Liskeard School & Community College

achieving more together

Year 9 Knowledge Organiser

Autumn Term (2) 2022

What you need to know!

#Revise to succeed

Knowledge Organisers – FAQ

What is a Knowledge Organiser?

Every ½ term this academic year, a new Knowledge Organiser will be produced and put on the school website. These documents are produced for Year 7, Year 8 and Year 9 students and contain key information, specific subject terminology and links to additional resources to help you and your child fully understand topics within the different subject areas.

Can Knowledge Organisers be used for revision and preparing for assessments?

These Knowledge Organisers are designed around the content delivered in lessons each half term in Year 7, 8 and 9.Therefore, they are an excellent revision tool to help prepare your child for end of unit tests as well as their end of year exams which cover previously learned subject content.

How should I use the Knowledge Organiser?

In order that these documents are useful and not too complicated, the Knowledge Organiser is designed to include the basic facts and information being covered in a specific subject over that half term. You may choose to print a version in order that you annotate or tick off aspects once they are fully understood. You may also choose to use this as an electronic revision guide, using the hyperlinks to webpages to secure or deepen understanding.

What are the Arrow Tasks?

At Liskeard School & Community College, teachers use Arrow Tasks as a way of stretching your child. These tasks often involve extending their knowledge through research or applying a learned concept in another way. Try to complete all the Arrow Tasks within the Knowledge Organiser to increase your knowledge and extend your conceptual understanding.

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Contents

Please note: These subjects are hyperlinked. Click on the subject to take you to the relevant pages.

Subject: **Art and Design** Year: **9 Autumn Term**

Topic: **3D Design and Making. Natural Forms.**

I need to know: The difference between modelling a form and reduction methods of carving a form. How to add to and take away from the form.

Key Words	Definitions
Modelling	*Using plastic, soft clay like materials (malleable by touch and by instrument) add to and manipulate the body of material to make a form.*
Reduction	*Reduce the size and mass of the main body of material by cutting material away. With hard materials like stone this is often irreversible.*
Carving	*Reduce by cutting from the main body of material through the use of a chisel like instrument.*
Form	*In relation to art, form has two meanings: it can refer to the overall 3D form taken by the work - its physical nature; or within a work of art it can refer to the arrangement of elements or shapes that make up a work.*
Inside	*The inner surface or space of a 3D form.*
Outside	*The external surface or space of a 3D form.*
Positive / Negative	*Positive space refers to the main focus of a picture, while negative space refers to the background. When used creatively, positive and negative space together can tell a story using visual composition alone. The term negative space is something of a contradiction.*
Volume	*Volume is the quantity of three-dimensional space enclosed by a closed surface. For example, the space that a liquid occupies or is contained within a vase.*
Surface	*Surfaces can take on many textures and qualities including colour and tone. It is essentially the 'skin' of the object. Sculptors control light on surfaces.*
Orthographic Projection	*Orthographic projection is a means of representing three-dimensional objects in two dimensions. The object is depicted using parallel lines to project its outline on to a plane.*
Weight	*A body's relative mass, or the quantity of matter contained by it, giving rise to a downward gravitational force; the heaviness of a person or thing. This is a significant consideration in art as the engineered object / sculpture has to withstand these forces to exist and to be safe.*
Structure	*A form assembled from multiple parts, or elements giving rise to considerations of organisation, placement, and compositional interconnectedness.*
Construction	*An art work that is actually assembled or built on the premises where it is to be shown. Many constructions are meant to be temporary and are disassembled after the exhibition is over.*
Casting	*Casting involves making a mould and then pouring a liquid material into the mould. A cast is a form made by this process. A mould can be cast more than once, allowing artists to create editions of an artwork.*
Armature	An armature can be made from any material that is damp-resistant and rigid enough to hold such plastic materials as moist clay and plaster, which are applied to and shaped around it.
Maquette	A maquette is a model for a larger piece of sculpture, created in order to visualise how it might look and to work out approaches and materials for how it might be made.

Soft 'plastic' clay, moved and added to, to create a 3D form.

Peter Randle Page drawing and preparing to carve stone away. This is process is most often irreversible.

Student work.

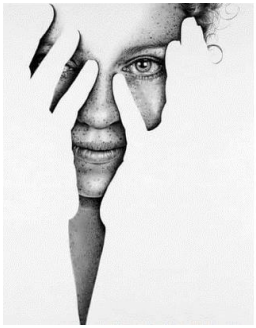
Arrow Tasks: Compare and reflect upon work by Antony Gormley (Casting), Michelangelo (Carving) and Ron Mueck (Modelling). Research each artist and consider how each artist might visualise what they wish to make and how the process of shaping their sculptures present different challenges.

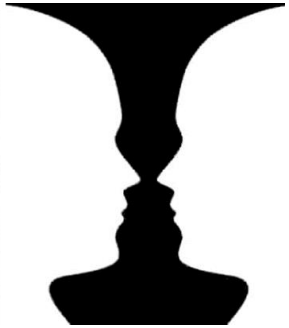
Links to further resources: https://www.tate.org.uk/art/art-terms

Subject: **Art and Design** Year: **9 Autumn Term**

Topic: **3D Design and Making. Natural Forms.**

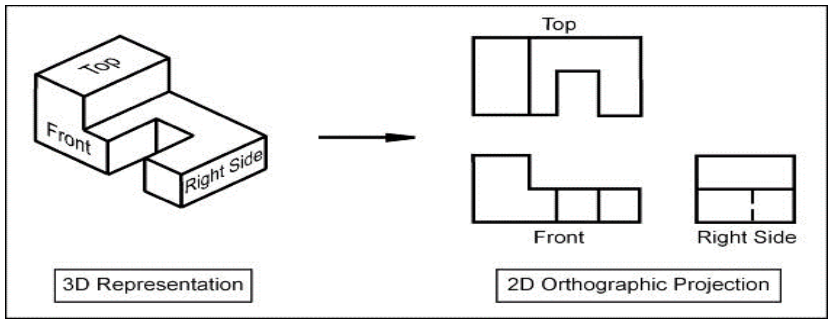
Barbara Hepworth carving, reducing wood sculpture.





Positive and negative space. Which do you see first. Does the inside or the outside define the shape / form?

Anish Kapoor's sculpture has volume. In this work he has cut a deep hole in a gallery floor. It is deep enough for you to fall into and not be able to get out. Painted with very dark pigment, it doesn't look like a hole; instead it looks like a flat circle of black cloth on the floor. It is so deceiving; people are feeling the volume!



Orthographic Projection is used by architects, designers and sculptors to plan and visualise 3D forms.

Michelangelo's 'David' carved from one block of stone.

Antony Gormley (Casting)

Ron Mueck (Clay modelling)

Links to further resources: https://www.tate.org.uk/art/art-terms

Thinking, questioning and communicating your visual intelligence using practical skills in ART. You will be able to organise your thoughts, understanding and expertise in **ART** this term under the following headings.

Skills: *Manual dexterity, cutting, carving and modelling a variety of materials.*

Contexts: *History, reasoning, ideas, recognising genre/style, culture, connections, representations of forms and space in controlling light/shade.*

Rules: *Visual analysis, measuring, proportion, translation of 2D into 3D, experimentation, exploration of shape and form, light and shade, adaptability …*

Audience: *Indoor vs outdoor, installation, community based, site specific, interaction, personal, commercial, ethics, morals, age, empathy, critique…*

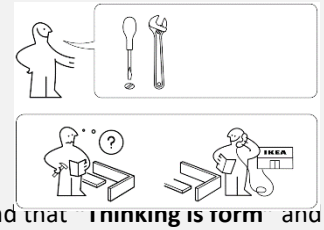
Resolution: *Selection of appropriate 3D media, placement, first hand and secondary sources, scale, representational vs abstraction, decisions making, style vs technique…*

Communication: *Represent, truth, analyse, evaluate, talk, show, tactile…*

Legacy: *Material, pigment, permanence, honesty, heritage, culture, accuracy, pollution, impact of touch…*

Throughout the year we will be asking you to articulate (to say, explain and use), a number of ***Personal, Learning and Thinking skills*** to help you develop your knowledge and understanding. This term we will be asking you to reflect upon your **Creative Learning:** Generating ideas, explore, ask questions, extend thinking, question assumptions, experiment and adapt.

Further thinking (why does this matter?):



On a functional level, it is important to us that we can visualise and interpret drawings in order to build the things we need to survive.

On a more complex, subtle level, understand that **"Thinking is form"** and therefore **"Drawing is embodied thinking".** Our ability to communicate is determined as much by our ability to make and interpret images as it is defined by our ability to use words and syntax. They are intricately linked. **"Architecture is by definition is a very collaborative process"** Joshua Prince-Ramus

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Subject: Drama Year: 9 Autumn (1and 2).

Topic: Exploring a script about the Holocaust.

- I need to know: How to approach a theme with sensitivity and convey a message to the audience.

Key Words	Definitions
• Still images • Characterisation • Ensemble • Spass • Brecht • Intonation • Focus • Audience • Rehearsal • Sound-scape • Transitions • Atmosphere • Spatial awareness • Cross-cutting • Mirroring.	Asking a character questions to find out their background Playing a role What you know about the character Generates ideas A scene in the past A scene in the future Working without a script One character's speech Working on a scene/ piece Sounds that create an atmosphere Sections between scenes The world of the piece A representation of ideas Objects used on stage Doing the same movements at the same time Movement to express emotions A way of showing control.

Arrow Tasks: Marking a moment, to convey a message. Arbeit Knowledge sheet.

Wider Reading

Look at The Holocaust Memorial Day Trust website.

Watch "Schindler's List."

Research Holocaust survivor's stories.

Read Anne Frank's Diary.

Research Bertolt Brecht.

What We Do:

What We Do:

- Explore scenes from the play Arbeit Macht Frei, which is about the Holocaust.
- Use a variety of acting skills and techniques to communicate a story with emotion and sensitivity.
- The Final piece is a performance of key scenes from the play, in which we aim to make the audience empathise with the characters and reflect on the events depicted.

Links to further resources: www. Holocaust memorial day trust.org.uk (https://www.hmd.org.uk/)

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A Christmas Carol Knowledge Organiser

Very Brief Plot Summary

Stave 1: Scrooge is introduced; he refuses to make a charity donation; refuses to eat Christmas dinner with Fred; sees Marley's ghost who warns him he will be visited by three spirits to make him change his miserly ways.

