



Year 9 Knowledge Organiser

**Spring Term
2020/21**

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 colum	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.

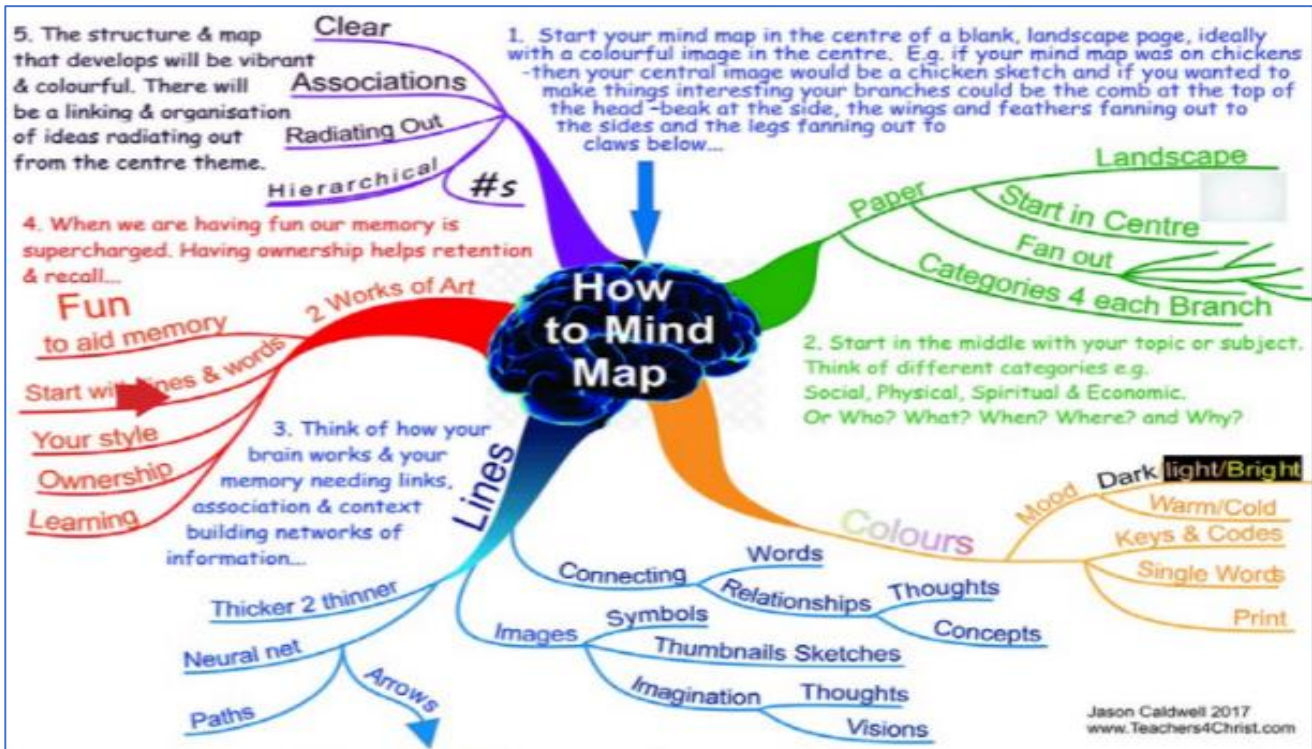
To make your own, take some card and cut into rectangles roughly 10cm x 6cm. Write the key word on one side and the definition on the other.

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

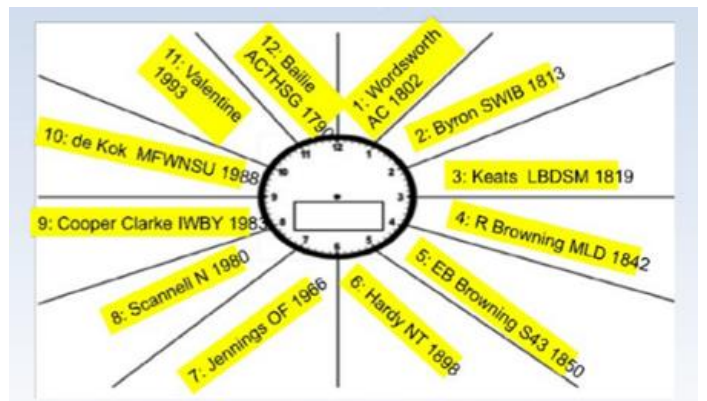
For this technique, draw a basic clock.

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.

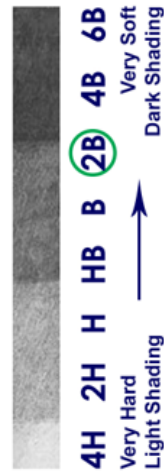
Week	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Book(s) read (title and author)	Total time spent reading	Parent/Guardian /Staff signature
8										
9										
10										
11										
12										
13										
14										

Art – Observational Drawing – Pencil & Biro:

Observational drawing is **drawing** what you see. It's as simple and as complicated as that. It can be a flower, a person, a still life, a landscape, whatever. But it's **drawing** what you see in front of you as realistically and as true to life as possible.

Art Specific Language and Terms		
Tone	The lightness or darkness of something.	Hatching Closely drawn parallel lines to create tone.
Tonal Gradation	A visual technique of gradually transitioning from one colour/hue to another, or from one shade to another, or one texture to another.	Scaling up A precise way to transfer and enlarge a small image.
Depth	Refers to making objects appear closer or further away and making a two-dimensional image seem three-dimensional.	Primary Source Working from real life, a primary source is something that was created at the time of an event or by someone who was at an event or moment.
Proportion	The size relationship between different elements e.g height compared to width.	Negative shape The empty or unfilled areas of a piece of artwork.
Composition	Where you place objects on the page.	Accuracy The extent to which one piece of work looks like another.

Choose the right pencil:



Examples of Biro/Pen Artists:



Enam Bosokah



Samuel Silva



Shohei Otomo

Art – Pattern within Art:

There are two basic types of pattern in art: **Natural Pattern** and **Man-Made Pattern**. Both natural and man-made patterns can be regular or irregular, organic or geometric, structural or decorative, positive or negative and repeating or random.

Art Specific Language and Terms		
<p>Drypoint printing (etching)</p>	<p>Drypoint is a printmaking technique of the intaglio family, in which an image is scratched into a plate with a hard-pointed "needle" of sharp metal tool. Ink is then rubbed onto the surface, excess ink removed, before printing onto damp paper using a printing press.</p>	<p>Mandala</p>
<p>Printing Press</p>	<p>A printing press is a device for applying pressure to an inked surface, therefore allowing the ink to transfer to the paper.</p>	<p>Islamic Art</p>
		<p>A mandala is a geometric configuration of symbols or patterns often in a circular shape. Mandalas have different significance depending on the religion they relate to.</p>
		<p>Islamic art encompasses the visual arts produced in the Islamic world, including architectural art and pattern.</p>

Dan Hillier:

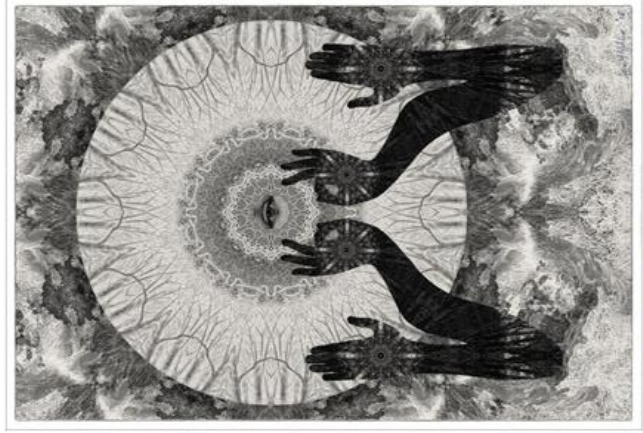
A London based contemporary artist who makes collages, screen prints and ink drawings using a mixture of found imagery and his own imaginings. His work is born out of a passion for line work and collage, a love of archaic imagery and an urge to produce pictures that provoke humour, wonder and a certain subconscious recognition in the viewer.



Field



Luna



Temple of the way of light

Iranian Mosques Visual inspiration:

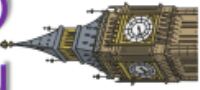


Y9 CITIZENSHIP KNOWLEDGE ORGANISER


Spring Term

Advocate A person who acts on behalf of others as a representative.
Lobbying Citizens approaching their local MP to raise an issue. This is done in the lobby of the House of Commons. Often it is done verbally, but it can be in writing.
Boycott Refusing to buy goods or use a service to achieve a desired political outcome.
E-Petition A form of campaigning; collecting signatures online to show your support or concern for a particular issue.
E-Campaigning Campaigning using the internet. Methods used might include e-mails, e-petitions and use of social media.
Political Literacy Knowledge of politics and how democracy works.

10,000
This is how many signatures a petition needs in order to get a response from the Government.



100,000
This is how many signatures a petition needs to be considered for debate in Parliament.




GREENPEACE

NSPCC
Cruelty to children must stop. FULL STOP.



AMNESTY
INTERNATIONAL

Campaigning The process of people joining together to take action. They will challenge the people in power to make decisions which co-inside with their core beliefs.



Pressure Group
A group of people who aim to create a change about a specific issue e.g. Human Rights or the environment. They do so by putting pressure on different groups of people who have the power to make change.



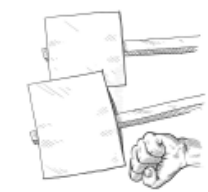
Anyone can start a petition in the UK, this means young people are likely to sign them because they are unable to vote about issues they are concerned about until they are at least 18. Signing or starting a petition is a good form of political engagement!

Direct Action
An active and upfront form of protest or campaigning used to bring an issue to the attention of a particular target group and the general public.
Methods could include a march or a sit-in.

Indirect Action
More casual/discrete campaigning, often by letter writing, making and distributing leaflets or petitioning.

Making connections
How can you link different topics together?

- Advocate + Pressure group + Campaigning
- Campaigning + Petition
- Lobbying + MPs + Parliament + Advocate
- Political literacy + Campaigning
- Suffragettes + voting + campaigning



Direct Action Positives Gets people's attention	Direct Action Negatives Can cause disruption
Indirect Action Positives Can reach out to a lot of people easily	Indirect Action Negatives Easy to ignore e.g. posters, emails etc.



Pressure Groups

CASE STUDIES
 Stop the War Coalition
 &
 The Suffragettes

Suffrage
 The right to vote

Suffragettes
 People who fought for
 their rights to vote



Key Facts

Aims to prevent and end war everywhere, and to stop unnecessary use of weapons.
 Established in 2001 to campaign against war in Afghanistan and Iraq.

Key Facts

Aimed to gain equal voting rights for all women
 The WSPU were established in 1903 and campaigned until all women were free and equal to vote in 1928.

Example of action taken

Stop the War marches 2003

- Held a march to demonstrate
- One of the biggest marches in UK history
- Over 1 million people were thought to have attended
- Part of a world-wide series of marches which also took place in places like Tokyo & Sydney
- The UK and the US, along with some support from other countries, invaded Iraq.

Example of action taken

Conflict in Syria 2013

- Military action in Syria didn't go ahead from the UK
- A range of action was taken – demonstrations, marches, rallies etc. took place to show discontent with invading Syria
- MP's voted against the government regarding invading Syria
- The PM wanted to invade Syria based on potential chemical weapons
- Stop the War took this as a victory as the invasion didn't go ahead.

Examples of action taken

Parliament rejected every bill to give women the vote. Male members held strong views about the weakness of women which they believed wouldn't allow women to vote.

As part of their protests they let off bombs, smashed shop windows and set fire to churches - which meant they weren't popular with everyone. Many thousands of men and women all over the country were involved in the movement.

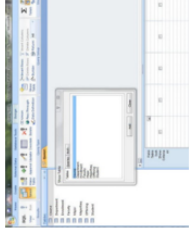
They also...
 Disrupted Parliament, chained themselves to railings, held huge, marches and demonstrations, attacked politicians, set post-boxes on fire, slashed paintings and went on hunger strike when they were arrested.

In 1918, the Representation of the People Act gave the vote to all men over the age of 21 and women over the age of 30 who were householders or married to a householder.

In 1928, women over the age of 21 were given the same voting rights as men.

Computer Science – Database

Database	A database is a collection of information that is organized so that it can be easily accessed, managed and updated
Field	Single item of data about a single record in a database.
Record	Collection of fields that represent a single entity, such as a person.
Database Table	In databases, a collection of records representing a type of item.
Data Types	Text e.g. S Jones, Number e.g. 4,6, Currency e.g. £3.00, Boolean e.g. True/False Yes/No, Date e.g. 12/12/2012
Flat file database	A Database where all of your data is stored in one large table.
Relational Database	Database containing multiple related tables.
Key field	Field which contains a different value for every record in that table.
Primary Key	It uniquely identifies a record.
Validation	Using the computer to check to ensure that the data entered is sensible and reasonable.
Verification	Checks that the data entered exactly matches the original source.
Queries	Method of searching data from a database that matches specific criteria
Forms	Forms are used to enter data into a database. This is only required if the database needs a user to enter data.
Report	A database report is a report created from a culmination of queried data visualized for the purposes of analysis and decision-making.
Foreign key	Database field whose sole purpose is to form part of a relationship with another table.
Mail merge	The automatic addition of names and addresses from a database to letters and envelopes



AND
OR
NOT



by Experiment Resources.com

DATABASE



VALIDATION



QUERY



UNIQUE



REPORT



Computer Science – Python Keywords

Arrays	A static (fixed size) data structure (a storage format), which can store multiple items of data, of the same datatype, under a single identifier (name) E.G. Array = [1, 2, 3, 4, 5]
Element	A section in an array or list that can store one piece of data.
1D Array	An array, which contains a single list of data items, each being identifiable using a single number index. Think of this like a single row in Excel.
2D Array	An array, which contains multiple lists of data items, each being identifiable using an index made up of two numbers, one to identify the Array and the other to identify the element within that array. Think of this like a Spreadsheet in Excel
Index 0 v Position 1	The first element in an array is obviously Position 1, however, the Computer considers it index 0. Position 2, therefore, is index 1, and so on.
Python List	A Python List is similar to an array, it is, however, more flexible. Python Lists can store data of any type at the same time. E.G. List = [1, "two", 3.0]
Add an element to a list	Python lists are Dynamic. We can add elements to them using: List.append(data) # Add the data item to the end of the existing list. List.insert(index, data) # Inserts the data into the list at a given index. (Position)
Remove an element from a list	Python lists are Dynamic. We can delete elements from them using: List.remove(data) # searches for the first instance of data specified and removes it. List.pop(index) # returns and data and deletes the element at the given location.
Sort/reverse a list	Python list can easily be sorted or reversed using: list.sort() and list.reverse()
Algorithm	A set of steps/instructions needed to complete a complex software task.
A Pass	A pass is one iteration of an algorithm (that contains a loop)
Divide and Conquer	The list is repeatedly divided into two halves, with the half without the search criteria being discarded, until all elements have been checked or the search item is found.
Flags	Normally a Boolean variable, called a truth bit. It is used a reference (flag) to see if something has changed during the last iteration of an algorithm.
Pointers	Are normally an Integer variables used to point to parts of an array or list. Normally the lowest point, mid point and end point. They are used to keep track of where you are at.
Linear Search	A sequential method of searching for an item in a dataset. This is done by systematically checking each item in order until the every element has been checked or item is found.
Binary Search	A method of searching for an item in a sorted dataset. It compares the middle element within the search criteria, discards the half that does not include the search criteria, repeatedly until the item is found. If the midpoint falls between two elements, the right is always chosen.
Bubble Sort	A method of sorting a set of data by repeatedly comparing data items with previous items in a dataset, before inserting them into the correct position.
Insertion Sort	A method of sorting a set of data by repeatedly comparing data items with previous items in a dataset, before inserting them into the correct position.
Merge Sort	A method of sorting a set of data by splitting the dataset up into its individual items and then continually pairing items from the dataset in order until the entire dataset has been ordered. If the midpoint falls between two elements, the left side gets the extra.

