

Year 9 Knowledge Organiser

**Spring Term
2021/22**

Name:

Form:

Core British Values

- I recognise that it is **unacceptable** to dismiss the **beliefs** and **opinions** of anyone.
- I understand that discussions about **sensitive issues** will be **controlled** and **structured**.

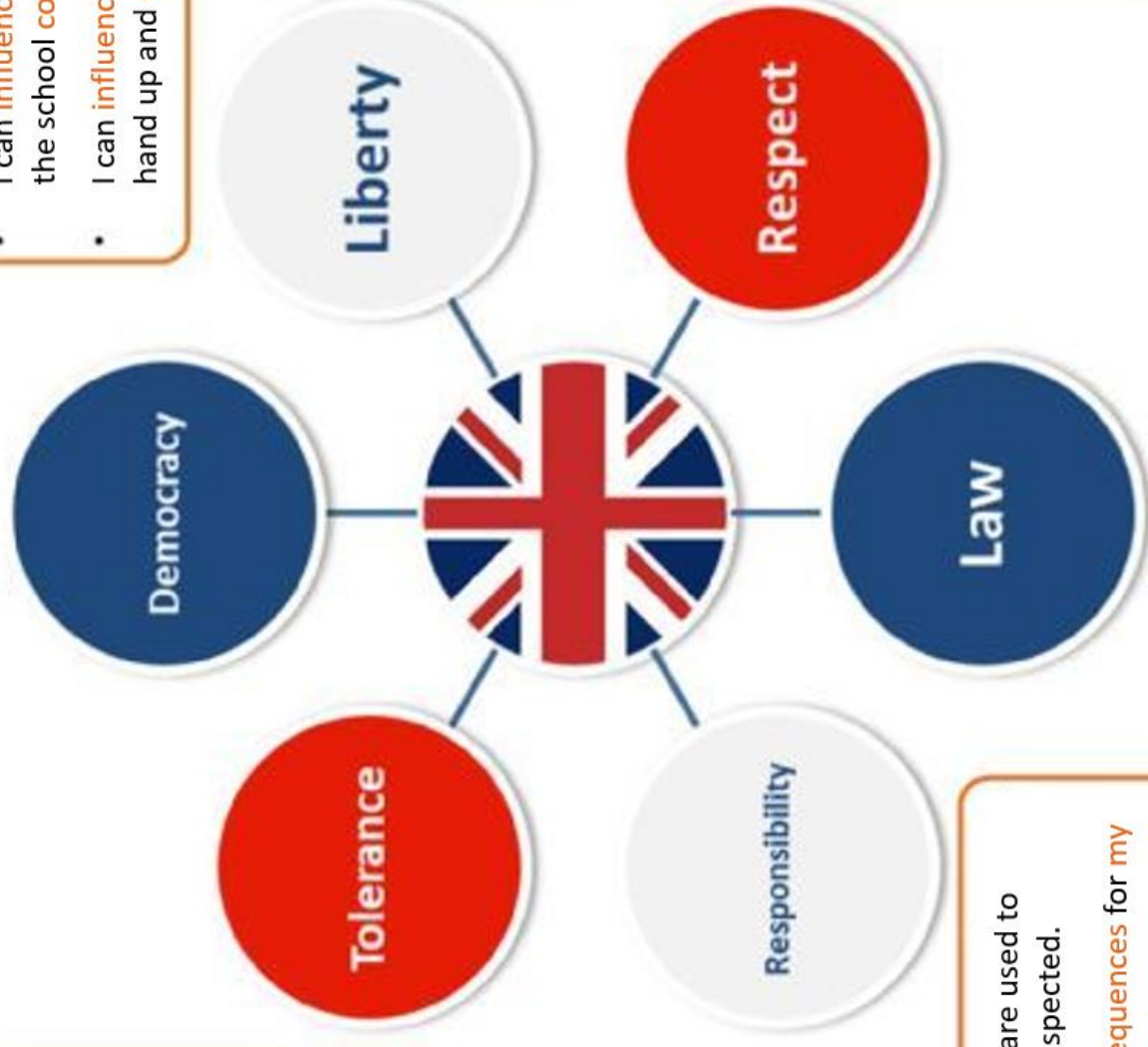
- I recognise that I am as **responsible** for my learning as my teacher.
- I take **responsibility** for all of my **actions** – good or bad.
- We all have a **responsibility** to **promote** and **protect** the wellbeing of others.

- I understand that the school **rules** are used to mirror **society laws** and must be respected.
- I recognise that there will be **consequences** for my **actions**.

- I can **influence** the way the school runs through the school **council** and by **talking to staff**.
- I can **influence my lessons** through putting my hand up and **responding**.

- I am **free to think** as I see fit.
- I have the freedom **to make** choices that affect me but I recognise that I am **accountable** for **all my actions**.

- I recognise that **everyone** is **entitled** to their **opinion** as long as it **does not promote extremism**.
- I understand that everyone is **entitled to a voice** within the classroom.
- I will **listen to others** as I would like to be listened to.



Social - Moral - Spiritual - Cultural



Contents Page

Page	Content
4	Instructions for using your Knowledge Organiser
5	How to make the most of your Knowledge Organiser
6 – 9	Learning Strategies
10 – 11	Homework log and parental check
12 – 13	Reading log
14 – 15	Art
16 – 17	Citizenship
18 – 19	Computing
20 – 21	Dance
22 – 23	Drama
24 – 25	English
26 – 27	Food
28 – 29	French
30 – 31	Geography
32 – 35	German
36 – 37	History
38 – 39	Mathematics
40 – 41	Music
42 – 43	P E
45	R E – Marshland, Smithdon, St Clements
46 – 47	R E – Springwood
48 – 49	Science - Biology
50 – 51	Science – Chemistry
52 – 53	Science – Physics
54 – 55	Spanish
56 – 61	Technology

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 make the most of your knowledge organiser

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.

The Learning Scientists

As a trust, we have always been keen to find out more about how we learn and how we can support our students in their learning.

The Learning Scientists are a group of cognitive psychological scientists interested in research on education. Their main research focus is on the science of learning. (Hence, “The Learning Scientists”!)

Through decades of research, they have identified and developed six key learning strategies, which are explained over the next few pages. These are the main strategies we encourage our students to apply to their studies.

Please visit the Learning Scientists’ website for more useful information, including blogs for parents to help support their children with their learning.

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



Six Strategies for Effective Learning

LEARNINGSIENTISTS.ORG

All of these strategies have supporting evidence from cognitive psychology. For each strategy, we explain how to do it, some points to consider, and where to find more information.



Explain and describe
ideas with many details



Practice bringing
information to mind



ELABORATION

RETRIEVAL PRACTICE

Use specific examples
to understand abstract
ideas



CONCRETE EXAMPLES

Space out your
studying over time



SPACED PRACTICE

INTERLEAVING

DUAL CODING



Switch between ideas
while you study

Combine words
and visuals





LEARN TO STUDY USING...

Spaced Practice

SPACE OUT YOUR STUDYING
OVER TIME

- 1 TESTING
- 2 SPACING
- 3 SKETCHING



HOW TO DO IT

Start planning early for exams, and set aside a little bit of time every day. Five hours spread out over two weeks is better than the same five hours all at once.

Review information from each class, but not immediately after class.

After you review information from the most recent class, make sure to go back and study important older information to keep it fresh.

learningscientists.org



LEARN TO STUDY USING...

Spaced Practice

SPACE OUT YOUR STUDYING
OVER TIME

- 1 TESTING
- 2 SPACING
- 3 SKETCHING



TRY IT NOW

Think of a
topic you read
about a few
chapters back.
What were the
main ideas?

learningscientists.org



LEARN TO STUDY USING...

Retrieval Practice

PRACTICE BRINGING
INFORMATION TO MIND



HOW TO DO IT

Put away your class materials, and write or sketch everything you know. Be as thorough as possible. Then, check your class materials for accuracy and important points you missed.

Take as many practice tests as you can get your hands on. If you don't have ready-made tests, try making your own and trading with a friend who has done the same.

You can also make flashcards. Just make sure you practice recalling the information on them, and go beyond definitions by thinking of links between ideas.

learningscientists.org



LEARN TO STUDY USING...

Retrieval Practice

PRACTICE BRINGING
INFORMATION TO MIND



TRY IT NOW

Close your
book, and
write down as
much as you
can from
memory.

learningscientists.org



LEARN TO STUDY USING...

Elaboration

EXPLAIN AND DESCRIBE IDEAS WITH DETAILS



HOW TO DO IT

Ask yourself questions while you are studying about how things work and why, and then find the answers in your class materials and discuss them with your classmates.

As you elaborate, make connections between different ideas to explain how they work together. Take two ideas and think of ways they are similar and different.

Describe how the ideas you are studying apply to your own experiences or memories. As you go through your day, make connections to the ideas you are learning in class.

learningscientists.org



LEARN TO STUDY USING...

Elaboration

EXPLAIN AND DESCRIBE IDEAS WITH DETAILS



TRY IT NOW

Close the book and think about how what you just read connects to something you already know.

learningscientists.org



LEARN TO STUDY USING...

Interleaving

SWITCH BETWEEN IDEAS WHILE YOU STUDY



HOW TO DO IT

Switch between ideas during a study session. Don't study one idea for too long.

Go back over the ideas again in different orders to strengthen your understanding.

Make links between different ideas as you switch between them.

learningscientists.org



LEARN TO STUDY USING...

Interleaving

SWITCH BETWEEN IDEAS WHILE YOU STUDY



TRY IT NOW

OK, you've read enough about this topic. Why don't you try to answer some questions about a different topic for a bit?

learningscientists.org



LEARN TO STUDY USING...

Concrete Examples

USE SPECIFIC EXAMPLES TO UNDERSTAND ABSTRACT IDEAS



HOW TO DO IT

Collect examples your teacher has used, and look in your class materials for as many examples as you can find.

Make the link between the idea you are studying and each example, so that you understand how the example applies to the idea.

Share examples with friends, and explain them to each other for added benefits.

learningscientists.org



LEARN TO STUDY USING...

Concrete Examples

USE SPECIFIC EXAMPLES TO UNDERSTAND ABSTRACT IDEAS



TRY IT NOW

Look around you: Can you find an example related to the idea you were just reading about?

learningscientists.org



LEARN TO STUDY USING...

Dual Coding

COMBINE WORDS AND VISUALS



HOW TO DO IT

Look at your class materials and find visuals. Look over the visuals and compare to the words.

Look at visuals, and explain in your own words what they mean.

Take information that you are trying to learn, and draw visuals to go along with it.

learningscientists.org



LEARN TO STUDY USING...

Dual Coding

COMBINE WORDS AND VISUALS



TRY IT NOW

Now that you have read a bit, close the book and draw a visual that incorporates the main ideas.

learningscientists.org

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.