Stave 2: The Ghost of Christmas Past takes Scrooge back in time to show him: his village; him alone at school; his sister collecting him from school; a party at Fezziwig's; Belle breaking off their engagement and Belle celebrating Christmas with her family.

Stave 3: The Ghost of Christmas Present shows Scrooge: Christmas morning in London; The Cratchit family celebrating Christmas; various celebrations around the country; Fred's Christmas party; Ignorance and Want.

Stave 4: The Ghost of Christmas yet to Come shows Scrooge: a group of businessmen discussing a dead man; a pawn shop where people are selling the possessions of a dead man; a couple expressing relief that the man they owe money to is dead; the Cratchit family grieving for Tiny Tim; a grave with the name Ebenezer Scrooge written on it.

Stave 5: Scrooge is transformed! He sends a turkey to the Cratchit family, makes a huge charity donation and attends Fred's Christmas party. He also gives Bob a raise and becomes a second father to Tiny Tim who does not die.

Characters

Ebenezer Scrooge: The main character. A mean old loner who hates Christmas.

Fred: Scrooge's patient, jovial nephew. The son of his beloved sister, Fan. Literally the complete opposite of Scrooge.

Bob Cratchit: Scrooge's hard-working and underpaid clerk.

Tiny Tim: Bob's ill and vulnerable son.

Belle: Scrooge's former fiancée who breaks off their engagement because he values money more than their relationship.

Fezziwig: Scrooge's generous former employer.

Marley: Scrooge's deceased business partner, who appears as a ghost warning Scrooge to change his ways.

Little Fan: Scrooge's deceased younger sister, the mother of Fred.

The Ghost of Christmas Past: a shape changing spirit who has light streaming from the top of its head. Represents memory.

The Ghost of Christmas Present: a jovial spirit (resembling a traditional 'Father Christmas') who represents generosity and Christmas spirit.

The Ghost of Christmas Yet to Come: a silent, sinister spirit in a black, hooded cloak who represents death.

Key Quotations

Stave 1:

'a squeezing, wrenching, grasping, scraping, clutching, covetous old sinner!'

'Hard and sharp as flint.'

'solitary as an oyster.'

"the cold within him froze his old features"

" 'Bah!" said Scrooge, 'Humbug!' "

'What reason have you to be merry? You're poor enough.'

'A kind, forgiving, charitable, pleasant time.'

'I can't afford to make idle people merry.'

'Are there no prisons?'

"And the Union workhouses?" demanded Scrooge. 'Are they still in operation?"

" 'If they would rather die," said Scrooge, 'they had better do it, and decrease the surplus population' "

'I wear the chain I forged in life,'

Stave 2:

'A solitary child neglected by his friends.'

'Father is so much kinder than he used to be.'

'The happiness he gives, is quite as great as if it cost a fortune."

'Another idol has displaced me'

Stave 3:

'I see a vacant seat.'

'I'll give you Mr Scrooge, the founder of the feast.'

'The whole quarter reeked with crime, with filth, with misery.'

'This boy is Ignorance. This girl is Want. Beware them both, and all of their degree.'

Stave 4:

'He frightened everyone away from us when he was alive, to profit us when he was dead.'

'I will honour Christmas in my heart, and try to keep it all the year. I will live in the Past, the Present, and the Future. The Spirits of all Three shall strive within me. I will not shut out the lessons that they teach.

Stave 5:

'I am as light as a feather, I am as happy as an angel, I am as merry as a schoolboy. I am as giddy as a drunken man.'

Wonderful party, wonderful games, wonderful unanimity, won-der-ful happiness!

'I'll raise your salary and endeavour to assist your struggling family.'

Themes

Christmas Spirit

- Scrooge learns the true meaning of Christmas is to spend time with your family and loved ones.
- He learns it's a time to be charitable and think about those less fortunate.
- Fezziwig's party shows him that small gestures at Christmas can make people feel valued and appreciated.

Family

- Scrooge is miserable and lonely because he refuses to socialise with his family.
- He is reminded of how much he loved his sister and how hurt he was by his father's behaviour.
- Fred never gives up on Scrooge and is loyal and forgiving towards his uncle.
- The closeness of the Cratchit family demonstrates how being together and supporting each other is more important to them than anything else.
- Seeing Belle reminds Scrooge that he is lonely in his old age due to his own actions. He chose money over a family with Belle.

Poverty and Social Injustice

- Scrooge learns that not all poor people are lazy.
- Scrooge learns that he can share some of his wealth to make other people's lives more comfortable.
- Tiny Tim shows how poverty can contribute to poor health.
- The Cratchits show how you can be poor but happy.
- Ignorance and Want remind Scrooge that turning a blind eye to the plight of the poor creates desperate people who turn to crime to support themselves.

Transformation

- Scrooge is cold, lonely and miserable at the start of the book.
- The spirits show him scenes that prompt his transformation.
- Memory reminds Scrooge of how he was once connected to other people.
- Empathy helps him to understand those less fortunate than himself.
- Being shown the reaction to the death frightens Scrooge into changing his personality to change his destiny.

Context

Poverty:

The 1834 Poor Law Amendment reduced the amount of help available the poor, forcing them to seek help at the workhouse if they couldn't support themselves. Conditions there were incredibly harsh and designed to humiliate people into not wanting to go there.

Ghosts and the supernatural:

Whilst the Victorians made many technological advances thanks to their interest in science and medicine, they were also fascinated in the supernatural and things that couldn't be easily explained by science. Ghost stories became extremely popular, as did trying to contact the dead via séances.

Christmas celebrations:

Christmas was a fairly low key celebration at the start of the 19th century, but Queen Victoria's German husband, Albert helped to introduce some European traditions, like a decorated tree, into the traditional British Christmas celebration during the 1840s. During Victoria's reign, workers started to be given two day's holiday to celebrate Christmas. The invention of the train enabled people to travel home to celebrate with family. The traditional figure of Father Christmas, dressed in green to symbolise the returning spring, was familiar at this time, but not the gift-distributing Santa Claus we know today. Rich people would give each other hand-made gifts and toys, but stockings did not become popular until the 1870s. Turkey was only eaten by rich families as it was expensive, goose was a cheaper option.

Key Vocabulary

Dickens
Dickensian
Victorian
poverty
workhouse
ignorance
miserly
redemption
transformation
ghost
spirit
Christmas
injustice
inequality
allegory
stave
novella

Language and Techniques

highly descriptive language
simile
metaphor
personification
pathetic fallacy
imagery
figurative language
dialogue
humour
repetition
symbolism
allusion
juxtaposition

Symbolism/Motifs

Light and dark; hot and cold; music, Scrooge's bed, Marley's chain; Ignorance and Want; Scrooge's gravestone; the three ghosts; fire;

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Subject: Ethics, Philosophy and Worldviews Year 9: Autumn Term

Topic: What difference does it make to be an atheist or agnostic in Britain today?

I need to know:

- To be able to identify some different types of non-religiousness including atheist and agnostic.
- To describe/ explain some changes in the demographics of religion in the UK and the impact on religious belief.
- To explore why and how some non-religious people want to gather together to celebrate as a community such as the Sunday ssembly.
- To be able to describe a Humanist funeral service and explain its significance.
- To be able to weigh up a range of views about life after death.
- To be able to explain why Humanists and other atheists are often rationalists and reject belief in any god. Explore how religious believers such as Christians may respond.

Key Words and Definitions

- **Atheist:** a person who does not believe in the existence of God or gods. It comes from a Greek term, the 'a' meaning 'without' and 'theos' meaning 'God'… without God!
- **Agnostic:** A person who is unsure about the existence of God. Nothing is known or can be known about the existence of God.
- **SBNR:** Spiritual but not religious
- **Secular:** non-religious.
- **Post-religious:** a time or society when most people are no longer religious.
- **Rationalism:** the belief that we should base opinions and actions on reason and knowledge rather than on religious belief or emotional response.

Non-religious worldviews – approaches to life that have nothing to do with a particular religion. They might call followers to lives of unselfishness and love. These belief systems might include Humanism, rational atheism and agnosticism.

The Sunday Assembly

This is an example of a non-religious gathering which began in 2013. The meetings will consist of songs such as pop music, talks and readings.

The views of the British Public

The Census – This is a survey that takes place in the UK every ten years. It gathers information on every household in the Uk. One of the areas it gathers information on, is religious and non-reliigous beliefs. The most recent was in 2021. However, we are currently unable to access the results and so will refer to the 2011 census.

The British Social Attitudes (BSA) Survey - These surveys are carried out every year since 1983. The surveys are in the following areas: Religion; science; women and work; relationship and gender identity; poverty and gender identity; poverty and inequality and the EU debate.So far over 90,000 people have taken part and usually 3000 people take part every year!

Think Tanks – The 2012 Theos Report - **Theos** is the UK's leading religion and society **think tank**. They conduct research, publish reports, provide commentary for the media, and hold events on the relationship between religion, particularly Christianity, and society in the contemporary world.In 2012 a report was issued called ***Post-Religious Britain? The Faith of the faithless***'. The aim was to find out more about the beliefs of atheists, the 'non-religious' and those who never participate in religious services.

Interesting views on God

Professor Brian Cox – Although he has no religious beliefs and has rejected the label atheist, he said he '*can't be sure there is no God*' and that science *'doesn't have all the answers'*.

Richard Dawkins - Some atheists like Richard Dawkins argue that the idea of God makes no sense.

Ricky Gervais - '*The existence of God is not subjective. He either exists or he doesn't. It's not a matter of opinion. You can have your own opinions. But you can't have your own facts.'*

Abert Einstein – '*Science without religion is lame, religion without science is blind.'*

Other reasons for being an atheist or agnostic could include:

- Some believe science and religion are incompatible.
- Too much pain and suffering in the world.
- There is no proof of the existence of God. Neither is there disproof!
- Religion is just a way of bringing people hope.

How might religious believers respond?

On the other hand…

- Many religious believers think that science and religion are compatible. They just answer different questions. For example, science asks how and religion asks why.
- God is not responsible for pain but humans are.
- Proof could be seen in personal experiences of God such as miracles.