Year 9 Dance Knowledge Organiser: Movement Components

Actions

What a dancer does, eg travelling, turning, elevation, gesture, stillness, use of body parts, floor-work and the transference of weight.

Categories:

- Travel
- Turn
- Elevation
- Gesture
- Stillness
- Use of different body parts
- Floor work
- Transfer of weight



Examples:

- Roll
- Leap
- Walk
- Hi-five
- Pirouette

Space

The 'where' of movement such as levels, directions, pathways, shapes, designs and patterns.

Categories:

- Pathways: designs traced in space (on the floor or in the air).
- Levels: distance from the ground.
- Directions: the facing of a movement.
- Size of movement
- Patterns
- Spatial design



Examples:

- Forward
- Low level
- Big
- Circular pathway

Dynamics

The qualities of movement based upon variations in speed, strength and flow.

Categories:

- Fast/slow
- Sudden/sustained
- Acceleration/deceleration
- Strong/light
- Direct/indirect
- Flowing/abrupt

Examples:

- Strong
- Soft
- Sharp
- Smooth
- Fluent
- Jerky
- Robotic



Relationships

The ways in which dancers interact; the connections between dancers.

- Lead and follow: one dancer is in front of another dancer and taking them around the space
- Mirroring: when dancers imitate each other facing one another
- Action and reaction: one dancer performs a movement and another dancer moves in consequence to it. E.g. dancer 1 punches dancer 2 and dancer 2 ducks.
- Accumulation: when a dancer performs a series of movements and others join in at different times until all perform in unison.
- Complementary: to perform actions or shapes that are similar to but not exactly the same as another dancer's.
- Contrast: movements or shapes that have nothing in common.
- Counterpoint: when dancers perform different phrases simultaneously
- Contact: to touch another dancer
- Formations: shapes or patterns created in space by dancers

Year 9 Dance Knowledge Organiser: Choreography Part 1



Step 3: Explain why

Step two : Give an example

Step one: Identify

Using movement components to analyse choreography and create a hypothetical choreography

Stimulus

Inspiration for an idea or movement



An example using actions:

(Step one) I used the action of a jump in my choreography about war.
 (Step two) The dancer jumped in parallel facing the front and landed on the floor.
 (Step three): I choreographed this to show that an explosion had occurred and the dancer jumped in shock.

An example using space:

(Step one) I used the pathways to show the theme of war in my choreography.
 (Step two) Five dancers walk from upstage to downstage in a linear pathway then turn 90 degrees to the right to salute another solo dancer (the officer) standing downstage right.
 (Step three): I choreographed this to show that the armed forces usually walk in straight uniformed lines and that there is normally an officer in charge. They were separated in the space to show different hierarchies.



What could your dance be about?



Loneliness? Emotional break down? Protection? Reflection?

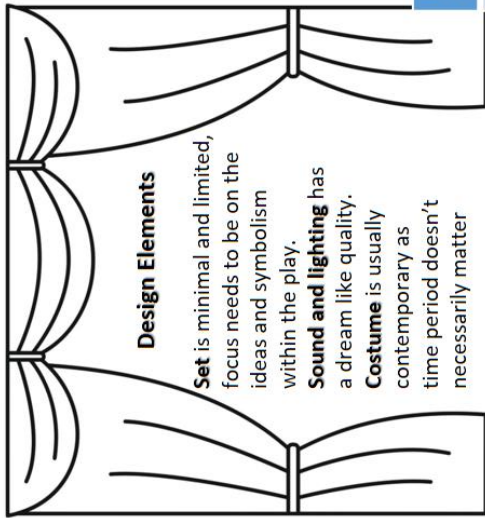
Not showing your true self? New beginnings? Concealment?

Restrictions and limitations? Confinement? Finding peace?

Describe an opening for your dance using actions, space, dynamics and relationships.

For example: Dancer 1 stands centre stage (space). They walk (action) forward left then right (space) into parallel and crouch (action) quickly (dynamics) to the floor. Dancer 2 repeats this movement 2 counts after dancer 1 following behind them in the space. (This shows a lead and follow relationship).

Drama Absurdism V.s. Gothic



Design Elements

Set is minimal and limited, focus needs to be on the ideas and symbolism within the play.

Sound and lighting has a dream like quality.

Costume is usually contemporary as time period doesn't necessarily matter

Can you spot the design elements describe on this picture- what are the given circumstances you can see?



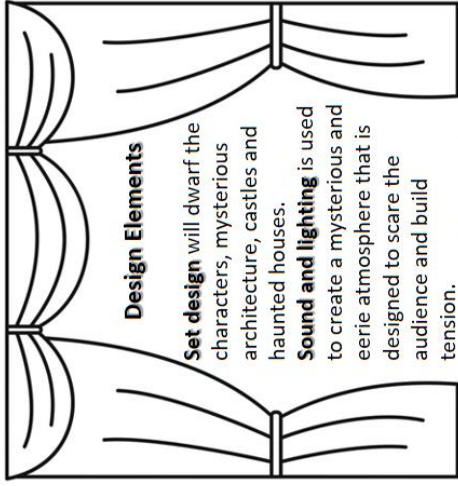
Key Characteristics of Absurdist theatre include:

- Non- sense dialogue: a series of random lines that have no connected meaning.
- Repetitive or meaningless action.
- Non-realistic or impossible plots.
- Using illogical situations.
- Unconventional dialogue.
- Minimal plots to express the apparent absurdity of human characteristics.

Key Vocabulary	Explanation
Dialogue	Word that are spoken, in absurdist theatre this is often used in a repetitive way.
Clichés	Sayings and opinion that are overused and betrays a lack of original thought.
Plot	the main events of a play, novel, film, or similar work, devised and presented by the writer as an interrelated sequence. Often absurdist plots will have mysteries that never get solved.
Sense of chaos	complete disorder and confusion.
Characters	A person in a novel, play, or film. In absurdist plays the character will ask huge philosophical questions.

Key Characteristics of Gothic theatre include:

- Gloomy, decaying setting.
- Supernatural beings or monsters (ghosts, vampires, zombies, giants).
- Curses or prophecies.
- Damsels in distress.
- Heroes.
- Romance.
- Intense emotions.



Design Elements

Set design will dwarf the characters, mysterious architecture, castles and haunted houses.

Sound and lighting is used to create a mysterious and eerie atmosphere that is designed to scare the audience and build tension.

Costume is time specific to the play.

Can you spot the design elements describe on this picture- what are the given circumstances you can see?



The Theatre of the Absurd was created in the post war era of 1950s, it was a label given to many plays of absurdist fiction written by a number of primarily European playwrights. It is also a term for the style of theatre the plays represent. The plays focus largely on ideas of existence and express what happens when human existence lacks meaning or purpose and communication breaks down. The structure of the plays is typically a round shape, with the finishing point the same as the starting point. Logical construction and argument give way to irrational and illogical speech and to the ultimate conclusion—silence.

Gothic theatre is a type of genre for plays, just like we have comedy, romance or mystery, etc. and arose in England roughly between 1789 and 1832. Gothic theatre, which is largely known by the subgenre of Gothic horror, is a genre or mode of plays and film that combines fiction and horror, death, and at times romance.

Drama - Social Media



What is Social Media?

- Websites and applications that enable users to create and share content or to participate in social networking.

Why was Social Media invented?

- Social media was invented to allow people to communicate and share information using the internet and now mobile phones too. Some forms of social media are: Pictures –Videos – Texts – Tweets – Posts – Snaps – Music – Voice – Stream –Views – Likes –Links – TikTok

Drama Techniques

Vocabulary	Definition
Monologue	A speech of some duration addressed by a character to another character(s) on stage. (A soliloquy is when the character speaks their thoughts aloud).
Duologue	A speech between two characters on stage.
Dialogue	The dramatic name for a simple spoken conversation where two or more characters speak with one another.
Split Stage	The stage area is split into two or more areas and each area represents a different place or different time
Flashback/Flash Forward	A flashback or flash forward is an interjected scene that takes the narrative back or forward in time from the current point in the story.
Montage	A series of short scenes are sequenced to condense space, time, and information.

Physicals Skills

Vocabulary	Definition
Body Language	How an actor uses their body to communicate meaning. For example, crossing your arms could mean you are fed up.
Posture	The position an actor holds their body when sitting or standing. For example, an upright posture
Gait	The way an actor walks.
Facial Expressions	A form of non-verbal communication that expresses the way you are feeling, using the face.
Gestures	A movement of part of the body, especially a hand or the head, to express an idea or meaning.
Stance	The way you position yourself when standing to communicate your role. An elderly person would have a different stance to a child

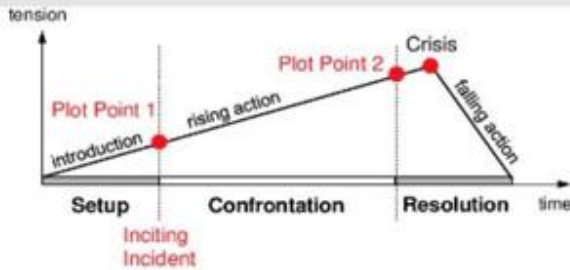
Vocal Skills

Vocabulary	Definition
Projection	Ensuring your voice is loud and clear for the audience to hear.
Volume	How loudly or quietly you say something. (shouting, whispering)
Tone	The way you say something in order to communicate your emotions. (E.g. angry, worried, shocked tone of voice)
Pace	The speed of what you say.
Pause	Moments of pause can create tension, or show that you are thinking.
Accent	Use of an accent tells the audience where your character is from.
Pitch	How high or low your voice is.
Emphasis	Changing the way a word or part of a sentence is said, in order to emphasise it. (make it stand out.) Try emphasising the words in capital letters and see how it changes the meaning: "How could YOU do that?" and "How could you do THAT?"

Structure

Writers make structural choices intentionally. They create sequences, patterns and connections that help them create or intensify **meaning**. Students of English notice this and can comment on how structural choices contribute to the overall meaning of a text.

Most stories follow the same overall pattern:



The arc of a character

In most texts, the protagonist changes over the course of the text because of the events that happen. This might be a fictional character learning something, or a real person changing because they've been travelling or experienced something dangerous. We refer to the character's psychological journey as their **arc**.



Suspense and tension

In many texts, writers intend to create suspense and tension.

Suspense is about making readers wait to find out what happens.

Tension is the feeling associated with worry or stress.



Poems use further structural elements

As well as most of the other structural elements, poems might also make use of rhythm (meter) and/or rhyme. Shakespeare often wrote in iambic pentameter. He would sometimes deliberately break this rhythm to convey an important idea.

da- dum da- dum da- dum da- dum da- dum
u / u / u / u / u /
So un cle there you are now to my word

Poets also use run on lines and line breaks to help them intensify meanings. They might seek to isolate certain words or phrases. We consider the writers **overall intention** to work out what that meaning might be.



Other structural devices

Flashbacks, like the flashbacks to Francis' childhood in *Heroes*, allow writers to create and share characters' past experiences. This often helps them emphasise an important theme such as believing in our heroes, as the teenage Francis believes in Larry LaSalle.



Motifs help writers to repeat and emphasise important themes, like the Silver Star medal emphasising the theme of heroism in the novel *Heroes*.



Cyclical storytelling creates a connection between the start and end of a story, perhaps suggesting things will repeat again and again, in a never-ending cycle. *Heroes* begins and ends with Francis on a journey. Perhaps this emphasises the fact he'll always be searching for peace and might never find it; he'll never truly feel like a hero.



Juxtaposition creates contrast, which intensifies an overall meaning. In *Heroes*, Francis' innocent love for Nicole is juxtaposed with LaSalle's predatory lust. It emphasises the idea that LaSalle is not a hero; he's a wicked man whose 'feelings' for Nicole have nothing to do with true love.



Foreshadowing allows writers to hint at what might come next and emphasise important meanings. Early in the novel, Cormier writes that Francis has, 'just prayed for the man [he is] going to kill' foreshadowing the death of Larry LaSalle. Although Francis doesn't directly kill him, it might be argued he kills him indirectly, by confronting him he might have helped initiate LaSalle's suicide.



Students of English think about how writers create sequences, patterns and connections to create or intensify meaning.

We ask ourselves how these structural choices reflect a writer's ideas and intentions.

A Worked Example of Thinking in English

Structural choices help to create or intensify meaning.

In *Heroes*, Robert Cormier chose particular structural devices that would help him realise his big idea, which was to explore notions of heroism.



Cormier's intentions in exploring the theme of heroism

ideas



+



Heroes: a story in which medal-winning war veterans are also involved in the rape of a teenager.

examples

Students of English explore texts by tracking ideas and examples

Cormier questions the idea that heroes are perfect examples of humankind

He creates a series of flashbacks that show the idea of heroism forming in Francis' mind as he is enthralled by his mentor, Larry LaSalle. The use of flashbacks helps readers to be sympathetic to Francis despite what he has done. We can reflect on Francis' youthful innocence - we see that it was not his intention to harm anyone and that his guilty conscience has haunted him ever since.

Cormier wants to create a suspenseful ending appropriate to a story about how much our heroes mean to us, and how terrible it is when they let us down. It is so terrible, Francis plans a brutal revenge.

