you may use the bus and then buy a snack at break time – you are a consumer.

Food is always in the news and sometimes consumers are confused about what to buy and eat. To be an effective consumer you need to know your rights and responsibilities and know how to get advice on issues if you are not satisfied with the food you buy.



It is important that consumers know how to manage their resources effectively when choosing, shopping for, preparing and storing food. Consumers have a wide range of options when shopping for food. There are advantages and disadvantages for them all, it is therefore important for consumers to decide which is the most suitable for them, for example going to a big supermarket or shopping in a corner shop.

To make good use of time, energy, and money when choosing food consider the following:

Meal planning – thinking ahead will reduce the number and amount of time needed for shopping; Ingredients – try and choose ingredients that will save time and money; Seasonality – choose seasonal and local foods; Value for money – compare the cost of fresh and pre-prepared ingredients.



Consumers should avoid wasting food. Every year in the UK, seven to ten million tons of food are wasted. It is thought that approximately 50% of the food wasted is still edible. The cost of food waste is significant – estimates show that it costs an average family £700 per year. Using leftovers can save money and is good for the environment.

Food labelling is important to help us to decide which food buy, how to store and cook food correctly and to be aware of the nutritional content of food. Some food labelling is required by law. ‘Use by’ and ‘best before’ dates are there for food safety reasons and to help use up food before it spoils. Labels on food must contain precise and accurate information about the nutrients in food. Fat, saturated fat, salt and sugar are labelled as either green, amber or red. When deciding what to eat, look at the label and try to choose foods that have more green and amber and less red.

Each serving (150g) contains

Energy 1046kJ 250kcal	Fat 3.0g LOW	Saturates 1.3g LOW	Sugars 34g HIGH	Salt 0.9g MED
13%	4%	7%	38%	15%

of an adult's reference intake
Typical values (as sold) per 100g: 697kJ/ 167kcal

Activités	activities
J'adore...	<i>I love...</i>
J'aime...	<i>I like...</i>
J'aime beaucoup...	<i>I like ... a lot</i>
Je n'aime pas...	<i>I don't like...</i>
Je déteste...	<i>I hate...</i>
le cinéma.	<i>cinema.</i>
le sport.	<i>sport.</i>
la lecture.	<i>reading.</i>
la musique.	<i>music.</i>
la télé.	<i>TV.</i>
les animaux.	<i>animals.</i>
les jeux vidéo.	<i>video games.</i>
C'est...	<i>It's...</i>
amusant.	<i>fun.</i>
génial	<i>great.</i>
intéressant.	<i>interesting.</i>
ennuyeux.	<i>boring.</i>
nul.	<i>rubbish.</i>
J'aime...	<i>I like...</i>
Je n'aime pas...	<i>I don't like...</i>
aller au cinéma.	<i>going to the cinema.</i>
danser.	<i>dancing.</i>
écouter du R'n'B.	<i>listening to R'n'B.</i>
jouer au basket.	<i>playing basketball.</i>
nager.	<i>swimming.</i>
regarder des comédies.	<i>watching comedies.</i>
surfer sur Internet.	<i>surfing the internet.</i>
tchatter	<i>faire du judo.</i>
prendre des selfies.	<i>taking selfies.</i>

Amis pour toujours!	Friends for ever!
Je suis...	<i>I am...</i>
Mon meilleur ami est...	<i>My best friend is...</i>
Ma meilleure amie est...	<i>My best friend is...</i>
grand(e).	<i>tall.</i>
petit(e).	<i>small.</i>
de taille moyenne.	<i>medium-sized.</i>
J'ai les yeux...	<i>I have ... eyes.</i>
Il / Elle a les yeux...	<i>He / She has ... eyes.</i>
bleus / gris.	<i>blue / grey</i>
marron / verts.	<i>brown / green</i>
J'ai les cheveux...	<i>I have ... hair.</i>
Il / Elle a les cheveux ...	<i>He / She has ... hair.</i>
blonds / bruns.	<i>blond / brown</i>
noirs / roux.	<i>black / red</i>
courts / longs / mi-longs.	<i>short / long / medium-length</i>
bouclés / raides.	<i>curly / straight.</i>
Il / Elle porte des lunettes.	<i>He / She wears glasses.</i>
Je m'entends bien avec...	<i>I get on well with...</i>
Je me dispute avec...	<i>I argue with...</i>
parce qu'il / elle est...	<i>because he / she is...</i>
arrogant(e).	<i>arrogant.</i>
impatient(e).	<i>impatient.</i>
drôle.	<i>funny.</i>
égoïste.	<i>selfish.</i>
sympa.	<i>nice.</i>
timide.	<i>shy.</i>
Sur la photo, il y a ...	<i>In the photo there is / are ...</i>
au centre	<i>in the centre</i>
à droite	<i>on the right</i>
à gauche	<i>on the left</i>

Qu'est-ce que tu fais comme activités extra-scolaires ?	What after school activities do you do ?
Je chante dans la chorale.	<i>I sing in the choir.</i>
Je joue au badminton.	<i>I play badminton.</i>
Je joue du violon dans l'orchestre.	<i>I play violin in the orchestra.</i>
Je fais du théâtre.	<i>I do drama.</i>
Je fais de la gymnastique.	<i>I do gymnastics.</i>
Je vais au club de danse.	<i>I go to the dance club.</i>
Je vais au club d'informatique.	<i>I go to the computer club.</i>
Je ne fais rien.	<i>I don't do anything / I do nothing.</i>
Je fais ça...	<i>I do that...</i>
le lundi / le mardi.	<i>on Mondays / on Tuesdays</i>
après les cours.	<i>after lessons.</i>
à midi.	<i>at lunchtime.</i>
avec mon copain / ma copine.	<i>with my friend.</i>
avec mes ami(e)s.	<i>with my friends.</i>
avec mon équipe.	<i>with my team.</i>

Quand as-tu fêté ton anniversaire ?	When did you celebrate your birthday?
J'ai regardé mes messages	<i>I looked at my messages.</i>
J'ai mangé du gâteau d'anniversaire.	<i>I ate birthday cake.</i>
J'ai joué au laser tag.	<i>I played laser tag.</i>
J'ai dansé.	<i>I danced.</i>
J'ai bu du coca.	<i>I drank cola.</i>
J'ai fait une fête d'anniversaire.	<i>I had a birthday party.</i>
J'ai ouvert mes cadeaux.	<i>I opened my presents.</i>
Je suis allé(e) au cinéma.	<i>I went to the cinema.</i>
J'ai fait une soirée pyjama.	<i>I had a sleepover.</i>
C'était ...	<i>It was ...</i>
amusant / génial.	<i>fun / great.</i>
hyper-cool.	<i>really cool.</i>
marrant / sympa.	<i>funny / nice.</i>

Qu'est-ce que tu as fait ?	What did you do ?	une jupe / une robe...	a ... skirt / dress.
Qu'est-ce que tu as fait le weekend dernier?	<i>What did you do last weekend?</i>	une veste...	<i>a ... blazer</i>
J'ai mangé au restaurant.	<i>I ate in a restaurant.</i>	bleu(e) / noir(e) / vert(e) / gris(e) / blanc(he) / violet(te)	<i>blue / black / green / grey / white / purple</i>
Je suis allé(e) à un concert.	<i>I went to a concert.</i>	rouge / jaune / rose / orange / marron	<i>red / yellow / pink / orange / brown</i>
Je suis allé(e) à une fête.	<i>I went to a party.</i>	des baskets / des bottes / des chaussures...	<i>... trainers / boots / shoes.</i>
Je suis allé(e) au mariage de mon cousin / ma cousine.	<i>I went to my cousin's wedding.</i>	bleues / noires / vertes / grises / blanches / violettes	<i>blue / black / green / grey / white / purple</i>
Qu'est-ce que tu as porté?	<i>What did you wear?</i>	rouges / jaunes / roses / orange / marron	<i>red / yellow / pink / orange / brown</i>
J'ai porté...	<i>I wore...</i>	Normalement, le weekend, je porte...	<i>Normally at the weekend, I wear...</i>
un blouson / un jogging...	<i>a ... jacket / tracksuit.</i>	Cependant, le weekend dernier, j'ai porté...	<i>However, last weekend, I wore...</i>
un pull / un tee-shirt...	<i>a ... jumper / tee-shirt.</i>		
un sweat à capuche...	<i>a ... hoodie.</i>		
un jean / un pantalon ...	<i>... jeans / trousers.</i>		
une casquette / une chemise...	<i>a ... cap / shirt.</i>		

Argent de poche

Pocket money

Pour gagner de l'argent, ... on peut / je dois...
aider à la maison.
aider les voisins.
trouver un petit boulot.
faire du babysitting.

Qu'est-ce que tu fais pour gagner de l'argent ?
What do you do (in order) to earn money ?

Je lave la voiture.
Je garde mon petit frère.
Je garde ma petite sœur.
Je range ma chambre.
Je travaille dans un café.
Je travaille à la boulangerie.
Je fais la cuisine.

Je gagne 8 euros par semaine / par mois.

*to earn money
you can / I must
help at home.
help the neighbours.
find a part-time job.
do babysitting.*

*I wash the car.
I look after my little brother.
I look after my little sister.
I tidy my room.
I work in a café.
I work at the bakery.
I do the cooking.*

I earn 8 euros a week / a month.

Qu'est-ce que tu vas faire à l'avenir ?

What are you going to do in the future ?

Je vais habiter... à l'étranger.
Je vais acheter... une grande maison.
une Ferrari rouge.

Je vais être... célèbre.
heureux/heureuse.

Je vais avoir... cinq enfants.

Je vais aller... à New York.
en Chine.

Je vais faire du travail bénévole.
à l'avenir
dans dix ans
dans vingt-cinq ans

Ce sera... cool / fantastique.

I am going to live... abroad.

*I am going to buy... a big house.
a red Ferrari.*

*I am going to be... famous.
happy.*

I am going to have... five children.

*I am going to go... to New York.
to China.*

*I am going to do voluntary work
in the future
in 10 years
in 25 years*

It will be... cool / fantastic.

Qu'est-ce que tu veux faire comme métier?

What job do you want to do?

je veux être...
je ne veux pas être ... scientifique.
pilote.
ingénieur(e).
danseur / danseuse.
acteur / actrice.
dessinateur / dessinatrice.
instituteur / institutrice
professeur
infirmier / infirmière
policier / policière
mécanicien / mécanicienne
musicien / musicienne
architecte
vétérinaire

C'est...
créatif / dangereux / ennuyeux / fatigant / passionnant / pratique / varié / bien payé.
creative / dangerous / boring / tiring / exciting / practical / varied / well paid.

Je veux...
travailler seul(e).
travailler en équipe.
travailler avec des enfants / animaux.
aider les autres.

*I want to be a...
I don't want to be a...
scientist
pilot
engineer
dancer
actor / actress.
designer.
primary school teacher
teacher (secondary and beyond)
nurse
police officer
mechanic
musician
architect
vet*

It is...

*to work on my own.
to work in a team.
to work with children / animals.
to help others.*

Au travail, les robots!

Robots at work

Qu'est-ce que tu as fait hier?
J'ai gardé les enfants.
J'ai joué aux jeux vidéo.
J'ai préparé les repas.
J'ai rangé les chambres.
J'ai travaillé dans le jardin.
J'ai fait la vaisselle.
J'ai bu un café.
Je suis allé(e) au supermarché.
Je suis resté(e) à la maison.

Je n'ai pas aide à la maison.
Je n'ai pas regardé la télé.
Je ne suis pas allé(e) au supermarché.

hier
d'abord
ensuite
après
l'après-midi
cependant
C'était...

What did you do yesterday?
*I look after the children.
I played video games.
I prepared meals.
I tidied the bedrooms.
I worked in the garden.
I did the washing-up.
I drank a coffee.
I went to the supermarket.
I stayed at home.*

*I didn't help at home.
I didn't watch TV.
I didn't go to the supermarket.*

*yesterday
first of all
then
afterwards
in the afternoon
however
it was...*

Des ados entrepreneurs

Enterprising teenagers

Je m'appelle...
J'ai quatorze ans.
J'habite...
J'adore...
J'ai une chaîne YouTube sur...
Je poste des vidéos sur...
J'ai plus de ... abonnés.
Nous faisons une video sur...
Je fais... des bracelets.
des gâteaux.
Je cultive des légumes.
J'ai un blog.
Je vends mes produits...
en ligne / au collège.

Qu'est-ce que tu fais pour gagner de l'argent?
Qu'est-ce que tu fais à la maison pour gagner de l'argent?
Qu'est-ce que tu veux faire comme métier?
Pourquoi?
Qu'est-ce que tu vas faire à l'avenir?

*My name is...
I am fourteen years old.
I like...
I love...
I have a YouTube channel about...
I post videos about...
I have more than ... subscribers.
We are making a video about...
I make / am making...
bracelets.
cakes.
I grow / am growing vegetables.
I have a blog.
I sell / am selling my products...
online / at school.*

*What do you do to earn money?
What do you do at home to earn money?
What job do you want to do?
Why?
What are you going to do in the future?*

Strategy

Look out for patterns when you learn new vocabulary. They can help you decode words and remember spelling.

- Lots of job titles end in -eur in the masculine form, e.g. *ingénieur* – engineer / *dessinateur* – designer
--ant on the end of an adjective in French often corresponds to -ing in English, e.g. *passionnant* – exciting / *fatigant* - tiring

Second Year French Autumn Term Knowledge Organiser Unit 1: Les vacances – Holidays

Tu es allé(e) où?	Where did you go?
Je suis allé(e)	I went to...
Nous sommes allé(e)s...	We went to...
en Allemagne	Germany
en Espagne	Spain
en France	France
en Grèce	Greece
en Italie	Italy
au Maroc	Morocco
au Mexique	Mexico
au Portugal	Portugal
aux États-Unis	USA

Prepositions
en + feminine country
au + masculine country
aux + plural country
à + city name

Avec qui?	Who with?
ma famille	my family
mon collègue	my class/school
mes ami(e)s	my friends
mes parents	my parents
mon frère	my brother
ma sœur	my sister

Tu as voyagé comment?	How did you travel?
J'ai voyagé...	I travelled...
Nous avons voyagé...	We travelled...
en avion	plane
en train	train
en bateau	boat
en voiture	car
en car	coach

Tu es où en vacances ?	Where are you on holiday?
Je suis...	I am...
Nous sommes au bord de la mer	We are... by the seaside
à la montagne	in the mountains
à la campagne	in the countryside
en colo (colonie de vacances)	at a holiday camp
chez mes grands-parents	At my grandparents' home

Qu'est-ce que tu as visité?	What did you visit?
J'ai visité...	I visited...
Nous avons visité...	We visited...
le château	the castle
le lac	the lake
le musée	the museum
le parc	the park
le stade	the stadium
la cathédrale	the cathedral
la mosquée	the mosque
la chocolaterie	the chocolate shop

C'était comment ?	How was it?
C'était...	It was...
amusant	fun/funny
génial !	great
ennuyeux	boring
cool	cool
sympa	nice
intéressant	interesting
nul	rubbish
Ce n'était pas mal	It wasn't bad

Qu'est-ce que tu as fait?	What did you do?
Pendant les vacances...	During the holidays...
J'ai joué au tennis/au foot	I played tennis/football
J'ai mangé des glaces	I ate ice creams
J'ai écouté de la musique	I listened to music
J'ai acheté des baskets	I bought trainers
J'ai regardé un film à la télé	I watched a film on TV
J'ai nagé dans la mer	I swam in the sea
J'ai retrouvé mes amis	I met my friends
J'ai entraîné à la maison	I hung around at home