Arrow Tasks You could enhance your learning by visiting one of the suggested websites below. Further compare differences between religious and non-religious events such as weddings and funerals. Evaluation question challenges: 'Science proves that religion is wrong.' Discuss. 'Britain is no longer a Christian country'. Discuss.

Links to further resources: https://www.bbc.co.uk/bitesize/topics/zjgvt39/articles/zv3tjhv https://understandinghumanism.org.uk/films/how-do-we-know-what-is-true/ . Explore further philosophical arguments for and against the existence of God https://www.bbc.co.uk/bitesize/guides/zpxpr82/revision/5 .

Subject: Ethics, Philosophy and World Views Year 9: Autumn term 2

Topic: Should happiness be the purpose of life?

I need to know:

- Compare and explain different ways to happiness (Christian, Buddhist and non-religious).
- How Christians use the Bible in deciding what the purpose of life is.
- Explain how Buddhists use teachings of the Buddha and other sources in deciding what the purpose of life is.
- Show how beliefs and teachings can affect people's views on whether or not it is important to achieve happiness.
- How research findings can affect people's views whether or not it is important to achieve happiness.

Categories for happiness include: **Emotions, purpose, pleasure, flourishing in life, something beyond the material world and satisfaction.**

Buddhism –The Four Noble Truths (happiness)

1. Life is characterised by Dukkah. There is much discontentment in the world.
2. Humans cause discontentment through craving and hatred.
3. We need to be aware of our craving and hatred and not allow them to drive our actions.
4. Follow the middle way (The Noble Eightfold Path). The end result will be a state of happiness and peace (Nibbana).

Christianity

The Bible uses the terms ***asrey*** in the Old Testament and ***makarios*** in the New Testament. Both can be translated as 'happy', although many translations use the word 'blessed' instead. This would indicate that happiness is a gift from God.
Two key ideas…

- happiness in relationship with God.
- happiness derived from action.

Happy are those who respect the LORD, who want what he commands. Psalm 112.1
Happy are those who consider the poor. Psalm 41:1
Happy are all who take refuge in God. Psalm 2:12

Key Words and Definitions

- **Happiness -** A state of well-being and contentment. A pleasurable or satisfying experience.
- **Asrey –** Used in the Old Testament meaning 'happy' or 'blessed'.
- **Makarios -** Used in the New Testament meaning 'happy' or 'blessed'.
- **Dharma – '**Universal law' or 'ultimate truth'. The teachings of the Buddha.
- **Dukkha** – 'suffering', 'unsatisfactoriness' or 'imperfection'.
- **Samsara** – The circle of life, Birth, death, rebirth.
- **Karma** – Intentional actions have consequences in this and future lives.
- **Nibbana** – the state of secure peace that results after removing cravings and desires.
- **Utilitarianism** – An action is morally right if the most amount benefit from it.

Buddhism - The Noble Eightfold Path (action for happiness)

Wisdom

- Right understanding of life and Dharma
- Right intention having the right attitude and motivation)

Morality

- Right speech. Speak positively to and about other.
- Right action. Have positive relationships and behave well.
- Right livelihood. Have a job that makes a positive contribution.

Mental Training

- Right effort to make all thoughts and actions worthwhile.
- Right mindfulness and ensuring you are alert to what is going on inside and around you.

The Sunday Assembly

This is a non-religious (secular) gathering of people, which aim to replicate a Church – but without any faith in God. For example, they may sing uplifting songs and have an inspirational talk. The first took place in London in 2013.

Action for happiness campaign

- **G**iving
- **R**elating
- **E**xercising
- **A**wareness
- **T**rying out
- **D**irection
- **R**esilience
- **E**motion
- **A**cceptance
- **M**eaning

Utilitarianism

Jeremey Bentham was the founder of Utilitarianism. Utilitarianism is an approach to ethics and to making moral decisions. It is based on the principle, the greatest happiness of the greatest number. A moral decision or action is right, if it results in the greatest number of happiness of people in a group or society.

Arrow Tasks You could enhance your learning by visiting one of the suggested websites regarding happiness such as https://www.bbc.co.uk/newsround/49487510 http://worldhappiness.report/ www.sundayassembly.com/ Evaluation question challenges – ''It is possible to achieve happiness by practising the Noble Eightfold Path in the twenty-first century'.' Discuss. 'Happiness should be the purpose of life.' Discuss. 'Unhappiness is caused by cravings and selfishness.' Discuss.

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Subject: French

Year 9: Autumn Term 2

There will be more specific vocabulary.

This will be given to you by your class

Topic: Bien dans sa peau – Talking about the requirements of a healthy lifestyle

I need to be able to: talk about your lifestyle and how you can improve it.

Key Words	Definitions
Verb	Words which tell you the action
Subject pronouns	Words that tell you who is doing the action.(I, You, He, She, We, They)
Noun	A place, person or a thing.
Gender	In French, nouns and adjectives can be either masculine or feminine.
Adjective	Words which describe nouns. In french adjectives have to be the same gender as the noun which they describe.
Definite article	'the'
Indefinite article	'a' 'some'
Singular	One of something.
Plural	More than one of something.
Positive phrase	'is', 'do' 'does
Negative phrase	'is not',' does not', 'don't', 'never'
Possessive adjectives	My /your/his/her/their + noun) Mon/ma/mes ..

"Il faut" means **"we must/ you must/ we need to"**
It is followed by the **infinitive**

Il faut manger sainement = you must eat healthy
Il faut faire du sport = one must do sports

The negative form

To make a sentence negative, you sandwich the verb with "**ne … pas**" or "**ne … jamais**"

Je **ne** mange **pas** de viande = I don't eat meat
Je **ne** bois **jamais** de coca = I never drink coke

Key verbs to talk about lifestyle

Je **fais** = I do
je **vais** = I go
je **dois** = I must/I have to
Je **suis** = I am
je **mange** = I eat
je **bois** = I drink

Near future tense

Pronoun + right form of "**aller**" + infinitive

Je **vais** manger = I am going to eat.
Tu **vas** boire= you are going to drink
il/elle/ **va** aller = he/she is going to go
on **va** aller = we are going to go
nous **allons** faire = we are going to do
vous **allez** être = you are going to be
ils/elles **vont** regarder = they are going to watch

Wow structures and sentences

Pour être en bonne forme et bonne santé, … = to be fit and healthy
Il me semble que …. = it seems to me
premièrement,… = firstly….
Deuxièmement… = secondly …
il est aussi très important de + infinitive = it is very important to …

Arrow Tasks: use the website below to discover a French advertising campaign aimed at 18 to 25 years olds to encourage them to have a healthy diet even if they have a small budget and not a lot of time! "En 2-2" is French slang which means "quickly"! Look at the recipes. What are the main ingredients? Which one would you like to cook and eat? Do you think it is a good idea?
https://www.mangerbouger.fr/recettes-en-2-2/recettes/croque-madame

Links to further resources: Improve your French pronunciation: https://ielanguages.com/french1.html

French	English
1 A mon avis, je suis en bonne forme parce que je fais beaucoup d'exercice.	In my opinion, I am fit because I do a lot of sport.
2 Est-ce que tu aimes le sport ?	Do you like sport?
3 Non, je n'aime pas le sport car je n'aime pas la compétition .	No, I don't like sport because I don't like competition.
4- Je pense aussi que c'est ennuyeux et fatigant !	I also think it is boring and tiring.
5- Moi, j'adore le sport. J'en fais régulièrement et je m'entraine tous les jours.	I love sport! I do some sport regularly and I train every day.
6- Pour être un bon sportif, il faut bien manger, avoir un bon programme d'entrainement et être motivé	To be a good sportsman/sportswoman, you need to eat well, have a good training programme et be motivated.
7 Il faut aussi manger équilibré : cinq portions de fruits et légumes par jour.	You must also eat a balanced diet: five portions of veg and fruits everyday.
8 Je pense que c'est très important !	I think it is very important!
9 Et toi, es-tu en bonne forme et bonne santé ?	And you, are you fit and healthy?
10 Je ne suis pas en très bonne forme car je ne fais pas assez d'exercice..	I am not in really good shape because I don't do enough exercise.
11 Aussi, je ne mange pas sain !	Also, I don't eat healthy!
12 Je mange souvent des sucreries et je bois trop de boisons gazeuses.	I often eat sweets and I drink too many fizzy drinks.
13 Pour être en meilleure santé, je vais manger plus de fruits et légumes.	To be fitter and healthier, I am going to eat more fruits and vegetables.
14 Je ne vais pas aller au Mac Donald tous les jours !	I am not going to go to MacDonald's every day!
15 Je vais manger végétarien parce que je pense que c'est meilleur pour la santé.	I am going to eat vegetarian because I think it is better for your health!
16 Je vais être en super sante !	I am going to be in great shape!
17 Que vas-tu faire pour être en meilleure forme ?	What are you going to do to be fitter?
18 Je pense que je vais faire plus de sport et je vais prendre des cours d'arts martiaux !	I am going to do more sport and I am going to take martial art lessons.
19 Je vais aussi aller au collège a pieds et je vais manger sain.	I am also going to go to school on foot and I am going to eat healthy.
20 Quelle bonne idée!	What a good idea!
21 Pour être en bonne santé, un requin doit manger beaucoup de viandes et de poisson.	To be healthy, a shark must eat a lot of meat and fish.
22 – Il ne doit pas manger de plastique car c'est très dangereux pour sa santé !	He must not eat plastic because it is very dangerous for his health.

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Subject: Geography Year: 9

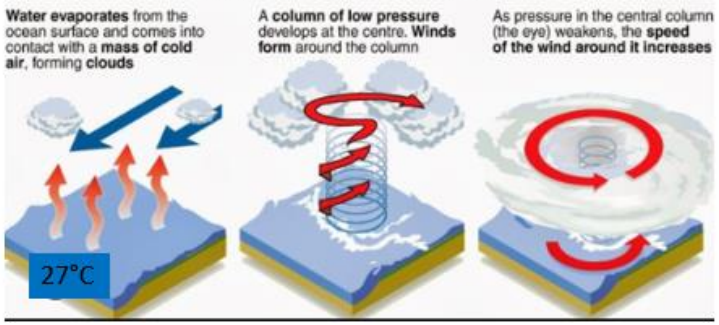
Topic: Hazards

I need to know: what a hazard is, how tropical storms form, their structure, where they are found, how they are measured and how they affect people and the environment.