Throughout the novel, Cormier reminds us that Francis is searching for LaSalle and intends to kill him. When Francis finally finds LaSalle, Cormier weaves in hints that Francis is now 'hesitant' increasing the sense of suspense as we question whether he will go through with the murder or not. In the end, Francis walks away. The decision to spare LaSalle helps us to remain on this character's side. However, to satisfy readers, Cormier includes LaSalle's death, who dies by his own hand.

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.

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.

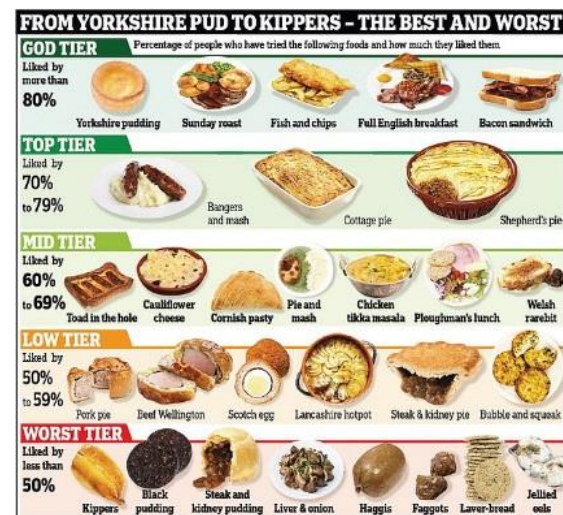
Food reared in Britain – beef, lamb, poultry and game, pork, bacon and ham are popular. Dairy products, like cheese, butter, cream and yoghurt, are also made using the milk from dairy farms.

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.

French Y9 Spring 1 Vert: Ma vie en musique.

Est-ce que tu aimes la chanson? Do you like the song?

Pourquoi (pas)?	Why not ?
J'adore/J'aime la chanson ...	I like/love the song ...
Je n'aime pas/Je déteste la chanson...	I don't like/hate the song...
parce que ...	because...
le chanteur est ...	the singer (male) is...
la chanteuse est ...	the singer (female) is...
le rythme est ...	the rhythm is...
la mélodie/chanson est ...	the melody/song is
amusant(e) / démodé(e)	fun/old-fashioned
intéressant(e)/bon(ne)	interesting/good
nul(le)/ennuyeux/ennuyeuse.	rubbish/boring (m/f)
Ma chanson préférée, c'est ...	My favourite song is...
J'adore la musique de (Zaz).	I love the music of (Zaz).
J'écoute en streaming.	I stream music.
J'ai des playlists sur mon portable.	I have playlists on my phone.
Ça me donne envie de danser.	It makes me want to dance.
J'adore les paroles.	I love the songs.
Je/Il/Elle joue ...	I/he/she/play(s)...
du piano / du clavier.	piano/keyboard.
du saxo(phone)/du violon	saxophone/violin.
de la batterie/de la guitare.	drums/guitar
de la flûte/de la clarinette.	flute/clarinet.

Qu'est-ce que tu écoutes? What do you listen to?

Qu'est-ce que tu aimes comme musique?	What sort of music do you like ?
Qu'est-ce que tu n'aimes pas écouter ?	What don't you like listening to ?
J'aime (beaucoup), etc. ...	I (really) like...
le hip-hop / le jazz / le rap / le R'n'B / le reggae / le rock / la musique classique / la musique traditionnelle / la techno/	hip-hop/jazz/rap/ R'n'B/reggae/rock classical music/ traditional music/ techno/
toutes sortes de musique. un peu de tout.	all sorts of music a bit of everything
À mon avis./Pour moi, c'est..	In my opinion/For me, it is..
cool / relaxant / amusant / original / intéressant / ennuyeux / nul.	cool/relaxing/fun/ original/interesting/ boring/rubbish.

Comparing :

Le R'n'B est **meilleur que** la musique traditionnelle.
*R'n'B is **better than** traditional music.*
 La musique classique est **plus ... que** le hip-hop.
*Classical music is **more...than** hip-hop.*

Les jeunes réfugiés

Young refugees

Je suis réfugié(e).	I am a refugee.
Je viens de Syrie/d'Iraq.	I come from Syria/Iraq.
Je suis membre d'une chorale/ d'un orchestre	I'm a member of a choir/ of an orchestra.
Qu'est-ce que tu vas faire ?	What are you going to do?
Je vais...	I'm going to...
visiter les États-Unis	visit the USA
faire une tournée avec la chorale	go on tour with the choir
jouer du violon	play the violin
écrire un blog	write a blog
chanter toutes sorte de chansons	sing all sorts of songs
prendre beaucoup de photos	take lots of photos
être musicien(ne) professionnel(le)	be a professional musician

Je suis allé(e) à un concert! I went to a concert!

Quand est-ce que tu es allé(e) à the concert ?	When did you go to the concert?
Je suis allé(e) au concert... samedi dernier.	I went to the concert... last Saturday.
J'ai acheté... un billet en ligne/ des souvenirs / un poster / un tee-shirt / une casquette /	I bought...a ticket online/ souvenirs/a poster/ a t-shirt/ a cap.
J'ai retrouvé mes amis au stade.	I met my friends at the stadium.
Qu'est-ce que tu as fait aussi ?	What else did you do?
J'ai chanté et j'ai dansé.	I sang and danced.
J'ai pris beaucoup de photos.	I took lots of photos.
J'ai pris des selfies.	I took selfies.
J'ai mangé un hamburger.	I ate a hamburger.
J'ai bu un coca.	I drank a cola.
Je n'ai mangé pas de pizza.	I didn't eat pizza.
J'ai vu mon chanteur / ma chanteuse préféré(e), mon groupe préféré.	I saw my favourite singer. my favourite group.
Comment est-ce que tu es allé(e) au concert ?	How did you get to the concert ?
En bus/en voiture/à pied.	By bus / by car /on foot.
C'était trop cher.	It was too expensive.
C'était fantastique !	It was fantastic!

La musique, c'est ma vie ! Music is my life !

Est-ce que tu joues d'un instrument?	Do you play an instrument ?
Je joue de la guitare (etc.).	I play the guitare (etc).
Je chante, mais... je ne joue pas d'un instrument.	I sing but... I don't play an instrument.
Qu'est-ce que tu aimes comme musique?	What sort of music do you like ?
J'aime surtout le R'n'B.	I especially like R'n'B.
Quelle est ta chanson préférée?	What is your favourite song ?
Ma chanson préférée, c'est...	My favourite song is...
Qui est ton chanteur ou ta chanteuse préféré(e)?	Who is your favourite singer ?
Mon chanteur/ma chanteuse préféré(e), c'est...	My favourite singer is...
Est-ce que tu es allé(e) à un concert récemment?	Have you been to a concert recently ?
Hier, je suis allé(e) à un concert de Drake. C'était fabuleux!	Yesterday, I went to a Drake concert.
Qu'est-ce que tu as fait, ...?	What did you do, ... ?
J'ai joué avec mon groupe.	I played with my group.
J'ai fait du vélo.	I went cycling.
J'ai joué au foot.	I played football.
Je suis allé(e) au cinéma avec mes amis.	I went to the cinema with my friends.
J'ai mangé au restaurant avec ma famille.	I ate in a restaurant with my family.

Frequency expressions

souvent	often
parfois	sometimes
tout le temps	all the time
de temps en temps	occasionally
ne...jamais	never

Past time expressions

hier	yesterday
la semaine dernière	last week
le weekend dernier	last weekend
l'année dernière	last year

Future time expressions

l'année prochaine	next year
la semaine prochaine	next week
l'été prochain	next summer
à l'avenir	in the future

French Y9 Spring 2 Vert: Le meilleur du monde.

Qu'est-ce qu'on mange à la cantine scolaire ?

Dans le repas, il y a...	<i>In the meal, there is...</i>
du fromage/du lait	<i>cheese/milk</i>
du pain/du riz	<i>bread/rice</i>
de la soupe/de la viande	<i>soup/meat</i>
de l'eau	<i>water</i>
des frites/des haricots	<i>chips/beans</i>
des légumes/des sandwiches	<i>vegetables/sandwiches</i>
des pommes de terre	<i>potatoes</i>
un fruit/un jus de fruits	<i>a piece of fruit/fruit juice</i>
C'est.../Ce n'est pas...	<i>It is... / It isn't...</i>
délicieux / savoureux/	<i>delicious/tasty</i>
sain / simple	<i>healthy/simple.</i>
Mon repas préféré, c'est...	<i>My favourite meal is...</i>

Sur la photo, il y a...

un homme/une femme/	<i>a man/woman/</i>
un garçon/une fille	<i>boy/girl.</i>
Il/elle est...	<i>He/she is...</i>
au collège/à la plage/	<i>at school/ at the beach/</i>
à la campagne.	<i>in the countryside.</i>
Il/elle porte...	<i>He/she is wearing...</i>
un tee-shirt/un gilet vert.	<i>a t-shirt/a green hi-vis waistcoat.</i>
Il/elle ramasse des déchets.	<i>He/she is picking up litter.</i>
Il fait beau/mauvais.	<i>The weather is nice/bad.</i>
Il pleut.	<i>It is raining.</i>

Action pour la nature!

Le panda géant / le tigre /	<i>the giant panda/tiger</i>
la tortue marine / l'ours polaire /	<i>sea turtle/polar bear</i>
le rhinocéros/le crocodile	<i>rhinoceros/crocodile</i>
...habite....	<i>...lives...</i>
dans la forêt/dans l'eau/	<i>in the forest/in the water/</i>
à la campagne	<i>in the countryside.</i>
...est menacé(e) par...	<i>...is threatened by...</i>
le changement climatique/	<i>climate change/</i>
la chasse/la pollution/	<i>hunting/pollution/</i>
la déforestation.	<i>deforestation.</i>

Qu'est-ce qu'il faut faire pour protéger les animaux menacés?
What must you do to protect endangered animals?

Il faut...	<i>You must...</i>
ramasser les déchets	<i>pick up litter.</i>
recycler le papier et les bouteilles	<i>recycle paper & bottles.</i>
aller au collège à pied ou à vélo.	<i>go to school on foot or by bike.</i>
Il ne faut pas...	<i>You must not...</i>
manger trop de viande.	<i>eat too much meat.</i>
utiliser trop d'énergie.	<i>use too much energy.</i>
laisser de sacs en plastique sur la plage.	<i>leave plastic bags on the beach.</i>

Les opinions

Je suis pour...	<i>I am for...</i>
Je suis contre...	<i>I am against...</i>
À mon avis...	<i>In my opinion...</i>
Pour moi...	<i>For me...</i>
Je pense que...	<i>I think that...</i>
Tu es d'accord?	<i>Do you agree?</i>
Je suis d'accord.	<i>I agree.</i>
Je ne suis pas d'accord.	<i>I disagree.</i>
Tu rigoles !	<i>You must be joking !</i>

Présent ou passé ?

je recycle	<i>I recycle</i>
j'ai recyclé	<i>I recycled</i>
j'utilise	<i>I use</i>
j'ai utilisé	<i>I used</i>
je ramasse	<i>I pick up</i>
j'ai ramassé	<i>I picked up</i>

Stratégie

When learning new vocabulary, group words together to help you remember them:
By **meaning**: e.g. du pain/du riz are foods.
By **word type**: e.g. faire/manger/être are all verb infinitives.
By **word family**: e.g. du plastique/en plastique/anti-plastique all contain the word **plastique**.

Est-ce que tu manges de la viande? Do you eat meat?

Je mange...	<i>I eat...</i>
du poisson/de la viande	<i>fish/meat/</i>
beaucoup de fruits et de légumes.	<i>lots of fruit and veg</i>
Je bois du lait.	<i>I drink milk.</i>
Je ne mange pas...	<i>I don't eat...</i>
Je ne mange jamais...	<i>I never eat...</i>
de viande/de poisson	<i>meat/fish/</i>
de produits d'origine animale.	<i>animal products.</i>
Je ne bois pas de lait.	<i>I don't drink milk.</i>

Est-ce que tu es pour ou contre le véganisme?
Are you for or against veganism?

Je suis pour le véganisme.	<i>I'm favour of veganism.</i>
Je suis contre le véganisme.	<i>I'm against veganism.</i>
C'est sain.	<i>It's healthy.</i>
La production de viande,	<i>Meat production is bad for</i>
c'est mauvais pour l'environnement.	<i>the environment.</i>
Manger les animaux, c'est cruel.	<i>Eating animals is cruel.</i>
Il y a beaucoup de vitamines	<i>There are lots of vitamins in</i>
dans la viande, le lait et le poisson.	<i>meat, milk & fish.</i>
La viande, c'est très savoureux.	<i>Meat is very tasty.</i>
Manger des animaux,	<i>Eating animals</i>
c'est normal.	<i>is normal.</i>

Mission écolo !

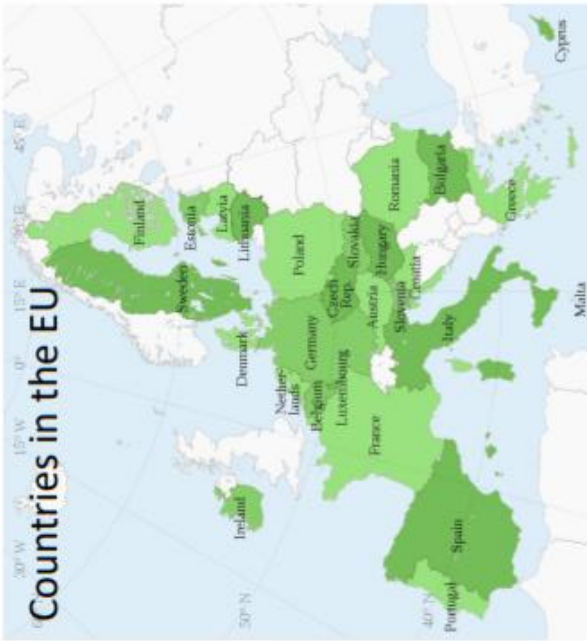
Qu'est-ce qu'on a fait récemment pour aider l'environnement ?
What have we done recently to help the environment ?

J'ai ramassé les déchets.	<i>I picked up litter.</i>
J'ai recyclé du papier et du plastique.	<i>I recycled paper and plastic.</i>
J'ai acheté des produits bio.	<i>I bought organic products</i>
Je suis allé(e) au collège à pied.	<i>I went to school on foot</i>
On a utilisé moins d'énergie.	<i>We used less energy.</i>
On a organisé une campagne anti-plastique.	<i>We organised an anti-plastic campaign.</i>

Je voudrais changer le monde...