Qualifiers	
un peu	a bit
assez	quite
très	very
trop	too
vraiment	really

Sequencers	
d'abord	first of all
ensuite	next/then
puis	then
après	after
finalement	finally

The perfect tense with ÊTRE	
Some verbs use the verb ÊTRE in the perfect tense. One example is ALLER, the verb to go.	
1. ÊTRE, present tense	2. Past participle (remember to add an extra e for females and s for plurals).
Je suis	allé(e)
Tu es	allé(e)
Il/Elle/On est	allé(e)
Nous sommes	allé(e)s
Vous êtes	allé(e)s
Ils/Elles sont	allé(e)s
	I went
	You went
	He/She/We went
	We went
	You went
	They went

The perfect tense with AVOIR
The perfect tense is used to say what you did or have done in the past.
To form the perfect tense of most verbs, you need:
1. The present tense of the verb AVOIR (to have)
2. A past participle (joué/mangé etc.)
To form the past participle for regular -er verbs, remove the infinitive -er ending and replace with e e.g regarder – regardé

1. AVOIR, present tense	2. Past participle
J'ai mangé	I ate
Tu as acheté	You bought
Il/Elle/On a nagé	He/She/We swam
Nous avons joué	We played
Vous avez écouté	You listened
Ils/Elles ont visité	They visited

Au parc d'attractions	At the theme park
J'ai bu un coca	I drank a coke
J'ai vu un spectacle	I saw a show
J'ai vu mes personnages préférés	I saw my favourite characters
J'ai fait une balade en bateau	I went on a boat ride
J'ai fait tous les manèges	I did all the rides
J'ai pris des photos	I took photos
Je n'ai pas mangé de glaces	I didn't eat ice creams
Je n'ai pas acheté de souvenirs	I didn't buy souvenirs
Look out for irregular past participles:	
boire (to drink) - bu (drank)	prendre (to take) - pris (took)
voir (to see) - vu (saw)	faire (to do) - fait (did)

Second Year French Autumn Term Knowledge Organiser Unit 2: Les fêtes – Festivals

Quelle est ta fête préférée ?	What's your favourite festival?
Ma fête préférée	My favourite festival is...
c'est... Noël Pâques mon anniversaire la Toussaint le Saint-Valentin le Nouvel An la Chandeleur l'Aïd le carnaval le 14 juillet	Christmas Easter my birthday All Saint's Day Valentine's Day New Year Pancake Day Eid Carnival Bastille Day

Pourquoi ?	Why?
Parce que...	Because...
J'aime/J'adore...	I like/I love
Je n'aime pas...	I don't like...
Je déteste...	I hate...
Je préfère...	I prefer...
manger du chocolat acheter des cadeaux danser et chanter faire une soirée pyjama rendre visite à mes cousins	to eat chocolate to buy presents to sing and dance to have a sleepover to visit my cousins
Parce que c'est...	Because it is...
amusant/ennuyeux/ nul/sympa/ bête trop commercial	fun/boring/ rubbish/nice/ silly too commercialised

Comment fêtes-tu ?	How do you celebrate?
Je retrouve mes copains Je mange des crêpes Je danse Je porte un masque et un déguisement Je regarde la parade Je partage des photos	I meet my friends I eat pancakes I dance I wear a mask and a disguise I watch the parade I share photos

The present tense
The present tense is used to talk about what usually happens, or what is happening now. <i>Je danse</i> means 'I dance' and 'I am dancing' To form the present tense of most verbs: 1. Choose the correct subject pronoun (je/tu/il/elle...) 2. Remove the -er/-ir/-re ending from the infinitive verb. 3. Add the appropriate ending from the table below.

Subject pronoun	-er verbs (JOUER)	-ir verbs (FINIR)	-re verbs (VENDRE)
Je/J'	joue	finis	vends
Tu	joues	finis	vends
Il/Elle/On	joue	finit	vend
Nous	jouons	finissons	vendons
Vous	jouez	finissez	vendez
Ils/Elles	jouent	finissent	vendent

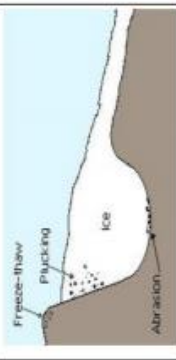
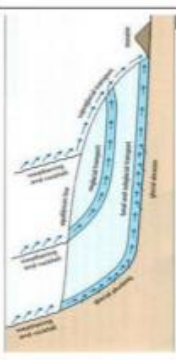
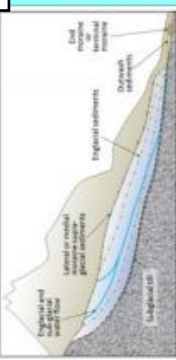
Décris la photo	Describe the photo
Sur la photo il y a... un homme/une femme un garçon/une fille Il/Elle danse Il/Elle mange... Il/Elle chante Il/Elle porte... Il fait beau/mauvais	In the photo there is... a man/woman a boy/girl He/She is dancing He/She is eating He/She is singing He/She is wearing The weather is good/bad
For multiple people: Ils/Elles dansent. The -s and -ent are silent.	

Au marché	At the market
Vous désirez ? Je voudrais...s'il vous plaît Et avec ça ? C'est tout, merci. Ça fait combien ? Ça fait...euros. Voilà. Bonne journée !	What would you like? I would like...please Anything else? That's everything, thanks. How much is it? It's...euros. Here you go. Have a good day!

Qu'est-ce que tu vas faire ?	What are you going to do?
Je vais... visiter le marché de Noël acheter des cadeaux admirer les maisons illuminées écouter des chorales manger une tarte flambée boire un jus de pomme chaud	I'm going to... visit the Christmas market buy presents admire the illuminations listen to some choirs eat a tart drink a hot apple juice

The near future tense	
To talk about things that are going to happen, use ALLER in the present tense, followed by an infinitive verb.	
ALLER, present tense	Infinitive verb
Je vais	acheter
Tu vas	manger
Il/Elle/On va	boire
Nous allons	visiter
Vous allez	écouter
Ils/Elles vont	choisir
	I am going to buy
	You are going to eat
	He/She/We are going to drink
	We are going to visit
	You (pl.) are going to listen
	They are going to choose.

Au marché	Au marché
du poisson	some fish
de la salade	some lettuce
de l'eau	some water
des haricots verts	some green beans
un morceau de fromage	a piece of cheese
une tranche de jambon	a slice of ham
un chou-fleur	a cauliflower
une douzaine d'œufs	a dozen eggs
un kilo d'oignons	1kg of onions
un demi-kilo de pommes	½ a kilo of apples
2 kilos de pommes de terre	2kg of potatoes
cent grammes de tomates	100g of tomatoes
six bananes	six bananas
When buying food you can use: 1. the indefinite article: une pomme 2. a number: six pommes 3. a quantity followed by de : un kilo de pommes	

What do Glaciers do?		
<p>Erosion</p>  <p>Freeze-thaw Plucking Ice Abrasion</p>	<p>Transportation</p>  <p>Basal ice Lateral moraine Medial moraine River channel</p>	<p>Deposition</p>  <p>Depositional landform Moraine Lateral moraine Medial moraine Glacial drift Glacial till Glacial outwash Glacial erratics Glacial kames Glacial eskers Glacial kettles Glacial cirques Glacial horns Glacial plateaus Glacial valleys Glacial fjords Glacial lakes Glacial tarns Glacial ribbon lakes Glacial cirque lakes</p>
<p>The glacier will carve and change to shape of the mountain by plucking rocks from under it and then uses them to scrape and smooth it by abrasion.</p>	<p>The glacier moves material at the base when it plucks it. It transports other material which falls on top of it and are carried in the middle and top.</p>	<p>When the glacier starts to mel it drops the material it is carrying which called glacial till and stops pushing material at the snout which has built up called moraine.</p>

How do Glaciers Form?



Where rivers depend on rain falling from the sky, glaciers depend on **snow**.

In those cold places we just discussed, snow falls layer on layer. Over time, the layers below get compacted to ice, like when you squeeze a snowball very hard. It could take a layer of snow 10 metres thick to make a layer of ice 1 metre thick.

As it gets thicker, the ice gets heavier and heavier. Eventually, it starts to move/flow under the pressure of its own weight. As a result, a glacier is born.

The UK 20,000 years ago – covered in ice!



Year 9 Glaciation



Valley Shape

As the glacier slides down the valley it picks up rocks and **erodes** away the valley. The valley begins life as a **V** shape.

As the glacier cuts and flows down the valley a **U** shaped valley is formed. This leaves behind steep **cliffs** along the sides of the U-shaped valley – these are called **truncated** spurs.

Once the ice melts and the **river** flows once more, the small valleys are left **hanging** high above the new U-shaped valley floor. This landform is called a hanging **valley** Often the tributary streams fall from this hanging valley as **waterfalls**.

Lakes can be formed within valleys. Water falling on a glacial can create a **Supraglacial** lake. Lake water collecting in a **cirque** is called a **tarn** while long, thin lakes along a u-shaped valley forms **ribbon** lakes.

Why was it like that?

Why was the UK like that, 20,000 years ago?

Well around 110,000 years ago. Earth got colder and colder. A new **ice age** began. (There had been many others before it.)

Over time, an ice sheet spread over much of northern Europe, and most of the British Isles.

It did not reach the south and south-east, but these areas were still very cold. The ground was frozen deep down. The surface thawed only in summer, giving thin boggy soil. Then small plants grew. This type of environment is called **tundra**.

By 10,000 years ago, Earth had warmed up again. The ice age ended. The ice over the British Isles melted away. Now today we have ice for only short times, in winter.

Named Examples

- Fox Glacier: New Zealand**
- Glacier Notre: Mexico**
- Pindari Glacier: India**
- Damma Glacier: Denmark**
- La Paloma Glacier: Chile**

Superpowers Knowledge Organiser – Year 9 Geography

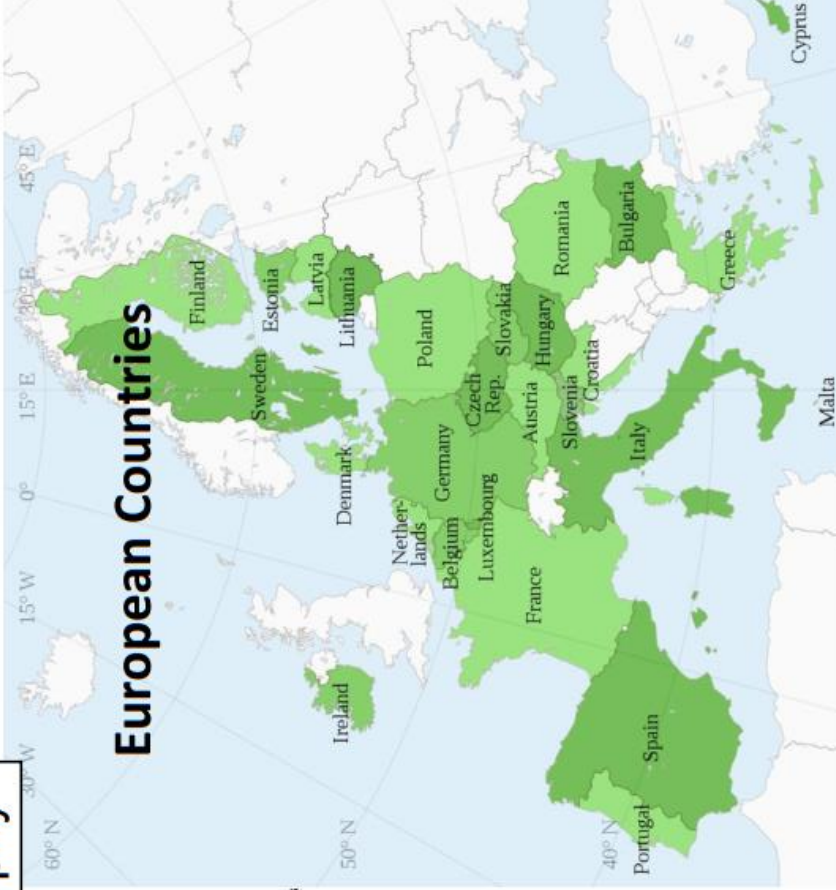
UNITED STATES OF AMERICA



Superpowers are countries or regions which have some of the following characteristics: large populations, military power, wealth, high levels of trade, political influence and cultural influence. The UK used to be a superpower due to its large number of colonies. Today the USA, European Union and China are seen as superpowers.

The USA has many of the characteristics of a superpower. A population of 329 million and a GDP of \$63000 per capita. The USA's cultural influence has spread across the world with well known brands of technology, food, retailers and coffee.

China's large population has led to the country being a leading manufacturer of technology products and large network of global trade.



European Countries

Command words	
Describe	give a detailed account of the features of something without interpreting the information.
Explore	describe in detail and note impact.
Examine	make clear the details/meaning of; look in particular at reasons, causes and effects; account for; give reasons; justify.
Name	Only a short answer needed.
Identify	Name/select/recognise

Y9 German - Autumn Term 1

1. Beweg dich!

Move!

Das ist/sind ...	This is/are...
der Körper	the body
der Kopf	the head
der Arm	the arm
der Rücken	the back
der Bauch	the belly
der Po	the bottom
der Fuß	the foot
die Schulter	the shoulder
die Hand	the hand
das Bein	the leg
das Knie	the knee
das Gesicht	the face
das Auge	the eye
das Ohr	the ear
das Kinn	the chin
die Nase	the nose
der Mund	the mouth

2. Wer ist dein Vorbild?

Who is your idol ?

Warum?

Why ?

Was macht er/sie?

What does he/she do ?

Wie ist er/sie?

What is he/she like ?

... ist mein Vorbild,

... is my idol.

weil er/sie ... ist.

because he/she is...

Ich liebe ...,

I love...

weil er/sie ... ist.

because he/she is...

Ich mag ... (nicht),

I like... (not),

weil er/sie ... ist.

because he/she is...

begabt

talented

berühmt

famous

dynamisch

energetic

erfolgreich

successful

lustig

funny

originell

original

reich

rich

arrogant

arrogant

nervig

annoying

launisch

moody

3. Was hast du in deinem Leben gemacht?

What did you do in your life ?

Ich habe ...

I (have)...

viele Reisen gemacht.

travelled a lot. (literally : done lots of journeys)

mit Kindern gearbeitet.

worked with children.

viele Preise gewonnen.

won lots of prizes.

viele Länder gesehen.

seen lots of countries.

viel Geld verdient.

earned a lot of money.

viel trainiert.

trained a lot.

Ich bin nach Afrika gefahren.

I went to Africa. (literally: I have driven to Africa)

4. Was wirst du in der Zukunft machen?

What will you do in the future ?

In der Zukunft werde ich ...

In the future I will...

viele Reisen machen

travel a lot. (literally: do lots of journeys)

viele Länder sehen

see lots of countries.

Arzt/Ärztin werden

become a (male) doctor/(female) doctor.

in Asien arbeiten

work in Asia.

Theaterwissenschaft studieren

study drama.

viel Geld verdienen

earn a lot of money.

für eine Hilfsorganisation arbeiten

work for an aid organisation.

5. Was ist passiert?

What happened?

Ich habe mir (das Bein) verletzt.

I injured my leg.

Ich habe mir (den Arm) gebrochen.

I broke my arm.

Ich habe einen Unfall (im Schwimmbad) gehabt.