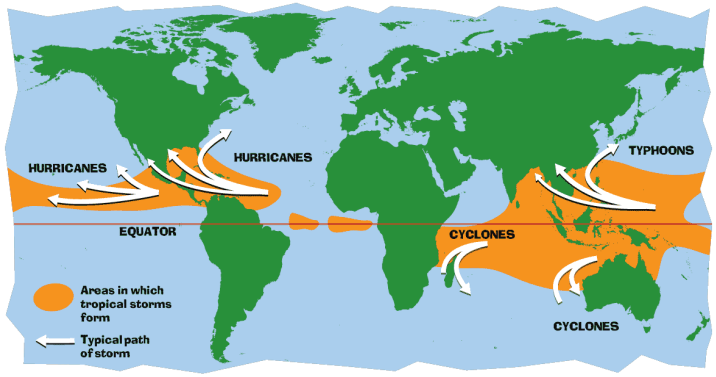
Key Words	Definitions
Hazard	An event which poses a threat to human life and/or property.
Tropical storm	A spinning weather system of heavy rainfall and strong winds.
Hurricane	Name given to severe tropical storms in the northern hemisphere.
Typhoon	Name given to severe tropical storms in south west Asia.
Cyclone	Name given to tropical storms in India.
Eye	The centre of the spinning weather system where clam conditions occur.
Saffir-Simpson scale	The scale that the damage caused by tropical storms is recorded.
Cause	Why something happened.
Effect	What happens as a result of an event.
Response	What people did after the event.

Types of natural hazards

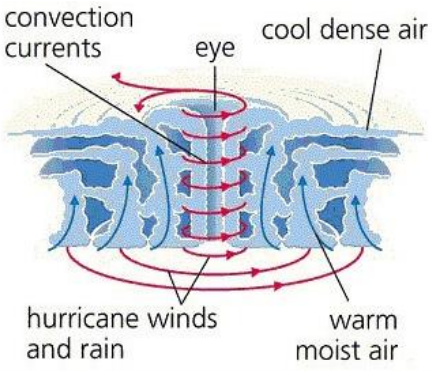
Formation of a tropical storm



Location of tropical storms and what they are called in different parts of the world



Structure of a tropical storm



The Saffir-Simpson Scale of measuring tropical storm damage

Social affects (People)		Environmental affects (on nature)	
Homes are damaged or destroyed Whole communities destroyed	People are injured or die People made homeless	Forests are flattened Habitats are destroyed	Water is polluted by gas leaks, raw sewage and dead bodies.

Links to further resources: https://www.bbc.co.uk/weather/features/24056514
https://www.nhc.noaa.gov/

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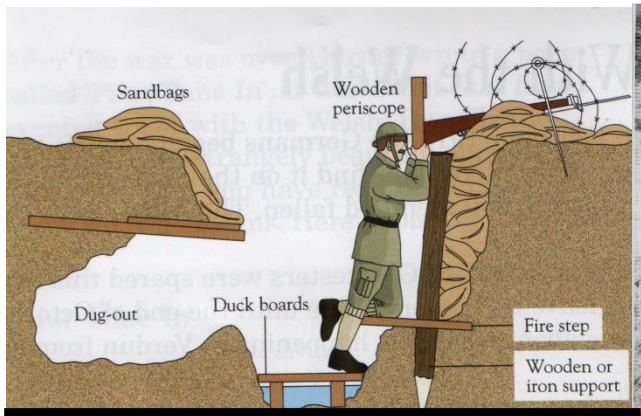
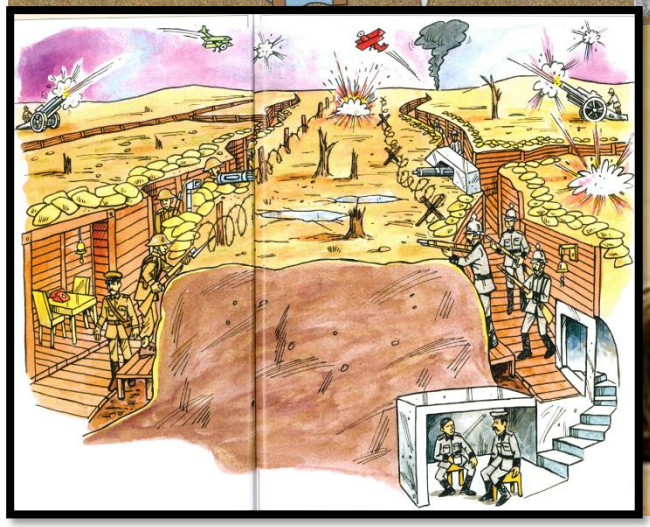
Subject: History Year: 9 Autumn Term 2

Topic: World War One

I need to know: On 4th August 1914 Britain entered the First World War. On the 11th November 1918 the war finally came to an end. Millions of men had been killed and wounded during the trench warfare and horrific conditions. Millions of men volunteered to fight while others were forced to go. New weapons and tactics were used to try and break the stalemate but it was a very defensive war and took a long time for one side (Britain and others) to defeat Germany (and others).

Key Words	Definitions
Recruitment	Joining (joining up to fight in WW1)
'Pals Battalions'	Groups of men from the same village or town who joined up to fight together in WW1
Conscription	Bring enlisted (forced) to join up and fight
'Conchies'	Conscientious objectors who refused conscription
'Bully Beef'	Tinned meat that was eaten in the trenches
Trench Foot	Illness that caused swollen and painful feet and could lead to losing toes
Trench Fever	A flu-like disease that was spread by lice
Battle of the Somme	A key battle that started on 1st July 1916.
General Haig	The man in charge of the British army at the Battle of the Somme
Mustard Gas	A gas that was first used in 1917 by the Germans that caused blindness and burned the skin
Wilfred Owen	An example of one of the soldiers who wrote poems about life in WW1
Armistice	The agreement to end the First World War at 11.00am on November 11th 1918
Treaty of Versailles	The list of punishments given to Germany after the lost and were blamed for starting the war.





Top left: Cross-section of a trench (in theory)
Top right: An injured soldier being rescued
Bottom left: Impression of the front lines
Bottom right: A British Recruitment poster

Arrow Tasks: What was the most important factor in the defeat of Germany and her allies?

How satisfactory was the Treaty of Versailles?

Links to further resources: https://www.bbc.co.uk/bitesize/topics/z4crd2p/resources/1

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Subject: Computing

Year: 9 – Autumn term 2

Topic: Representations: Going audio-visual

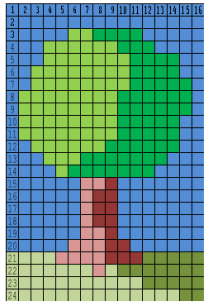
I need to know: what the binary and denary number system are; how to convert from denary to binary and binary to denary; what a bitmap image, how images are represented using binary.

Key Words	Definitions
Bit	Each 1 or 0 in a binary code is a bit
Nibble	4 bits make up a nibble
Byte	8 bits make up a byte
Denary	Standard number system e.g. 0,1,2,3,4,5,6,7,8,9, known as base-10
Binary	Number system that only uses two different digits (0 and 1), known as base-2
Bitmap	Digital images that are made up of lots of tiny dots, known as **pixels**
1 bit image	An image that is made up of two colours, black and white. Each colour is represented by a 1 or 0
2 bit image	An image that is made up of four colours. Each colour is represented by a 00, 01, 10, 11

Denary and their binary equivalents.

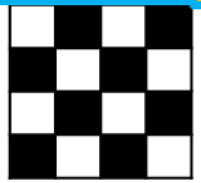
0 = 0	4 = 100	8 = 1000	12 = 1100
1 = 1	5 = 101	9 = 1001	13 = 1101
2 = 10	6 = 110	10 = 1010	14 = 1110
3 = 11	7 = 111	11 = 1011	15 = 111

Resolution is the **density** of pixels in an image. Measured in **DPI** (Dots Per Inch). Higher resolution means more pixels in a certain area. Higher resolution increases file size. Higher resolution increases image quality



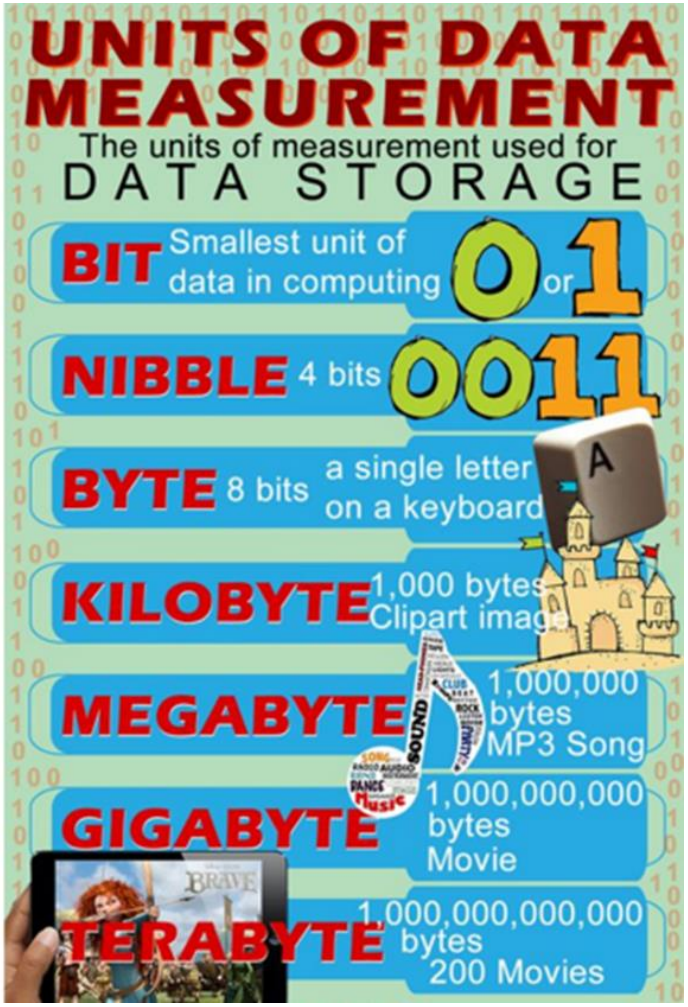
B & W images x2 colours
0= white & 1= black

0	1	0	1
1	0	1	0
0	1	0	1
1	0	1	0



2-bit images have 4 colours. Pixel has one of 4 binary values- **00/ 01/ 10/ 11**

00	01	10	11
00	01	10	11
00	01	10	11
00	01	10	11



Arrow Tasks: Research what happens if you increase the amount of bits per pixel e.g. from a 2-bit image to a 4-bit image to an 8-bit image. What happens to the quality of the image? What happens to the file size?