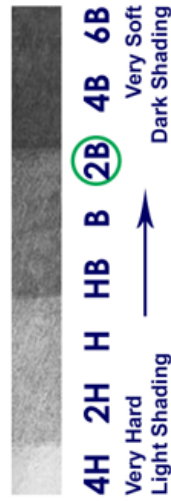
Week	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Book(s) read (title and author)	Total time spent reading	Parent/Guardian /Staff signature
8										
9										
10										
11										
12										
13										
14										

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:



Enam Bosokah



Samuel Silva



Shohei Otomo

Examples of Biro/Pen Artists:

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			
Drypoint printing (etching)	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.	Mandala	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.
Printing Press	A printing press is a device for applying pressure to an inked surface, therefore allowing the ink to transfer to the paper.	Islamic Art	Islamic art encompasses the visual arts produced in the Islamic world, including architectural art and pattern.

Dan Hillier:

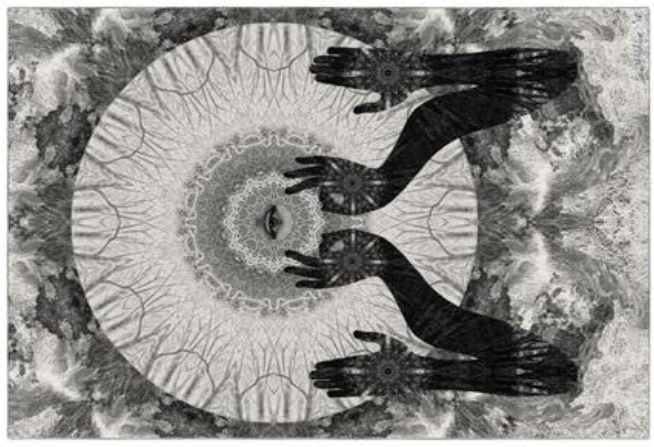
A London based contemporary artist who makes collages, screen prints and ink drawings using a mixture of found imagery and his own imaginings. His work is born out of a passion for line work and collage, a love of archaic imagery and an urge to produce pictures that provoke humour, wonder and a certain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



Field



Luna



Temple of the way of light

Iranian Mosques

Visual inspiration:



Y9 CITIZENSHIP

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.

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

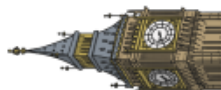
10,000

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.



NSPCC
Cruelty to children must stop. FULL STOP.



AMNESTY
INTERNATIONAL



GREENPEACE

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.

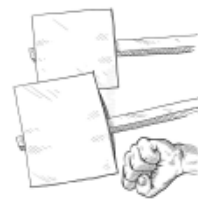
Direct Action

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.

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 **Positives**
Gets people's attention

Indirect Action **Positives**
Can reach out to a lot of people easily

Direct Action **Negatives**
Can cause disruption

Indirect Action **Negatives**
Easy to ignore e.g. posters, emails etc.



Pressure Groups

CASE STUDIES
Stop the War Coalition
&
The Suffragettes

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.

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.

Key Facts

Suffrage
The right to vote

Suffragettes
People who fought for their rights to vote

Spring Term



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.

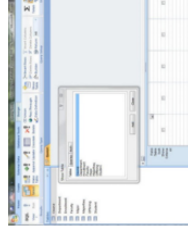
As part of their protests they let off bombs, smashed shop windows and set fire to churches – which meant they weren't popular with everyone. Many thousands of men and women all over the country were involved in the movement.

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



DATABASE



VALIDATION



UNIQUE



QUERY



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?

Not showing your true self?

Emotional break down?

Protection?

Reflection?

Concealment?

New beginnings?

Confinement?

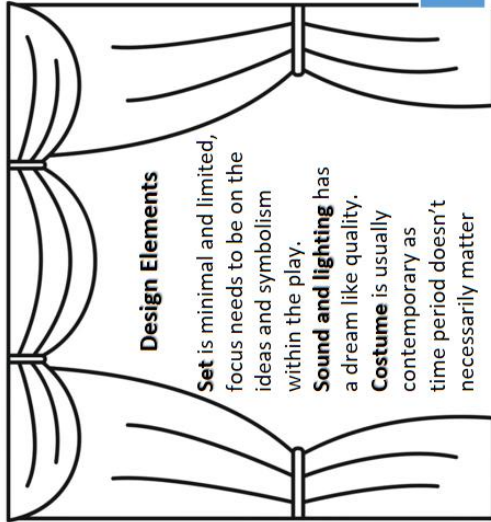
Finding peace?

Restrictions and limitations?

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.

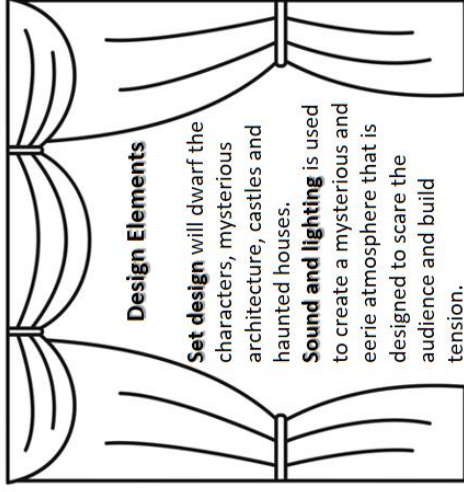
The Theatre of the Absurd was created in the post war era of 1950s, it was a label given to many plays of absurdist fiction written by a number of primarily European playwrights. It is also a term for the style of theatre the plays represent. The plays focus largely on ideas of existence and express 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.

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.

Key Vocabulary	Explanation
Horror	A story in which very frightening and unnatural things happen
Gothic villain	Usually male, often extremely handsome, intelligent, successful, talented, and/or charming, although there is usually some tell tale warning sign to warn us that his looks are deceiving.
Mystery	Something strange or not known that has not yet been explained or understood
Suspense	The feeling of excitement or nervous ness that you have when you are waiting for something to happen and are uncertain about what it is going to be.

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.



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?



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?"



Year 9, Autumn Term: Structure

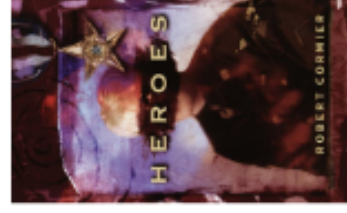
Core Text: *Heroes* (Robert Cormier)

Structure refers to the organisation of information, ideas or events in a text. There is a standard structure of a story; however, the writer needs to decide on the best order in which to tell the story. Overall, the structure of the text will shape the reader's response to the plot and the characters.

Vocabulary

Words to talk about the structure of the whole text

- ♦ structure: linear/non-linear
- ♦ character arc
- ♦ foreshadowing
- ♦ form
- ♦ tense (present/past)
- ♦ compound sentence
- ♦ fragment
- ♦ interrogative



Words to talk about the style and effects of the text

- ♦ stream of consciousness
- ♦ motif
- ♦ cohesion/cohesive

Ways in which the reader's response can be shaped by a non-linear narrative structure:

- ♦ questions posed at the start of the text may not be answered until later;
- ♦ a past event can be re-told using present tense for dramatic impact;
- ♦ stream of consciousness helps to create realism;
- ♦ when the introductory characterisation does not align with details established at the beginning of the text, it heightens the sense of intrigue;
- ♦ foreshadowing hints at key events that will occur later in the text, building anticipation for the reader;
- ♦ motifs can act as a cohesive device across the text, representing a theme or character.

<p>Structure can be considered at sentence level:</p> <ul style="list-style-type: none"> • compound sentences can create a specific meaning; • fronting a word in a sentence can enhance meaning; • sentences structures can reflect the event they are describing, adding to the realism of the text; • the use of grammatically ‘incorrect’ sentences is a stylistic choice— fragments can be used to intensify meaning; • sentence structure can effectively express the feelings of a character. <p><i>Thinking Task: Retrieve examples of these sentence structures from Heroes and consider the impact of the writer’s choices. Why is the opening sentence a long compound sentence, for example?</i></p>	<p>Reading Assessment: How does Cormier structure <i>Heroes</i> in a way that creates intrigue?</p> <p><i>How to structure an essay about literature:</i></p> <p>(1) Introduction: thesis statement (2) Body: exemplifying references to prove thesis (3) Conclusion</p>
<p>Structure in Poetry</p> <ul style="list-style-type: none"> • Poetic form: poets may choose to follow a formalised, established structure, e.g. sonnet form. • However, poetry does not have to adhere to or be based on any formalised structure, although structural choices will still reflect meaning. 	<p>Structure of a paragraph from the ‘body’ of the essay:</p> <ul style="list-style-type: none"> • topic sentence; • text reference (quotation or indirect); • analysis of structural choice • reader response • link back to question/thesis. <p>Example (introduction + first exemplifying paragraph + start of second exemplifying paragraph)</p> <p><i>Cormier structures Heroes to be non-linear. The narrator, Francis, gradually reveals certain details from his past that have an impact on his decisions and actions in the present. Through this structure, the relationship between Francis and Larry is developed in an intriguing way.</i></p> <p><i>From the outset, Cormier places Larry in the role of the antagonist. Francis prays for Larry LaSalle, who he defines as an enemy, and ‘the man I am going to kill’. By establishing Larry this way from the beginning, the writer creates the key point of conflict that will need to be resolved as the narrative progresses. At this stage, the reader is unaware of what has happened between these characters to cause Larry to be Francis’ enemy, therefore intrigue is elicited because a question is posed that we do not yet have an answer to.</i></p> <p><i>However, when the reader first meets the character of Larry, ...</i></p>
<p>The Sonnet</p> <p>The subject matter is usually concerned with love.</p> <ul style="list-style-type: none"> • 14 lines; • 3 x quatrains + rhyming couplet to end; • ABABCDCEFEFGG pattern; • iambic pentameter. 	<p>Writing Assessment: Write about a time when you, or someone you know, felt betrayed. Your writing should follow a non-linear structure. Your writing could be based on events that are real or imagined.</p> <p><i>Task: Plan your non-linear narrative.</i></p>

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.

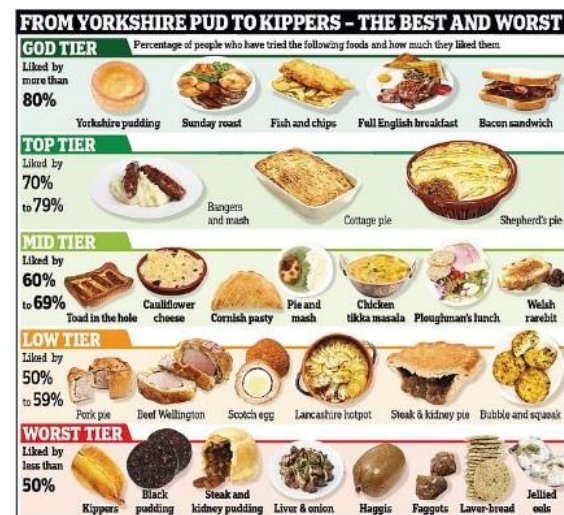
Food reared in Britain – beef, lamb, poultry and game, pork, bacon and ham are popular. Dairy products, like cheese, butter, cream and yoghurt, are also made using the milk from dairy farms.