I had an accident (at the swimming pool)

Ich bin (vom Rad) gefallen.

I fell (of my bike)

Ich bin ins Krankenhaus gekommen.

I went to hospital. (literally: I came into the hospital)

Y9 German - Autumn Term 2

1. Bist du wild auf Musik?

R&B-Musik / Jazzmusik
Rap-Musik/Hip-Hop
klassische Musik
Sie klingt positiv/negativ.
Sie ist kitschig / energiegeladen
Sie macht gute Laune.
Was für Musik hörst du (nicht) gern?
Ich höre (nicht) gern ..., weil sie ... ist/macht.
Mein(e) Lieblings Sänger(in) ist
Meine Lieblingsband ist ...
Mein Lieblingslied ist ...

Are you wild about music?

R&B music / Jazz music
Rap/hip Hop
classical music
It sounds positive/negative.
It is cheesy/ energetic. (full of energy)
It puts you in a good mood.
What type of music do you not like listening to?
I (don't) like listening to... , because it is/does...
My favourite singer is ...
My favourite band is...
My favourite song is...

2. Spielst du ein Instrument?

Ich spiele ...
(das) Keyboard / (das) Klavier
(das) Saxofon / (das) Schlagzeug
(die) Gitarre / (die) Geige
(die) Trompete / (die) Klarinette
Instrumente
Ich spiele seit...
...seit drei Jahren/sechs Monaten
...seit Juli/der Grundschule
Keyboard/Geige/Gitarre.
jeden Tag/einmal pro Woche/
am Wochenende/ab und zu.
in der Schule/in einer Band.

Do you play an instrument?

I play...
(the) keyboard / (the) piano
(the) saxophone / (the) drums
(the) guitar / (the) violin
(the) trumpet / (the) clarinet
instruments
I have been playing for...
...for three years/ six months
...since July/since primary school
keyboard/violin/guitar
every day/ once a week
on the weekends/ now and then
at school/ in a band

3. Was für Musik spielen sie?

Ich glaube, sie spielen ...
Rockmusik / R&B-Musik / Popmusik.
Ich finde sie ...
energiegeladen / begabt / originell
monoton / zu laut
Ich denke, ihr Look ist ...
cool/modern/alternativ/ (alt)modisch

What type of music do they play?

I think they play...
rock / R&B / pop music
I find it/them...
full of energy / talented / original
monotonous / too loud
I think, their look is...
cool/modern/alternative/(old)fashionable

4. Was habt ihr gemacht?

Wir haben coole Bands gesehen.
Ich habe viel gesungen und viel getanzt.
Ich habe in einem Zelt geschlafen.
Ich habe neue Freunde gefunden.
Wir haben exotische Spezialitäten gegessen.
Ich habe Souvenirs gekauft.

What did you do?

We saw cool bands.
I sang and danced a lot.
I slept in a tent.
I made new friends.
We ate exotic specialities.
I bought souvenirs.

Wie heißt du und Woher kommst du?
Seit wann bist du hier?
Was für Musik hörst du gern?
Was ist deine Lieblingsband?
Welche Bands hast du gesehen?
Wie waren sie?

What is your name and where are you from?
How long have you been here for?
What type of music do you like listening to?
Who is your favourite band?
Which bands have you seen?
What were they like?

Second Year German - Autumn Term 1

Regular verbs

With regular verbs, remove the ending -en and add the ending that goes with the pronoun (person).

spielen- to play
spiel(-en)

Ich spiel(e)	I play
du spiel(st)	you play
er spiel(t)	he plays
sie spiel(t)	she plays
man spiel(t)	one plays
wir spiel(en)	we play
ihr spiel(t)	you (plural) play
sie spiel(en)	they play

fahren – to travel/ ride/ go

ich fahre	I travel
du fährst	you travel
er fährt	he travels
sie fährt	she travels
wir fahren	we travel
ihr fahrt	you travel (plural)
sie fahren	they travel

schlafen – to sleep

ich schlafe	I sleep
du schläfst	you sleep
er schläft	he sleeps
sie schläft	she sleeps
wir schlafen	we sleep
ihr schlaft	you sleep (plural)
sie schlafen	they sleep

treffen – to meet

ich treffe	I meet
du triffst	you meet
er trifft	he meets
sie trifft	she meets
wir treffen	we meet
ihr trefft	you meet (plural)
sie treffen	they meet

haben - to have

ich habe	I have
du hast	you have
er hat	he has
sie hat	she has
man hat	one has
es hat	it has
wir haben	we have
ihr habt	you have (plural)
sie haben	they have

sehen – to see

ich sehe	I see
du siehst	you see
er sieht	he sees
sie sieht	she sees
wir sehen	we see
ihr seht	you see (plural)
sie sehen	they see

lesen – to read

ich lese	I read
du liest	you read
er liest	he reads
sie liest	she reads
wir lesen	we read
ihr lest	you read (plural)
sie lesen	they read

sein – to be

ich bin	I am
du bist	you are
er ist	he is
sie ist	she is
man ist	one is
es ist	it is
wir sind	we are
ihr seid	you are (plural)
sie sind	they are

essen – to eat

ich esse	I eat
du isst	you eat
er isst	he eats
sie isst	she eats
wir essen	we eat
ihr esst	you eat (plural)
sie essen	they eat

tragen – to wear

ich trage	I wear
du trägst	you wear
er trägt	he wears
sie trägt	she wears
wir tragen	we wear
ihr tragt	you wear (plural)
sie tragen	they wear

Jahreszeiten Seasons

Frühling	Spring
Sommer	Summer
Herbst	Autumn
Winter	Winter

Connectives

und	and
oder	or
aber	but
denn	because

Frequency words

immer	always
oft	often
manchmal	sometimes
selten	rarely
nie	never

Five key words

Frühling	Spring
faulenzten	to laze around
er isst	he eats
ich treffe	I meet
ich fahre	I travel

Second Year German - Autumn Term 2

Kleider/ Klamotten Clothes

der Rock	skirt
der Mantel	coat
der Anzug	suit
der Kapuzenpulli	hoodie
die Jeanshose/ die Jeans	jeans
die Hose	trousers
das Kleid	dress
das Hemd	shirt
das T-Shirt	T-shirt
die Schuhe	shoes
die Stiefel	boots
die Sandalen	sandals

Was trägst du? What do you wear? What are you wearing?

ich trage...	I wear/ I am wearing
einen kurzen Rock	a short skirt
einen langen Mantel	a long coat
einen lockeren Kapuzenpulli	a casual hoodie
eine weite Hose	a baggy pair of trousers
eine schmale Jeanshose	a pair of skinny jeans
ein kariertes Hemd	a checkered shirt
ein gepunktetes Kleid	a spotty dress
ein gestreiftes T-Shirt	a stripy T-shirt
schicke Stiefel	smart boots

Five key words

die Schuhe	the shoes
trendig	trendy
ich ziehe mich an	I get dressed
einige Leute	some people
viele Kinder	many children

Wie ist es? What is it like?

kurz	short
lang	long
weit	wide-leg/ baggy
schmal	slim-leg/ skinny
schick	smart
locker	casual
kariert	checkered
gepunktet	spotty/ polka dot
gestreift	stripy
glänzend	glittery

ein erstes Date

Was wirst du machen?
ich werde...
die Karten im Voraus kaufen
einen guten Film auswählen
früh ankommen
abholen
etwas Schickes anziehen
genug Geld mitnehmen
mit dem Bus in die Stadt fahren
ins Kino gehen
essen gehen

A first date

What will you do?
I will...
buy the tickets in advance
choose a good film
arrive early
pick up
put on something smart
take enough money with me
go by bus to town
go to the cinema
go out to eat

Wie ist dein Stil?

What is your style?

lässig	informal
trendig	trendy
sportlich	sporty
klassisch	classic

ich mache mich fertig

ich style mir die Haare
ich mache mir die Haare
ich putze mir die Zähne
ich schminke mich
ich ziehe mich an
ich sehe mich im Spiegel an
ich benutze ein Deo
ich wähle meine Kleider aus

I get myself ready

I style my hair
I do my hair
I brush my teeth
I put on make-up
I get dressed
I look at myself in the mirror
I put on deodorant
I choose my clothes

High frequency words

wenn	when/ if
immer	always
zum Beispiel	for example
zuerst	first of all
seit	since/ for
für	for
möglich	possible
pro Jahr	per year
nächstes Jahr	next year
teuer	expensive
alle	all/ everyone
um... zu	in order to

Diskussion und Debatte

Viele/ Einige Leute sagen
Meiner Meinung nach
Erstens
Zweitens
Schließlich
Du hast gesagt ... aber ich denke
Auf der einen Seite

Discussion and debate

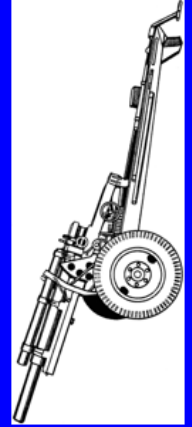
Many/some people say
In my opinion
Firstly
Secondly
Finally
You said... but I think
On the one hand

History

The First World War

Chronology	
June 1914	Murder of Archduke Franz Ferdinand
1917	Russia withdrew from the war and the United States joined the war
May 31 st - 1 st June 1916	Battle of Jutland
July – Nov 1916	The Battle of the Somme
11 th Nov 1918	Armistice

Key People	Role
Archduke Franz Ferdinand	Heir to the Austrian throne who was murdered in June 1914
Gavrilo Princip	Member of the Black Hand Gang who murdered Franz Ferdinand
General Haig	British General at the Battle of the Somme
Kaiser Wilhelm II	German Kaiser (King) during the First World War



Key Words	Definition
Militarism	People taking pride in their armies and wanting to spend money to make it bigger and better.
Alliance	An agreement between countries to support each other in the event of a war.
Imperialism	The desire to have a big empire and control other countries.
Nationalism	To love your country and think that it is superior to others
Triple Entente	An alliance between Britain, France and Russia
Triple Alliance	An alliance between Germany, Austria-Hungary and Italy
Black Hand Gang	A gang of Serbian nationalist who wanted Bosnia to become part of Serbia. Carried out the murder of Archduke Franz Ferdinand
Propaganda	False or misleading information used to spread a certain point of view
Recruitment	Asking people to join the armed forces
Conscription	The government policy of forcing men to join the armed forces in wartime.
Pals Battalion	A group of friends or co-workers who enlist to fight the First World War together
Contentious objector	A person who thinks that the war is wrong and refuses to fight
Western Front	The area of Northern France and Belgium where British, French and Belgian forces fought Germany in the First World War.
Zeppelin	A Large German airship used in the First World War.
stalemate	An inability to move forward and a solid determination not to be pushed back
Artillery	Large guns that fired shells which were used on the battlefield to destroy trenches
Battle of Jutland	The only major naval battle of the First World War
Fokker Gun	A machine gun that could fire through the propeller blades of an aircraft
Shell Shock	A nervous condition suffered by some soldiers exposed to the noise and the chaos of battle.
Anzac	The Australian and New Zealand army corps.
Rationing	Officially limiting the amount of items such as food allowed to be brought during wartime.
WAAC	Women's Army Auxiliary Force
DORA	Defence Of the Realm Act
Armistice	The end to fighting a war
Abdicate	Stepping down from the role as king or queen.

History

Second World War

Chronology	
30 th January 1933	Hitler becomes Chancellor of Germany
1938	Anschluss between Germany and Austria
1939	German invasion of Czechoslovakia Munich Conference German Invasion of Poland and the outbreak of Second World War
1940	Battle of France Battle of Britain
1940-1	The Blitz
7 th December 1941	Japanese attack on Pearl Harbour
1941	Battle of Stalingrad
6 th June 1944	D-Day
8 th May 1945	VE Day
6 th and 9 th August 1945	Atomic bomb dropped on Hiroshima and Nagasaki
15 th August 1945	VJ Day

Key People	Role	Key Words	Definition
Adolf Hitler	Chancellor and then dictator of Germany, 1933-45	Appeasement	To pacify or placate someone by acceding to their demands (particularly to avoid conflict)
Neville Chamberlain	British Prime Minister, 1937-40. Associated with the policy of appeasement.	Isolationist	A policy of remaining apart from the affairs of interests of other countries
Franklin D. Roosevelt	USA's longest ever serving President, 1933-45.	Fascism	A right-wing nationalist political ideology
Winston Churchill	British Prime Minister, 1940-5. He would later become Prime Minister again, 1951-5.	Dictatorship	A country led by a ruler with total power, usually obtained by force.
Joseph Stalin	Communist dictator of the USSR from the late 1920s until 1953.	Phoney War	An eight month period after war was declared in which very little land based fighting took place
Dwight D. Eisenhower	US five-star general and Supreme Commander of the Allied Expeditionary Force in Europe. Would later go on to become President of the USA, 1953-61.	Maginot line	A line of fortifications built by the French along their border with Germany
Bernard Montgomery	British Field Marshal. Was in command of all Allied ground forces during the Battle of Normandy under General Eisenhower.	Blitzkrieg	"Lightning War" – The German tactic of fighting an intense military campaign designed to bring about a swift victory
Erwin Rommel	German Field Marshal. In command of the German forces during the Battle of Normandy.	Radar	A system using radio waves to detect aircraft
Harry S. Truman	US President, 1945-53. Made the decision to drop the atomic bomb on Japan.	Blitz	"Lightning" – coined by the British press to describe the German bombing campaign on British cities
		Blitz Spirit	The determination of the British public in the face of the German bombing campaign. The reality of the spirit has been debated.
		Operation Barbarossa	The code name for the German invasion of the USSR
		Guerrilla warfare	Irregular warfare, using hit and run tactics to attack the enemy
		Amphibious landing	An assault from the sea onto enemy controlled land
		Manhattan Project	The code name for American research into producing an atomic bomb

Year 9 Knowledge Organiser

PROBABILITY CALCULATIONS

Key Concept

$P(A)$ refers to the probability that event A will occur

Theoretical probability is given by:

$$\frac{\text{Number of Favourable Outcomes}}{\text{Total Number of Possible Outcomes}}$$

Relative frequency is given by:

$$\frac{\text{Number of Successful Trials}}{\text{Total Number of Trials}}$$

The probabilities of an exhaustive set of mutually exclusive events adds up to 1

Key Words

Mutually exclusive events: events that cannot happen at the same time. Sum of all mutually exclusive events is 1.

Independent events: events that do not affect each other.

Relative frequency: Probability based on an observation or experiment.

Examples

There are 20 counters in a bag.
 2 of the counters are **white**.
 1 of the counters is **pink**.
 4 of the counters are **black**.
 The rest of the counters are **purple**.

What is the probability of selecting a **purple** counter?

$$20 - (2 + 1 + 4) = 13 \quad P(\text{purple}) = 13/20$$

There are only pink, yellow, green and blue balls in a bag. The table shows the probability that a ball taken at random from the bag will be pink, green or blue.

Colour	Pink	Yellow	Green	Blue
Probability	0.5		0.1	0.2

- (a) Work out the probability that the ball taken is yellow
 (b) There are 40 balls in the bag. Work out the number of blue balls in the bag.

$$(a) P(\text{yellow}) = 1 - (0.5 + 0.1 + 0.2) = 0.2 \quad (b) 0.2 \times 40 = 8$$

A dice is rolled 50 times. It lands on six 37 times. What is the relative frequency of the dice landing on a six.