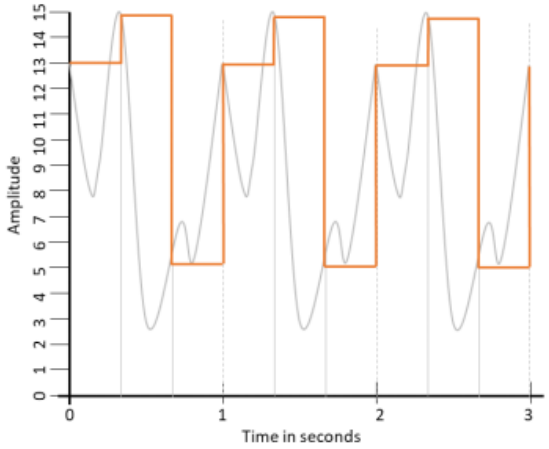
Links to further resources: Use the binary game to see what score/level you can get to- https://games.penjee.com/binary-numbers-game/

Subject: Computing

Year: 9 – Autumn term 2

Topic: Representations: Going audio-visual

Sample rate: How often (frequency) you record the amplitude of a sound wave. The more often you record a sample the smoother the playback will sound.



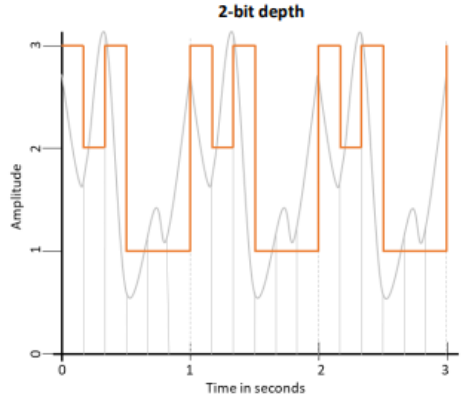
No. of samples per second.

Measured in hertz (Hz).

Typical CD recorded in 44,100Hz

So that's 44,100 samples taken per second.

Bit depth: Represents how many different gradations of amplitude can be represented in a digital wave form.



Amount of information stored with each sample.

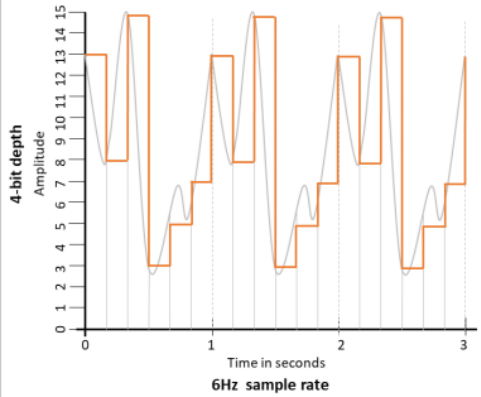
Measured in bits e.g. 8-bit

Typical CD uses 16-bits.

That means each sample takes up 2 bytes and can store one of 65,536 amplitudes.

Calculating sound sample sizes

Size of sample = (Number of samples per second) x (Number of bits per sample) x (Length of sample in seconds)



Size of sound file =		
Sample rate	6	Number of samples per second
Duration	3	Length of sample in seconds
Bit depth	4	Number of bits needed to store each sample
6 x 3 x 4	=	**72 bits** = 9 bytes

Links to further resources: Use the binary game to see what score/level you can get to- https://games.penjee.com/binary-numbers-game/

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Subject: Mathematics Year: 9 Autumn 2 Topic: 3D Shapes

What do I need to be able to do?

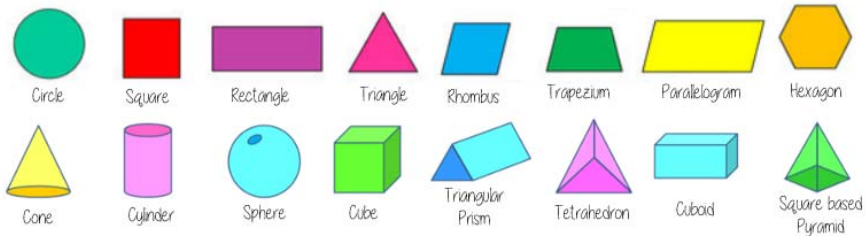
By the end of this unit you should be able to:

- Name 2D & 3D shapes
- Recognise Prisms
- Sketch and recognise nets
- Draw plans and elevations
- Find areas of 2D shapes
- Find Surface area for cubes, cuboids, triangular prisms and cylinders
- Find the volume of 3D shapes

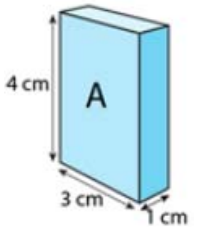
Keywords

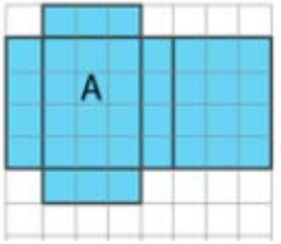
2D: two dimensions to the shape e.g. length and width
3D: three dimensions to the shape e.g. length, width and height
Vertex: a point where two or more line segments meet
Edge a line on the boundary joining two vertex
Face: a flat surface on a solid object
Cross-section: a view inside a solid shape made by cutting through it
Plan: a drawing of something when drawn from above (sometimes birds eye view)
Perspective: a way to give illustration of a 3D shape when drawn on a flat surface.

Name 2D & 3D shapes



Nets of cuboids

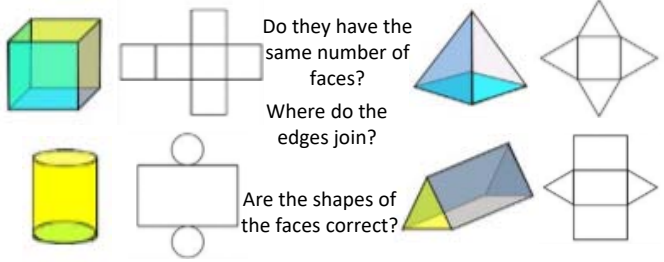




Visualise the folding of the net.
Will it make the cuboid with all sides touching

1cm grids help to draw accurately

Sketch and recognise nets



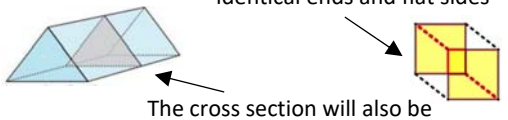
Do they have the same number of faces?

Where do the edges join?

Are the shapes of the faces correct?

Recognise prisms

A solid object with two identical ends and flat sides



The cross section will also be identical to the end faces.

A cylinder although with very similar properties does not have flat faces so is not categorised as a prism

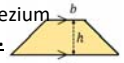
Area of 2D shapes

Rectangle
Base x Height

Triangle
½ x Base x Perpendicular height

Parallelogram/ Rhombus
Base x Perpendicular height

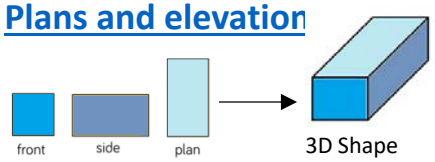
Area of a trapezium
$\frac{(a+b) \times h.}{2}$



Area of a circle
π x radius²

Areas and volumes can be left in terms of pi π

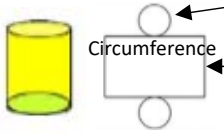
Plans and elevation



The direction you are considering the shape from determines the front and side views

Areas – square units
Volumes – cube units

Surface area - cylinders



The area of the circle
π x radius²

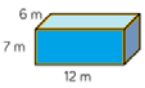
Circumference

The width of this face is the same as the circumference
π x diameter x height

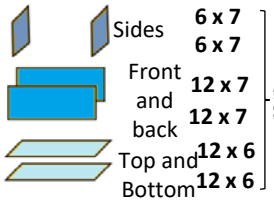
$2 \times \pi \times \text{radius}^2 + \pi \times \text{diameter} \times \text{height}$

Surface area

Sketching nets first helps you visualise all the sides that will form the overall surface area



For cubes and cuboids you can also find one of each face and



Sides **6 x 7** **6 x 7**
Front and back **12 x 7** **12 x 7**
Top and Bottom **12 x 6** **12 x 6**

Sum of all sides is surface area

For other shapes = not all the sides are the same, so calculate the individually

Volumes

Volume is the 3D space it takes up – also known as capacity if using liquids to fill the space

Counting cubes
Some 3D shape volumes can be calculated by counting the number of cubes that fit inside the shape.

Cubes/ Cuboids = base x width x height

Remember multiplication is commutative

Cross section

Cross section

Prisms and cylinders = area cross section x height

Height can also be described as depth

Subject: Mathematics Year: 9 Autumn 1 Topic: Constructions & Congruency

What do I need to be able to do?

By the end of this unit you should be able to:

- Draw and measure angles
- Construct scale drawings
- Find locus of distance from points, lines, two lines
- Construct perpendiculars from points, lines, angles
- Identify congruence
- Identify congruent triangles

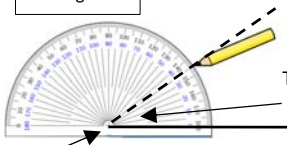
Keywords

Protractor: piece of equipment used to measure and draw angles
Locus: set of points with a common property
Equidistant: the same distance
Discorectangle: (a stadium) – a rectangle with semi circles at either end
Perpendicular: lines that meet at 90°
Arc: part of a curve
Bisector: a line that divides something into two equal parts
Congruent: the same shape and size

Draw and measure angles

Draw a 35° angle

Make a mark at 35° with a pencil
And join to the angle point (use a ruler)



The angle

Make sure the cross is at the end of the line (where you want the angle)

Scale drawings

For every 1cm on my image is 30cm in real life

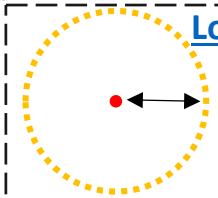
A picture of a car is drawn with a scale of 1:30

The car image is 10cm

Image	:	Real life
1cm	:	30cm
10cm	:	300cm

(×10 between Image and Real life)

Locus of a distance from a point

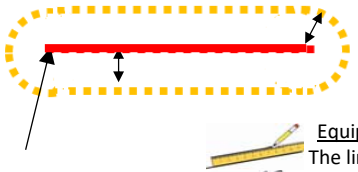


All points are equidistant (the same distance) from the fixed point in the middle.