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.	rubish/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 /	hip-hop/jazz/rap/
le R'n'B / le reggae / le rock /	R'n'B/reggae/rock
la musique classique /	classical music/
la musique traditionnelle /	traditional music/
la techno/	techno/
toutes sortes de musique.	all sorts of music
un peu de tout.	a bit of everything
À mon avis,/Pour moi, c'est..	In my opinion/For me, it is..
cool / relaxant / amusant /	cool/relaxing/fun/
original / intéressant /	original/interesting/
ennuyeux / nul.	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

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

Je voudrais changer le monde...

Qu'est-ce que tu voudrais faire pour changer le monde?
What would you like to do to change the world?

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	<i>to organise an anti-litter</i>
anti-déchets.	<i>campaign.</i>
faire du travail bénévole.	<i>to do voluntary work.</i>
être membre d'un	<i>to be a member of</i>
groupe écolo.	<i>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	<i>fight climate change.</i>
changement climatique.	
aider les autres.	<i>help others.</i>

Year. 9 Geography: Superpowers

Key Term	Definition
Superpower	Superpowers are countries or regions, which have some of the following characteristics: large populations, strong military power, wealth, high levels of trade, political influence and cultural influence.
Trade	Trade refers to the buying and selling of goods (products) and services between different countries around the world.
Globalisation	The way in which the world has become more interconnected. Globalisation refers to how people communicate as well as world trade, international investment and the sharing of ideas.
Culture	Culture describes the way of life, behaviours and beliefs of a particular group of people.
European Union	A group of European countries initially formed to remove trade barriers and reduce potential for war within Europe following World War II. Citizens of member states have the right to move freely to any other member state to live and work.

Key idea

Some of the most influential Superpowers in the world right now include: The United States of America, China, Russia, Germany and the United Kingdom. Each of these countries hold strong cultural and political influence on a global scale and see fast rates of economic growth. This enables them to continue producing more goods and services to export around the world, fuelling their ascent to greater power and international standing.

UNITED STATES OF AMERICA



European Countries

Year 9 Geography: Africa

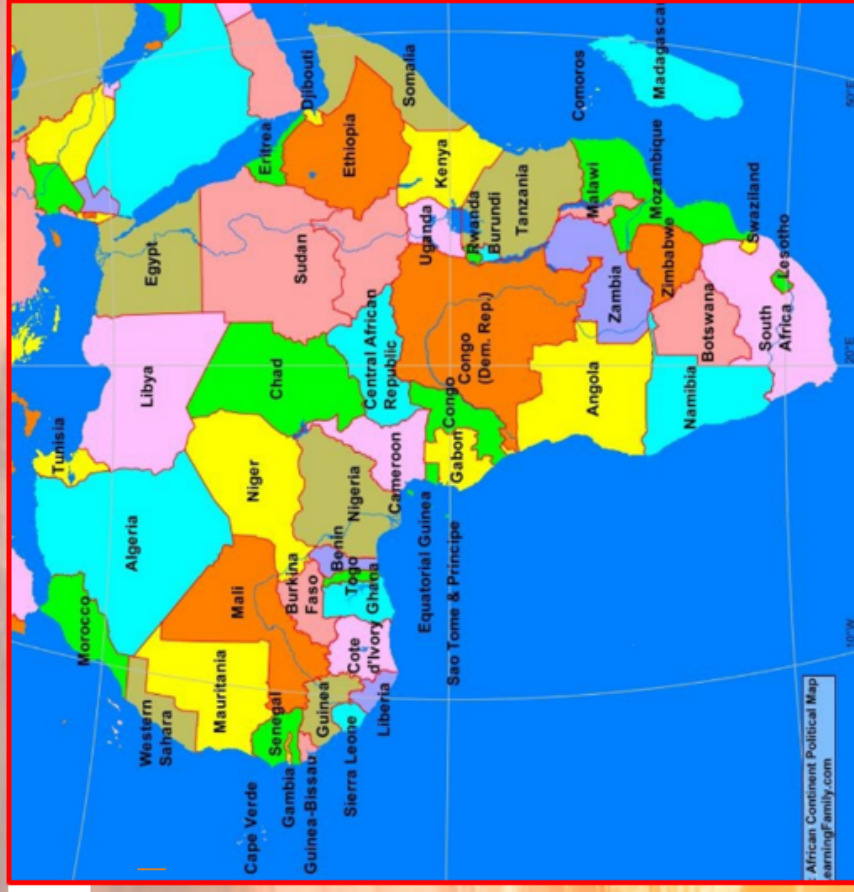
Key Term	Definition
Development	The process of change and improvement both economically and socially.
Standard of living	The degree of wealth and material comfort available to a person or community.
Quality of life	The standard of health, comfort, happiness and wellbeing experienced by an individual or group.
Biomes	A large community of plants and animals found in a major habitat. Examples found in Africa include rainforests, deserts and savannahs.
Desertification	The process by which land becomes drier and degraded.
Colonialism	The type of government where a geographic area is ruled by a foreign power.
Imperialism	Where countries impose influence through military force and economic force.
Neo-colonialism	When former colonies influence countries through the economy and international relations.

Africa is the second largest continent in the world with 54 countries and a population of 1.1 billion. It sits on the African tectonic plate. It has several major river basins including the Niger, Nile, Congo, Zambezi and Orange.

Key ideas

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.

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. In the twentieth century African countries became independent and started to govern themselves. Countries including China which is investing heavily in Africa are keen to exploit Africa's resources including bauxite, uranium, diamonds, platinum, cobalt, oil, gas and timber.



1. Würdest du ...?

Ich würde ...

mit Haifischen schwimmen. / Extremsport 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 einen Job?

Was für einen Job hast du?

Ich arbeite ...

als Zeitungsausträger(in).

als Babysitter(in). / als Trainer(in).

als Bademeister(in). / als Hundeführer(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 könntest du das machen?

Ich könnte 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 / loveliest

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) was 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... .

Second Year German – Spring 1

Das Frühstück	Breakfast
der/das Joghurt	yoghurt
der Käse	cheese
der Schinken	ham
der Speck	bacon
der Toast	toast
der Kaffee	coffee
der Tee	tea
der Orangensaft	orange juice
das Butter	butter
die Marmelade	jam
die Orangenmarmelade	marmalade
die Milch	milk
die heiße Schokolade	hot chocolate
das Brötchen	roll
das Obst	fruit
das Ei/Eier	egg(s)
die Frühstücksflocken	cereal

Was isst du zum Frühstück?

What do you eat for breakfast?

ich esse einen Joghurt	<i>I eat a yoghurt</i>
ein Brötchen mit Butter und Marmelade	<i>a roll with butter and jam</i>
ich esse kein Frühstück	<i>I don't eat any breakfast</i>

Die Speisekarte **Menu**

(der) Fisch mit Reis und Erbsen	<i>fish with rice and peas</i>
(der) Flammkuchen	<i>Flammkuchen</i>
mit Sauerkraut	<i>with pickled cabbage</i>
(die) Bratwurst mit Eiern	<i>fried sausage with eggs</i>
(die) Gemüsesuppe mit Brötchen	<i>vegetable soup with a roll</i>
(das) Hähnchen mit Pommes und Karotten	<i>chicken with chips and carrots</i>
(das) Schnitzel mit Kartoffeln	<i>pork fillet in breadcrumbs with potatoes</i>

Die Mahlzeiten **Mealtimes**

die Vorspeise	<i>the starter</i>
die Hauptspeise	<i>the main</i>
die Nachspeise	<i>dessert</i>

Wie ist das?

süß	<i>sweet</i>	lecker	<i>delicious</i>
sauer	<i>sour</i>	köstlich	<i>tasty</i>
salzig	<i>salty</i>	gesund	<i>healthy</i>
scharf	<i>spicy</i>	ungesund	<i>unhealthy</i>
vegetarisch	<i>vegetarian</i>		
ekelhaft	<i>disgusting</i>		

Im Restaurant

Was nimmst du?
ich nehme...
den Fisch
die Gemüsesuppe
das Hähnchen

In the restaurant

What are you having?
I'll take / I'm having...
the fish
the vegetable soup
the chicken

Mein Lieblingssandwich

	My favourite sandwich
das Ketchup	<i>ketchup</i>
der Senf	<i>mustard</i>
der Thunfisch	<i>tuna fish</i>
die Erdnussbutter	<i>peanut butter</i>
die Gurke(n)	<i>gherkin(s)</i>
die Mayo	<i>mayonnaise</i>
die Olive(n)	<i>olive(s)</i>
der Käse	<i>cheese</i>

Gesund bleiben

Staying healthy

man muss...	<i>One / you / people must...</i>
acht Stunden schlafen	<i>sleep for eight hours</i>
wenig Fett und Zucker essen	<i>eat little fat and sugar</i>
viel Obst und Gemüse essen	<i>eat lots of fruit and vegetables</i>
mehr Wasser trinken	<i>drink more water</i>
früh ins Bett gehen	<i>go to bed early</i>
drei Stunden trainieren	<i>exercise for three hours</i>

Oft benutze Wörter

High-frequency words

normalerweise	<i>usually</i>		
gestern	<i>yesterday</i>		
bis	<i>until</i>	in	<i>in / into</i>
früh	<i>early</i>	auf	<i>on</i>
spät	<i>late</i>		
mehr	<i>more</i>		
wenig	<i>little</i>		
weniger	<i>less / fewer</i>		
oft	<i>often</i>		
besser	<i>better</i>		
mein	<i>my</i>	dein	<i>your</i>
mit	<i>with</i>	sein	<i>his</i>
		ihr	<i>her</i>
		ohne	<i>without</i>

Five key words

der Schinken	<i>ham</i>
er isst	<i>he is eating / he eats</i>
das Frühstück	<i>breakfast</i>
weniger	<i>less / fewer</i>
Obst und Gemüse	<i>fruit and vegetables</i>

Second Year German – Spring 2

In der Jugendherberge

In the youth hostel

die Hausordnung	<i>rules of the house</i>
Man muss vor 22:00 Uhr ins Bett gehen.	<i>You have to go to bed before ten o'clock.</i>
Man muss das Bett machen.	<i>You have to make the bed.</i>
Man muss das Zimmer sauber halten.	<i>You have to keep the room clean.</i>
Man muss vor acht Uhr aufstehen.	<i>You have to get up before eight o'clock.</i>
Man muss abwaschen.	<i>You have to wash up.</i>
Man darf nicht rauchen.	<i>You must not smoke.</i>
Man darf nicht im Zimmer essen.	<i>You must not eat in the room.</i>
Man darf keine laute Musik hören.	<i>You are not allowed to listen to loud music.</i>

5 Key Words

halb sieben	<i>half past six</i>
Viertel	<i>quarter</i>
Das macht Spaß	<i>it is fun</i>
die Haltestelle	<i>(bus) stop</i>
man muss	<i>you have to</i>

Der Tagesablauf

Daily routine

ich stehe auf.	<i>I get up.</i>
Ich wasche / dusche mich.	<i>I get washed / shower.</i>
ich ziehe mich an.	<i>I get dressed.</i>
Ich frühstücke.	<i>I have breakfast.</i>
Ich gehe aus.	<i>I go out.</i>
Ich komme zurück.	<i>I come back.</i>
Ich esse zu Abend.	<i>I have dinner.</i>
Ich gehe ins Bett.	<i>I go to bed.</i>

Wie komme ich zum / zur ...?