Relative frequency:

$$\frac{\text{Number of Successful Trials}}{\text{Total Number of Trials}} = 37/50 (= 0.74 \text{ or } 74\%)$$



Clip Numbers
349-357

Tip

- Sum of all mutually exclusive events is 1.
- Probabilities are written as fractions, decimals or percentages

Questions

- 1) What is the probability of not selecting a purple counter
- 2) If there are 60 balls in the bag, how many of them are green?

ANSWERS: 1) 13/20 2) 6

Year 9 Knowledge Organiser

MULTIPLE EVENTS

Key Concept

$P(A)$ refers to the probability that event A will occur.

$P(A')$ refers to the probability that event A will not occur.

Union

$P(A \cup B)$ refers to the probability that event A or B or both will occur.

Intersection

$P(A \cap B)$ refers to the probability that both events A and B will occur.

When two events, A and B, are independent: $P(A \text{ and } B) = P(A) \times P(B)$

When two events, A and B, are mutually exclusive:
 $P(A \text{ or } B) = P(A) + P(B)$

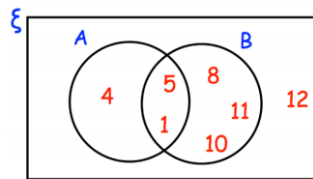
Key Words

Sample space: The set of all possible outcomes of an experiment.

Probability tree diagram: Shows all possible outcomes of an event in order to calculate their probabilities.

Venn diagram: Shows the relationship between a group of different events and how they overlap.

Examples

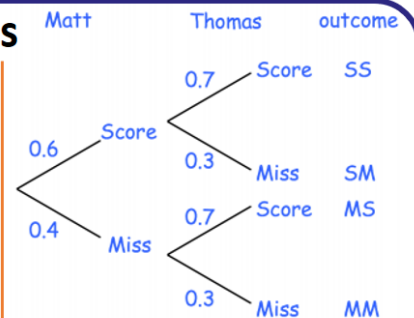


A number is chosen at random from the Venn diagram:

$$P(A) = 3/7$$

$$P(A') = 4/7$$

$$P(A \cup B) = 6/7 \quad P(A \cap B) = 2/7$$



Matt and Thomas each take a penalty. The tree diagram shows their probabilities of scoring.

Probability they both score:
 $P(SS) = 0.6 \times 0.7 = 0.42$

Probability exactly one of them scores:
 $P(SM) \text{ or } P(MS) = P(SM) + P(MS) = (0.6 \times 0.3) + (0.4 \times 0.7) = 0.18 + 0.28 = 0.46$



Clip Numbers
361-362, 374-375, 383

Tip

- Sum of all mutually exclusive events is 1.
- Probabilities are written as fractions, decimals or percentages

Questions

1. From the Venn diagram, work out (i) $P(B)$ (ii) $P(B')$ (iii) $P(A \cap B')$
2. From the tree diagram, work out the probability they both miss

ANSWERS: 1) 5/7 1!!! 2/7 1!!! 1/7 2. 0.12

Year 9 Knowledge Organiser

ALGEBRAIC EXPRESSIONS

Key Concepts

When collecting like terms involving addition or subtraction, add/subtract the numbers in front of the letters.

If the like terms are multiplied, multiply the numbers in front of the letters and put the letters next to each other.

If the like terms are divided, divide the numbers in front of the letters.

Examples

Simplify the following expressions:

1) $4p + 6t + p - 2t = 5p + 4t$

2) $3 + 2t + p - t + 2 = 5 + t + p$

3) $f + 3g - 4f = 3g - 3g$

4) $f^2 + 4f^2 - 2f^2 = 3f^2$

5) $6a \times 3b \times 2c = 36abc$

6) $\frac{9b}{3} = 3b$



151 – 152, 156 – 157

Key Words

Simplify
Term
Collect

Questions

Simplify:

1) $7p + 3q + p - 3q$ 2) $5 + 4t + 3p - 2t + 7$

3) $m - 8g - 5m$ 4) $b^2 - 7b^2 + 2b^2$

5) $2a \times 5b \times 4c$ 6) $8m \times 3n \times 2m$

7) $\frac{36p}{12}$ 8) $\frac{6t}{18}$

ANSWERS: 1) 8p 2) 12 + 2t + 3p 3) -4m - 8g 4) -4p² 5) 40abc 6) 48m²n 7) 3p 8) $\frac{3}{7}$

Year 9 Knowledge Organiser

EXPAND AND SIMPLIFY BRACKETS

Key Concepts

Expanding brackets

Multiply the number outside the brackets with EVERY term inside the brackets

Factoring expressions

Take the highest common factor outside the bracket.

Examples

Expand and simplify where appropriate

1) $7(3 + a) = 21 + 7a$

2) $2(5 + a) + 3(2 + a) = 10 + 2a + 6 + 3a = 5a + 16$

3) Factorise $9x + 18 = 9(x + 2)$

4) Factorise $6e^2 - 3e = 3e(2e - 1)$



160, 161, 168, 189,
105, 106

Key Words

Expand
Factorise
Simplify

Questions

1) Expand and simplify

(a) $3(2 - 7f)$ (b) $5(m - 2) + 6$ (c) $3(4 + t) + 2(5 + t)$

2) Factorise

(a) $6m + 12t$ (b) $9t - 3p$ (c) $4d^2 - 2d$

ANSWERS: 1) (a) $6 - 21f$ (b) $5m - 4$ (c) $22 + 5t$ 2) (a) $6(m + 2t)$ (b) $3(3t - p)$ (c) $2d(2d - 1)$

Music - Songwriting

Key term – Structure	
Revising song Structure (Y8/T1)	
Introduction	The opening
Verse	A section where the music is the same, but the lyrics change each time it is heard
Bridge	A section linking two sections, often between the verse and chorus
Chorus	The most memorable section with a catchy hook that is repeated several times during the song
Middle 8	A contrasting section often after the second chorus
Outro	The closing section often fading out.
Instrumental	A section with no lyrics but an instrumental solo

32 bar Song Structure (AABA)
Strophic form
Verse/Chorus Structure

Key term - Melody	
Revisit previous learning (Y7/T1, Y8/T2, Y8 T3)	
Hook	The main and most memorable melody generally used in the chorus
Riff	A short musical phrase that is repeated often in the accompaniment


Key term – Chords/Harmony	
Developing knowledge of chords and chord sequences (Y7/T2, Y8/T1, Y8/T2, Y8/T3)	
Primary chords	I, IV, V
Secondary chords	ii,iii,vi

Key term - Texture	
Developing knowledge of texture (Y7/T3, Y8/T2, Y8/T3)	
Layering	How different textures can be created and changed by the layering of different instruments/sonorities

Arranging and Composing	
Cover Versions	How the mood and style of a song can be completely changed by changing some of the key elements studied in lessons.
Remix	Using audio from a song along with new elements to create new version of a song
Lyrics	An introduction to how lyrics are used within songs.
Listening	Identifying different sections within a song and how a song is constructed.
	Recognising which elements are used and varied to create cover versions of a song
	Identifying basic chord sequences
Performing	Learning and performing chord sequences and hooks from existing songs
	Performing self composed songs
	Performing using voices, instruments and/or technology.
Composing	Composing all or part of an original song in a group setting
	Using technology to create a cover version/remix of a song
Contextual Knowledge	A short study into different genres of Pop and Rock with a focus on a famous artists or group

Year 9.1 - KS3 Core PE Knowledge Organiser —Principles of Training

Principles of training

		Principle	Description
		1 Individual Needs	No two exercise programmes should be exactly the same because they should be designed to meet the needs of an individual . A PARQ is used to help understand individual needs, this questionnaire determines what an individual is capable of and will inform the intensities and types of activities to be used as part of a training program.
		2 Specificity	Training should be matched to the requirements of the activity that the performer is involved in, ie Specific to the event.
		3 Progressive Overload	The frequency, intensity, time and/or type of exercise are gradually increased to ensure levels of performance continue to improve until a plateau (limit) is achieved. Eg increase the training session by 10 mins (time). We would NEVER train so much that we would become injured, this MUST BE avoided.
		4 Reversibility	Any adaptation that takes place as a result of training will be reversed when you stop training. If you take a break or don't train often enough you will lose fitness (this includes when you get injured – and is why is someone breaks their arm, when the come out of the cast the arm can be skinny)
		5 Overtraining	This occurs when you train too hard and do not give your body enough time to rest and recover between training sessions.

		Principle	Worked Examples
1 Individual Needs	Yr 11 pupil completing a PEP (Personal exercise plan) would complete a PARQ before they start so they can match their PEP to their individual needs. These include o Age, o Gender o Ability, o Fitness Levels. Eg The yr 11's PEP would look very different to that of a Premiership footballer – different age and ability)		
2 Specificity	A basketball player looking to improve his rebounding would use plyometric training to develop his power. They would use box jumps as this is specific to the movement and the muscle groups they use when they jump for a rebound.		
3 Progressive Overload	A football player looking to improve the strength of shooting would use weight/resistance training, for example a leg extension. During week 1 of a PEP they would lift 10kg, then each week they would increase the intensity by 2.5kg. (being careful not to exceed their limits)		
4 Reversibility	A long distance runner, would use continuous training and they would avoid having gaps in their training to stop the effects of reversibility and returning to their untrained state. Reversibility also sets in when an injured athlete has to have a break in training due to INJURY .		
5 Overtraining	A weightlifter would use weight training and train 3-5 times a week and allow time for rest and recovery and avoid overuse injury and allow adaptation.		

Key Misconceptions/mistakes

- If you are training cardio-vascular endurance or muscular endurance you would need to work in your aerobic training zone.
- If you are training muscular strength, speed or power you would need to work in your anaerobic training zone.

Year 9.2– KS3 Core PE Knowledge Organiser —Principles and Thresholds of Training

FITT Principles

Principle		Description		Worked Examples	
1	Frequency	How often to train.	Frequency is increased by training a greater number of times each week		
2	Intensity	How hard to train.	Intensity is increased by lifting a greater resistance , such as with weight training, or by training at a higher percentage of maximum heart rate. This can be done either as continuous or interval training		
3	Time	How long to train.	Time can be manipulated by training for longer, reducing recovery times or by completing a greater number of sets or repetitions (also known as reps)		
4	Type	Which methods of training to use.	Type of training is manipulated by offering a variety of training types and experiences to the athlete by combining training methods.		

Key Vocabulary

Heart Rate, Resting Heart Rate, Aerobic, Anaerobic, Endurance, Strength, Plateau	Worked e.g. - thresholds of training
Basic method Max HR x Intensity	
Example—aerobic training zone for John who is 16 220-age (220-16 = 204) 204 x 0.6 = 122.4 204 x 0.8 = 163.2 John's aerobic training zone is 122-163 bpm	

Key Terms

Key terms	Definition
1 Heart Rate (HR)	The number of heart beats per minute , measured in beats per minute (bpm)
2 Resting Heart Rate (RHR)	The number of heart beats per minute (at rest) , measured in beats per minute (bpm)
3 Maximum Heart Rate (MHR)	The maximum number of beats your heart can beat per minute . This is measured in beats per minute. This is calculated as 220 - age.
4 Recovery Heart Rate	The fitter you are, the faster the recovery of your heart rate (back to your Resting Heart Rate). Your heart rate drops most sharply in the first minute after you stop exercising; it should then fall about 20 beats a minute —a drop of less than 12 beats a minute is considered abnormal.

Training thresholds

Key Term	Definition	Key Term	Definition
1 Aerobic Training Zone	60-80% of your maximum heart rate.	3 Muscular Endurance	Low Weight with High Repetitions & Low Sets
2 Anaerobic Training Zone	80-90% of your maximum heart rate.	4 Muscular Strength	High Weight with Low Repetitions & High Sets

Religious Studies: Hinduism Beliefs and Teachings

How do Hindus see the Divine?

Hindus believe in one overall God (Brahman) who is non-personal and impossible to worship directly. This is Nirguna Brahman, God beyond the universe. They worship God through deities like Lady Lakshmi, they can have a personal relationship with them. This is Saguna Brahman, god(s) with shape and form.

What do Hindus say about the soul?

The Atman is the soul inside all living beings. When a being dies the Atman is reincarnated taking on a new body. Humans and animals have atmans. The atman can be seen as a bit of the Divine, a bit of Brahman inside all beings. The aim of Hinduism is to escape samsara, then your Atman unites with Brahman.

Who are the key Hindu deities?

The Trimurti are often seen as the three most important deities as they act together to keep the universe in motion. Brahma is the creator, Vishnu the preserver and Shiva the destroyer. Brahma's consort is Lady Saraswati, goddess of music and of learning. Vishnu's consort is Lady Lakshmi, goddess of wealth, prosperity and good fortune. Lord Ganesha, with an elephant head, is the god of new beginnings and the remover of obstacles. Vishnu can come down to earth as an avatar when times are hard. As Lord Rama he defeated the evil Ravanna, with help from Hanuman, the monkey warrior. As Lord Krishna he defeated King Kamsa. Hindus say there are 10 avatars of Vishnu in total.

What is Diwali?

The festival of lights, and Hindu New Year. It remembers Rama and Sita returning from exile, lights were lit to welcome them home. Fireworks celebrate their victory over the 10 headed demon Ravanna. Lady Lakshmi is also worshipped, houses are cleaned and rangoli patterns drawn to welcome her. Those in business pray she will help them prosper in the new year.

Key quotes on deities:

The Ramayana is the story of Rama, Sita, Hanuman and Lakshmana, it shows the victory of light over dark, of good over evil.

Key quotes on the divine:

Svetakatu – his father used salt in a glass of water to help him understand God is everywhere, but unseen. A seed helped him understand the idea of atman inside all living things. Unseen, but there within.

What is Holi?

The festival of Spring, and of colours. It remembers Krishna's fun loving side, with children throwing paint powder. This is also a reminder all are equal.

It also remembers the evil Holika being burned to death, defeated by her nephew Prahlad. Bonfires celebrate her destruction.

Key quotes on deities:

The Krishna stories show how an avatar fights and overcomes evil, but Krishna is also shown as loving and mischievous.

Key Terms	Definitions
Divine	God / gods
Brahman	The overall God, the supreme being. Non-personal. 'it'
Deities	Different gods / goddesses. Show one side of Brahman.
Nirguna Brahman	God with no shape / form, non-personal.
Saguna Brahman	God(s) with shape / form, the deities like Ganesha.
Beyond	The Divine is beyond the universe, not within it.
Non-personal	Brahman is everywhere, not a single being to have a relationship with.
Personal	As the deities, Saguna Brahman, gods can be pictured and worshipped, a relationship can develop.
Atman	The soul inside all living beings.
Soul	Spiritual, not physical, does not die when the body does.
Trimurti	The three main Hindu deities.
Shakti	The female side of the divine
Avatara	The idea that Vishnu comes down to earth to help humans.
Diwali / Divali	The Hindu festival of light.
Holi	The Hindu festival of Spring, and of colours.
Svetakatu	A confused little boy.
Upanishads	Hindu Scriptures.

Key quotes on the divine:

"How many gods are there? Three and three hundred, three and three thousand."

"But really... how many gods are there? One." (Upanishads)
Hindus believe in both one God (Brahman) and many deities.

Key terms	Definitions
Cosmology	Ideas about the universe.
Cosmos	The universe.
Prakriti	Matter.
Matter	Physical, material, experienced through the senses. Will not last for ever.
Tri-guna	Three stages of matter: creation, maintenance, destruction
Spirit	Links to the Atman, can't be experienced physically. Purusa = spirit.
Maya	Illusion, ultimately all material things are an illusion.
Cycle of 4 Ages	Time is made up of 4 ages: gold, silver, copper, iron.
Kalki	The tenth avatar of Vishnu.
Many worlds	Many universes, and each universe has different realms.
Diverse inhabitants	Each universe contains different forms of beings.
Spiritual worlds	Upper realms where deities live.