If the point is in the corner it can only make a quarter circle

Equipment needed
The radius is the distance from the fixed point

Locus of a distance from a straight line



All points are equidistant (the same distance) from line

The ends of the line are fixed points

Equipment needed
The line is straight so a ruler is used for the straight lines parallel to your original line

Locus of a distance from two lines

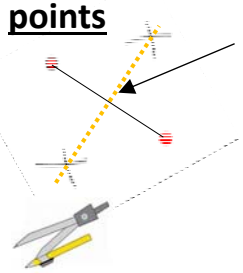
Also an angle bisector
This cuts the angle in half

From the angle vertex draw two arcs that cut the lines forming the angle

Keep the compass the same size and use the new arcs as centres to draw intersecting arcs in the middle

Join the vertex to the intersection

Locus equidistant from two points



Also a perpendicular bisector
Because if the points are joined, this new line intersects it at a 90°

Keep the compass the same size and draw two arcs from each point

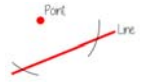
Join the intersections with a ruler.
All points on this line are equidistant from both points

Construct a perpendicular from a point

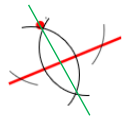
Point

Line

Use a compass and draw an arc that cuts the line. Use the point to place the compass



Keep the compass the same distance and now use your new points to make new interconnecting arcs

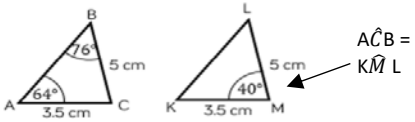


If P is a point on the line the steps are the same

Congruent figures

Congruent figures are identical in size and shape – they can be reflections or rotations of each other

Congruent shapes are identical – all corresponding sides and angles are the same



Because all the angles are the same and AC=KM BC=LM triangles ABC and KLM are **congruent**

Constructing Triangles

Link to steps

Side, Angle, Angle

Side, Angle, Side

Side, Side, Side

Congruent triangles

Side-side-side
All three sides on the triangle are the same size

Angle-side-angle
Two angles and the side connecting them are equal in two triangles

Side-angle-side
Two sides and the angle in-between them are equal in two triangles (it will also mean the third side is the same size on both shapes)

Right angle-hypotenuse-side
The triangles both have a right angle, the hypotenuse and one side are the same

@whisto_maths

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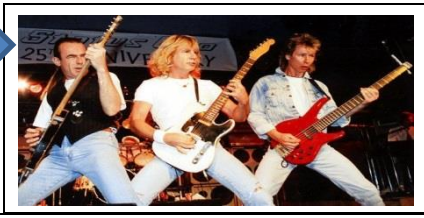
Subject: **Music** Year 9: Autumn Term 2

Topic: **The 3 Chord Trick – on the guitar**

Status Quo are famous for using only 3 chords in their songs.



I need to be able to: Recognise and play the 3 most popular chords found in many pop songs. Read guitar chord tab and follow a lead sheet ***SO THAT*** in the future, I can play any songs that only use 3 chords!

KEY WORDS	**MEANING**
Chords	A group of notes played at the same time. On the guitar this means strumming all the strings with your right hand.
Strumming	Technique on the guitar where all strings are played at the same time
Lead sheet	When the lyrics of a song are printed with chords above
3 Chord Trick	A term used to describe songs that use only 3 chords often chords I, IV and V
I IV and V	Chord **I** (1) = D Chord **IV** (4) = G Chord **V** (5) = A

LISTEN to these songs that use only 3 chords

Three little Birds by Bob Marley = https://www.youtube.com/watch?v=LanCLS_hIo4

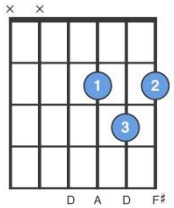
Budapest by George Ezra = https://www.youtube.com/watch?v=wQ5k_fvscJk

Chasing Cars by Snow Patrol = https://www.youtube.com/watch?v=XaKr98ktoxU

Sweet Caroline by Neil Diamond https://www.youtube.com/watch?v=ZLPiYZrwAzU

Wild Thing by The Troggs = https://www.youtube.com/watch?v=gSWInYFVksg

CHORD GUITAR TAB



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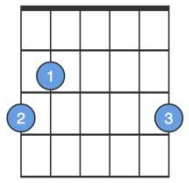

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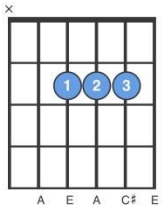
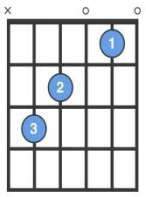


A and good to know is **C**



Arrow Task - Go online and find a song you like. 'Ultimate Guitar' is a great website. https://www.ultimate-guitar.com/

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Subject: Physical Education Year: 9

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Concept: Attacking and Defending in Invasion Games

The big picture: Invasion games are usually fast-paced, and focus on **teamwork, keeping possession, attacking, and defending**. In Year 9 we build on our prior attacking and defensive skills and continue to develop strategies to outwit the opposition and collectively succeed. Our focus is upon the application of skills and understanding in a mini or full game situation and decision making, attacking and defensive set plays and the roles of specific positions. Students will also develop their understanding of rules and their ability to lead and officiate each other. **Key Concepts: Attacking and Defending. The value of PE for Life and Physical Health.**

Physical Literacy -Set plays and knowledge of positions and roles

Football 	**Corners**– taken by the attacking team after the defending team has hit the ball off the back line. **Free kick**– restart the game after an infringement has occurred (direct/indirect). **Goal kicks** – are taken by the defending team after the attacking team has hit the ball off the back line. **Penalty kick** – awarded to the attacking team for a foul in the penalty area. **POSITIONS AND ROLES**: **There are 11 players on a football team**. This usually consists of **1 GK, 2 Full backs, 2/3 centre backs, 2wide midfielders a defensive midfielder and an attacking midfielder, 2 wingers and 1/2 strikers. GK** organises the defence and uses their hands to stop goals. **Full backs** – mark opposition wingers, make overlaps and take throw ins. **Centre backs** – shut down the attack and bring the ball out from the back. **Midfielders** – break up play and support both the attack and defence. **Wingers** put in crosses and create goalscoring opportunities. **Strikers** – score.
Rugby 	**Rucks** -occur during open play when a player is tackled to the ground and the ensuing competition to drive over the top of the ball by players. **Mauls** - allow players to compete for the ball when a tackle occurs and the tackled player remains on their feet. A minimum of 3 players are involved. The maul must always be moving towards one side or the others goal line. **Scrums** – a way of restarting play after a stoppage caused by a minor infringement of the rules (for example, a forward pass or knock-on). **Line-out** - a way that play is restarted after the ball has gone into touch. **POSITION AND ROLES**: **There are 15 players on a rugby team consisting of 8 forwards and 7 backs**. The **forwards** are the players in the scrum and consist of the front row – **loose head, tighthead prop and hooker**, they push at scrums and clear at rucks. The **second row is made up of 2 players** who jump in line-outs, push in the scrum and protect and turnover balls. The **back row of the forwards** consists of **3 players, 2 flankers and the number 8.** They are powerful and mobile and effective tacklers. The backs are made up of 7 players. They include the **scrum half, fly half, 2 centres, 2 wings and the fullback,** they are more lightly built and faster and skilful at passing and kicking.
Hockey 	**Short corner-** a penalty given against the defending team for an infringement in the penalty circle or a deliberate infringement within the 23m area. **Long corners –**how play is restarted after the ball has gone off the back line. It is taken from a spot on the side-line 5 yards from the corner flag on the side of the field where the ball crossed the backline**. 16yd hits -**when the attacking team sends the ball out of bounds over the backline, the game is re-started with a self-pass or hit at the 16-yard line by the defence. **POSITIONS AND ROLES:** There are 11 players on each team – 10 outfield players and 1 GK. Formations include **attackers, midfielders**, **defenders, and goalkeepers**. The **attackers** are the main goal scorers and include **wings, inside forwards, and a striker**. The **midfielders** contribute to attack and defence. The **defenders** are primarily responsible for defence. The deepest defending back may be used as a **sweeper.** The **GK** is the last line of defence and is the only player allowed to touch the ball with their body, but they can only do this within the shooting circle.
Netball 	**Centre pass –** starts the game or restarts play after a goal. The first centre pass is decided between the two captains by the toss of a coin. The centre passes then alternate between the teams. **Taking free passes and penalties** -You have 3 seconds from getting the free pass/penalty in which to take it – they happen from where the offence has taken place. **Backline routines, centre pass routines**– set routines for attacking and defensive plays. **POSITIONS AND ROLES: There are 7 players on a team; Goal Shooter -**To score goals and to work in and around the circle with the GA. **Goal Attack-**To feed and work with GS and to score goals. **Wing Attack -**To feed the circle players giving them shooting opportunities. **Centre** -To take the centre pass and to link the defence and the attack. **Wing Defence -**To look for interceptions and prevent the WA from feeding the circle. **Goal Defence-**To win the ball and reduce the effectiveness of the GA. **Goal-Keeper-**To work with the GD and to prevent the GA/GS from scoring goals.
Role of officials	To communicate effectively with others, possess a basic understanding of the main rules and signals of each game. To keep time and the score, adhere to the rules and ensure players are safe

Life Skills

Responsibility
Giving your best effort, behaving appropriately, and leading by example. Being proactive and independent and making things happen.

Interpersonal skills
Working well, communicating, and interacting with others.

Honesty and fair play.
Fair play is about learning the rules of the game and putting them into practice honestly. Admitting fouls
and helping others

Leadership
Setting an example to others. Getting the best out of individuals. Being able to motivate and boost the morale and confidence of your team.