How do I get to the ...?

Geh / Geht / Gehen Sie ...!	<i>Go ...!</i>
(nach) links	<i>(to the) left</i>
(nach) rechts	<i>(to the) right</i>
geradeaus	<i>straight on</i>
Nimm / Nehmt / Nehmen Sie ...!	<i>Take ...!</i>
die erste Straße links	<i>the first street on the left</i>
die zweite Straße rechts	<i>the second street on the right</i>
Geh an der Ampel links!	<i>Go left at the traffic lights.</i>
Geh an der Kreuzung rechts!	<i>Go right at the crossroads.</i>
der Bahnhof	<i>station</i>
der Park	<i>park</i>
die Bushaltestelle	<i>bus stop</i>
die Kirche	<i>church</i>
das Schwimmbad	<i>swimming pool</i>
das Hallenbad	<i>indoor swimming pool</i>
das Museum	<i>museum</i>
der Markt	<i>market (place)</i>
der Lehrer	<i>teacher (male)</i>
die Lehrerin	<i>teacher (female)</i>
das Souvenirgeschäft	<i>souvenir shop</i>
die Imbissstube	<i>snack bar</i>
das Eiscafé	<i>ice cream parlour</i>
vor dem / der ...	<i>In front of the ...</i>
Entschuldigung / Bitte, ...	<i>Excuse me, ...</i>

Um wie viel Uhr?

At what time?

um ... Uhr	<i>at ... o'clock</i>
um fünf / zehn / zwanzig / nach...	<i>at five / ten / twenty past...</i>
um fünfundzwanzig vor...	<i>at twenty-five to...</i>
um Viertel nach...	<i>at quarter past</i>
um Viertel vor...	<i>at quarter to</i>
um halb acht	<i>at half past seven</i>

Auf einem Fest

At a festival

der Umzug(-e)	<i>procession / parade</i>
der Festwagen (-)	<i>float (in a parade)</i>
die Band (s)	<i>band, group</i>
das Kostüm(e)	<i>costume / outfit</i>
der Hut(-e)	<i>hat</i>
die Fahne(n)	<i>flag</i>
die Kirmes/Kirmen	<i>funfair</i>
das Fahrkartengeschäft(e)	<i>ride (at a funfair)</i>
der Imbiss(e)	<i>snack</i>
bunt	<i>colourful</i>

Oft benutzte Wörter

High-frequency words

zu (zum / zur)	<i>to (to the)</i>
vor	<i>before, in front of</i>
groß	<i>big</i>
lang	<i>long</i>
laut	<i>loud</i>
lecker	<i>tasty</i>
schön	<i>nice</i>
toll	<i>great</i>
Das macht Spaß.	<i>That's fun.</i>
Das hat Spaß gemacht.	<i>That was fun.</i>



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'	Goebbels	Minister of Propaganda of Nazi Germany
Aryan	(in Nazi ideology) a person of Caucasian race not of Jewish descent.	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
Synagogue	A Jewish place of worship.		
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.		
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	
1290	Edict of Expulsion
1933	Hitler comes to power
1935	Nuremberg Laws
1938	Kristallnacht
1939	Germany invades Poland
1941	Germany invades Russia
1942	Wannsee Conference
1945	End of WW2

Common misconceptions	
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.	
Hitler was not the only perpetrator of the Holocaust. SS officers, The Police, SA officers, civilians etc. can all be implicated in this event.	
The Holocaust did not trigger Britain's entry into WW2.	
6 million Jews died during the Holocaust.	

Useful Websites/books/films/documentaries

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

<https://www.bbc.co.uk/bitesize/guides/zkfk7ty/revision/1>

<https://www.bbc.co.uk/programmes/articles/4W3yzYG6DzPBH08Ld0H9L9/six-stories-of-children-who-survived-the-holocaust>

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.

Diary of a Young Girl by Anne Frank. The most famous diary from the Second World War.

History – The Cold War

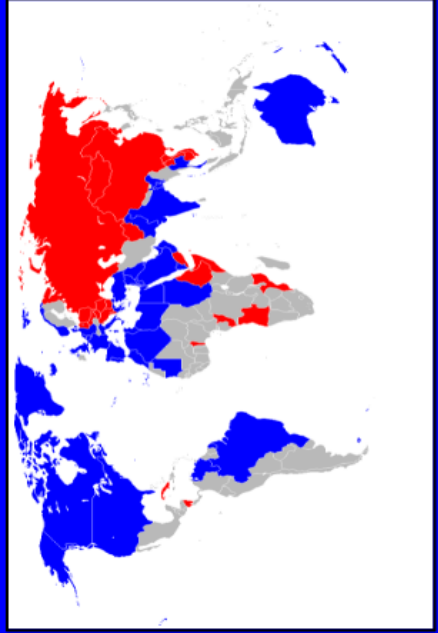
Chronology	
1917	Russian Revolution
8 th May 1945	VE Day
6 th and 9 th August 1945	Atomic bomb dropped on Hiroshima and Nagasaki
15 th August 1945	VJ Day
1949	The USSR tests their first atomic bomb
1962	Cuba Missile Crisis
1989	Fall of the Berlin Wall
1991	Fall of Communism in the USSR

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.

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.

Key People	Role
Harry S. Truman	US President, 1945-53. Made the decision to drop the atomic bomb on Japan.
Joseph Stalin	Communist dictator of the USSR from the late 1920s until 1953.
John F. Kennedy	US President, 1961-3. Key player in the Cuba Missile Crisis. Assassinated in Dallas, Texas in 1963.
Nikita Khrushchev	Communist dictator of the USSR, 1953-1964. Key player in the Cuba Missile Crisis.
Fidel Castro	Communist dictator of Cuba, 1959-2008. Key player in the Cuba Missile Crisis.
Ronald Reagan	US President, 1981-89.
Mikhail Gorbachev	The final communist dictator of the USSR, 1985-1991.



Key Words	Definition
Communism	An economic theory based on common ownership.
Capitalism	An economic theory based on private ownership.
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.
Ballistic Missiles	A rocket-propelled, self-guided weapon, capable of delivering a warhead.
ICBMs	Intercontinental Ballistic Missile. A missile with a range of over 3000 miles (i.e. capable of going between continents).
U-2	A US spy plane.
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.
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.

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.

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 $c = 3$
 $A = 2^2 + 3$
 $A = 4 + 3$
 $A = 7$

hegartymaths

153, 189

Key Words

Substitute
Equation
Formula
Identity
Expression

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.

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

Solve:

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

Solve:

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

Solve:

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

Examples

Rearrange to make r the subject of the formulae:

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

hegartymaths

177-186,
280-284, 287

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.

Examples

Rearrange to make r the subject of the formulae :

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

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

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 :

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

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



287

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 $\sqrt{\frac{4x}{y}} = z$

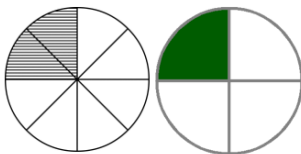
ANSWERS: 1) $a = \frac{rt-3}{5}$ 2) $m = \frac{3-5m}{2}$ 3) $x = \frac{yz^2}{4}$

RATIO

Key Concept

Shaded : Unshaded

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



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 $60 : 40 : 100$

$$\begin{array}{l} \div 10 \\ 6 : 4 : 10 \\ \div 2 \\ 3 : 2 : 5 \end{array}$$

Share £45 in the ratio 2 : 7

$$45 \div 9 = 5$$

£10 : £35

Write 2: 5 in the form 1 : n

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

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

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



Clip Numbers

328 – 335

Tip

It's 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) $\frac{1}{5}$

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
-----------------------	--

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.

9.3 KS3 Core PE Knowledge Organiser: Long Term effects of exercise on the Musculoskeletal System

1. INCREASED BONE DENSITY

- bones adapt during exercise by becoming **thicker and heavier** (denser) to prevent fractures from occurring. Strong bones reduce the risk of injuries.

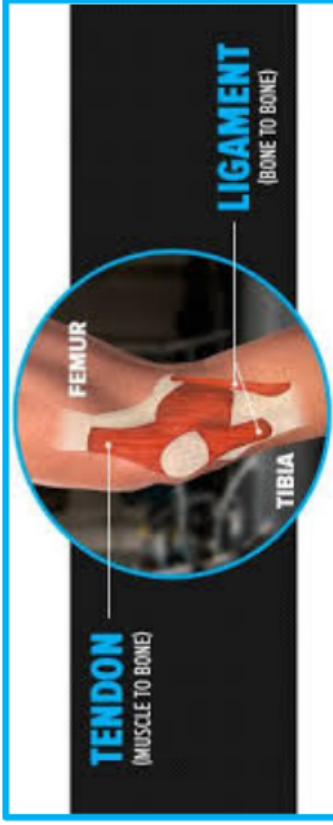
A Gymnast needs strong bones so they don't suffer fractures when landing after a somersault.



2. INCREASED STRENGTH OF LIGAMENTS & TENDONS

- during exercise ligaments and tendons are stretched during exercise and they adapt by becoming **thicker and stronger** to prevent injury.

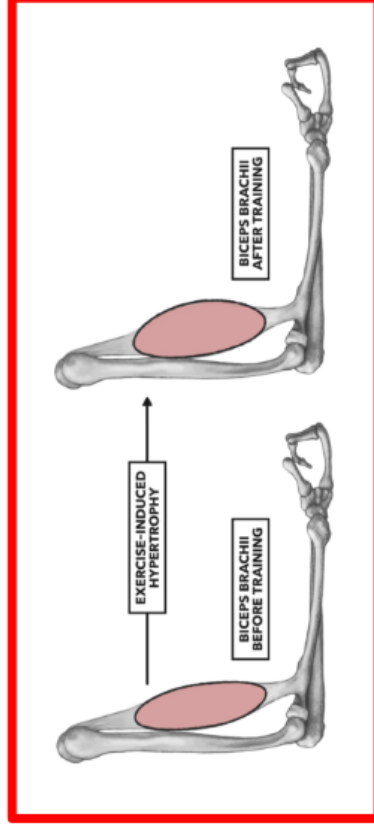
A Basketball player needs to be able to jump and change direction without injury to their ligaments or tendons in their knees and ankles.



3. MUSCLE HYPERTROPHY

- increase in **muscle size and strength/endurance**. Comes from muscles tearing and healing thicker and stronger.

A rower requires strong muscles in their upper and lower body to overcome the resistance of the water.

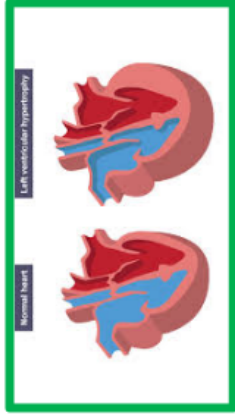


QUESTION: Lucy exercises regularly to increase her fitness.