Key quotes on Brahman:

"He moves, and he moves not. He is far and he is near. He is within all and he is outside all."

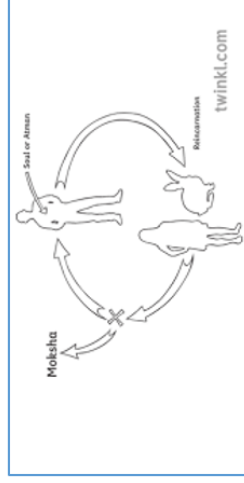
Key quotes on cosmology:

"Who truly knows... whence comes this creation?" (Rg Veda 10)
Hindus say there is a lot we don't know about the cosmos.

Religious Studies: Hinduism Beliefs and Teachings

How do Hindus see the universe?

A cluster of bubbles float in space, each one contains a universe. In each universe there is an upper realm of heavens, an earthly realm and a lower, unpleasant realm. In a new life we might be reborn in a different realm.



What do Hindus say about matter?

The world is made up of spirit (purusa), which can't be seen or touched, and matter (prakriti) which can be experienced through the senses. Some Hindus see both as working together, others say the spirit is more important. At enlightenment matter is seen as an illusion (maya) – just as a coiled rope can be mistaken for a snake, so we worry about material things that are only temporary. No material thing last for ever, matter goes through three stages, the tri-guna, it is created, maintained or looked after and will be destroyed.

How do Hindus see time?

Universes go through a cycle of 4 ages, the 4 yugas, the 4 yugas. Gold is the longest lasting, and the best. Then there is the age of silver, the age of copper and finally, shortest and most corrupt, the age of iron. We are living in the age of iron. At the end of this age (in about 427 000 years!) Kalki, the tenth and final avatar of Vishnu, will come and destroy the evil, allowing a new universe to be created and the process start again.

Key quotes on the Atman / soul:

"The self is hidden in all beings." (Upanishads)

Key quotes on Brahman and the universe:

"All this universe is in truth Brahman. He is the beginning and the end and the life of all." (Upanishads)



RE Year 9 Topic 1: Crime and Punishment

Evil

Evil actions are those that cause suffering, injury or possible death. Some actions are considered evil even though they are legal. Evil can be linked to the devil (Satan). Evil actions maybe blamed on not resisting temptation. People are created good, there is usually a reason why they do wicked things, this could be due to psychological illness. Not all evil actions come from evil intentions, sometimes a person may be influenced by the situation in which they find themselves. Many Christians would claim there is no such thing as an evil person. The belief in original sin came from the disobedience of Adam and Eve means that all humans have a tendency to do things that are evil even though they are not evil themselves. The teachings in the Bible warn against having evil or wrong thoughts or intentions: 'You have heard it was said to the people, 'You shall not murder', and anyone who murders will be subject to judgement.' (Matthew 5:21). God will make this judgement.

Suffering

Christians believe they should try to help everyone, they have a duty. They should follow the example of Jesus. Why would a loving God, who cares about his people, allow them to suffer? God gave humanity free will and given guidance about how to use free will responsibly.

Christians try to heal the wrong that has been done as Jesus taught to love and respect each other.

Treatment of Criminals

How severe the punishment is depends on the seriousness of the crime. Reformation is an important factor as both the individual and society will benefit. Christians focus on positive sanctions that help offenders change their ways. Under Shari'ah law (Muslim countries follow) the severity of the punishment depends on the seriousness of the crime committed.

Forgiveness

Christians and Muslims believe that forgiveness is important for a living a peaceful life. They do not think it is a replacement for punishment. If the aim of punishment is to reform, the punishment should benefit the offender. When Jesus was being crucified, Jesus forgave those who crucified him. God expects Christians to show forgiveness to others, in turn they believe God will forgive them for any sins they may commit. Muslims believe only God can truly forgive and will forgive those he knows are truly sorry and intend to follow the faith properly in the future.

KEY TERMS

Crime	Breaking the law, which is punishable.
Punishment	Something legally done to somebody as a result of being found guilty of breaking the law.
Evil	The opposite of good; a force or the personification of a negative power. E.g. the devil
Hate Crime	Crimes often involving violence that are usually targeted at a person because of their race, religion, sexuality, disability or gender. Jesus taught to 'Love your neighbour.' This means to show compassion, care and respect to all. Christians believe God created all humans with equal value
Sanctity of life	All life is holy as it is created and loved by God; Christians believe human life should not be misused or abused.
Free Will	The ability of people to make decisions for themselves without constraint
Forgiveness	Showing mercy and pardoning someone for what they have done wrong.
Justice	Making things fair again.
Sin	<ol style="list-style-type: none"> 1. Any action or thought that separates humans from God 2. Behaviour which is against God's laws and wishes or against principles of morality
Corporal Punishment	Punishment of an offender by causing them physical pain – now illegal in the UK.

<p>The philosophical <u>principle of utility</u> suggests that an action is right if it promotes maximum happiness for the maximum number of people affected by it.</p>	Key Quotes
	<p>"There is neither Jew nor Gentile, slave nor free, male nor female, for you are all one in Christ Jesus." (Galatians 3:28) Shows equality.</p>
	<p>"Forgive us our sins as we forgive those who sin against us." (The Lord's Prayer) Shows forgiveness.</p>
	<p>"Do not take revenge.....Do not overcome by evil, but overcome evil with good.' (Romans 12:19-21)</p>

Year 9 Biology – Cells Knowledge Organiser

Stem cell – unspecialised cell. There are embryonic and adult stem cells.

Therapeutic cloning - stem cells with the same genetic make-up as the patient.

Eukaryotic cell - plant and animal cell – nucleus and membrane bound organelles.

Prokaryotic cell – bacterial cell – no nucleus and only ribosomes.

Calculations

Total magnification = eyepiece lens x objective lens

$$\text{Magnification} = \frac{\text{Image size}}{\text{Actual size}}$$

$$\% \text{ change} = \frac{\text{Change}}{\text{Starting value}} \times 100$$

Standard form

$$0.0000742 = 7.42 \times 10^{-5}$$

OR

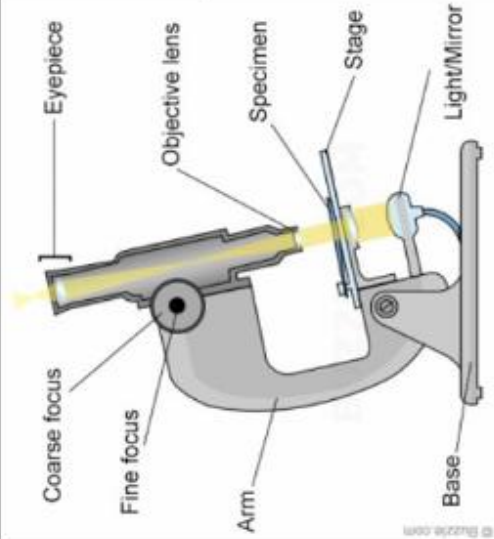
$$345000 = 3.45 \times 10^5$$

Resolution

The degree to which it is possible to distinguish between two objects that are close together.

Magnification

The degree to which the size of an image is larger than the image itself.



Specialised Cells

Nerve cell – long, insulated.

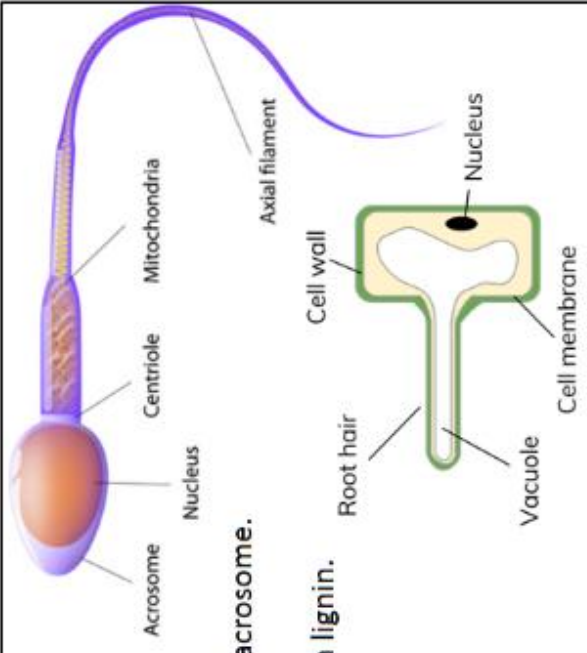
Sperm cell – tail, many mitochondria, acrosome.

Muscle cell – many mitochondria.

Xylem cell – hollow, strengthened with lignin.

Phloem cell – end cells.

Root hair cell – large surface area.



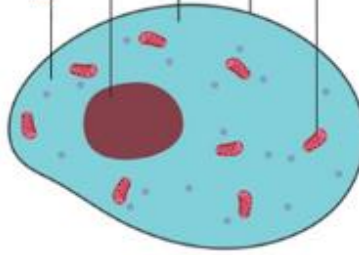
Ribosomes → Protein synthesis

Nucleus → Genetic material, controls activities of cell

Cytoplasm → Where chemical reactions take place

Cell membrane → Control what moves in and out of the cell

Mitochondria → Where aerobic respiration takes place



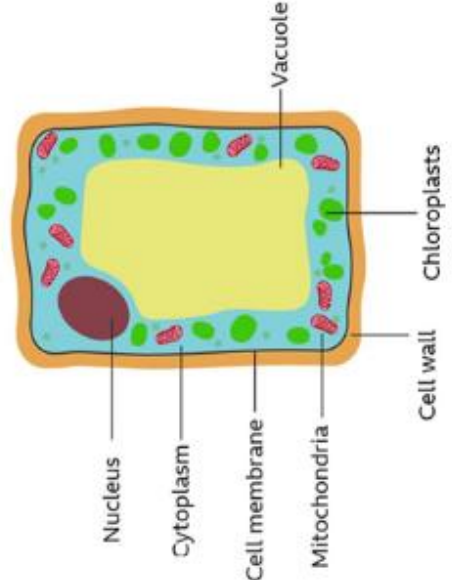
Animal Cell

Plant Cell

Vacuole – contains cell sap.

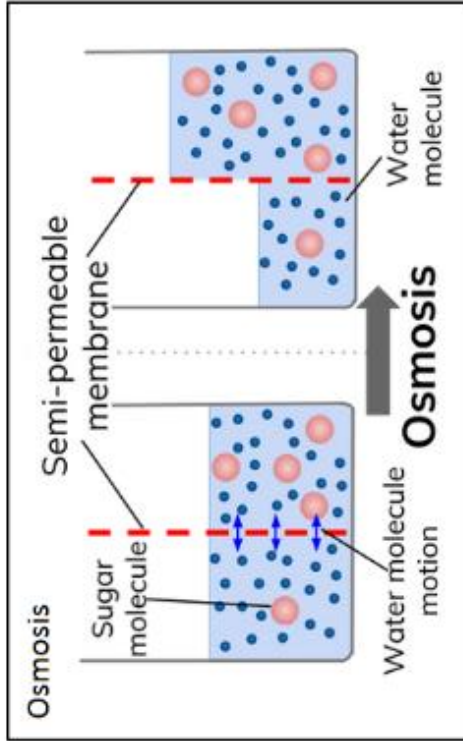
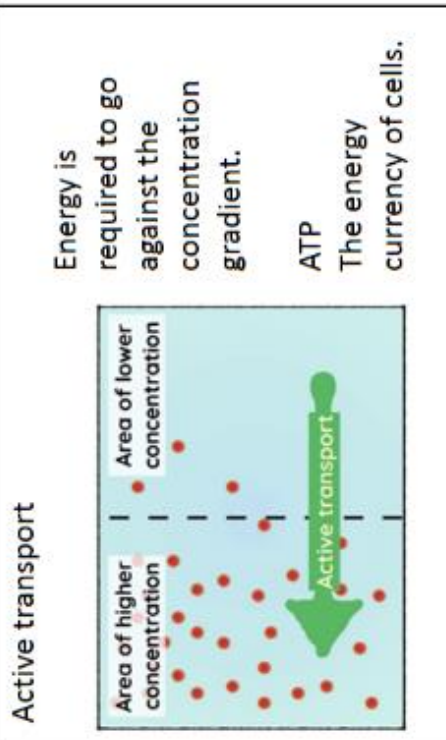
Chloroplast – contain chlorophyll, that absorbs light for photosynthesis to make glucose.

Cell wall – strength and support.



Transport

Diffusion: Particles moving from high to low concentration.
Osmosis: Water moving from high to low concentration through a partially permeable membrane.
Active transport: particles moving from low to high concentration, through a partially permeable membrane, requiring energy.

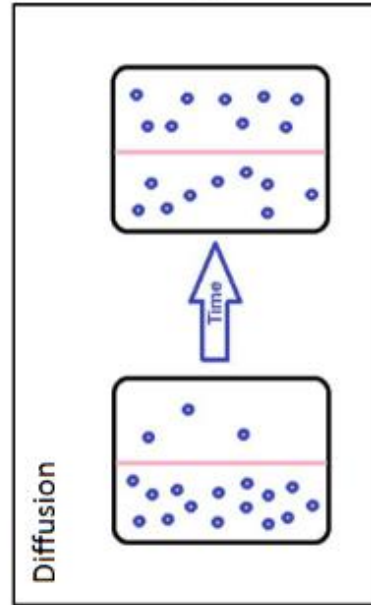


Tier 2 Vocabulary

- Accurate
- Investigate
- Evaluate
- Approximate
- Specific
- Gender
- Data
- Volume
- Estimate
- Adapt
- Research
- Focus
- Chemical
- Trend
- Hypothesis

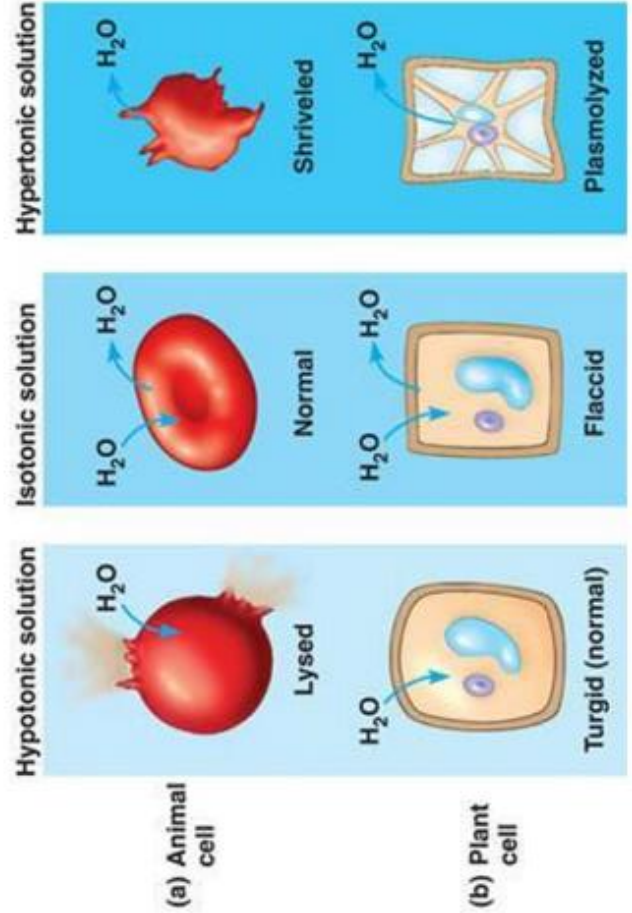
Tier 3 Vocabulary

- Ribosome
- Prokaryotic
- Nucleus
- Stem cell
- Mitochondria
- Acrosome
- Chloroplast
- Phloem
- Vacuole
- Xylem
- Cytoplasm
- Sperm cell
- Magnification
- Diffusion
- Resolution
- Osmosis
- Microscope
- Active transport
- Eukaryotic
- Semi-permeable
- Mitosis
- Chromosomes



Chromosomes
 Made up of DNA and control out gender and characteristics.