Qu'est-ce que tu voudrais faire pour changer le monde?	<i>What would you like to do to change the world?</i>
Je voudrais...	<i>I would like...</i>
utiliser moins de plastique.	<i>to use less plastic.</i>
acheter moins de vêtements.	<i>to buy fewer clothes.</i>
manger moins de viande	<i>to eat less meat.</i>
organiser une campagne anti-déchets.	<i>to organise an anti-litter campaign.</i>
faire du travail bénévole.	<i>to do voluntary work.</i>
être membre d'un groupe écolo.	<i>to be a member of a green group.</i>
Il faut...	<i>You/We must...</i>
aider les animaux menacés.	<i>help endangered animals</i>
protéger la planète.	<i>protect the planet.</i>
combattre le changement climatique.	<i>fight climate change.</i>
aider les autres.	<i>help others.</i>

Superpowers Knowledge Organiser



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.

The **European Union (EU)**, benefits from being one of the most open economies in the world and remains committed to free trade. The average applied tariff for goods imported into the EU is very low. More than 70% of imports enter the EU at zero or reduced tariffs.

The combined trading power of the EU is what makes it a global superpower today. Within the EU, all countries are supported to help them develop and improve the lives of the people

UNITED STATES OF AMERICA



A **tariff** is a tax or duty, paid on certain goods when they are imported or exported. Countries often put tariffs in place to make the goods made in their own country



USA

- Population 329 Million
- Exports US\$ 498.513 Million
- GDP per Capita US\$ 62 794
- Military Spending US\$ 610 Billion
- Military Personnel 1.339.450



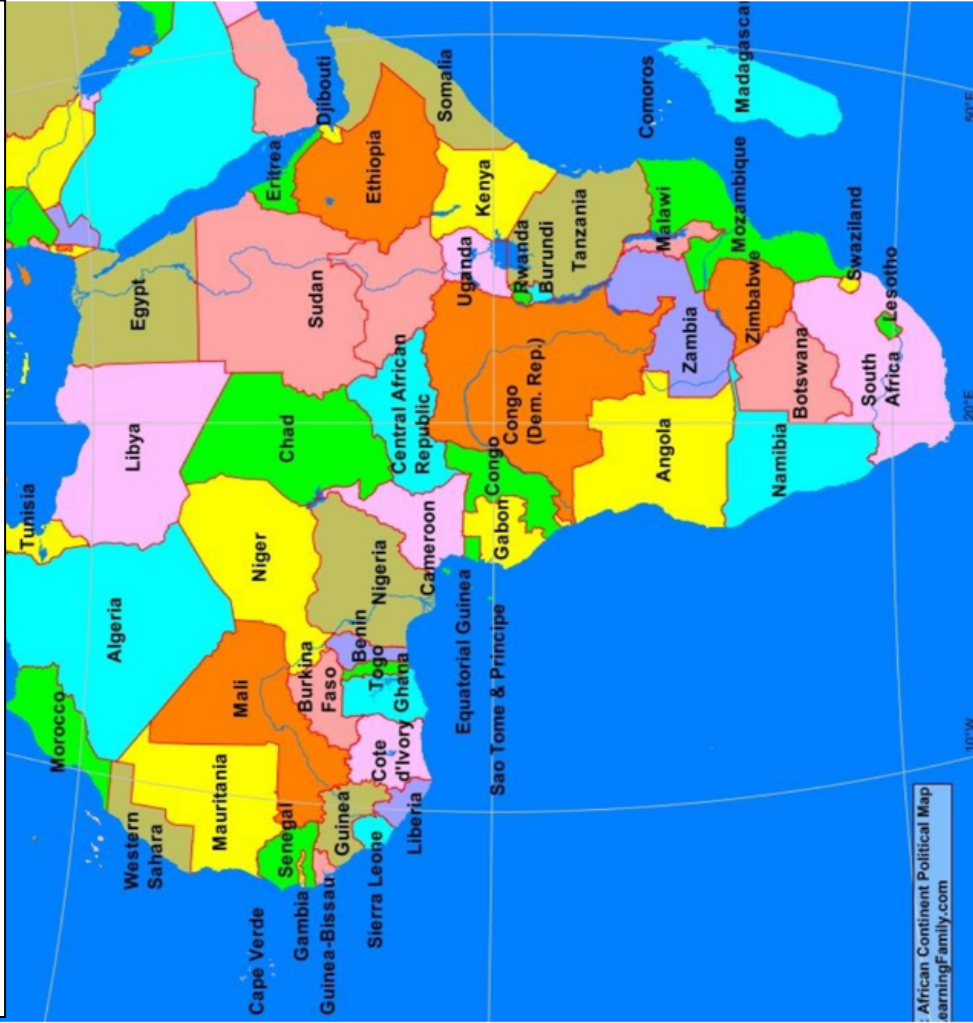
CHINA

- Population 1.393 Billion
- Exports US\$ 2.097.637 Million
- GDP per Capita US\$ 9770
- Military Spending US\$ 216 Billion
- Military Personnel 2.013.5000

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

Knowledge Organiser: Africa



Human Geography of Africa

Africa has some of the poorest countries in the world. It is attempting to improve standard of living (the degree of wealth and material comfort available to a person or community) and quality of life (the standard of health, comfort, happiness and wellbeing experienced by an individual or group.) Development is the process of change and improvement both economically and socially. Africa's population is growing rapidly in countries such as Nigeria where birth rates exceed death rates. Birth rates are high because of a lack of contraception and the fact that parents need children to help on farms and support them in old age. Death rates are falling due to improved access to health care, food, water and sanitation.

Introduction to Africa

Africa is the second largest continent in the world with 54 countries and a population of 1.1 billion.

Africa's Physical geography

The surface of Africa is mainly composed of incredibly old, stable, hard rocks. It sits on the African tectonic plate.

It has several major river basins including the Niger, Nile, Congo, Zambezi and Orange.

Africa has several biomes (a large community of plants and animals found in a major habitat) including rainforests, deserts and savannahs.

The biomes are linked to climate zones which are distinctive areas of similar rainfall and temperature each year.

The threat of desertification

The Sahara Desert in Northern Africa is the largest desert in the world. The Sahel area south of the Sahara is under threat from desertification which is the process by which land becomes drier and degraded. It is caused by below average rainfall, soil erosion by wind and rain, clearing of vegetation for firewood, over-use of land for agriculture, overgrazing of land by livestock and overpopulation.

Africa's colonial past

The 1884-1885 Berlin Conference was a meeting of 14 nations who divided Africa amongst themselves. The UK was a colonial power ruling countries such as Ghana and Kenya until the mid-1900's. Colonialism is the type of government where a geographic area is ruled by a foreign power. Imperialism is where countries impose influence through military force and economic force.

Foreign influence after African countries had become independent
In the twentieth century African countries became independent and started to govern themselves. Today former colonies influence countries through the economy and international relations. This is called neo-colonialism. Countries including China which is investing heavily in Africa are keen to exploit Africa's resources (things which we use) including bauxite, uranium, diamonds, platinum, cobalt, oil, gas and timber.

Command words that you will use in this topic: Identify, state, describe, compare, explain and assess

1. Würdest du ...?

Ich würde ...
 mit Haifischen schwimmen. / Extreimbügeln machen.
 zum Mond fliegen./ Kakerlaken essen.
 den Mount Everest besteigen. / Zorbing machen.
 Ich bin...
 abenteuerlustig / ängstlich/ feige
 kühn / mutig / verrückt / vorsichtig

Would you...?

I would...
 swim with sharks. / do extreme ironing.
 fly to the moon. / eat cockroaches.
 climb Mount Everest. / do zorbing.
 I am...
 adventurous / fearful / cowardly
 daring / brave/ crazy / cautious

2. Hast du ein Job?

Was für einen Job hast du?
 Ich arbeite ...
 als Zeitungsausträger(in).
 als Babysitter(in). / als Trainer(in).
 als Bademeister(in)./ als Hundeausführer(in).
 in einem Café/Supermarkt.
 Ich habe keinen Job,
 aber ich will als ... arbeiten.
 Wie findest du den Job?
 Ich finde den Job toll/furchtbar/interessant/
 langweilig/okay/nicht schlecht.
 Ich mag den Job (nicht), weil ...
 er interessant ist. / er langweilig ist.
 er Spaß macht. / er keinen Spaß macht.
 ich (nicht) viel Geld verdiene.

Do you have a job?

What type of job do you have?
 I work...
 as a newspaper boy (girl).
 as a babysitter. / as a trainer.
 as a life guard. / as a dog walker.
 in a café/ supermarket.
 I don't have a job,
 but I want to work as
 How do you find the job?
 I find the job great/ terrible/ interesting/
 boring/ ok / not bad.
 I (don't) like the job, because...
 it is interesting. / it is boring.
 it is fun. / it is not fun.
 I (don't) earn money.

3. Was möchtest du machen?

Ich möchte ...
 Schauspieler(in)/Sänger(in) werden.
 heiraten / Kinder haben.
 um die Welt reisen./ im Ausland leben.
 bei (BMW)/für (Oxfam) arbeiten.
 auf die Uni gehen und ... studieren.

What would you like to do?

I would like to...
 become an actor (actress)/ singer.
 marry / have children.
 travel around the world. / live abroad.
 work at (BMW)/ for (Oxfam)
 go to uni and study

4. Arbeitsplätze

das Café/Restaurant/Hotel/Souvenirgeschäft
 die Skischule / Kinderkrippe / Piste
 der Berg / Wellnessbereich
 Ich arbeite im Moment ...
 als Zeitungsausträger(in)./als Bademeister(in).
 Ich möchte später ...
 Schauspieler(in) / Lehrer(in) werden.
 in der Skischule arbeiten.
 Ich würde nie ...
 im Souvenirgeschäft/als Küchenhilfe arbeiten.

Places of work

the café/ restaurant/ hotel/ souvenir shop
 the ski school / crèche / ski run
 the mountain / spa
 At the moment I work...
 as a newspaper boy (girl) / as a life guard
 Later I would like...
 to become an actor (actress) / a teacher
 to work in the ski school.
 I would never work...
 in the souvenir shop/ as a kitchen help

5. Name / Zimmer / Telefonnummer

ein Doppelzimmer / ein Einzelzimmer
 Wie lange? Eine Woche / zwei Wochen
 Wann? Vom 4ten bis 11ten Dezember

Name / room / phone number

a double room / a single room
 For how long? One week / two weeks
 When? From the 4th - 11th of December

1. Was hattest du in deiner Kindheit?

Mit ... Jahren hatte ich ...
 ein tolles Rad.
 einen roten VW
 eine schöne Puppe.
 einen niedlichen Teddybären.
 einen kleinen Computer.
 einen Fotoapparat.
 einen Gokart.
 eine Tasche.
 eine Eisenbahn.
 ein Jo-Jo.
 ein Schaukelpferd.

What did you have in your childhood?

When I was ... years old, I had...
 a great bicycle.
 a red VW.
 a beautiful doll.
 a cute teddy bear.
 a small computer.
 a camera.
 a go-kart.
 a bag.
 a train set.
 a yo-yo.
 a rocking horse.

2. Mit welchem Alter konntest du das machen?

Ich konnte mit (sechs) Monaten/Jahren ...
 bis 20 zählen.
 meinen Namen schreiben.
 einen Handstand machen.
 die Uhr lesen.
 Ich durfte (nicht) ...
 alleine in die Schule gehen.
 Ich musste um 18 Uhr zu Hause sein.
 Ich musste zu Hause helfen.

At what age could you...?

At (6) months/years I could...
 count till 20.
 write my name.
 do a handstand.
 read the clock.
 I was (not) allowed...
 to go to school alone.
 I had to be home at 6pm.
 I had to help at home.

3. In der Sekundarschule ...

sind die Lehrer streng.
 haben wir viele Hausaufgaben.
 In der Grundschule ...
 waren die Lehrer freundlich.
 waren die Klassenzimmer bunt.
 älter / besser / bunter / freundlicher
 größer / interessanter/ kleiner
 langweiliger / lauter / leckerer
 schlechter / strenger

At secondary school...

the teachers are strict.
 we have lots of homework.
 At primary school...
 the teachers were friendly.
 the classrooms were colourful.
 older / better / more colourful / friendlier
 bigger / more interesting / smaller
 more boring / louder / more delicious
 worse / stricter

4. Wie war dein bester Freund/deine beste Freundin?

Er war der .../ Sie war die ...
 Größte / Kleinste
 Älteste / Jüngste
 Sportlichste / Faulste
 Lauteste / Ruhigste
 Frechste / Liebste

What was your best friend like?

He was the... / She was the...
 biggest / smallest
 oldest / youngest
 sportiest / laziest
 loudest / quietest
 cheekiest / lovlitest

5. Magst du Märchen?

Mit (fünf) Jahren habe ich (Aschenputtel) gelesen.
 (Aschenputtel) war mein Lieblingsmärchen,
 weil es so ... war.
 Jetzt finde ich Märchen ...
 (ziemlich) kindisch.
 Ich lese jetzt (Romane/Zeitschriften)
 , weil sie (interessanter) sind.
 In der Zukunft werde ich ... lesen.

Do you like fairy tales?

At (5) years old, I read (cinderella).
 (Cinderella) wa my favourite fairy tale,
 because it was so... .
 Now I find fairy tales...
 ... (quite) childish.
 Now I read (novels/ magazines),
 because they are (more interesting).
 In the future I will read... .