Describe **one** way in which the muscular system is affected by regular exercise and the long term benefit of this effect on the performer. (2 marks)

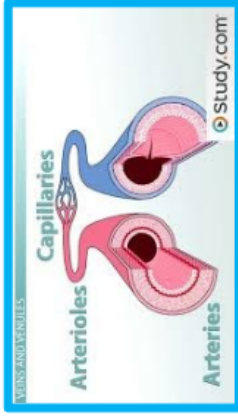
Command word – Describe: Give an account of something, or link facts, information, events or processes in a logical order. Lucy's tendons, that join muscle to bone, will become thicker and stronger meaning she will be less prone to injury.

In addition, regular exercise will also cause muscle hypertrophy, meaning Lucy's muscles will grow in size. This will benefit Lucy by increasing her muscular strength.



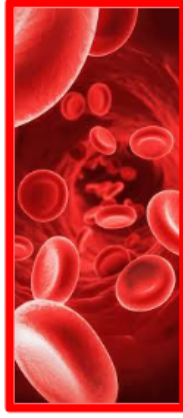
1. CARDIAC HYPERTROPHY

- this is the **increased size** of the heart (left ventricle) due to training. This makes the heart **stronger**, meaning it can pump out more blood per beat, even at rest, therefore does not have to work as hard causing your resting heart rate to be lower.



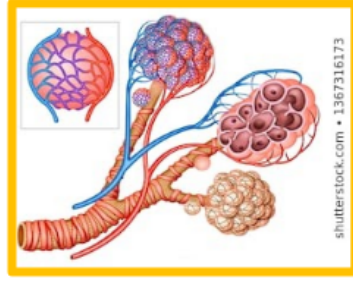
2. INCREASE IN ELASTICITY OF THE MUSCULAR WALLS OF THE ARTERIES & VEINS

- the more the arteries and veins can **dilate** (widen) and **constrict** (tighten). Oxygen is delivered to the working muscles faster, causing your resting blood pressure to drop.



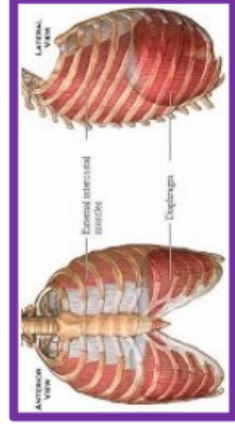
3. INCREASE IN THE NUMBER OF RED BLOOD CELLS

- red blood cells carry **oxygen** to the working muscles. The more red blood cells a performer has, the more oxygen can be carried to their working muscles to produce energy for movement.



4. CAPILLARISATION AND AN INCREASE IN THE NUMBER OF ALVEOLI

- capillarisation results in an increase in the number of capillaries wrapped around each alveoli, which also increase in number in the lungs. An increase in both means that a greater level of gaseous exchange can take place. Therefore, a performer is able to **deliver more oxygen** to their working muscles and **remove waste products (carbon dioxide)** more quickly, resulting in them being able to work longer at a moderate (aerobic) intensity.



5. INCREASED STRENGTH OF DIAPHRAGM AND INTERCOSTAL MUSCLES

- meaning you can **breathe more deeply**. This increases the amount of air you can inhale and exhale with each breath, causing more oxygen to be brought into the body and delivered to the working muscles for energy production.

VOCABULARY:

Bone density Ligaments Tendons Hypertrophy Capillarisation Alveoli Diaphragm Intercostal muscles

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 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 household 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)



Year 9 Topic 2 Biology Knowledge Organiser

Tier 2 Vocabulary

Complementary

Specific

Tier 3 Vocabulary

Virus

Bacteria

Fungi

Protist

Immunity

Vaccination

Antigen

Antibody

Pathogen

Malignant

Benign

Placebo

Carcinogen

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, dummy pill which has no effect

Drug discovery

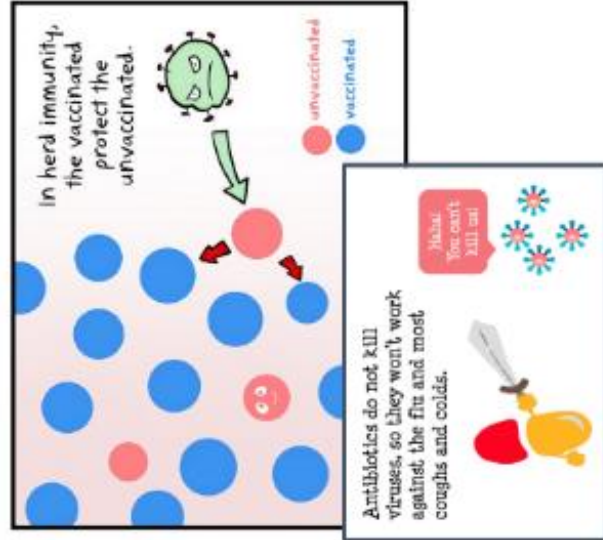
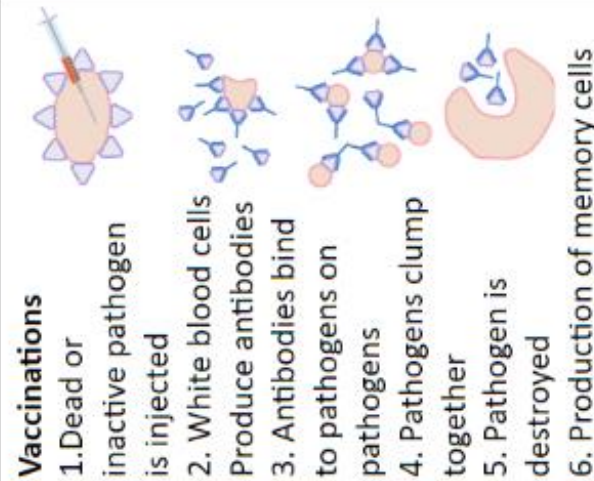
Drugs were traditionally extracted from plants and microorganisms

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

Drugs are trialled and tested for toxicity, efficacy and dose

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	Gonorrhea	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

Illnesses caused by pathogens are communicable diseases



Risk factor

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



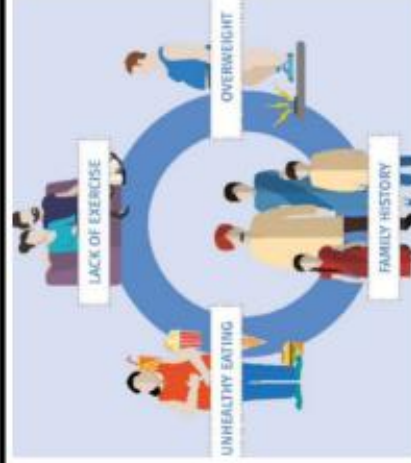
Non-communicable disease - cannot be spread

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

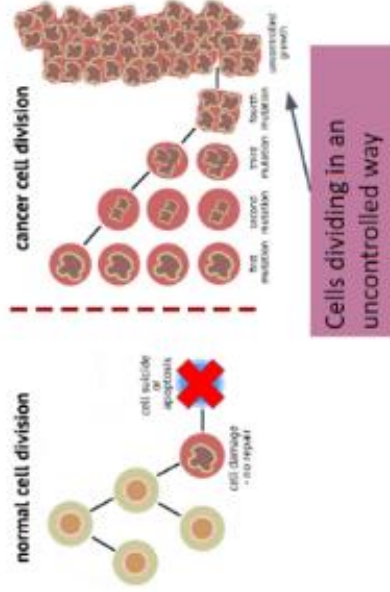
Risk factors for diabetes

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

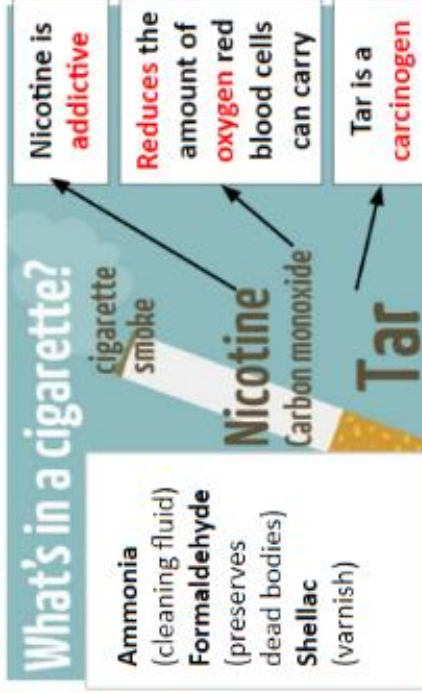


Cancer

Carcinogen - cancer causing chemical



Smoking



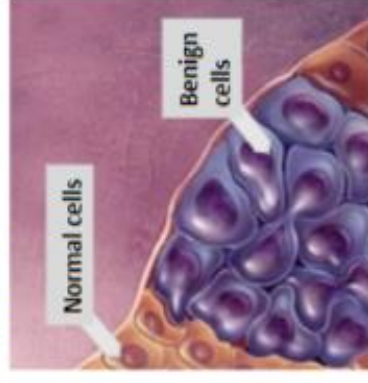
Two types of diabetes

- 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



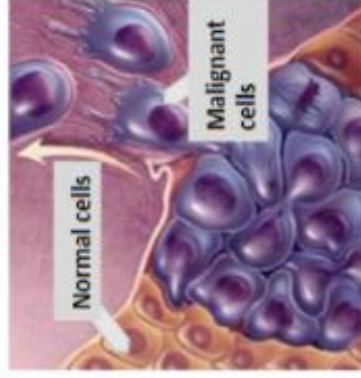
Tumours

Benign tumour



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

Malignant tumour



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

Illnesses caused by lifestyle and genetic causes are non-communicable diseases

Year 9 Bonding Knowledge Organiser

Tier 2 Vocabulary

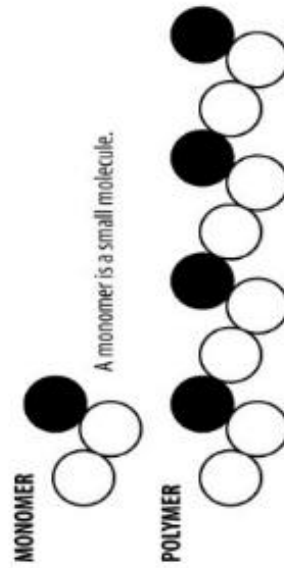
Opposite
Attraction
Properties

Tier 3 Vocabulary

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

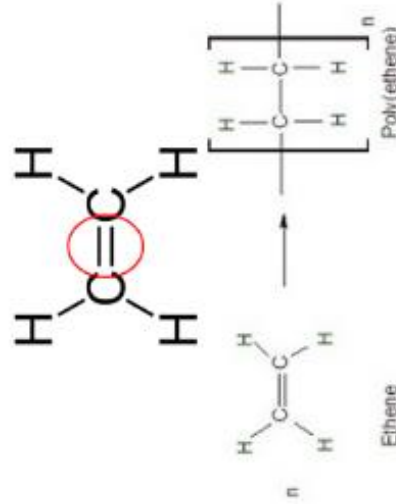
Material	Description	Properties	Uses
Ceramics	A compound such as a metal silicate or oxide that is hard, strong and has a high melting point	<ul style="list-style-type: none"> Hard Brittle Stiff Solid at room temperature Strong Break easily Electrical insulators 	<ul style="list-style-type: none"> Bricks – 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	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

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.