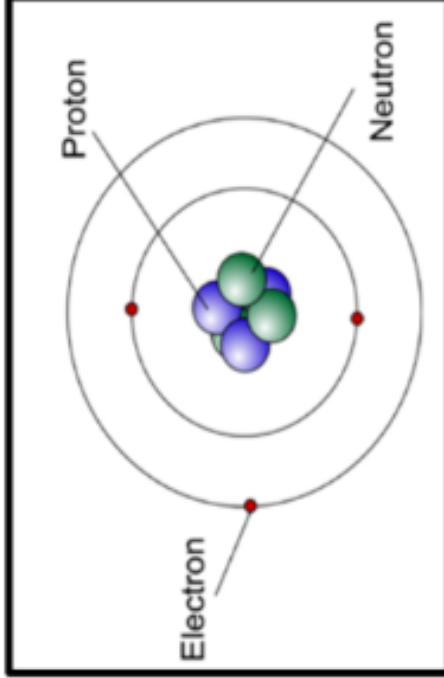
Gene
 Section of DNA that codes for a specific characteristic



Atom – The smallest reacting particle.
Element – One type of atom.
Compound – Two or more different atoms chemically joined together.
Mixture – Two or more different substances not chemically joined.

Year 9 Topic 1 Chemistry Knowledge Organiser

Sub-Atomic Particle	Charge	Mass	Where Found
Proton	+1 (Positive)	1	Nucleus
Neutron	0 (Neutral)	1	Nucleus
Electron	-1 (Negative)	0	Electron Shell



The Law of Conservation of Mass:

In a reaction, the mass of the reactants is the same as the mass of the products. Matter is not created or destroyed.

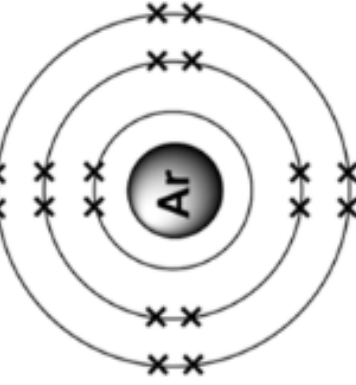
Modelling Atoms:

J.J. Thompson – Plum Pudding Model (ball of positive charge containing negative electrons).

Rutherford – Gold scattering experiment identified a solid nucleus with electrons around it.

Bohr – Placed electrons in shells around the positive nucleus.

Chadwick – Discovered neutrons in the nucleus.



Electronic Structure:

Energy level 1 = 2
 Energy level 2 = 8
 Energy level 3 = 8
 Energy level 4 = 8

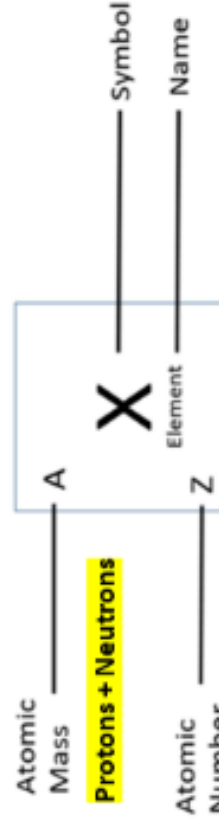
Tier 2 Vocabulary

Filter Energy
 Symbol Conservation
 Transfer

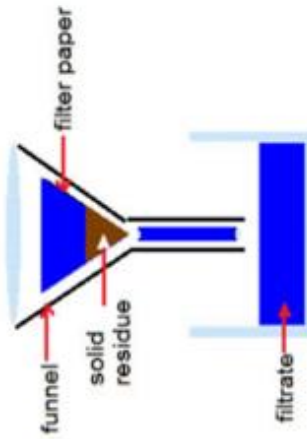
Tier 3 Vocabulary

Proton Neutron
 Electron Atom
 Atomic mass Atomic number
 Electron shell Periodic Table
 Ion Chromatography
 Distillation Crystallisation

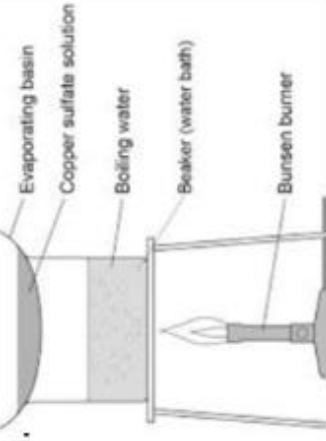
Soluble – Something that will dissolve.
Insoluble – Something that will not dissolve.
Solvent – A substance that will dissolve something else.
Solute – A substance that is dissolved.



Filtration – Insoluble solid from a liquid.



Crystallisation – Soluble solid from a solution.



Group 0 – The Noble Gases:

These elements are inert (not reactive) because they have a full outermost shell of electrons. They don't need to lose or gain any to be stable.



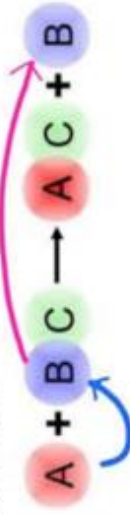
Group 1

Alkali Metals:

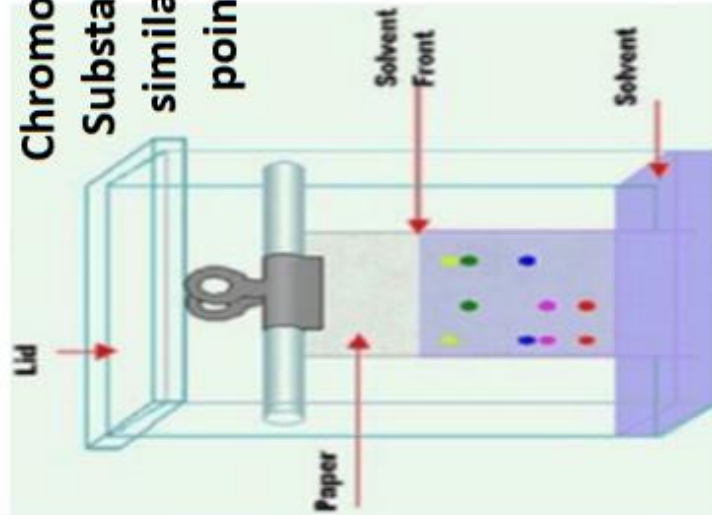
- Reactivity increases as you go down the group.
- The all have one electron in their outermost shell.
- Lithium is the least reactive, francium is the most reactive.

Group 7 – The Halogens:

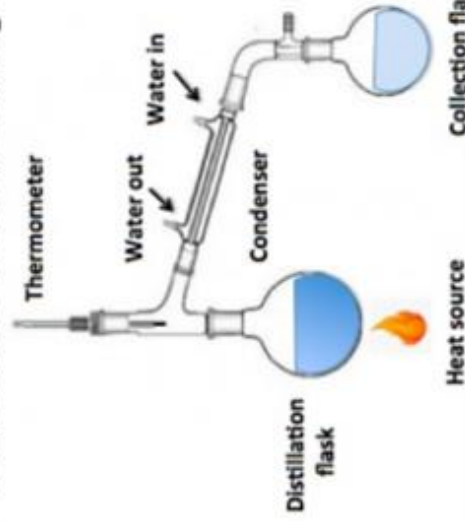
- Reactivity decreases as you go down the group.
- The all have seven electrons in their outermost shell.
- Astatine is the least reactive, fluorine is the most reactive.
- Displacement reactions can be used to see which halogen is more reactive.



Chromatography – Substances with similar boiling points (ink).



Distillation – Soluble solids from liquids with different boiling points.



Year 9 Topic 1 Physics - States of Matter and Density Knowledge Organiser

Density required practical

Regular shaped object

- Use a mass balance to find the mass in Kg
- Measure the length, width and height using a ruler
- Length x height x width = volume
- Calculate the density using – density = mass/volume

Density equation:

$$\rho = \frac{m}{v}$$

density mass volume

Density:

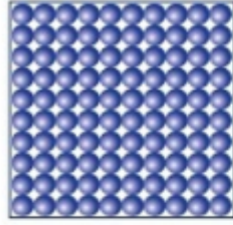
Density is a measure of the amount of matter in a given volume.

Density example

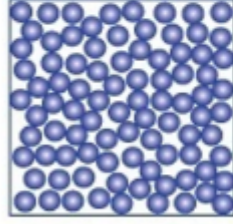
These two objects are equal in volume, but different in mass due to their density.



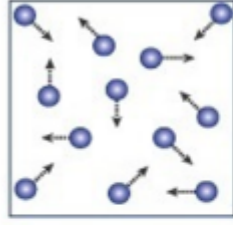
States Of matter



Solid

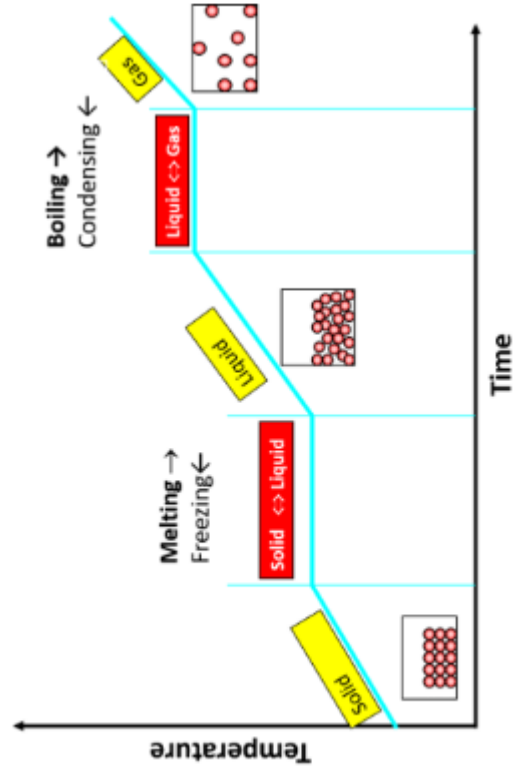


Liquid



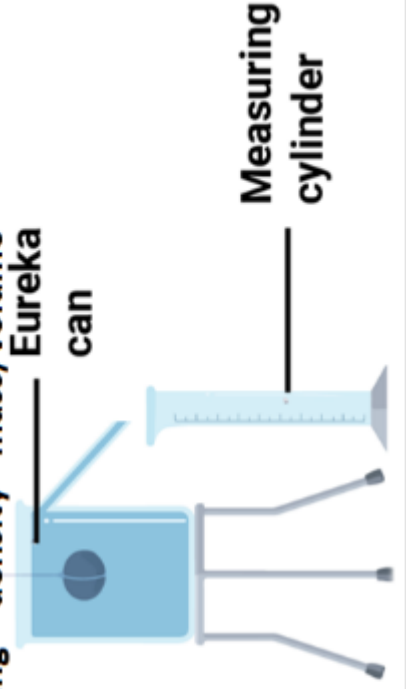
Gas

Change of state:



Density required practical - Irregular shaped object

- Use a mass balance to find the mass in Kg
- Place the irregular shaped object into the Eureka can
- Record the volume of water collected in the measuring cylinder
- Calculate the density using – density = mass/volume



Specific latent heat:

The energy required to change the state of 1 kg of a substance with no change in temperature.

Specific latent heat of fusion:

Change between solid and liquid state

Specific latent heat of vaporisation: Change between liquid and gas state

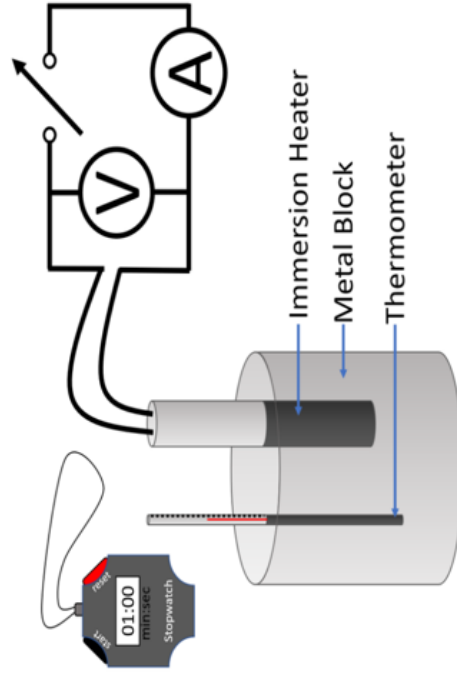
$$\Delta E = mL$$

m = mass (kg)

L = specific latent heat (J/kg)

ΔE = change in thermal energy (J)

Specific Heat Capacity required practical



Internal energy:

The sum of the potential and kinetic energies of the particles in a system

Calculating Energy Change (Joules) when an object is heated.

Use the equation $E=IVt$ to calculate the energy supplied to the metal block.

Remember :- Power (Watts) = Potential Difference (V) x Current (Amps) ($P=IV$)

Specific heat capacity:

The energy required to raise the temperature of 1 kg of a substance by 1°C

$$\Delta E = mc\Delta\theta$$

m = mass (kg)

L = specific latent heat (J/kg)

$\Delta\theta$ = change in temperature (°C)

ΔE = change in thermal energy (J)

The specific heat capacity of water is 4,200 Joules per kilogram per degree Celsius ($J/kg^{\circ}C$). This means that it takes 4,200 J to raise the temperature of 1 kg of water by 1°C.