Health and Wellbeing

Invasion games are an effective way of improving physical fitness. Regular exercise will tend to reduce the weight of the body. This is because fat stores are used to supply the glucose the body needs for energy. Depending on the type of exercise you do, certain component of fitness may be developed for example your cardiovascular endurance will improve if you are a midfielder.
Long term benefits of exercise: *Control weight * Reduce risk of illnesses/diseases such as reduce risk of type 2 diabetes and obesity *Strengthen bones and muscles *Improve mental health and mood *Improve your ability to do daily tasks * Increase your chances of living longer.

AQA GCSE Atomic structure and periodic table part 2

Alkali metals

Halogens

Noble gases

Transition metals

1	2											3	4	5	6	7	0
H																	He
Li	Be											B	C	N	O	F	Ne
Na	Mg											Al	Si	P	S	Cl	Ar
K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr
Rb	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	I	Xe
Cs	Ba	La	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn
Fr	Ra	Ac	Rf	Db	Sg	Bh	Hs	Mt	?	?	?						

Metals to the left of this line, non metals to the right

The Periodic table

Elements arranged in order of atomic number	***Elements with similar properties are in columns called groups***	Elements in the same group have the same number of outer shell electrons and elements in the same period (row) have the same number of electron shells.

Development of the Periodic table

Before discovery of protons, neutrons and electrons	***Elements arranged in order of atomic weight***	Early periodic tables were incomplete, some elements were placed in inappropriate groups if the strict order atomic weights was followed.
Mendeleev	***Left gaps for elements that hadn't been discovered yet***	Elements with properties predicted by Mendeleev were discovered and filled in the gaps. Knowledge of isotopes explained why order based on atomic weights was not always correct.

Metals and non metals

Metals	***To the left of the Periodic table***	Form positive ions. Conductors, high melting and boiling points, ductile, malleable.
Non metals	***To the right of the Periodic table***	Form negative ions. Insulators, low melting and boiling points.

Group 1

Alkali metals	***Very reactive with oxygen, water and chlorine***	Only have one electron in their outer shell. Form +1 ions.
	Reactivity increases down the group	Negative outer electron is further away from the positive nucleus so is more easily lost.

With oxygen	**Forms a metal oxide**	Metal + oxygen → metal oxide	e.g. $4Na + O_2 \rightarrow 2Na_2O$
With water	**Forms a metal hydroxide and hydrogen**	Metal + water → metal hydroxide + hydrogen	e.g. $2Na + 2H_2O \rightarrow 2NaOH + H_2$
With chlorine	**Forms a metal chloride**	Metal + chlorine → metal chloride	e.g. $2Na + Cl_2 \rightarrow 2NaCl$

Group 7

Halogens	***Consist of molecules made of a pair of atoms***	Have seven electrons in their outer shell. Form -1 ions.	
	Melting and boiling points increase down the group (gas → liquid → solid)	Increasing atomic mass number.	
	Reactivity decreases down the group	Increasing proton number means an electron is more easily gained	
With metals	**Forms a metal halide**	Metal + halogen → metal halide e.g. Sodium + chlorine → sodium chloride	e.g. NaCl metal atom loses outer shell electrons and halogen gains an outer shell electron
With hydrogen	**Forms a hydrogen halide**	Hydrogen + halogen → hydrogen halide e.g. Hydrogen + bromine → hydrogen bromide	e.g. $Cl_2 + H_2 \rightarrow 2HCl$
With aqueous solution of a halide salt	**A more reactive halogen will displace the less reactive halogen from the salt**	Chlorine + potassium bromide → potassium chloride + bromine	e.g. $Cl_2 + 2KBr \rightarrow 2KCl + Br_2$

Group 0

Noble gases	***Unreactive, do not form molecules***	This is due to having full outer shells of electrons.
	Boiling points increase down the group	Increasing atomic number.

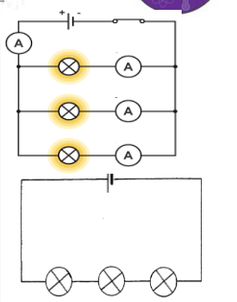
Science Autumn 2

AQA Electricity

Electrons carry current. Electrons are free to move in metal.

Cell	Battery	Switch	Lamp	Ammeter	Volt meter
Store of chemical energy	*Two or more cells in series*	*Breaks circuit, turning current off*	*Lights when current flows*	*Measures current*	*Measures potential difference*

Diode	LED	LDR	Fuse	Resistor	Variable resistor	Thermistor
Current flows one way	*Emits light when current flows*	*Resistance low in bright light*	*Melts when current is too high*	*Affects the size of current flowing*	*Allows current to be varied*	*Resistance low at high temp*



Circuit symbols

Current, potential difference and resistance

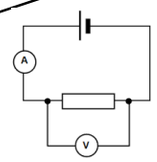
Current and Charge

Current	*Flow of electrical charge*	Ampere (A)
Potential difference (p.d.)	*How much electrical work is done by a cell*	Volts (V)
Charge	*Amount of electricity travelling in a circuit*	Coulombs (C)

Charge = Current X time — Q = I X t

Controlling current

Changing current	*Change the p.d. of the cells*
	Add more components



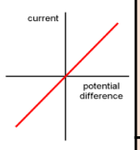
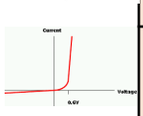
Ammeter	*Set up in series with components*
Voltmeter	*Set up parallel to components*

R = V ÷ I

Resistance = Potential difference ÷ Current

Resistance (Ω)	*A measurement of how much current flow is reduced*
The higher the resistance, the more difficult it is for current to flow.	
Increasing resistance, reduces current.	
Increasing voltage, increases current.	

Current – Potential difference graphs

	Ohmic conductor	*At a constant temperature, current is directly proportional to the p.d. across the resistor.*
	Filament lamp	*As current increases, the resistance increases. The temperature increases as current flows.*
	Diode	*Current flows when p.d. flows forward. Very high resistance in reverse.*

Thermistor	LDR
Resistance varies with temperature	*Resistance varies with light intensity*
Resistance decreases as temperature increases.	Resistance decreases as light increases.

Alternating current	Direct current
p.d. switches direction many times a second, current switches direction	*p.d. remains in one direction, current flows the same direction*
Generator.	Cell or battery.

Series and parallel circuits

Series circuit	Current is the same in all components.	Total p.d. from battery is shared between all the components.	Total resistance is the sum of each component's resistance.
Parallel circuit	Total current is the sum of each component's current.	p.d. across all components is the same.	Total resistance is less than the resistance value of the smallest individual resistor.

Series	Parallel
A circuit with one loop	*A circuit with two or more loops*

Total p.d — *If cells are joined in series, add up individual cell values*

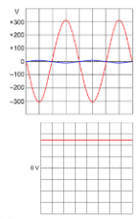
Energy transfers

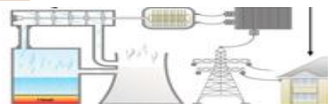
Work is done when charge flowing.

Power (W) = potential difference X current — R = V X I

Power = (current)^2 X resistance — P = I^2 X R

Energy transferred = Power X time — E = P X t





National Grid	*Distributes electricity generated in power stations around UK*

Step-up transformers	Step-down transformers
Increase voltage, decrease current	*Decrease voltage, increase current*
Increases efficiency, reduces heat loss.	Makes safer for houses.

Domestic uses and safety

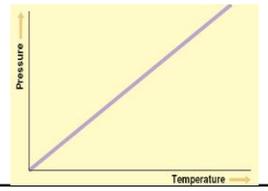
'Earthing' a safety device; Earth wire joins the metal case.

Mains supply
Frequency 50Hz, 230V

3 pin plug			
	Live - Brown	Carries p.d from mains supply.	p.d between live and earth = 230V
	Neutral - Blue	Completes the circuit.	p.d. = OV
	Earth – Green and Yellow stripes	Only carries current if there is a fault.	p.d. = 0V

AQA PARTICLE MODEL OF MATTER

Particle model



Pressure of a fixed volume of gas increases as temperature increases (temperature increases, speed increases, collisions occur more frequently and with more force so pressure increases).

Kinetic theory of gases

Temperature of gas is linked to the average kinetic energy of the particles.

If kinetic energy increases so does the temperature of gas.

No kinetic energy is lost when gas particles collide with each other or the container.

Gas particles are in a constant state of random motion.

State	*Particle arrangement*	Properties
Solid	*Packed in a regular structure. Strong forces hold in place so cannot move.*	Difficult to change shape.
Liquid	*Close together, forces keep contact but can move about.*	Can change shape but difficult to compress.
Gas	*Separated by large distances. Weak forces so constantly randomly moving.*	Can expand to fill a space, easy to compress.

	Units
Density	*Kilograms per metre cubed (kg/m^3)*
Mass	*Kilograms (kg)*
Volume	*Metres cubed (m^3)*
Energy needed	*Joules (J)*
Specific latent heat	*Joule per kilogram (J/kg)*
Change in thermal energy	*Joules (J)*
Specific heat capacity	*Joule per kilogram degrees Celsius (J/kg°C)*
Temperature change	*Degrees Celsius (°C)*
Pressure	*Pascals (Pa)*

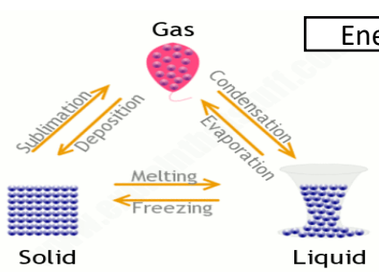
P = m ÷ V

Density = mass ÷ volume.

Density	*Mass of a substance in a given volume*

Change of state

Freezing	Liquid turns to a solid. Internal energy decreases.
Melting	Solid turns to a liquid. Internal energy increases.
Boiling / Evaporating	Liquid turns to a gas. Internal energy increases.
Condensation	Gas turns to a liquid. Internal energy decreases.
Sublimation	Solid turns directly into a gas. Internal energy increases.
Conservation of mass	When substances change state, mass is conserved.
Physical change	No new substance is made, process can be reversed.