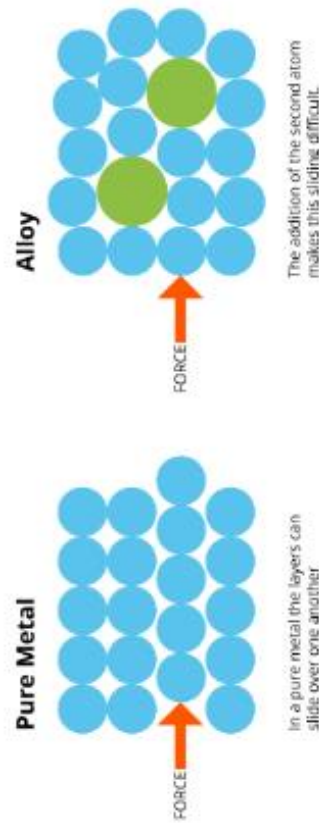


Alloys– Alloys are created from a mixture of metals.

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**.

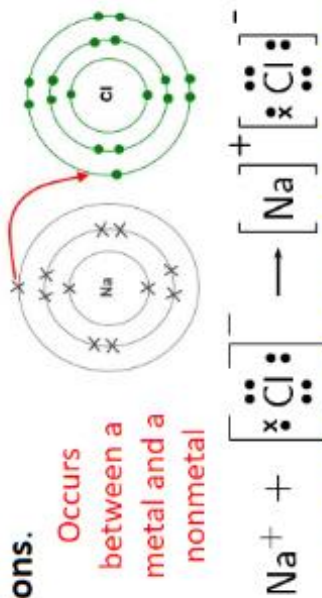


Common alloys: Steel,
Brass, Bronze



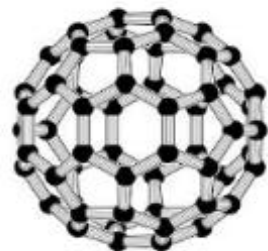
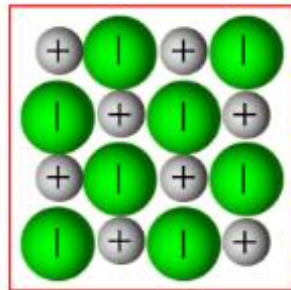
Ionic bonding – A strong electrostatic attraction

between **positive metal ions** and **negative non-metal ions**.



Can conduct electricity but only when molten/ dissolved

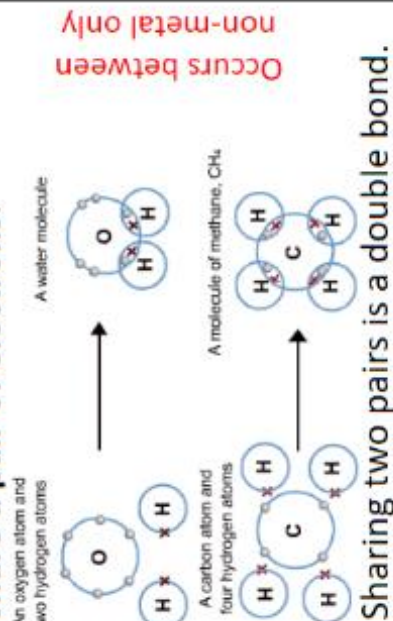
The **metal** ion becomes positive as it **transfers electrons** to the **non-metal**, making it negative. **Opposite charges** then **attract**. Many positive and negative ions together from a giant structure called a **giant lattice**. Common example: Sodium Chloride



Fullerenes are an example of a specially designed giant structure

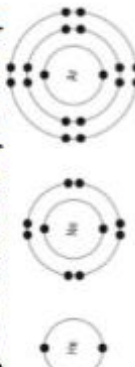
Covalent Bonding – A strong bond

between **nonmetals** where atoms **share a pair of electrons**.



Why bond?– In all types of bonding atoms change so that they end up with a **full outer shell of electrons**.

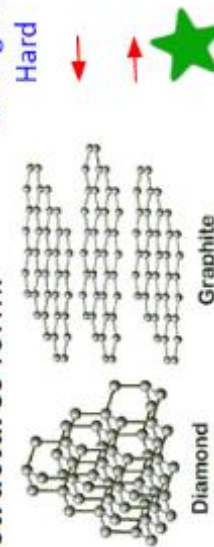
This is mostly **8** but in the case of hydrogen **2**.



Giant Covalent Bonding – when

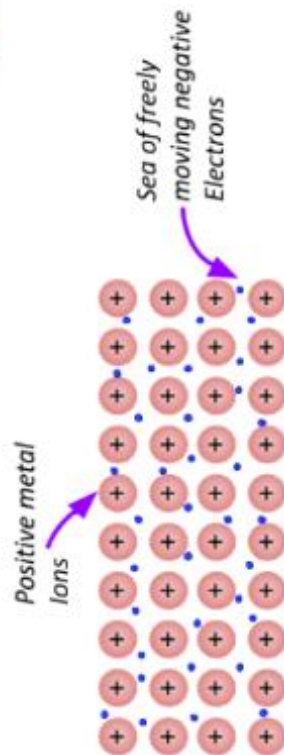
an atom bonds to lots of others using **many strong covalent bonds**, very strong **giant structures** form.

Properties: Strong and Hard



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**.



Occurs between **metals only**

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**.

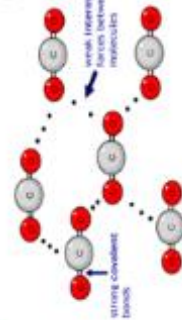
Metals are also good conductors of heat and can be drawn into thin wires (ductile)



Simple Covalent Bonding –

covalent bonds between atoms are **strong**. But **weak intermolecular forces** between small **molecules** are easy to overcome.

Examples: water, oxygen, chlorine



High melting & Boiling point (solid at room temp)

Low melting & Boiling point (gas or liq. at room temp)

High melting & Boiling point (solid at room temp)

Low melting & Boiling point (gas or liq. at room temp)

Year 9 Topic 2 Energy Knowledge Organiser

Objects with greater mass or speed will have more kinetic energy.



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

(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)

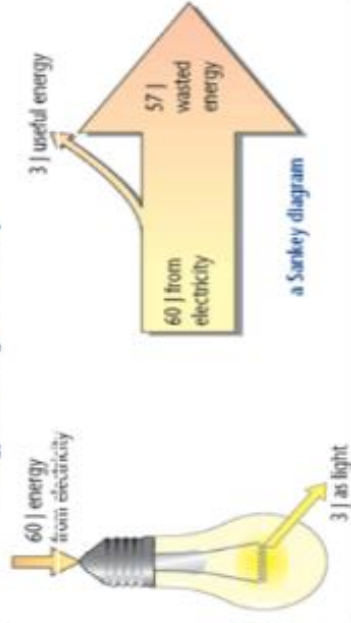
For any device that transfers energy:

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

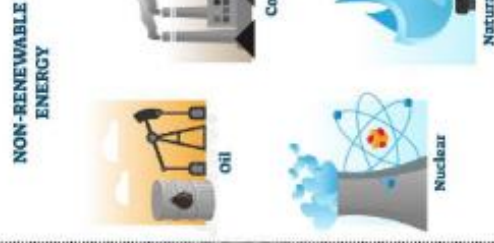
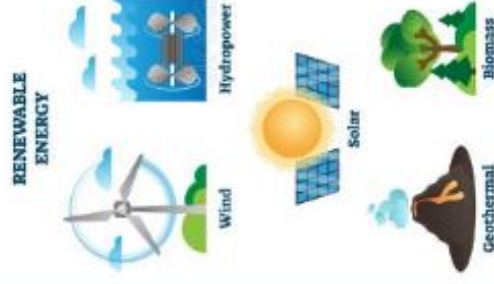
$$\text{work done, } W = \text{force applied, } F \times \text{distance moved along the line of action of the force, } s$$

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

When energy is transferred some might end up in a form that is not useful. This is wasted energy. For example at lamp will produce light energy that we want and heat that is wasted energy.



ENERGY SOURCES



Burning fossil fuels causes the following problems:

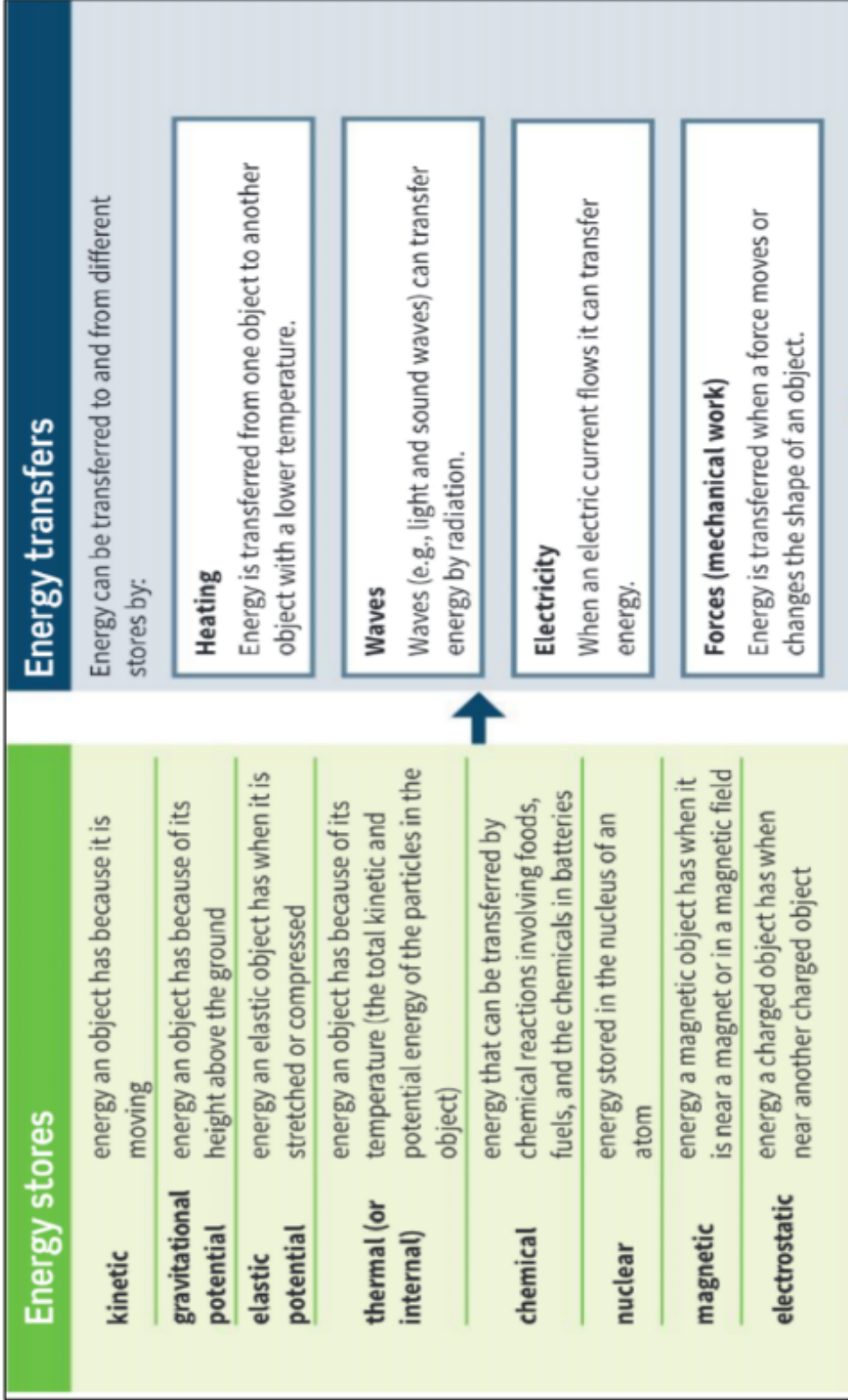
- Carbon dioxide - Climate change/Global warming
- Sulfur dioxide - Acid rain, toxic to plants and animals
- Nitrogen oxides - Acid rain, smog, toxic to plants and animals