Key words and concepts		Key People	Role
Anti-Semitism	hostility to or prejudice against Jews.	Adolf Hitler	Leader of Germany 1933-1945
Holocaust	The word 'Holocaust' comes from ancient Greek: 'holos' means 'completely' and 'kaustos' means 'burnt'.	Heinrich Himmler	A leading member of the Nazi Party of Germany. Himmler was one of the most powerful men in Nazi Germany and a main architect of the Holocaust.
Shoah	Hebrew word 'Shoah', which means 'catastrophe		
Aryan	(in Nazi ideology) a person of Caucasian race not of Jewish descent.	Goebbels	Minister of Propaganda of Nazi Germany
Synagogue	A Jewish place of worship.	Johann 'Rukeli' Trollmann	German Sinto boxer , who was discriminated against, marginalised, sterilised, and finally deported to a concentration camp, where he was murdered.
Sterilisation	Surgery to make a person or animal unable to produce offspring.		
Concentration camp	A place in which large numbers of people are deliberately imprisoned in a relatively small area with inadequate facilities, sometimes to provide forced labour or to await mass execution.		
Death camp	a concentration camp in which large numbers of prisoners are systematically killed.	Hans and Sophie Scholl	A brother and sister who were members of the White Rose, a student group in Munich that was active in the non-violent resistance movement in Nazi Germany
Euthanasia	The act of deliberately ending a person's life		
Ghetto	A part of a city, especially a slum area, occupied by a minority group		
Final solution	the Nazi policy of exterminating European Jews. Introduced by Heinrich Himmler and administered by Adolf Eichmann, the policy resulted in the murder of 6 million Jews in concentration camps between 1941 and 1945.		
Einsatzgruppen	Paramilitary death squads of Nazi Germany that were responsible for mass killings, primarily by shooting, during World War II		
Gestapo	The official secret police of Nazi Germany and in German-occupied Europe.		
Propaganda	Information, especially of a biased or misleading nature, used to promote a political cause or point of view.		
Chronology		Common misconceptions	
1290	Edict of Expulsion	European Jewry made up a very small proportion of Europe's population. On the eve of the Holocaust, some 9 million Jews lived in continental Europe, or 2% of the total population. Of these, the largest Jewish community was in Poland – about 3,250,000 Jews or 9.8% of the Polish population. Germany's approximately 565,000 Jews made up only 0.8% of its population.	
1933	Hitler comes to power	Hitler was not the only perpetrator of the Holocaust. SS officers, The Police, SA officers, civilians etc. can all be implicated in this event.	
1935	Nuremberg Laws	The Holocaust did not trigger Britain's entry into WW2.	
1938	Kristallnacht	6 million Jews died during the Holocaust.	
1939	Germany invades Poland		
1941	Germany invades Russia		
1942	Wannsee Conference		
1943	Sobibor uprising		
1945	End of WW2		
		<p>Useful Websites/books/films/documentaries</p> <p>https://www.theholocaustexplained.org/</p> <p>https://www.bbc.co.uk/bitesize/guides/zkfk7ty/revision/1</p> <p>https://www.bbc.co.uk/programmes/articles/4W3yzYG6DzPBH08Ld0H9L9j/six-stories-of-children-who-survived-the-holocaust</p> <p>The Book Thief by Markus Zusak – Narrated by death. Fostered, with parents taken away, a young book thief called Liesel lives in a community in Germany that death is visiting.</p> <p>Diary of a Young Girl by Anne Frank. The most famous diary from the Second World War.</p>	

History – The Holocaust

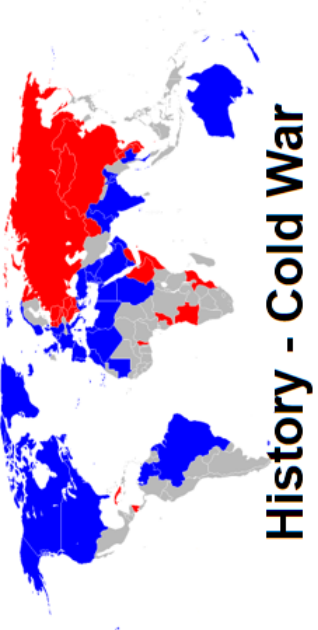


Key Words	Definition	Key People	Role
Communism	An economic theory based on common ownership.	Harry S. Truman	US President, 1945-53. Made the decision to drop the atomic bomb on Japan.
Capitalism	An economic theory based on private ownership.	Joseph Stalin	Communist dictator of the USSR from the late 1920s until 1953.
USSR	The Union of Soviet Socialist Republics (or Soviet Union). A union of multiple communist states, the largest of which was Russia. The USSR's capital city was Moscow.	John F. Kennedy	US President, 1961-3. Key player in the Cuba Missile Crisis. Assassinated in Dallas, Texas in 1963.
Ballistic Missiles	A rocket-propelled, self-guided weapon, capable of delivering a warhead.	Nikita Khrushchev	Communist dictator of the USSR, 1953-1964. Key player in the Cuba Missile Crisis.
ICBMs	Intercontinental Ballistic Missile. A missile with a range of over 3000 miles (i.e. capable of going between continents).	Fidel Castro	Communist dictator of Cuba, 1959-2008. Key player in the Cuba Missile Crisis.
U-2	A US spy plane.	Ronald Regan	US President, 1981-89.
Blockade	To seal off a place to prevent goods or people from entering or leaving, as President Kennedy did to Cuba during the Missile Crisis.	Mikhail Gorbachev	The final communist dictator of the USSR, 1985-1991.
Protect and Survive	A pamphlet and series of videos covering what to do in the event of a nuclear attack, produced by the UK government and released in 1980.		
Berlin Wall	A wall dividing communist East and capitalist West Berlin from 1961-1989.		

Key discoveries / ideas

The Cold War was a battle between different economic ideologies, communism and capitalism. Despite the continued existence of a few communist countries, the Cold War can be seen as a victory for capitalism.

The Cold War is a classic example of an arms race. Both sides raced to develop the best weapons, including nuclear weapons delivered by ICBMs.



History - Cold War

Chronology	
1917	Russian Revolution
8th May 1945	VE Day
6th and 9th August 1945	Atomic bomb dropped on Hiroshima and Nagasaki
15th August 1945	VJ Day
1949	The USSR tests their first atomic bomb
1962	Cuba Missile Crisis
1989	Fall of the Berlin Wall
1991	Fall of Communism in the USSR

Common Misconceptions

A cold war is a state of tensions between two or more countries which stops just short of going to war. There have been many cold wars in history. The Cold War is one such example between the USA and the USSR. Despite this both sides took part in "proxy wars", (conflicts where both sides gave support to opposing sides in a smaller war) for example the Korean War and the Vietnam War.

There is no agreed start or end date for the Cold War but it could be said to have run from 1945 (when the Second World War ended) until 1991 (when the USSR finally collapsed).

Communism and Capitalism are two opposing economic theories (how things should be produced) about how countries should be run. The two sides also had opposing political theories. The USA was a democracy where the people chose the government. The USSR was a dictatorship where the people had no say in who ran their country.

MATHEMATICS

EQUATIONS

Key Concepts

A **formula** involves two or more letters, where one letter equals an **expression** of other letters.

An **expression** is a sentence in algebra that does NOT have an equals sign.

An **identity** is where one side is the equivalent to the other side.

When **substituting** a number into an expression, replace the letter with the given value.

hegartymaths

153, 189

Key Words

Substitute
Equation
Formula
Identity
Expression

Examples

- $5(y + 6) \equiv 6y + 30$ is an identity as when the brackets are expanded we get the answer on the right hand side
- $5m - 7$ is an **expression** since there is no equals sign
- $3x - 6 = 12$ is an **equation** as it can be solved to give a solution
- $C = \frac{5(F - 32)}{9}$ is a **formula** (involves more than one letter and includes an equal sign)
- Find the value of $3x + 2$ when $x = 5$
 $(3 \times 5) + 2 = 17$
- Where $A = b^2 + c$, find A when $b = 2$ and $c = 3$
 $A = 2^2 + 3$
 $A = 4 + 3$
 $A = 7$

Questions

- Identify the equation, expression, identity, formula from the list (a) $v = u + at$ (b) $u^2 - 2as$
(c) $4x(x - 2) = x^2 - 8x$ (d) $5b - 2 = 13$
- Find the value of $5x - 7$ when $x = 3$
- Where $A = d^2 + e$, find A when $d = 5$ and $e = 2$

ANSWERS: 1) (a) formula (b) expression (c) identity (d) equation 2) 8 3) $A = 27$

EQUATIONS

Key Concepts

Solving equations:
Working with inverse operations to find the value of a variable.

Rearranging an equation:
Working with inverse operations to isolate a highlighted variable.

In solving and rearranging we **undo the operations** starting from the last one.

hegartymaths
177-186,
280-284, 287

For each step in solving an equation we must do the **inverse** operation

Solve:

$$\begin{array}{r} 12 = 3x - 18 \\ +18 \qquad +18 \\ 30 = 3x \\ \div 3 \qquad \div 3 \\ x = 10 \end{array}$$

Solve:

$$\begin{array}{r} 5(x - 3) = 20 \\ \text{Expand} \\ 5x - 15 = 20 \\ +15 \qquad +15 \\ 5x = 35 \\ \div 5 \qquad \div 5 \\ x = 7 \end{array}$$

Solve:

$$\begin{array}{r} 7p - 5 = 3p + 3 \\ -3p \qquad -3p \\ 4p - 5 = 3 \\ +5 \qquad +5 \\ 4p = 8 \\ \div 2 \qquad \div 2 \\ p = 2 \end{array}$$

Examples

Rearrange to make r the subject of the formulae:

$$Q = \frac{2r - 7}{3}$$

$$\times 3 \qquad \times 3$$

$$3Q = 2r - 7$$

$$+7 \qquad +7$$

$$3Q + 7 = 2r$$

$$\div 2 \qquad \div 2$$

$$\frac{3Q + 7}{2} = r$$

Key Words

Solve
Rearrange
Term
Inverse
operation

- Solve $7(x + 2) = 35$
- Solve $4x - 12 = 28$
- Solve $4x - 12 = 2x + 20$
- Rearrange to make x the subject:
 $y = \frac{3x + 4}{2}$

ANSWERS: 1) $x = 3$ 2) $x = 10$ 3) $x = 16$ 4) $x = \frac{2y - 4}{3}$

MATHEMATICS

REARRANGING Formulae

Key Concepts

Rearranging an equation: Working with inverse operations to isolate a highlighted variable.

When rearranging we **undo the operations** starting from the last one.

Rearrange to make r the subject of the formulae :

$$Q = \frac{2r-7}{3}$$

$$\begin{array}{l} \times 3 \\ 3Q = 2r - 7 \\ +7 \\ 3Q + 7 = 2r \\ \div 2 \\ \frac{3Q+7}{2} = r \end{array}$$

Examples

Rearrange to make c the subject of the formulae :

$$2(3a - c) = 5c + 1$$

$$\begin{array}{l} \text{expand} \\ 6a - 2c = 5c + 1 \\ +2c \\ 6a = 7c + 1 \\ -1 \\ 6a - 1 = 7c \\ \div 7 \\ \frac{6a-1}{7} = c \end{array}$$

Rearrange to make a the subject of the formulae :

$$\sqrt{\frac{ac}{b}} = d$$

$$\begin{array}{l} \text{square} \\ \frac{ac}{b} = d^2 \\ \times b \\ ac = bd^2 \\ \div c \\ a = \frac{bd^2}{c} \end{array}$$



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Key Words
Rearrange
Term
Inverse

- 1) Rearrange to make a the subject $r = \frac{5a+3}{t}$
- 2) Rearrange to make m the subject $2(2p+m) = 3-5m$
- 3) Rearrange to make x the subject $\sqrt{\frac{4x}{y}} = z$

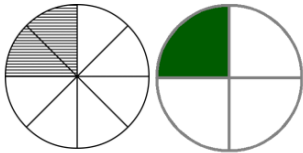
ANSWERS: 1) $a = \frac{rt-3}{2}$ 2) $m = \frac{3-4p}{3}$ 3) $x = \frac{yz^2}{4}$

RATIO

Key Concept

Shaded : Unshaded

$$\begin{array}{c} \text{2 parts} \rightarrow 2:6 \leftarrow \text{6 parts} \\ = \\ 1:3 \end{array}$$



Writing as a fraction:

$\frac{1}{4}$ shaded, $\frac{3}{4}$ unshaded

Key Words

Ratio: Relationship between two numbers.

Part: This is the numeric value '1' of, would be equivalent to.

Simplify: Divide both parts of a ratio by the same number.

Equivalent: Equal in value.

Convert: Change from one form to another.

Examples

Simplify 60 : 40 : 100

$$\begin{array}{l} \div 10 \\ 60 : 40 : 100 \\ \div 2 \\ 30 : 20 : 50 \\ \div 10 \\ 3 : 2 : 5 \end{array}$$

This could have been done in one step by dividing by 20.

Share £45 in the ratio 2 : 7

$$\begin{array}{l} 2 : 7 \\ \begin{array}{|c|c|} \hline 5 & 5 \\ \hline 5 & 5 \\ \hline 5 & 5 \\ \hline 5 & 5 \\ \hline 5 & 5 \\ \hline \end{array} \\ =10 \\ 45 \div 9 = 5 \\ \text{£}10 : \text{£}35 \\ =35 \end{array}$$

Write 2 : 5 in the form 1 : n

$$\begin{array}{l} 2 : 5 \\ \div 2 \quad \div 2 \\ \downarrow \quad \downarrow \\ 1 : 2.5 \end{array}$$

Joy and Martin share money in the ratio 2 : 5. Martin gets £18 more than Joy. How much do they each get?

$$\begin{array}{l} 2 : 5 \\ \begin{array}{|c|c|} \hline 6 & 6 \\ \hline 6 & 6 \\ \hline 6 & 6 \\ \hline 6 & 6 \\ \hline \end{array} \\ 18 \div 3 = 6 \\ \text{£}12 : \text{£}30 \\ =12 \quad =30 \end{array}$$



Clip Numbers

328 - 335

Tip

Its often useful to write the letters above the ratio. This helps you keep the order the correct way round.

Questions

- 1) Simplify a) 45 : 63 b) 66 : 44 c) 320 : 440
- 2) Write in the form 1 : n a) 5 : 10 b) 4 : 6
- 3) Share 64 in the ratio 3 : 5 4) Write the ratio 1 : 4 as a fraction.

ANSWERS: 1) a) 5 : 7 b) 3 : 2 c) 8 : 11 2) a) 1 : 2 b) 1 : 1.5 3) 24 : 40 4) 1/5

World Music - An introduction to Reggae Music

Reggae is one of a number of styles of music that originated in the Caribbean. Reggae is important as it has become a very influential style in Rock and Pop music across the world. The unit will look at the cultural roots of Reggae in Jamaica and the historical and religious background to the music. Bob Marley is the best known Reggae Artist.

Key Term – Chords/Harmony

Reviewing and developing knowledge of chords and triads from previous units (Y7/T2, Y8/T1)

Tonic Chord	Chord I
Subdominant Chord	Chord IV
Dominant Chord	Chord V

Key features of Reggae

Bass line	Generally based on repeating RIFF patterns and quite melodic.
Call and Response	Call and response often features between instruments.
Simple Harmonies	Most harmony based upon chords I, IV and V
Off-beat rhythms	Instruments such as guitar and organ play on beats 2 and 4 – also known as SKANKING.
Syncopation	Offbeat rhythms
Tempo	Generally, quite slow and relaxed
Structure	Most reggae songs are in simple Verse/Chorus form
Repeating Riffs	Instruments often play repeating patterns

Instruments

Lead Vocal, Backing Vocal, Electric Guitar, Bass Guitar, Drums, Electric Organ, Trumpets, Trombones and Saxophones.

Rastafarianism	The Jamaican religion closely linked to Reggae
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Related musical Genres

Calypso	A style of Afro-Caribbean Music popular at the start of the twentieth century
Rock Steady	The pre-runner of Reggae in 1960's Jamaica
Ska	A much faster tempo type of music with many similar characteristics of Reggae. Used as the basis for the Two-Tone movement in the UK in the 1980s with bands like Madness and the Specials.