Tier 2 Vocabulary

Matter
Particles
State
Volume
Thermal
Temperature
Substance

Tier 3 Vocabulary

Density
Mass
Evaporation
Condensing
Boiling
Sublimation
Freezing
Celcius
Potential
Kinetic

Sadie is experimenting with a model steam engine. Before the 0.25 kg of water begins to boil it needs to be heated from 20°C up to 100°C. If the specific heat capacity of water is 4,180 J/kg°C, how much thermal energy is needed to get the water up to boiling point?

$$E_t = m c \Delta\theta$$

$$E_t = 0.25 \times 4,180 \times (100 - 20)$$

$$E_t = 0.25 \times 4,180 \times 80$$

$$E_t = 83,600 \text{ J}$$

Key spellings 1	
Learn these spellings, they will be really useful for this unit and you will be tested on them.	
1. a menudo	often
2. voy al polideportivo	I go to the sports centre
3. monto en bici	I ride my bike
4. voy a ir a la bolera	I'm going to go bowling
5. las películas de terror	horror films
¿Cómo organizas tu semana?	How do you organise your week?
Los lunes, martes, miércoles, jueves, viernes...	On Mondays, Tue, Wed, Thur, Fri...
Los fines de semana...	At the weekend...
Después del insti(tuto)	After school...
escribo canciones	I write songs
juego en mi consola	I play with my console
cocino para mi familia	I cook for my family
bailo Zumba	I dance Zumba
monto en bici	I ride my bike
leo libros/cómics	I read books/comics
toco la guitarra/el teclado	I play the guitar/keyboard
veo un partido de fútbol	I watch a football match
hago judo/hatación	I do judo/swimming
voy al parque	I go to the park
voy al polideportivo	I go to the sports centre
soy miembro de un club/equipo	I'm a member of a club/team
¿Con qué frecuencia?	How often?
(casi) todos los días	(almost) every day
a menudo	often
dos o tres veces a la semana	2 or 3 times a week
a veces	sometimes
una vez a la semana	once a week
siempre	always
todos los fines de semana	every weekend
una vez al mes	once a month
dos veces al mes	twice a month
los domingos por tarde	on Sunday evenings
los sábados por la mañana	on Saturday mornings

¿Qué cosas te gustan/no te gustan?	What things do you like/not like?	¿Cómo vas a celebrar tu cumpleaños?	How are you going to celebrate your birthday?
Me gusta(n) (mucho)...	I (really) like...	Mañana	Tomorrow
Me encanta(n)/Me chifla(n)	I love...	La semana que viene	Next week
No me gusta(n) (nada)...	I (really) don't like...	El fin de semana que viene	Next weekend
Odio...	I hate...	El mes que viene	Next month
el deporte/el dibujo	sport/art	El nueve de febrero	On February 9th
el racismo/la violencia	racism/violence	Voy a...	I'm going to...
la música/la tele	music/TV	hacer karting	do go-karting
los animales/los insectos	animals/insects	ir a la bolera	go bowling
los videojuegos	videogames	ir a un parque de atracciones	go to a theme park
las artes marciales	martial arts.	pasar la noche en casa con mis amigos/as	have a sleepover
los animales	sunbathing	sacar muchas fotos	take lots of photos
¿Qué tipo de película te gusta?	What type of film do you like?	jugar al paintball	play paintball
las comedias	comedies	Vamos a...	We're going to...
las películas de acción	action films	montar en una montaña rusa	ride on a rollercoaster
las películas de animación	animated films	ver películas de terror	watch horror films
las películas de aventuras	adventure films	¡Va a ser genial!	
las películas de ciencia ficción	sci-fi films		
las películas de fantasía	fantasy films		
las películas de terror	horror films		
las películas de superhéroes	superhero films		
Mi película favorita es...	My favourite film is...		
Mi actor/actriz favorito/a es...	My favourite actor/actress is...		

Key grammar – The present tense (regular verbs)

The present tense is used to talk about actions you do regularly or something you are doing right now (I play, I am playing)

To form it: 1. Remove the infinitive AR/ER/IR ending

2. Add the correct ending from the table below

Nadar	To swim	Comer	To eat	Vivir	To live
nado	I swim	como	I eat	vivo	I live
nadas	you swim	comes	you eat	vives	you live
nada	(s)he/it swims	come	(s)he/it eats	vive	(s)he/it live
nadamos	we swim	comemos	we eat	vivimos	we live
nadáis	you pl. swim	coméis	you pl. eat	vivís	you pl. live
nadan	they swim	comen	they eat	viven	they live

Key spellings 2	
Learn these spellings, they will be really useful for this unit and you will be tested on them.	
1. tengo que	I have to
2. organizado/a	organised
3. trabajar	to work
4. escribo correos	I write emails
5. escuché música	I listened to music
¿En qué trabajas?	What's your job?
Soy...	I am...
camarero/a	a waiter/waitress
cocinero/a	a chef
jardiner/a	a gardener
peluquero/a	a hairdresser
dependiente/a	a shop assistant
limpiador(a)	a cleaner
repcionista	a receptionist
¿Qué tienes que hacer?	What do you have to do?
Tengo que...	I have to...
ayudar a los clientes	help customers
cortar el pelo a los clientes	cut clients' hair
hablar por teléfono	talk on the phone
limpiar habitaciones	clean rooms
preparar comida	prepare food
servir en el restaurante	serve in the restaurant
vender productos en la tienda	sell products in the shop
¿Cómo es un día típico?	What's a typical day like?
escribo correos	I write emails
hago reservas/entrevistas	I do reservations/interviews
organizo excursiones	I organise trips
preparo el programa	I prepare the program
trabajo con mi equipo	I work with my team
viajo mucho	I travel a lot
voy a la oficina	I go to the office
hablo inglés y español	I speak English and Spanish

¿Qué te gustaría hacer?	What would you like to do?
Me gustaría...	I would like to...
No me gustaría...	I wouldn't like to...
trabajar en el aire libre	work outside
trabajar con animales/niños	work with animals/kids
trabajar en equipo/ sólo/a	work in a team/alone
trabajar en una oficina	work in an office
hacer un trabajo creativo/manual	do a creative/manual job
Por eso, me gustaría ser...	For this reason, I would like to be ...
cantante/periodista	a singer/journalist
enfermero/a/mecánico/a	a nurse/mechanic
policia/veterinario/a	a police officer/vet
profesor(a)/diseñador(a)	a teacher/designer

¿Qué tipo de personas eres?	What type of person are you?
En mi opinión, soy...	In my opinion, I am...
Creo que soy...	I think that I am...
muy/bastante	very/quite
ambicioso/a	ambitious
práctico/a	practical
organizado/a	organised
trabajador(a)/	hard-working
hablador(a)	chatty
independiente	independent
inteligente	intelligent
paciente	patient
sociable	sociable
responsable	responsible

¿Te gusta tu trabajo?	Do you like your job?
Me gusta (mucho) mi trabajo	I (really) like my job
No me gusta (nada) mi trabajo	I don't like my job (at all)
porque es...	because it is...
creativo/fácil	creative/easy
estresante/interesante	stressful/interesting
monótono/repetitivo	monotonous/repetitive
práctico/variado	practical/varied
Mi jefe/a es severo/a	My boss is strict
Los clientes (no) son simpáticos	The customers are (not) nice

¿Qué tal ayer en el trabajo?	How was work yesterday?
Por la mañana/Por la tarde...	In the morning/afternoon
A la hora de comer	At lunchtime
bebí una botella de coca	I drank a bottle of Coke
comí una hamburguesa	I ate a hamburger
dormí un poco	I slept a bit
escuché música	I listened to music
escribí SMS	I wrote texts
hablé por Skype	I spoke on Skype
jugué a un videojuego	I played a videogame
llegué tarde al trabajo	I arrived late to work
perdí mi trabajo	I lost my job

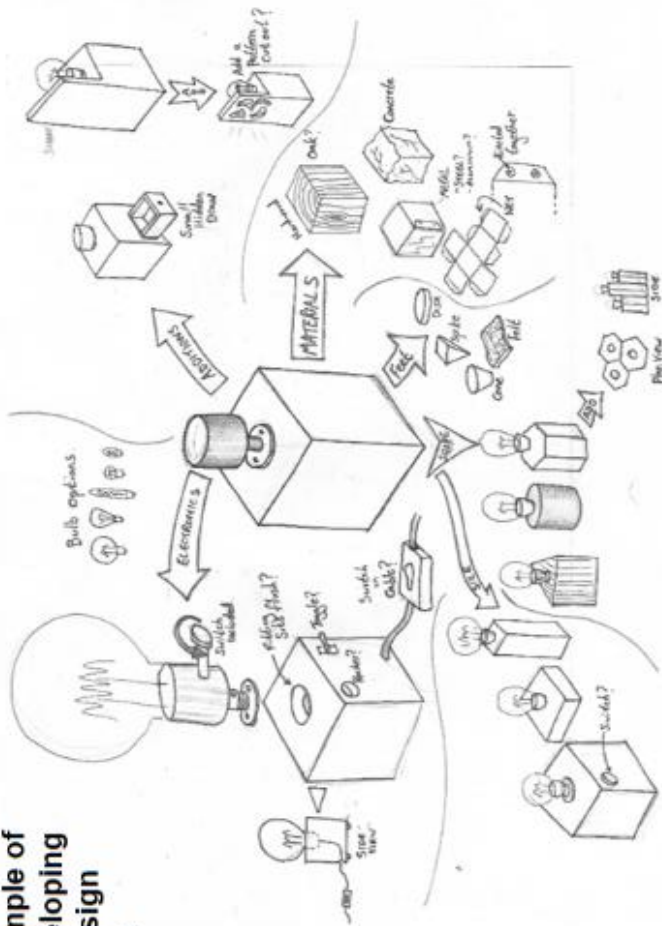
Key grammar – The preterite tense (regular verbs)		
Use the preterite to talk about past actions (I went, I ate, I swam).		
To form it: 1. Remove the infinitive AR/ER/IR ending. 2. Add the appropriate ending, using the table below.		
Bailar	To dance	To eat/To climb
bailé	I danced	I ate/climbed
bailaste	you danced	you ate/climbed
bailó	(s)he/it danced	s(he)/it ate/climbed
bailamos	we danced	we ate/climbed
bailasteis	you pl. danced	you pl. ate/climbed
bailaron	they danced	they ate/climbed
Comer/Subir	Comer/Subir	To eat/To climb
comí/subí	comí/subí	I ate/climbed
comiste/subiste	comiste/subiste	you ate/climbed
comió/subió	comió/subió	s(he)/it ate/climbed
comimos/subimos	comimos/subimos	we ate/climbed
comisteis/subisteis	comisteis/subisteis	you pl. ate/climbed
comieron/subieron	comieron/subieron	they ate/climbed

Year 9 – Knowledge Organiser – Design & Technology – Design

Design and Technology Specific Language and Terms

Design Brief	A statement of intent for a project, created with an end user in mind. A design brief should primarily focus on the results and outcomes of the design.
Specification	A list of rules to follow when designing, a specification point is the result of research into the requirements of a project
Influenced by...	To use existing designers, media, products, time periods etc. to create, change and adapt a design. To be influenced by.
Design Movement	A period in time where a certain style was prevalent. (see examples below)
Initial Ideas	The creation of multiple ideas, considering different ways of fulfilling the design brief
Development	To work on, add to, an improve an idea via ongoing research, and seeking further influence or understanding of an outcome.

Example of developing a design idea

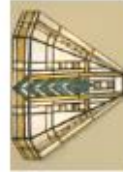


DESIGN MOVEMENTS

Design movements are periods in time where a certain style of design was prevalent. It's important to know about these movements as they provide a starting point to base your product on or just provide inspiration.



Organic design is a style of product design which takes as its starting point organic, flowing natural forms. Undulating lines, dynamic curves, and powerful arches stand in contrast to the geometric, functional style as represented by functionalism

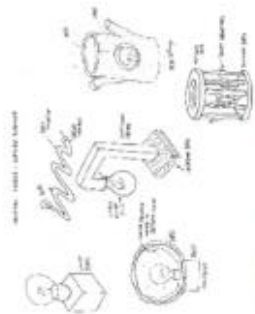


Art Deco is a style of architecture and design that first appeared in France just before World War I. Art Deco influenced the design of buildings, furniture, jewellery, fashion, transport, and everyday



Postmodernism is one of the most controversial movements in art and design history. Over two decades, Postmodernism shattered established ideas about art and design, bringing a new self-awareness about style itself.

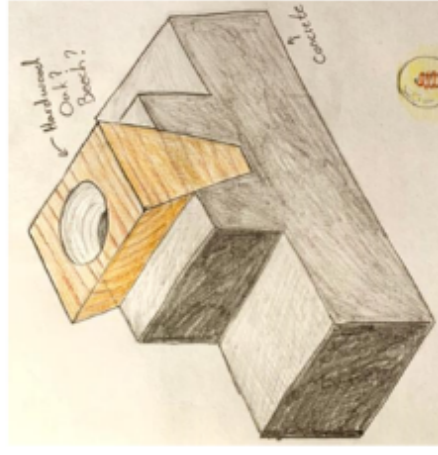
Design Movements Timeline



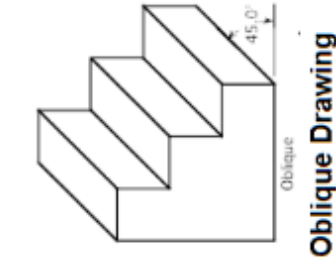
An Initial ideas page

Year 9 – Knowledge Organiser – Design & Technology – Design – DESIGN

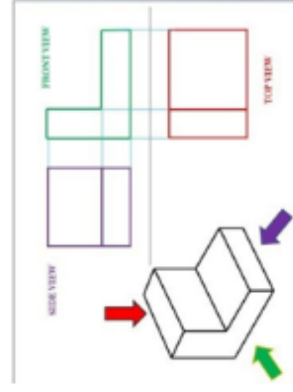
Design and Technology Specific Language and Terms	
CAD	 <p>Computer Aided Design</p>
Isometric Drawing	<p>An isometric drawing is a type of 3D drawing that is set out using 30-degree angles. It's a type of drawing in which the same scale is used for every axis, resulting in a non-distorted image.</p>
Oblique Drawing	<p>A item is drawn in 2D in the correct proportions, it is then forced into 3D by projecting lines out at 45 degrees.</p>
Orthographic Drawings	<p>2D drawings drawn in detail and to scale. Orthographic projections provide 3 views, front, side and plan.</p>
Working Drawing	<p>An accurate drawing providing all information required to make a product. Usually presented as an isometric or orthographic drawing.</p>
Parts List	<p>Goes with a working drawing and breaks a design down into its individual parts, stating what it is to be made from and the quantity required of each part</p>



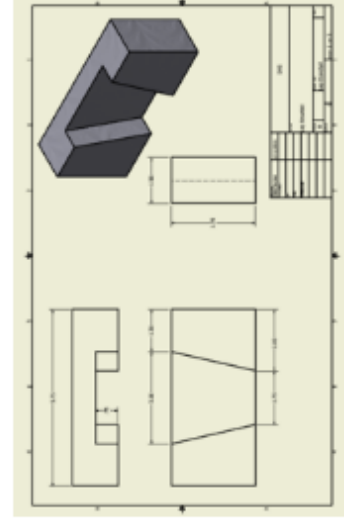
Isometric Drawings



Oblique Drawing



Orthographic Drawing



Working Drawing

Year 9 – Knowledge Organiser – Design & Technology – TOOLS/MACHINERY





HAND TOOLS		MACHINERY		CUTTING	
	Bench Hook		Milling machine		Scroll Saw (Hegner)
	Coping Saw (timber/plastic)		Centre Lathe		Hand Held Router
	Tennon Saw (timber)		Buffer / Polisher		Jigsaw
	Hacksaw (metal)		Disc Sander		Bandsaw
	G Clamp		Strip Heater		Table Saw
	Woodwork Vice		Pillar Drill		Laser Cutter
	Hand Clamp				
	Glass Paper				
		<ul style="list-style-type: none"> Removes material a thin layer at a time Can be used to ensure an absolutely flat surface. Very accurate 	<ul style="list-style-type: none"> Used to 'turn' material (rotates) A tool or bit is used to shape the rotating material There are wood and engineers (metal) lathes 	<ul style="list-style-type: none"> Thin blade allows for intricate curves to be cut in timber a plastic sheet material 	<ul style="list-style-type: none"> Spinning cutting tool removes wood as it moves along a surface Used to create slots, grooves or fancy edges
		<ul style="list-style-type: none"> Used to polish metal or plastics to a high shine 	<ul style="list-style-type: none"> Rotating abrasive disc removes material Used for timber and plastics 	<ul style="list-style-type: none"> Used to make straight or curved cuts in all materials Blades and speed can be changed to suit material 	<ul style="list-style-type: none"> Blade is one continuous flexible loop Mainly used for timber but blades can be changed to cut plastics Can cut straight or curved lines
		<ul style="list-style-type: none"> Used to apply heat along an area of thermoforming plastic allowing it to be bend along a line Process is called line bending 	<ul style="list-style-type: none"> A rotating drill bit can be lowered into a work piece to create holes Work must be secured to the table. 	<ul style="list-style-type: none"> Circular blade rotates through the table surface Used to make straight cuts only Mainly used to cut boards to size 	<ul style="list-style-type: none"> Can be used for multiple thin materials Requires designs to be created on a computer first