Tier 2 Keywords

Chemical potential
Heat
System
Movement
Electrostatic
Height
Magnetic
Light
Work

Tier 3 Keywords

Closed system
Gravitational potential
Open system
Dissipated
Kinetic
Thermal
Efficiency
Magnetic
Nuclear
Elastic
Lubrication



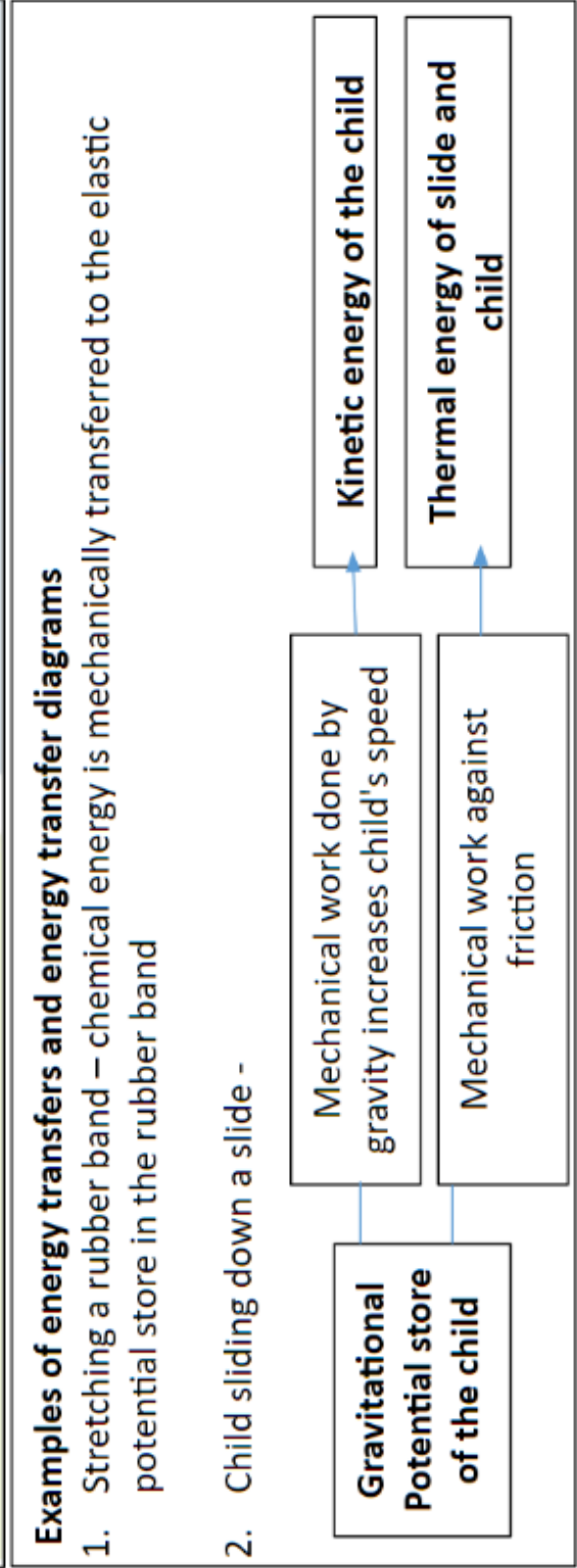
Energy cannot be created or destroyed, it can only be transferred usefully or dissipated (wasted). This is the Conservation of Energy

Work can be done in fields by moving a charged object in the opposite direction the attraction force.

This occurs in the following stores:

- Electrostatic
- Gravitational
- Magnetic

Objects with greater mass or more height will have more gravitational potential energy. It will also increase in places with more gravity.



Key spellings 3	
Learn these spellings, they will be really useful for this unit and you will be tested on them.	
1. la asignatura	school subject
2. la química	chemistry
3. el edificio	the building
4. asistir	to attend
5. un intercambio	an exchange

Las asignaturas	School subjects
¿Te gusta...?	Do you like...?
el inglés	English
el dibujo	art
el español	Spanish
el francés	French
el alemán	German
el arte dramático	drama
la biología	biology
la química	chemistry
la física	physics
la informática	IT/Computing
la tecnología	design technology
la geografía	geography
la historia	history
la religión	RE
la educación física	PE
¿Te gustan...?	Do you like...? plural
los idiomas	languages
las ciencias	science
las matemáticas	maths
las empresariales	business studies

Me gusta(n)...	I like...
No me gusta(n)...	I don't like...
Me encanta(n)...	I love...
Me chifla(n)/mola(n)	I love...
Me interesa(n)	I'm interested in...
Prefiero...	I prefer...
Odio...	I hate...
Remember to add the extra 'n' for plurals.	

¿Cómo son tus profes?	What are your teachers like?
Mi profe de inglés es/no es...	My English teacher is/isn't...
serio/a	serious
gracioso/a	funny
tolerante	tolerant
impaciente	patient
aburrido/a	impatient
interesante	interesting
simpático/a	kind/nice
antipático/a	boring
más divertido/a que...	mean
menos creativo/a que...	more fun than...
tan justo/a como...	less creative than...
	as fair as...

¿Por qué?	Why?
porque es...	porque son...
because it is...	because they are...
aburrido/a	boring
divertido/a	fun
práctico/a	practical
creativo/a	creative
difícil	difficult
fácil	easy
útil	useful
importante	important
interesante	interesting
Remember to add -s/-es for plurals	

Un intercambio	An exchange
Voy a/Vamos a...	I'm/We're going to...
participar en un intercambio	participate in an exchange
viajar con mi clase	travel with my class
conocer mis amigos...	meet/get to know my friends
visitar...	visit...
llegar	arrive
asistir a clases	attend classes
llevar ropa de calle	wear my/our own clothes
comer juntos	eat together
ir de excursión	go on a trip
hacer turismo	go sightseeing
hacer muchas cosas	do lots of fun things
interesantes	
Va a ser...	It's going to be...
guay/fácil...	cool/easy

¿Cómo es tu insti?	What's your school like?
En mi insti hay...	In my school there is/are...
No hay...	There isn't/aren't...
Mi insti tiene/no tiene...	My school has/doesn't have....
un campo de fútbol	a football field
un comedor	a dining hall
un gimnasio	a gym
un patio	a playground
un salón de actos	a hall
una biblioteca	a library
una piscina	a pool
una pista de tenis	a tennis court
unos laboratorios	some laboratories
muchas aulas	lots of classrooms
El edificio es...	The building is...
Los edificios son...	The buildings are...
antiguo(s)	nuevo(s)
amplio(s)	moderno(s)
feo(s)	atractivo(s)
grande(s)	pequeño(s)
Mi insti es...	My school is...
público	privado
masculino/femenino	mixed
	state-run
	all boys/girls
	private
	mixed

Key grammar – The near future			
Use the near future to talk about what's going to happen (I am going to eat, we are going to dance)			
This tense is formed by 3 parts:			
1. The present tense of IR (the verb to go)			
2. 'a'			
3. An infinitive verb (ending in -ar/-er/-ir)			
1	2	3	
Voy	a	comer	I am going to eat
Vas		llevar	You are going to wear
Va		ser	(S)he/it is going to be
Vamos		cantar	We are going to sing
Vais		comprar	You pl. are going to buy
Van		beber	They are going to drink

Key spellings 4	
Learn these spellings, they will be really useful for this unit and you will be tested on them.	
1. está prohibido	it's forbidden
2. un éxito	a success
3. se debe	you must
4. empiezan	they start
5. las normas	rules

Mi día escolar	My school day
Voy al insti...	I go to school...
a pie	on foot
en bici	by bike
en coche	by car
en autobús	by bus
Las clases...	Lessons...
empiezan a las...	start at...
terminan a las..	finish at...
Tenemos 5 clases al día	We have 5 lessons a day
Cada clase dura una hora...	Each lesson lasts an hour
el recreo	break time
la hora de comer	lunch time

¿Llevas uniforme?	Do you wear uniform?
Llevo/Llevamos...	I/we wear...
Tengo que llevar...	I have to wear...
Tenemos que llevar...	We have to wear...
un jersey	a jumper
un vestido	a dress
una camisa	a shirt
una camiseta	a t-shirt
una chaqueta	a jacket
una chaqueta de punto	a cardigan
una corbata (a rayas)	a (striped) tie
una falda	a skirt
unos calcetines	some socks
unos zapatos	some shoes
unos vaqueros	some jeans
unos pantalones	some trousers
unas medias	some tights
El uniforme (es)...	The uniform (is)...
bonito	pretty
feo	ugly
formal	formal
elegante	smart
(in)cómodo	(un)comfortable
caro	expensive
barato	cheap
limita la individualidad	limits individuality
mejora la disciplina	Improves discipline

Las normas	Rules
Está prohibido...	It's forbidden to...
No se permite/No se debe...	You're not allowed to//You mustn't...
comer chicle	chew gum
usar el móvil	use your mobile
ser agresivo/grosero	be aggressive/rude
correr en los pasillos	run in the corridors
llevar piercings	wear piercings
dañar las instalaciones	damage the facilities
Se debe...	You must...
mantener limpio el patio	keep the playground clean
ser puntual	be punctual
llevar uniforme	wear uniform
Es justo/No es justo	It's fair/It's not fair
Las normas son necesarias/ demasiado severas	The rules are necessary/ too strict

Éxitos	Achievements	
practico el judo	I do judo	
toco la trompeta	I play the trumpet	
canto en el coro	I sing in the choir	
voy al club de (ajedrez)	I go to (chess) club	
Soy miembro del club de teatro/lectores/ periodismo/fotografía	I'm a member of the drama/reading/journalism/photography club	
desde hace...años	for...years*	
El trimestre pasado ...	Last term ...	
participé en...un maratón/torneo /concierto/campeonato/concurso	I took part in...a marathon/tournament /concert/championship/competition	
hice una prueba	I did a test/exam	
gané un trofeo/un premio	I won a trophy/prize	
toqué un solo	I played a solo	
¡Fue un éxito!	It was a success!	
*desde hace changes the verb to 'I have been doing...' etc.		