Listening	Listening to and identifying characteristics of Reggae and other related genres.
Performing	Performing reggae songs, incorporating characteristic elements such as Bass Riffs and offbeat chords.
Contextual knowledge	Develop an understanding of how religion, politics and history are fundamental to the understanding of Reggae music. Research background information about Bob Marley.

World Music - An introduction to Salsa Music

Like so many musical genres from the Americas and the Caribbean, Salsa has its roots deep in the slave trade. In this instance, Salsa can be traced to Cuba evolving from Cuban Son music, but is generally recognised to be a fusion of many different Latin styles and first came to prominence in New York in the 1940s when Latin rhythms and jazz fused to form an upbeat energetic style of music.

Key Term – rhythm	Rhythm is fundamental to the understanding of Salsa music.
Ostinatos	Most rhythm parts are based upon a 4 or 8 beat repeating rhythm
Polyrhythm	Polyrhythms are when different rhythms are layered up on top of each other.
Syncopation	The use of syncopation help create a dense and interesting rhythmic texture
3:2 rhythm	Rhythmic ostinatos are often 2 bars, with 3 notes in one bar and 2 in the next, called the Son Clave.
Other main features of Salsa	
Extended chords	The jazz influence meant that Salsa uses a lot of 7 th and 9 th chords to create complex harmonies
Tempo	Generally fast
Structure	Based upon Verse/Chorus song structure, but often with instrumental solos
Improvisation	Solos are often, as in jazz, improvised.
Fusion	Music that is created by fusing two or more different styles.
Instruments	
A Salsa ensemble is underpinned by percussion instruments – Congas, Bongos and Timbales as well as a host of smaller hand held instruments such as claves, guiros and maracas which are often played by the singers	
The rest of a typical ensemble is made up of bass, piano and a horn section, although woodwind and strings can also feature.	
Related musical styles	
Son	Cuban dance music from which Salsa developed
Jazz	Heavily influenced the development of Salsa
Cha Cha/ Conga/Rumba	Other Latin-American genres from different countries that have many similar characteristics
Timba	A fast tempo version of Salsa

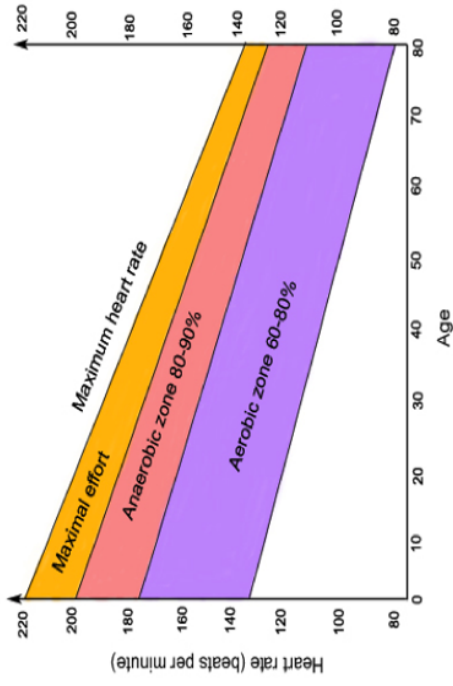
Listening	Listening to and identifying characteristics of Salsa and other related genres. Identifying how music from different cultures and traditions can be fused to create new styles.
Performing	Performing Latin and Salsa rhythms, incorporating characteristic elements such as 3:2, Polyrhythms and syncopation.
Contextual knowledge	Develop an understanding of how different cultures combine and also the importance of the Slave Trade and immigration had on the development of Latin American music.

KS3 Core PE Knowledge Organiser: Exercise Intensity

Key Terms

Key Term	Definition
Heart Rate (HR)	The number of heart beats per minute , measured in beats per minute .
Resting Heart Rate (RHR)	The number of heart beats per minute (at rest) , measured in beats per minute .
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 .
Recovery Heart Rate	The fitter you are, the faster the recovery of your 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 Zones



Training Thresholds

Key Term	Definition
Aerobic Training	60-80% of your maximum heart rate.
Anaerobic Training	80-90% of your maximum heart rate.
Muscular Endurance	Low Weight Vs High Repetitions & Sets
Muscular Strength	High Weight Vs Low Repetitions & Sets

Worked example: Calculate the aerobic target zone for a 20 year old athlete.

Fist you need to calculate the athletes maximum heart rate which would be 220-20 (his age) = 200bpm (1). The aerobic target zone is 60-80% of the MHR (1). 60% of 200 is 120, 80% is 160. (1). So the athletes aerobic target zone would be between 120 and 160bpm. If they were in this range they would be working aerobically (1) working on their endurance (1).

Your Turn: Try these questions

- 1) Define the term heart rate.
- 2) How would you develop muscular strength?
- 3) How would you determine that an athlete had stopped exercising? What is this called?

Calculate - Requires computation in relation to fitness data

Misconceptions

- Heart rate zones need to be calculated using maximum HR (220-age)
- Aerobic involves using oxygen and is used for longer duration events working on endurance.
- Anaerobic is without oxygen and is used for shorter duration higher intensity using strength and power.
- Co-ordination can be more than just hand-eye, can be foot-eye or moving arm and legs at the same time.
- Speed can also refer to moving a body part – e.g. moving the arm to play a shot in table tennis.

Key Vocabulary

Aerobic, anaerobic, heart rate, resting, recovery, weight, repetitions, maximum, maximal, component, stimulus, voluntary, joints, static

KS3 Core PE Knowledge Organiser: Components of Fitness

State - Generally involves the recall of a fact

Components of Fitness		Worked Examples – For each component state an athlete that would use it and explain why.
Component	Definition	
Body Composition	A measure of the percentage of fat, muscle, bone, water and vital organs that make up your body weight.	Athletes require a suitable body composition for their sport. E.g.; a rugby player requires a larger proportion of muscle than a dancer as they need strength to make tackles .
Coordination	The ability to move two or more body parts together, accurately and smoothly.	Tennis players require excellent levels of coordination to be able to make contact with the ball and racket at the same time to perform accurate shots .
Power	The ability to combine strength with speed to perform a strong muscular contraction very quickly.	Long jumpers require great amounts of power to be able to push off the ground to propel themselves into the air in order to travel a long distance in their jump.
Reaction Time	The amount of time it takes you to respond to a stimulus.	Sprinters require a quick reaction time to be able to get out of their starting blocks as quickly as possible at the beginning of a race to give them a better chance of winning .
Speed	The rate at which your body, or part of your body, is able to perform a movement.	Rugby players , particularly wingers , require high levels of speed to be able to travel down the wing at a fast pace to be able to score a try .
Balance	Your ability to keep your body steady, both when in a static position and when moving.	Dancers require large amounts of balance to ensure that they maintain control when in a static position , such as standing on one leg . This will give them a better aesthetic score .
Agility	A measure of how quickly you can change the position of your body, while keeping your entire body under control.	Footballers require high levels of agility to be able to change direction at speed when running with the ball to get around their opponents to attack with a bigger threat.
Flexibility	The ability of your joints to move through their full range of movement.	Gymnasts require large amounts of flexibility to be able to move their joints through their full range of motion when performing moves and routines to a higher standard .
Muscular Endurance	A measure of the length of time your voluntary muscles can contract without getting tired. This can be repeated muscle contractions, or one contraction held for a long period of time.	Boxers require good muscular endurance to be able to repeatedly contract their muscles when throwing punches many times without getting tired to try enforce a knockout
Strength	The amount of force a muscle can generate when it contracts to overcome resistance.	Powerlifters require excellent muscular strength to be able to generate large amounts of force when lifting heavy weights .
Cardiovascular Fitness	A measure of how efficiently your body can deliver oxygen and nutrients, such as glucose, to your working muscles during exercise, and also carry away waste products.	Marathon runners require excellent cardiovascular fitness to be able to use the whole body to run for the entire duration of the race without getting tired.

Your Turn: Try these questions

1) Define the term flexibility. 2) State 2 sports that would require power. 3) Explain the importance of agility and speed for a 100m sprinter.

Explain - Requires a justification/exemplification of a point. The answer must contain some linked reasoning

Religious Studies Year 9: Philosophy of religion

Key Word	Definition
Agnostic	Someone who does not know whether there is a god or gods.
Atheist	Someone who does not believe in the existence of a god or gods.
Creationist	Someone who believes that God created the world in six days, as described in Genesis.
Design/teleological argument	The argument that the world looks designed and so has a designer – God.
Faith	Belief or trust in something that cannot be proven.
First Cause argument	The argument that everything in the universe needs a cause and so the universe also needs a cause, which is God.
Free will	The ability to choose between right and wrong.
Humanist	An atheist who believes that science and our shared human reason and compassion should guide how we live the one life that we have.
Miracle	An event that cannot be explained naturally and so is seen as an act of a god or gods.
Nones	A term used by sociologists to describe the diverse group of people with no religion, including atheists, agnostics and those who are spiritual but not religious.
Problem of evil	The argument that evil and suffering shows that a power, knowing, loving God does not exist.
Theistic evolution	The belief that God started the process of evolution and used it to bring about life.

Thomas Aquinas – a 13th century Italian philosopher who argued that a faith in God was reasonable, and put forward the First Cause Argument (This says that everything needs a cause and that the cause for the universe is God). He also believed in the Design Argument (This states that the world looks designed and so has a designer – which is God).

Charles Darwin – a 19th century scientist and author of ‘*On the origin of species*’. He put forward the theory of evolution by natural selection. He put forward the theory that over millions of years all life has evolved from a common ancestor, a single cell. Over a very long time humans have slowly evolved from monkey like creatures. Some Christians agree with Darwin. They believe in theistic evolution, which is the belief that God started the process of evolution and used it to bring about life.

Rene Descartes – a 16th century French philosopher who claimed that his ability to think proved he must exist because his mind exists. He also believed that humans are born with the idea of God imprinted on their minds.

David Hume – an 18th century Scottish philosopher who criticised the First Cause argument, the Design argument and a belief in miracles. He said that people are fascinated by unusual things, and they then exaggerate these stories when they retell them. He claimed that there has never been a miracle that was seen by enough sensible educated people to prove it was true.

Plato – an Ancient Greek philosopher who claimed that knowledge is gained through using reason. He said we cannot rely on our senses to give us accurate information as things are constantly changing.



Religious Studies: Hinduism Practices and Lifestyles

Where do Hindus worship?

Hindus can worship anywhere, the Divine is everywhere. They may worship outside, or in a building, but all true worship comes from the heart so should take place in 'the space of the heart'. However many Hindus focus their worship on a shrine with a murti of their favourite deity taking central place. Many Hindus have shrines at home, but they may also visit a Mandir to pray there, or worship outside at a sacred place.

How do Hindus worship?

Hindu worship is very diverse, and often very colourful. The murti on the shrine is usually central, and prayers are said to it, then the deity is asked to bless the worshipper – this is called darshan. Puja (worship) may well involve offerings of flowers and fruit with prayers and mantras being recited. The main worship ceremony is the arti (arati) ceremony which involves an arti lamp being passed around with prayers and hymns being sung. During Hindu weddings a fire is lit with wood and ghee, rice is offered and prayers are said – this is an example of havan, a fire sacrifice to Agni.

Who leads worship in Hinduism?

Traditionally worship was led by brahmins, male members of the priestly caste. Today brahmins may still lead worship in a Mandir but others also take a key role. Gurus, are teachers who help others to reach enlightenment, a Hindu may follow one guru, elder or sadhu. A sadhu is a wandering holy man. At home the mother leads worship, but today there are also some female gurus.

What about pilgrimage in Hinduism?

Varanasi on the River Ganges is central in Hindu pilgrimage, it is seen as a place where earth and heaven meet. Pilgrims hope to bathe in the river and join in the evening arti ceremony on the river banks. It is a city of temples, Lord Shiva is especially important and many Shaivites try to visit. It is also seen as a 'gateway to Moksha' with many hoping to die or be cremated there. At the side of the Ganges there are ghats for cremation, and the ashes are then sprinkled in the Ganges.

Kumbh Mela is pilgrimage festival that happens across 4 different pilgrimage sites. The biggest gathering is every 12 years. when naked ash-smeared sadhus wearing garlands of orange flowers lead the bathing.

Key quotes on worship:

"There are 2 ways of contemplation of Brahman; in sound and in silence." (Upanishads)

Key quotes on worship:

"A leaf or flower, water, fruit... I cherish from that earnest soul the love that makes the offering." (Bhagavad Gita)

Key quotes on gurus:

"The pearl is found in the oyster, and the oyster in the sea. The diver brings it up. No one else has the power to do this." (Guru Kabir)

Key Terms	Definitions
Worship	Showing respect and adoration to the Divine.
Sacred	Holy, religious, connected to the Divine.
Shrine	A sacred space where a deity is worshipped.
Mandir	A Hindu temple, often contains several shrines.
Murti	An image of a deity.
Personal deities	A Hindu may pick one deity to focus on.
Puja	Respecting / honouring / worshipping a chosen deity.
Arati / Arti	An offering of light, often using an arti lamp.
Darshan	Viewing a murti with respect and receiving a blessing.
Havan	Fire sacrifice offered to Agni the fire god.
Mantra	A chant, holy sounds e.g. Aum repeated.
Meditation	Praying by being still, focusing the mind on God.
Bhakti / path of bhakti	Loving devotion to a God / gods. The path of worship, involving puja, and individual meditation.
Gurus	Wise spiritual teachers.
Brahmins	Traditional priests, found in a temple.
Pilgrimage	A journey to a sacred place.
Ganges	Mother Ganga, a holy river for Hindus.
Varanasi	On the Ganges, a key pilgrimage site for Hindus.
Kumbh mela	A pilgrimage festival for Hindus.
Shaivism	Shaivites focus on the worship of Lord Shiva.
Vaishnavism	Vaishnavites focus on Lord Vishnu, and his avatars.

Key Terms	Definitions
Reincarnation	When a body dies a soul is reborn in another body.
Samsara	The cycle of life, death and rebirth.
Inner self	The Atman / soul. Spiritual, reborn at death.
Material mind / body	Physical, comes to an end at death.
Karma	Actions, lead to rewards or punishments affecting rebirth.
Moksha	Escape from samsara, liberation, freedom.
Liberation	Freedom, for a Hindu escape from samsara.
Dharma	Duties.
Sanatana dharma	Eternal, timeless truth, duties for all. Hinduism!
Varnashrama dharma	Duties vary, for different stages in life and different castes.
Yoga	Union with the Divine.
4 paths towards Yoga	Bhakti (worship), Jnana (knowledge), Astanga (meditation) and Karma (selfless action) are the 4 paths towards Yoga and Moksha.
4 aims of human life	Moksha, Dharma, Artha and Kama
Artha	Working hard to gain wealth through lawful means
Kama	Pleasure, taking delight in the senses.
Free will	We can choose how to act, we aren't puppets.
Virtues	Good behaviour eg. Showing respect or empathy.
Ahimsa	Not killing but respecting life. Non-violence.
Cows	A sacred animal for Hindus.