Year 9 – Knowledge Organiser – Design & Technology – MATERIALS




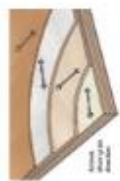
Plastics

Type	Example of	Advantages	Disadvantages
Acrylic 	Thermo-forming (shaped with heat)	Available in many colours and styles Weather proof Can be laser cut	Brittle Scratches easily Made from oil - unsustainable
Epoxy Resin 	Thermo-Setting (Can only shape once)	Hard wearing Can be mixed with pigments/powders to create effects Will not burn	Non recyclable Gives off fumes Made from oil - unsustainable

Metals

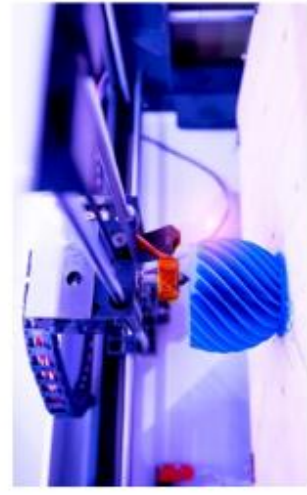
Type	Example of	Advantages	Disadvantages
Steel 	Ferrous (Contains iron)	Relatively cheap Widely available Strong/Tough	Rusts Requires a surface finish
Aluminium 	Non-Ferrous (Does not contain iron)	Does not rust Lightweight Easy to cut and shape	Relatively expensive
Copper 	Non-Ferrous (Does not contain iron)	Good conductor of heat and electricity	Corrodes Relatively expensive
Pewter 	Alloy (Mix of multiple metals)	Does not rust Low melting point for easy casting Polishes to a high shine	Relatively expensive Heavier than alternatives

Timber

Type	Example of	Advantages	Disadvantages
Pine 	Softwood	Cheaper More sustainable as faster growing Widely Available	Knotty Can be weaker than hardwoods Less durable
Oak 	Hardwood	Good aesthetic Extremely durable Easy to maintain High strength	Generally harder to cut and shape More expensive Less sustainable as slower growth rate
Mahogany 	Hardwood		
Plywood 	Manufactured Board	Available in large sheets Good strength and durability Can be laser cut	More expensive than other board options Edges can splinter

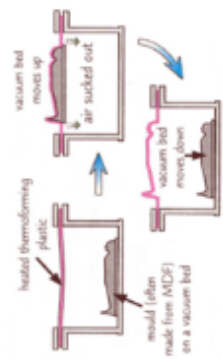
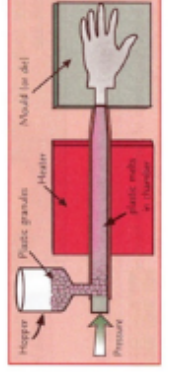


3D Printing uses PLA or PVC plastic on a reel. This is heated and used to print a thin layer at a time



Year 9 – Knowledge Organiser – Design & Technology – Processes / H&S

Shaping Plastics

 <p>Diagram illustrating the Vacuum Forming process. It shows a plastic sheet being heated by a heater. The heated sheet is then placed over a mold (made from MDF) in a vacuum bed. The vacuum bed moves down, sucking the plastic into the mold. The vacuum bed then moves up, and the air is sucked out, resulting in the plastic being shaped into the mold.</p>	<p>Vacuum Forming</p> <ul style="list-style-type: none"> • A mould is placed onto the vacuum bed • A thermoforming sheet or film (usually HIPS) is clamped above the bed and heated until soft <ul style="list-style-type: none"> • Bed is lifted into the heated plastic • All air is sucked out creating a vacuum, pulling the plastic over the mould • Moulded plastic then cools and becomes rigid.
 <p>Diagram illustrating the Injection Moulding process. It shows plastic granules being heated in a heater. The molten plastic is then injected into a mold (made from steel). The plastic fills the mold and is then cooled to form the final part.</p>	<p>Injection Moulding</p> <ul style="list-style-type: none"> • Molten material is forced into a mould • Tool steel moulds have the negative shape within them. • Used to create items like; plastic buckets and school chairs.

Health & Safety




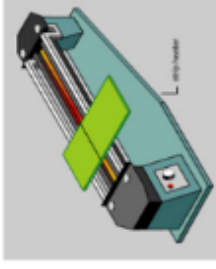

Design and Technology Specific Language and Terms

<p>Health and Safety</p> <p>Anything to do with a persons wellbeing in any given situation. From sitting at a computer for long periods to operating machinery.</p>	
<p>Risk Assessment</p> <p>A document that considers all risk to a person/s carrying out a task, and all control measure put in place to minimize or remove risk to health, this could be training, following certain rules or using PPE</p>	
<p>PPE</p> <p>Personal Protective Equipment Goggles, aprons, dusk masks, gloves</p>	
<p>Extraction</p> <p>Can be dust extraction when using machinery or fume extraction when gluing or painting.</p>	

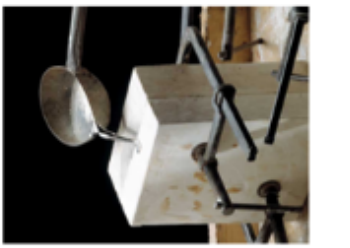


Two leaves cast in pewter

Bending Materials




 <p>Diagram illustrating the Sheet metal folder process. It shows a sheet of metal being fed into a folder, which bends it into a specific shape.</p>	<p>Sheet metal folder</p> <ul style="list-style-type: none"> • Used to shape aluminium and tin • Flat sheet material is marked up and bent one fold at a time. • Joins can be riveted, soldered, brazed etc. • Process is called Line Bending
 <p>Diagram illustrating the Strip Heater process. It shows a strip of material being heated by a heater, which softens it and allows it to be bent into a specific shape.</p>	<p>Strip Heater</p> <ul style="list-style-type: none"> • A heating element softens a thermoforming plastic (acrylic) along a line. • This can then be bent to shape and held in place until cooled
 <p>Diagram illustrating the Lamination process. It shows thin strips of material being glued together and held in a jig to keep them in the desired shape. Once set, the item is removed from the jig and trimmed to size.</p>	<p>Lamination</p> <ul style="list-style-type: none"> • Woods can be bent by laminating • Thin strips are glued together and held in a jig to keep them in the desired shape. • Once set the item is removed from the jig and trimmed to size.

Casting

	<p>Die Casting</p> <ul style="list-style-type: none"> • Used to cast metals or thermoforming plastics • Material is melted and pours into a mould • Once cooled it can be removed and any seems tidied up • Thermoforming plastics are moulded by mixing two part which set through a chemical reaction. <ul style="list-style-type: none"> • Often referred to as Resin
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Year 9 – Knowledge Organiser – Design & Technology – CAM

COMPUTER AIDED MANUFACTURE

MACHINERY	
	Laser Cutter
	3D Printing
	Vinyl Stickers



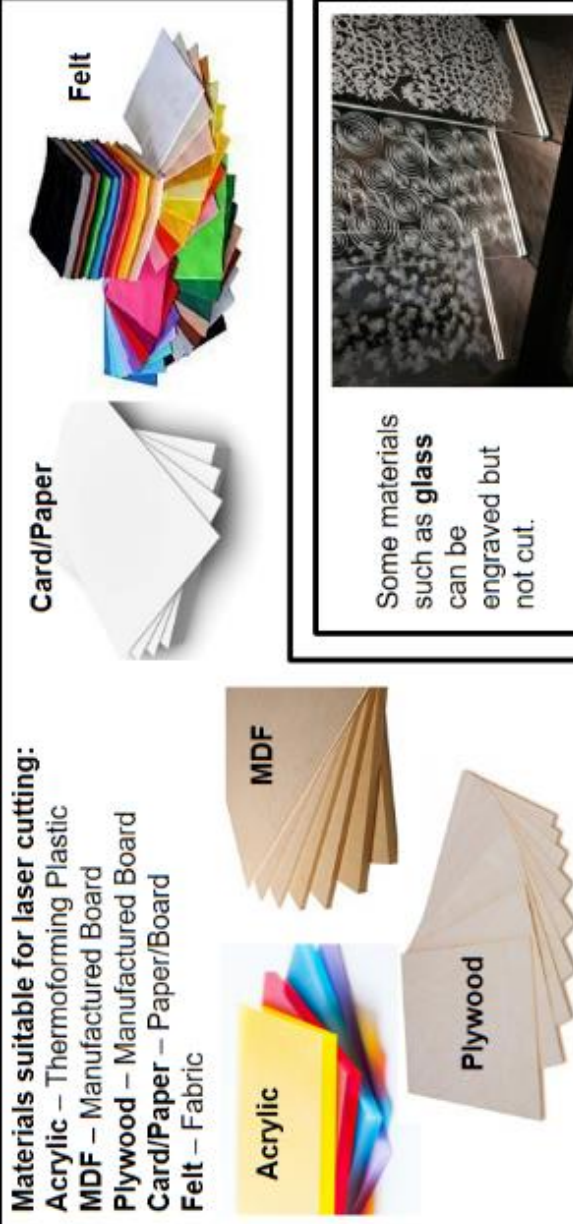
Sticky back vinyl cut to shape

Advantages	Disadvantages
Accurate to low tolerances	Expensive to set up
Quick – rapid prototyping	Requires Specialist Training
Multiples can be produced easily	Job loss to automation



Interlocking laser cut toy in plywood

Materials suitable for laser cutting:
 Acrylic – Thermoforming Plastic
 MDF – Manufactured Board
 Plywood – Manufactured Board
 Card/Paper – Paper/Board
 Felt – Fabric



Some materials such as **glass** can be engraved but not cut.



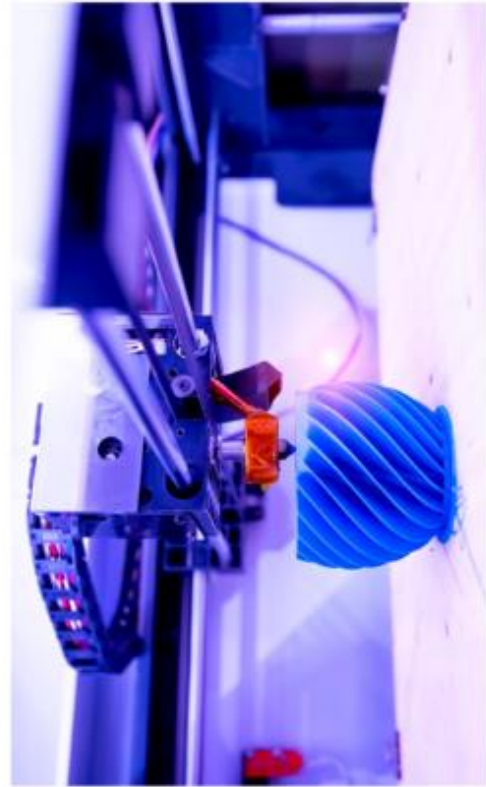
Black = Laser engrave
 • Laser moves quickly at a low power

Red = Laser cut
 • Laser moves slowly at high power

Other colours can be set up and used as required



Garage Keys



3D printer using thin layers to create a 3D shape

Paper and Board

Standard Sizes and Forms:

Paper is available in sheet, ply or rolls. Colours. Size A0-A1 used in schools.

Tracing Paper
Tracing/
replicate/copy
Semi
transparent
Translucent
60-90gsm



Cartridge Paper
Drawing and
painting, leaflets
etc.
Lightly textured
Light in
colour/white
125-150gsm



Grid Paper
Scale
drawings,
scientific
diagrams.
White paper
with a printed
grid of squares
or dots.
Isometric lines
or
patterns/dots
80-100 gsm.



Corrugated Cardboard
Packaging.
Two layers of lightweight
card, containing a fluted,
triangular layer for
strength.
Thermal – keep food hot.
Can be printed on –
businesses logos
Protects expensive
products.
Recyclable.
250gsm.



GSM:

The weight of paper and card – GSM Gram Square Metre (the thickness of paper – card). Normal paper is 80gsm .

Duplex Board

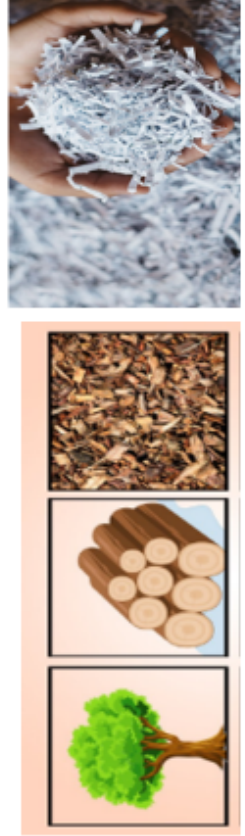
Food and drinks packaging
due to waterproof lining inside.
Two layers of card bonded
together.
One side is bleached, white
and glossy/waxy coated for
printing.
This type of card is used by the
food industry and
consequently recycled card is
not used in its manufacture.



How many times can paper be recycled?

Paper can be recycled as many as **seven** times.
Each time it is recycled, the fibres get broken into shorter
fibres.

If recycled too many times, the fibres become too short and
weak to use for making paper again.

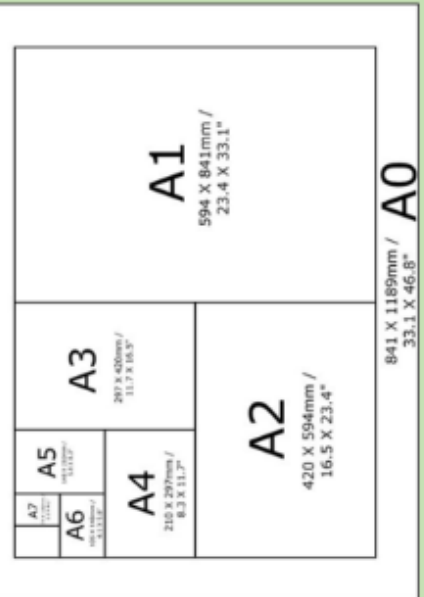


Cardboard & Paper Only



Solid Whiteboard:

Greeting cards, quality
packaging and book
hardback covers.
High quality expensive
card.
Brilliant white.
Bleached wood pulp –
brilliant white.
Smooth finish on both
sides.
It is the best card for
printing on.



Health and Safety Rules in the D&T Workshop!

No Jewellery to be worn in workshops!



No running in the workshop! No bags or stools out – trip hazard!

Fully covered footwear to protect your feet!



Only 1 person allowed to operate any machinery/tools!

Always wear eye protection when using machinery!

Know where all the emergency stops buttons are for all machinery!



Don't touch any equipment/machinery that you have not been trained to use!

Wear an apron to protect clothing.



No food or drink!



Tie long hair up to avoid injury!



Remove: Tie Blazer Jumper!

Watch teacher demonstration and follow all instructions!

Pay Attention to Signage!



Mandatory signs – Obey/Must do!

Emergency stop



Safe Condition signs

Warning signs: chemicals, take precaution or care!



Hazardous signs – alerts/ warns you to stop! Restricted area!

Notes Page

Notes Page