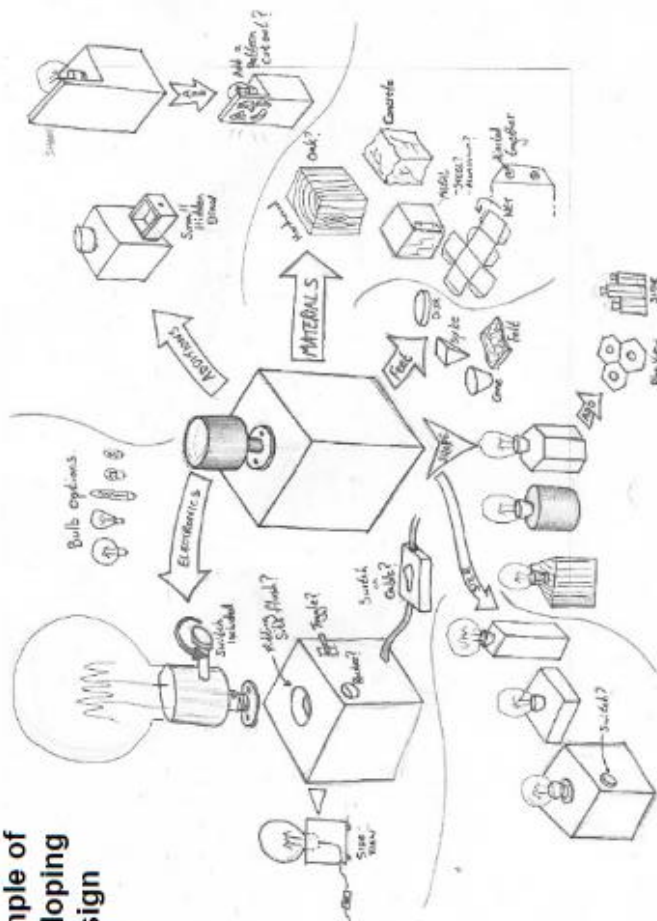
Key grammar - Using adjectives
Remember the 2 key rules for using adjectives in Spanish:
1. The adjective comes after the noun: una falda rosa (literally, a skirt pink)
2. The adjective must agree in gender (masculine/feminine) and number (singular/plural) with the noun it describes: un jersey blanco/una falda blanca unos zapatos blancos/unas medias blancas
Adjectives do not always have the same endings. Use the table below to make sure your endings are correct:

Masc. (un)	Fem. (una)	Masc. pl. (unos)	Fem. pl. (unas)
amarillo	amarilla	amarillos	amarillas
blanco	blanca	blancos	blancas
negro	negra	negros	negras
rojo	roja	rojos	rojas
morado	morada	morados	moradas
verde	verde	verde	verdes
azul	azul	azul	azules
gris	gris	gris	grises
marrón	marrón	marrones	marrones
naranja	naranja	naranja	naranja
rosa	rosa	rosa	rosa
violeta	violeta	violeta	violeta
When using claro (light) and oscuro (dark) always use the masc. singular adjective ending: unos calcetines azul oscuro			

Year 9 – Knowledge Organiser – Design & Technology – DESIGN

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

Example of developing a design idea

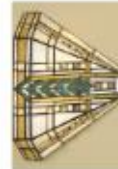


DESIGN MOVEMENTS

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



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



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

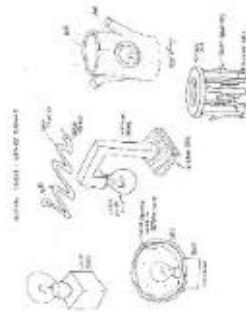


Postmodernism is one of the most controversial movements in art and design history. Over two decades, Postmodernism shattered established ideas about art and design, bringing a new self-awareness about style itself.

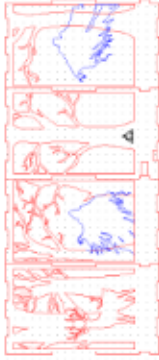
Design Movements Timeline

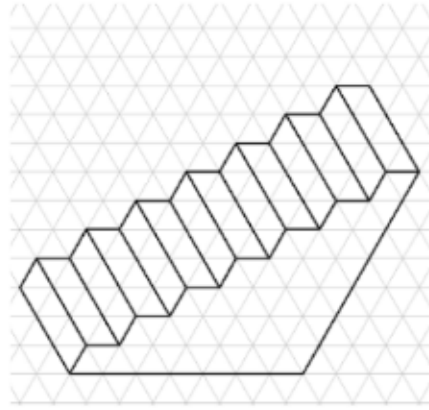


An Initial ideas page

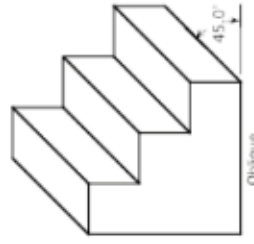
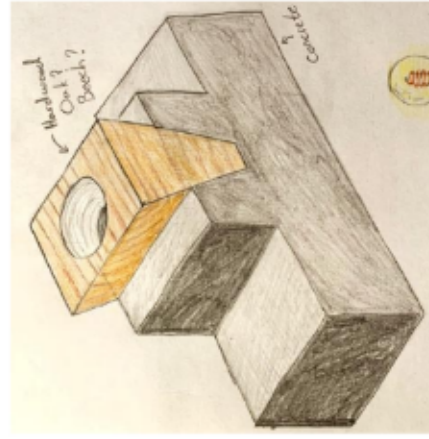


Year 9 – Knowledge Organiser – Design & Technology – DESIGN

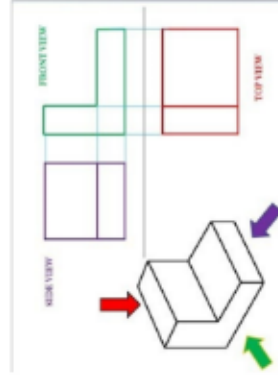
Design and Technology Specific Language and Terms	
CAD	 <p>Computer Aided Design</p>
Isometric Drawing	<p>An isometric drawing is a type of 3D drawing that is set out using 30-degree angles. It's a type of drawing in which the same scale is used for every axis, resulting in a non-distorted image.</p>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



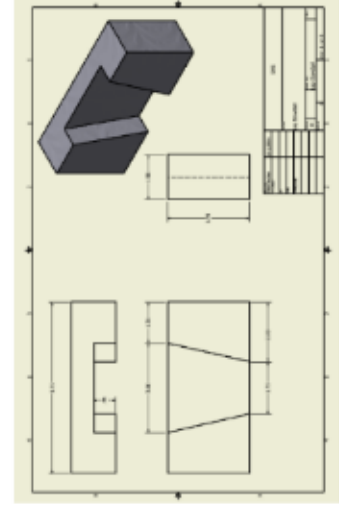
Isometric Drawings



Oblique Drawing



Orthographic Drawing









Working Drawing





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

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

Year 9 – Knowledge Organiser – Design & Technology – MATERIALS

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

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

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

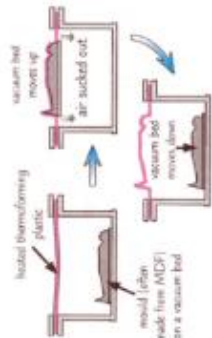
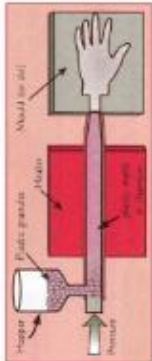


3D Printing uses PLA or PVC plastic on a reel. This is heated and used to print a thin layer at a time


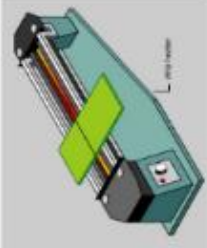



Year 9 – Knowledge Organiser – Design & Technology – PROCESSES / H&S

Shaping Plastics

 <p>The diagram illustrates the vacuum forming process. It shows a plastic sheet being heated by a heater. The heated sheet is then moved over a mould. A vacuum is applied, sucking the plastic into the shape of the mould. The final product is a shaped plastic part.</p>	<p>Vacuum Forming</p>	<ul style="list-style-type: none"> A mould is placed onto the vacuum bed A thermoforming sheet or film (usually HIPS) is clamped above the bed and heated until soft <ul style="list-style-type: none"> Bed is lifted into the heated plastic All air is sucked out creating a vacuum, pulling the plastic over the mould Moulded plastic then cools and becomes rigid.
 <p>The diagram illustrates the injection moulding process. It shows a hopper of plastic granules being fed into a barrel. The barrel is heated, and the plastic is melted. The molten plastic is then injected into a mould. The plastic fills the mould and then cools, forming the desired shape.</p>	<p>Injection Moulding</p>	<ul style="list-style-type: none"> Molten material is forced into a mould Tool steel moulds have the negative shape within them. Used to create items like: plastic buckets and school chairs.

Bending Materials

	<p>Sheet metal folder</p>	<ul style="list-style-type: none"> Used to shape aluminium and tin Flat sheet material is marked up and bent one fold at a time. <ul style="list-style-type: none"> Joins can be riveted, soldered, brazed etc. Process is called Line Bending <ul style="list-style-type: none"> A heating element softens a thermoforming plastic (acrylic) along a line. This can then be bent to shape and held in place until cooled Woods can be bent by laminating <ul style="list-style-type: none"> 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


Health & Safety



Design and Technology Specific Language and Terms

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

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
--	---------------------------	---

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



Sticky back vinyl cut to shape

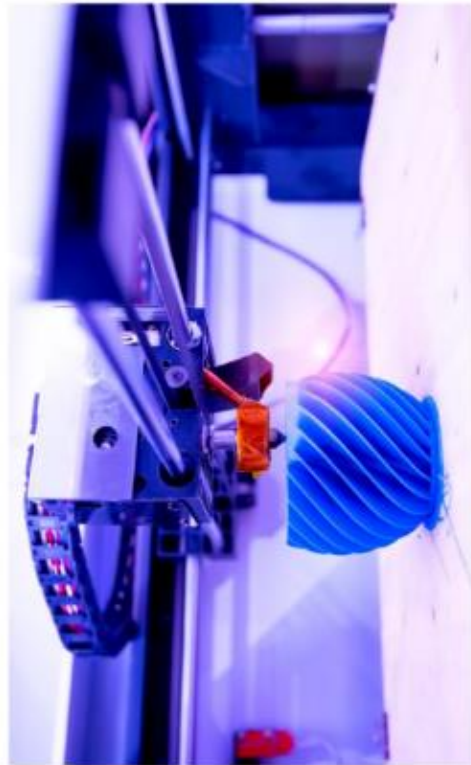


Some materials such as **glass** can be engraved but not cut.



- 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

Notes Page

[illegible]

Notes Page

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.