Religious Studies: Hinduism Practices and Lifestyle

What do Hindus believe about the afterlife?

Hindus believe in reincarnation, where a soul moves on into a new body after death. The cycle of samsara is a continuous cycle of life, death and rebirth. How we are reborn depends on their karma, the actions they have taken in a previous life. We are rewarded for good and punished for bad in life, and after death. A human may be reborn as an animal, or in an upper realm. Moksha is escaping the cycle, where an individual atman unites with Brahman.

What about dharma?

All humans have duties in life, fulfilling those duties will improve one's rebirth. But we have different duties, a student has different duties to an adult in the householder stage, a member of the warrior (Kshatriya) caste has different dharma to a member of the Brahmin (priestly) caste. This idea that duties vary is called Varnashramadharma. Eternal truth and duties true for all in all times and places is Sanatandharma, and for Hindus this is their preferred name for their religion.

What are the paths towards Yoga / Moksha?

There are different ways to work towards union with the divine. The path of Bhakti involves worshipping and devoting yourself to God / a god. The path of Jnana focuses on studying the Scripture. Astanga yoga is the path of meditation, and Karma yoga is the path of selfless action. Different paths to the same goal.

What are the aims of human life?

One aim is to achieve Moksha, some say it should be the main aim for a Hindu but they everyone is different and Hindus may not all be capable of Moksha, so there are also other aims. If Moksha is the aim of liberation, Dharma is aiming to fulfil your duties. Artha is the aim to be successful in life in material terms, working hard to achieve wealth lawfully while Kama involves taking a delight in physical things and sensual matters, but not mistreating others. Humans have free will to make choices about our aims and our paths in life, but we need to be virtuous, following virtues like ahimsa or others may suffer – and we certainly will in a future life, if not now.

Key quote on reincarnation:

'As a man casts off his worn out clothes so the body's soul takes other forms when it discards the ones that die.' (Bhagavad Gita)

Key quote on the Atman:

"Atman... is never born and never dies. Never-born and eternal... does not die when the body dies."

Key quotes on virtue:

"Be friendly and compassionate, released from ego-selfishness, patient, hate not any being."
(Bhagavad Gita)



Pathogen	Disease	Spread by	Symptoms	Prevention and treatment
Virus	Measles	Air droplets	Fever and red skin rash	<ul style="list-style-type: none"> • Painkillers to treat symptoms • Vaccination
Bacteria	Gonorrhoea	Direct sexual contact	Thick yellow or green discharge from the genitals and pain when urinating	<ul style="list-style-type: none"> • Treatment with antibiotics • Barrier methods of contraception
Fungi	Athlete's foot	Direct contact	Itchy red white patches between toes	<ul style="list-style-type: none"> • Anti-fungal cream
Protist	Malaria	Bite from female mosquito (vector)	Fever	<ul style="list-style-type: none"> • Antimalarial medicine • Prevent mosquito bites

Tier 2 Vocabulary
Complementary
Specific

Tier 3 Vocabulary
Virus
Fungi
Immunity
Antigen
Pathogen
Benign
Carcinogen
Bacteria
Protist
Vaccination
Antibody
Malignant
Placebo

Vaccinations

1. Dead or inactive pathogen is injected
2. White blood cells produce antibodies
3. Antibodies bind to pathogens on pathogens
4. Pathogens clump together
5. Pathogen is destroyed
6. Production of memory cells

Drug discovery

Drugs were traditionally extracted from plants and microorganisms

- **Digitalis** (heart drug) from foxgloves
- **Aspirin** (painkiller) from willow trees
- **Penicillin** (antibiotic) from mould

Drugs are trialled and tested for toxicity, efficacy and dose

Drug development

Stages of clinical trials

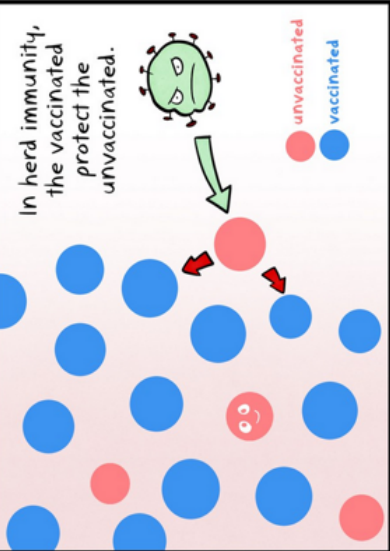
Pre-clinical trials

- Drugs are tested on cells and tissues
- Tested on animals

Clinical trials

- Tested on healthy volunteers
- Tested on unhealthy volunteers

Some trials use a placebo, a dummy pill which has no effect



Risk factor

A variable that increases the chances of a person having a disease



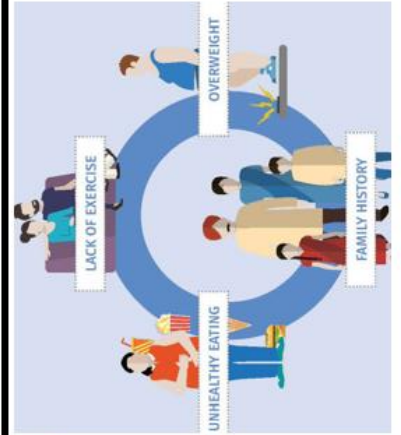
Non-communicable disease - cannot be spread

Drugs and alcohol

- Recreational drugs are chemical substances taken for enjoyment or leisure purposes (e.g. alcohol, nicotine, caffeine)
- Medicinal drugs are taken for medical reasons to treat diseases (e.g. paracetamol, morphine, aspirin)
- Addiction - a psychological and physical inability to stop doing something even though it is causing harm

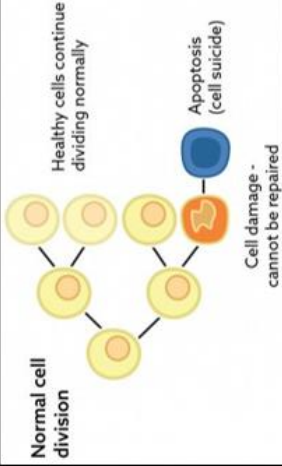
Risk factors for diabetes

Diabetes is a disease in which people can not control there blood sugar

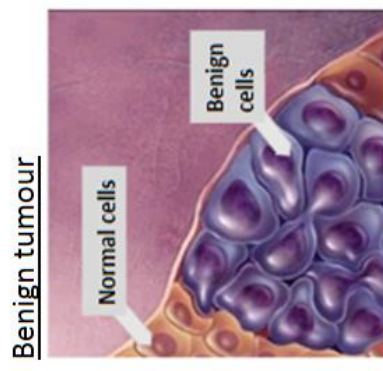


Cancer

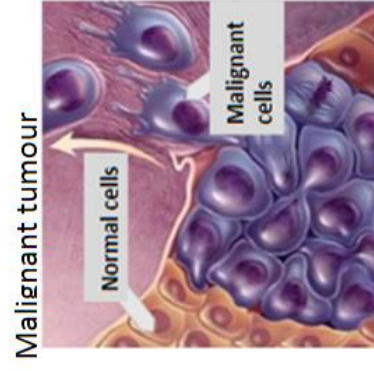
Carcinogen – cancer causing chemical



Tumours



When abnormal cell growth is **restricted to one area**



Cancer cells that can **invade** neighbouring tissues and **spread** to different parts of the body

Smoking

What's in a cigarette?

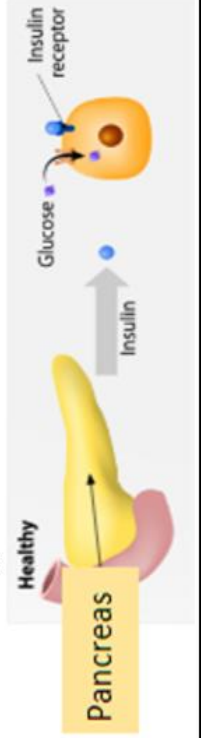


Two types of diabetes

Type 1 - Not enough insulin is produced

Type 2 - Not enough insulin is produced or receptors do not respond to insulin

- Both types can be treated with insulin



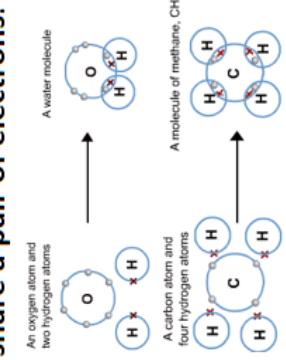
Ionic bonding – A strong electrostatic attraction between positive metal ions and negative non-metal ions.



The metal ion becomes positive as it transfers electrons to the non-metal, making it negative. Opposite charges then attract. Many positive and negative ions together from a giant structure called a **giant lattice**. Common example: Sodium Chloride

Brittle, Can conduct electricity but only when molten or dissolved

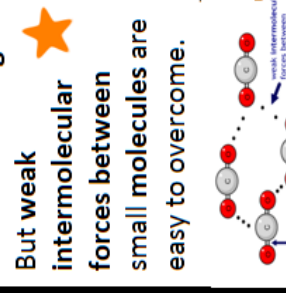
Covalent Bonding – A strong bond between non-metals where atoms share a pair of electrons.



Sharing two pairs is a double bond.

Occurs between non-metal only

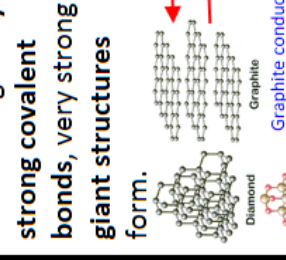
Simple Covalent Bonding – covalent bonds between atoms are strong. But weak intermolecular forces between small molecules are easy to overcome.



Examples: water, oxygen, methane, chlorine

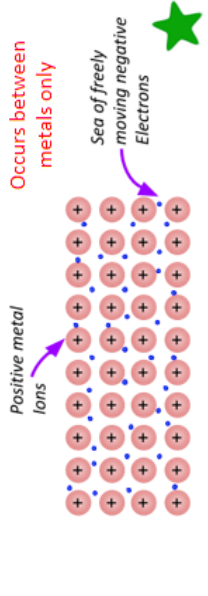
Properties: Strong and Hard

Giant Covalent Bonding – when an atom bonds to lots of others using many strong covalent bonds, very strong giant structures form.



Graphite conducts electricity as delocalised electrons can move between the layers

Metallic bonding – A strong electrostatic attraction between positive metal ions and negative delocalised electrons.



Metal ions are arranged in layers allowing them to slide over each other. This makes the metal malleable (easy to shape). The delocalised electrons are free to move. This allows metals to conduct electricity.

Alloys – Alloys are created from a mixture of metals. They contain metal ions of different sizes. This means the ions cannot arrange in regular layers and layers cannot slide over each other. Making alloys stronger than pure metals.

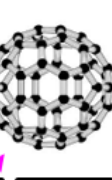


Common alloys: Steel, Brass, Bronze

Metals are also good conductors of heat and can be drawn into thin wires (ductile)



Bucky balls are an example of a specially designed giant structure



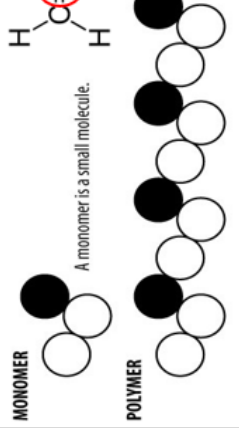
Tier 2 Vocabulary

- Opposite
- Attraction
- Properties

Tier 3 Vocabulary

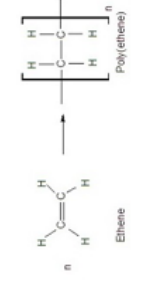
- Ionic
- Covalent
- Metallic
- Delocalised
- Electron
- Ion
- Intermolecular
- Alloy
- Malleable
- Ductile
- Composite
- Ceramic
- Polymer
- Monomer

Structure of Monomers and Polymers



A polymer is a long-chain molecule made up of a repeated pattern of monomers.

Ethene is able to act as a monomer because breaking the **double bond** allows it to join with other monomers.



Material	Description	Properties	Uses
Ceramics	A compound such as a metal silicate or oxide that is hard, strong and has a high melting point	<ul style="list-style-type: none"> Hard Brittle Stiff Solid at room temperature Strong Break easily Electrical insulators 	<ul style="list-style-type: none"> Bricks – are strong which makes them suitable for buildings Electrical power-line insulators – ceramics do not conduct electricity
Polymers	A substance made up of very long molecules	<ul style="list-style-type: none"> Does not conduct electricity Poor conductors of heat 	<ul style="list-style-type: none"> Carrier bags (low-density polyethene) Artificial joints (high-density polyethene)
Composites	A mixture of materials with properties that are a combination of those of the materials in it	<ul style="list-style-type: none"> Has properties that are a combination of the properties of the materials it is made up of 	<ul style="list-style-type: none"> Carbon-fibre-reinforced plastic Glass-fibre-reinforced aluminium

Why bond? – In all types of bonding atoms change so that they end up with a full outer shell of electrons. This is mostly 8 but in the case of hydrogen 2.

- High melting & Boiling point (solid at room temp)
- Low melting & Boiling point (gas or liquid at room temp)

Year 9 Topic 2 Energy Knowledge Organiser

Energy cannot be created or destroyed, it can only be transferred usefully or dissipated (wasted). This is the Conservation of Energy

Energy stores

kinetic	energy an object has because it is moving
gravitational potential	energy an object has because of its height above the ground
elastic potential	energy an elastic object has when it is stretched or compressed
thermal (or internal)	energy an object has because of its temperature (the total kinetic and potential energy of the particles in the object)
chemical	energy that can be transferred by chemical reactions involving foods, fuels, and the chemicals in batteries
nuclear	energy stored in the nucleus of an atom
magnetic	energy a magnetic object has when it is near a magnet or in a magnetic field
electrostatic	energy a charged object has when near another charged object

Energy transfers

Energy can be transferred to and from different stores by:

Heating	Energy is transferred from one object to another object with a lower temperature.
Waves	Waves (e.g., light and sound waves) can transfer energy by radiation.
Electricity	When an electric current flows it can transfer energy.
Forces (mechanical work)	Energy is transferred when a force moves or changes the shape of an object.

$$\text{kinetic energy, } E_k = \frac{1}{2} \times \text{mass, } m \times \text{speed}^2, v^2$$

(joules, J) (kilograms, kg) (metres per second, m/s)²

$$\text{change of gravitational potential energy store, } \Delta E_p = \text{mass, } m \times \text{gravitational field strength, } g \times \text{change of height, } \Delta h$$

(joules, J) (kilograms, kg) (newtons per kilogram, N/kg) (metres, m)

For any device that transfers energy:

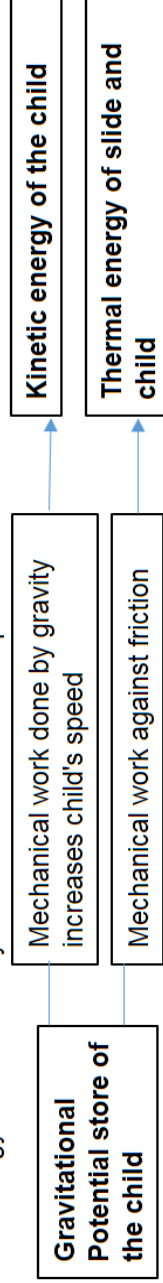
$$\text{efficiency} = \frac{\text{useful output energy transferred by the device (J)}}{\text{total input energy supplied to the device (J)}}$$

$$\text{work done, } W = \text{force applied, } F \times \text{distance moved along the line of action of the force, } s$$

(joules, J) (newtons, N) (metres, m)

Examples of energy transfers and energy transfer diagrams

- Stretching a rubber band – chemical energy is mechanically transferred to the elastic potential store in the rubber band
- Child sliding down a slide –



Keywords	Chemical	Closed system	efficiency	Elastic potential
electrostatic	Gravitational potential	kinetic	lubrication	magnetic
work done	System	closed system	nuclear	

Spanish

Y9 Spring Term Knowledge Organiser

Unit 3: En forma - Talking about healthy lifestyle

Key spellings 3
Learn these spellings, they will be really useful for this unit and you will be tested on them.

1. estar en forma to be in shape
2. se debe you must
3. me duele... hurts me
4. estoy enfermo I'm ill
5. refrescos fizzy drinks

¿Qué haces para estar en forma?	What do you do to stay healthy?
Juego... al baloncesto/tenis/fútbol a la pelota vasca	I play... basketball/tennis/football pelota (Basque ball game)
Hago... artes marciales baile atletismo gimnasia	I do... martial arts dance athletics gymnastics

¿Llevas una dieta sana?
Do you have a healthy diet?

Llevo una dieta sana/malsana I have a healthy/unhealthy diet	
Como.../No como... caramelos galletas pasteles fruta pan pescado verduras	I eat.../Don't eat... sweets biscuits cakes fruit bread fish vegetables
Bebo.../No bebo agua café/té leche refrescos	I drink.../I don't drink water coffee/tea milk fizzy drinks
porque es... es sano/a son sanos/sanas es rico/a es asqueroso/a soy vegetariano/a soy alérgico/a soy musulmán/musulmana	because it is... it's healthy they're healthy it's delicious it's disgusting I'm a vegetarian I'm allergic I'm a Muslim
a veces tres al día una vez a la semana nunca	sometimes three times a day once a week never

¿Qué te duele?	What hurts (you)?
Me duele(n)... el brazo el estómago el pie la cabeza la espalda la garganta la pierna los dientes los oídos los ojos	...hurts me (my) arm (my) stomach (my) foot (my) head (my) back (my) throat (my) leg (my) teeth (my) ears (my) eyes
¿Qué tal estás? Estoy cansado/a Estoy enfermo/a Tengo catarro Tengo tos	How are you? I'm tired I'm ill I have a cold I have a cough

Para estar en forma...	To keep in shape...
Se debe... beber agua frecuentemente comer más fruta y verduras dormir ocho horas al día entrenar una hora al día	You must... drink water often eat more fruit and veg sleep 8 hours a day exercise 1 hour a day
No se debe... beber alcohol beber refrescos comer comida basura fumar	You mustn't... drink alcohol drink fizzy drinks eat junk food smoke

Key grammar - Reflexive verbs
Reflexive verbs work in the same way as other verbs, but have an extra **reflexive pronoun** that must be added.
Don't forget to change the **ending of the verb** accordingly.

Levantarse	To get up
me levanto	I get up
Te levantas	You get up
Se levanta	S(he) gets up
Nos levantamos	We get up
Os levantáis	You (pl) get up
Se levantan	They get up

¿Qué deporte prefieres?	What sport do you prefer?
Prefiero... jugar al rugby hacer natación los deportes de equipo los deportes individuales es mi deporte favorito	I prefer... to play rugby to do swimming team sports individual sports is my favourite sport

Mi rutina diaria	My daily routine
Me despierto	I wake up
Me levanto (enseguida)	I get up (straight away)
Me lavo los dientes	I brush my teeth
Me ducho	I shower
Me visto	I get dressed
Me acuesto	I go to bed
Desayuno	I eat breakfast
Ceno	I eat dinner
Voy a la piscina	I go to the pool
Voy al insti	I go to school
Voy al trabajo	I go to work
Voy al gimnasio	I go to the gym
Entreno	I exercise
a las seis	at 6:00
a las siete y cuarto	at 6:15
a las ocho y media	at 8:30
a las diez menos cuarto	at 9:45

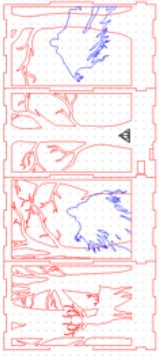
Key spellings 4	
Learn these spellings, they will be really useful for this unit and you will be tested on them.	
1. tengo derecho	I have the right
2. voy en bici	I go by bike
3. reciclamos	we recycle
4. no puedo	I can't
5. es más barato	it's cheaper
Nacionalidades	Nationalities
Es...	He/She is...
argentino/a	Argentinian
boliviano/a	Bolivian
colombiano/a	Colombian
mexicano/a	Mexican
norteamericano/a	North American
peruano/a	Peruvian
inglés/inglesa	English
español/española	Spanish
pakistani	Pakistani

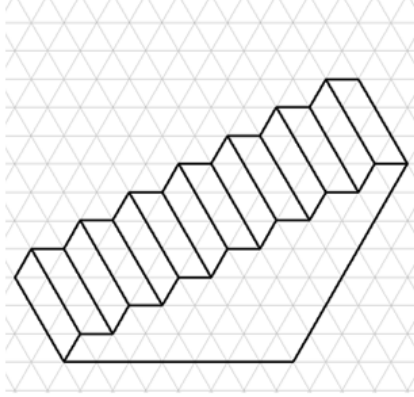
Mis derechos	I have the right...	My rights
Tengo derecho...	I have the right...	
al amor y a la familia	to love and to family	
al juego	to play	
a la educación	to education	
a la libertad de expresión	to freedom of expression	
a la protección	to protection	
a un medio ambiente sano	to a healthy environment	
No puedo...	I cannot...	
dar mi opinión	give my opinion	
ir al insti(tuto)	go to school	
jugar con mis amigos	play with my friends	
respirar	breath	
salir a la calle	go out into the street	
vivir con mi familia	live with my family	
porque...	because...	
soy un chico/una chica	I am a boy/girl	
mi padre es muy estricto	my dad is very strict	
tengo que ganar dinero	I have to earn money	
tengo que trabajar	I have to work	
el aire está contaminado	the air is contaminated	
en mi país a veces hay violencia	there is sometimes violence in my country	
¡No es justo!	It's not fair!	
Es inaceptable	It's unacceptable	

¿Cómo vas al insti?	How do you get to school?
Voy...	I go...
a caballo	on horseback
a pie	on foot
en autobús	by bus
en barco	by boat
en bici	by bike
en coche	by car
en metro	by metro
en tren	by train
porque es...	because it is...
la única opción	the only option
más rápido que...	quicker than...
más verde que...	more eco-friendly than...
más barato que...	cheaper than...
más practico que...	more practical than...
más seguro que...	safer than...
...ir a pie	...going on foot
...ir en autobús	...going by bus
...ir en taxi	...going by taxi
...ir en coche	...going by car
... nadar	...swimming

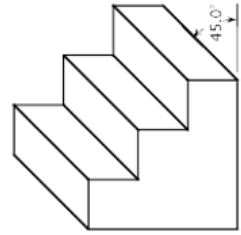
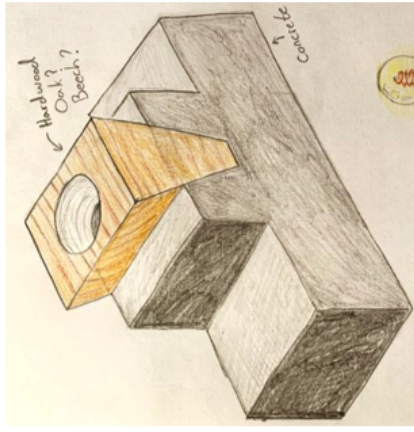
Sobre su vida	About their life
Es de...	He/She is from...
Vive en...	He/She lives in...
Vive con sus padres	He/She lives with his/her parents
¿Qué hace por la mañana?	What does he/she do in the morning?
Desayuna	He/She has breakfast
Organiza sus cosas	He/She organises his/her things
Va al insti	He/She goes to school
¿Qué hace durante el día?	What does he/she do during the day?
Ayuda a su madre	He/She helps his/her mum
Estudia	He/She studies
Hace los deberes	He/She does homework
Prepara la cena	He/She prepares dinner

Un mundo mejor	A better world
Para ser un instituto verde...	In order to be a green school...
apagamos la luz	we turn off the light
conservamos la electricidad	we conserve electricity
no malgastamos agua	we don't waste water
plantamos árboles y flores	we plant trees and flowers
reciclamos botellas de plástico	we recycle plastic bottles
reciclamos papel y vidrio	we recycle paper and glass
reducimos el consumo eléctrico	we reduce our electrical consumption
tenemos un jardín	we have a garden
vamos en bici	we go by bike
Para hacer un mundo mejor...	In order to make a better world...
vamos a recaudar fondos	we are going to raise funds
vamos organizar un evento	we are going to organise and event
vamos a vender pasteles	we are going to do a bake sale

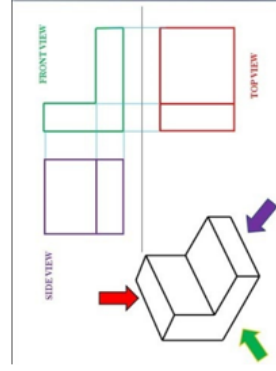
Design and Technology Specific Language and Terms	
CAD	 <p>Computer Aided Design</p>
Isometric Drawing	<p>An isometric drawing is a type of 3D drawing that is set out using 30-degree angles. It's a type of drawing in which the same scale is used for every axis, resulting in a non-distorted image.</p>
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>



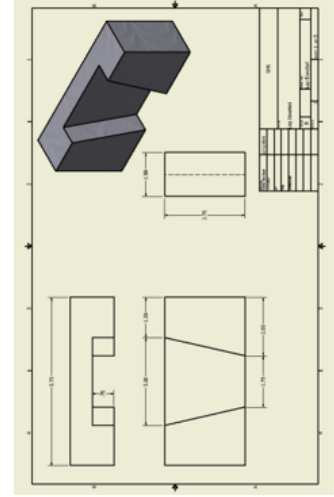
Isometric Drawings
















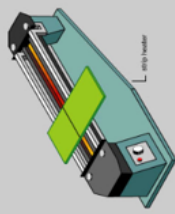






Oblique Drawing



Orthographic Drawing



Working Drawing

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 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"> Used to polish metal or plastics to a high shine Rotating abrasive disc removes material Used for timber and plastics Used to apply heat along an area of thermoforming plastic allowing it to be bend along a line Process is called line bending 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"> Thin blade allows for intricate curves to be cut in timber a plastic sheet material Spinning cutting tool removes wood as in is move along a surface Used to create slots, grooves or fancy edges Used to make straight or curved cuts in all materials Blades and speed can be changed to suit material Blade is one continuous flexible loop Mainly used for timber but blades can be changed to cut plastics Can cut straight or curved lines Circular blade rotates through the table surface Used to make straight cuts only Mainly used to cut boards to size Can be used for multiple thin materials Requires designs to be created on a computer first 	



Health & Safety

Design and Technology Specific Language and Terms	
Health and Safety	Anything to do with a persons wellbeing in any given situation. From sitting at a computer for long periods to operating machinery.
Risk Assessment	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
PPE	Personal Protective Equipment Goggles, aprons, dusk masks, gloves
Extraction	Can be dust extraction when using machinery or fume extraction when gluing or painting.

Shaping Plastics

	<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 lift 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.
	<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.

Bending Materials

	<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. Joints can be riveted, soldered, brazed etc. Process is called Line Bending A heating element softens a thermoforming plastic (acrylic) along a line. This can then be bent to shape and held in place until cooled 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.
	<p>Strip Heater</p>
	<p>Lamination</p>



Two leaves cast in pewter

Casting

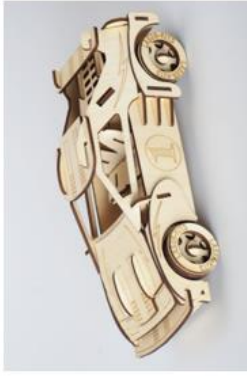
	<p>Die Casting</p> <ul style="list-style-type: none"> Used to cast metals or thermoforming plastics <ul style="list-style-type: none"> Material is melted and pours into a mould Once cooled it can be removed and any seems tidied up Thermosetting plastics are mould by mixing two part which set through a chemical reaction. <ul style="list-style-type: none"> Often referred to as Resin
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Year 9 – Knowledge Organiser 2020 – Design & Technology - CAM

COMPUTER AIDED MANUFACTURE

MACHINERY	
	Laser Cutter
	3D Printing
	Vinyl Stickers

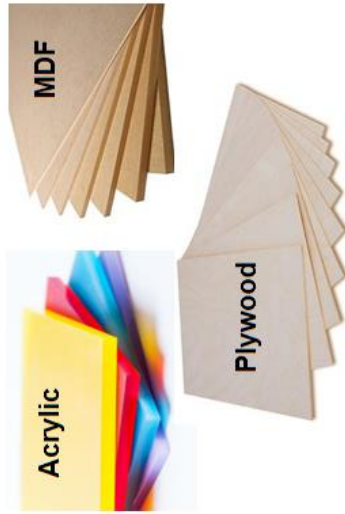
Advantages	Disadvantages
Accurate to low tolerances	Expensive to set up
Quick – rapid prototyping	Requires Specialist Training
Multiples can be produced easily	Job loss to automation



Interlocking laser cut toy in plywood

Materials suitable for laser cutting:

- Acrylic – Thermofforming Plastic
- MDF – Manufactured Board
- Plywood – Manufactured Board
- Card/Paper – Paper/Board
- Felt – Fabric



Card/Paper



Felt

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



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

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