Internal energy and energy transfers

Specific Latent Heat	*Energy needed to change 1kg of a substance's state*
Specific Latent Heat of Fusion	*Energy needed to change 1kg of solid into 1 kg of liquid at the same temperature*
Specific Latent Heat of Vaporisation	*Energy needed to change 1kg of liquid into 1 kg of gas at the same temperature*

Energy needed = mass **X** specific latent heat.

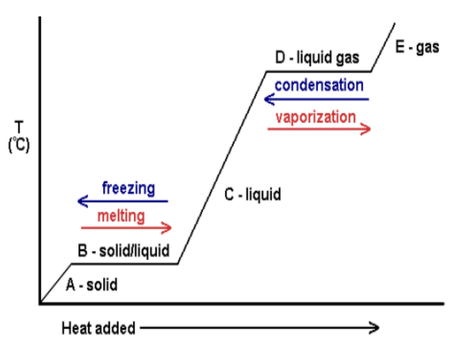
ΔE= m X L

Specific Heat Capacity	*Energy needed to raise 1kg of substance by 1°C*	Depends on: • Mass of substance • What the substance is • Energy put into the system.

Change in thermal energy = mass **X** specific heat capacity **X** temperature change.

ΔE= m **X c X** Δθ

Internal energy	*Energy stored inside a system by particles*	Internal energy is the total kinetic and potential energy of all the particles (atoms and molecules) in a system.
	Heating changes the energy stored within a system	Heating causes a change in state. As particles separate, potential energy stored increases. Heating increases the temperature of a system. Particles move faster so kinetic energy of particles increases.



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Subject: Spanish

Year 9: Autumn Term 2

There will be more specific vocabulary.

This will be given to you by your class

Topic: Oriéntate – Talking about work and languages

I need to be able to: ask and give details about plans for work and a typical day at work.

Key Words	Definitions
Verb Stem-changing verbs	Words which tell you the action. The vowels in the stem of the verb change -Tener, Tengo, Tiene, Tienes…
Subject pronouns	Words that tell you who is doing the action.(I, You, He, She, We, They)
Noun	A place, person or a thing.
Gender	In French, nouns and adjectives can be either masculine or feminine.
Adjective	Words which describe nouns. In Spanish adjectives have to be the same gender as the noun which they describe.
Definite article	'the'
Indefinite article	'a' 'some'
Singular	One of something.
Plural	More than one of something.
Positive phrase	'is', 'do' 'does
Negative phrase	'is not',' does not', 'don't', 'never'
Possessive adjectives	My /your/his/her/their + noun) Mi/mis /tu/tus/su/sus

Tener que (+ infinitive) = To have
Tengo que = I have to …
Tienes que = You have to …(s)
Tiene que = He has to / She has to / It has to…
Temenos que= We have to …
Tenéis que = You have to … (pl)
Tienen que …= They have to …

Useful verbs in the near future tense:

Voy a trabajar… = I am going to work

Voy a ir … = I am going to go

Voy a viajar … = I am going to travel

Va a ser fenomenal = It is going to be great

High Frequency words;

Así que = so, therefore
Casi = nearly, almost
Primero = firstly
Luego = then
Después = afterwards
Más tarde = later
O = or
Por supuesto = of course
Quizás = maybe
También = also

TENSES

The tense of a verb tells you when the action happens;

i. **The preterite tense tells of a completed action in the past**
ii. **The Near Future tense tells of an action or event that is going to happen**
iii. **The present tense tells of an ongoing or current action or event.**

Uses of the infinitive:
you can use the infinitives:
- with "Me gusta", "odio" to express likes and dislikes: Me gusta cant**ar** (I like **to sing**)
- with modal verbs: Puedo cant**ar** = I can sing
- with verb "IR" to form the near future: voy a cant**ar** (I am going to sing)
- with "me gustaría" to express wishes: me gustaría cant**ar** = I would like to sing

To say what someone has to do "Tengo que trabajar" = I have to work

Arrow Tasks: Find out how knowledge of a foreign language can help in the world of work. Would it be useful for your ideal job/career? Find out how many Spanish firms and organisations are based in the UK. What career opportunities are available within them?

Links to further resources: Improve your Spanish pronunciation: https://ielanguages.com/spanishphrases.html

Spanish	English
1 Trabajo en un hotel, soy recepcionista.	I work in a hotel, I am a receptionist.
2 Mi mejor amigo es cocinero, a él le gusta su trabajo	My best friend is a chef, he likes his job (work)
3 En el futuro voy a ser esteticista, me gustaría trabajar en equipo.	In the future I am going to be a beautician, I would like to work in a team.
4 Cada día, tengo que contester al teléfono y ayduar a los turistas.	Each day, I have to answer the telephone and help the tourists.
5 No tengo que limpiar habitaciones.	I don't have to clean the rooms.
6 Me gusta mi trabajo, te gusta tu Trabajo?	I like my work, do you like your job?
7 Mi Trabajo es interesante, a veces estresante pero no es duro.	My work is interesting, sometimes stressful but never difficult.
8 Mi jefa es muy bien educado y simpática.	My boss is very polite and nice.
9 Mis companeros son simpáticos también.	My colleagues are nice too.
10 Me gustaría trabajar al aire libre, como jardinero por ejemplo.	I would like to work in the open air, as a gardener for example.
11 Cuándo era jóven, quería ser cantante o actriz.	When I was younger, I wanted to be a singer or an actress.
12 No me gustaría trabajar con animals, no quisiera trabajar en una oficina, quiero hacer un trabajo creativo.	I would not like to work with animals, I would not like to work in an office, I want to do creative work.
13 En el futuro voy a ganar mucho dinero y hacer un Trabajo interesante.	In the future I am going to earn a lot of money and have/do and interesting job.
14 Mi amigo va a ser voluntario en el extranjero.	My friend is going to volunteer abroad.
15 Mi padre ha dicho de su trabajo.	My dad talked about his work.
16 Aquí está una descripción de un día típico:	Here is a description of a typical day:
17 Empezo a las nueve y termino a las cinco.	I start at 9 a.m. and I finish at 5 p.m
18 Hablo con clientes, leo mi agenda y preparo mis cosas.	I talk with the customers, I read my diary and I get my things ready.
19 En mi Trabajo, los idiomas son importantes porque hablo alemán e italiano con los clientes.	In my work, languages are important because I speak German and Italian with the customers.
20 Cuales son tus ambiciones para el future?	What are your plans for the future?
21 Cómo eres?	What are you like?
21 Qué cualidades tienes que hacer?	What qualities do you need to have?
22 Por qué decidiste ser …?	Why did you decide to become…?
23 En que consiste tu trabajo?	What does your work involve?
23 En qué trabajas tus padres?	What do your parents do (for a living)?

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Subject: Design Technology : Product Design

Year: 9

Topic: Bug House

Re

DESIGN & TECHNOLOGY

I need to be able to:

- understand the design process and the working properties of softwood, specifically Pine.
- gain practical skills in using the hand tools, machines and equipment needed to work with wood.
- learn about and master complex wood joints including finger joints and cross halving joint
- be aware of health and safety in the workshop and understand the importance of risk assessment.

Stages of the Design Process:

Context Design Brief Task Analysis Research

Investigation Specification Design & Development

Making Testing Evaluation

Key Words	Definitions
* Sustainability	Avoidance of the depletion of natural resources in order to maintain an ecological balance.
* Finger Joint	A finger joint, also known as a comb joint, is a woodworking joint made by cutting a set of complementary, interlocking profiles in two pieces of wood.
* Cross Halving Joint	A joint used for intermediate framework where half the thickness is removed from both pieces of timber where they cross.
* The Environment	The surroundings or conditions in which a person, animal, or plant lives or operates.
* Evaluating	Evaluating ideas, models and products is an ongoing process, centered around continuing to adapt and improve products to make them more useful and appealing.

Materials, tools and equipment used in the Bug House project

Driver

Softwood
Softwoods come from **coniferous** trees which are evergreen, needle-leaved, cone-bearing trees.

Try Square

Used for marking out

Wood Screws

Coping Saw

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Arrow Task:

What are the main differences between Hardwoods and Softwoods?

Why is it important that we all take an interest in the Environment?

Link to further resources:

http://www.technologystudent.com
http://www.mr-dt.com/
http://wiki.dtonline.org/index.php/Main_Page

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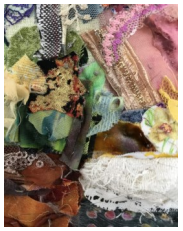
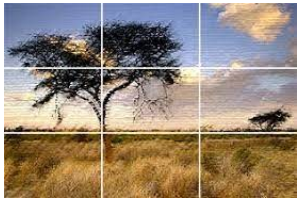
Subject: Design & Technology: Textiles

Year: 9

Topic: Textile Landscape

I need to be able to:

- understand the concept of mixed media.
- identify the key features of Kas Holmes' work and to understand its context.
- demonstrate the importance of aesthetics within the designing and making process.
- develop practical skills & knowledge of fabric properties

Key Words	Definitions
• Mixed media 	Mixed media describes artwork in which more than one medium or material has been used.
* Collage 	A technique of art creation by which art results from a collection of different forms which results in creating a new whole.
* Composition 	Composition refers to how the artwork is 'put together'. A successful composition draws the viewer in and then moves the viewer's eye across the whole painting so that everything is taken in, finally settling on the main subject of the artwork.

Link to further resources: https://casholmes.wordpress.com

Who is Cas Holmes?

A mixed media artist. Working with textiles and mixed media, she creates textile collages using discarded and 'found materials'. These are torn, cut, and re-assembled creating layers, building up compositions with the addition of detailing through stitch. Her particular interest is the link between the built and natural environment (Urban/Nature).

> ***"My work is informed by the 'hidden' or often overlooked parts of our landscape, the places where our gardens meet the outside spaces. Working with 'stitch sketching', I seek to capture a moment or thing before it is gone."*** - Cas Holmes

Drawing with stitch

Built up areas of texture, pattern and line can all be replicated with either hand or machine sewing. This gives the stitch an almost sketch-like quality. Densely worked stitch can provide textural interest. Applied in a more open and gestural way, stitch can give a sense of movement.

Arrow Task: Research 3 textile artists that use stitch drawing within their work. Compare their styles of work- do they have similarities/ how do their styles differ from one another?

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Subject: Design & Technology

Year: 9

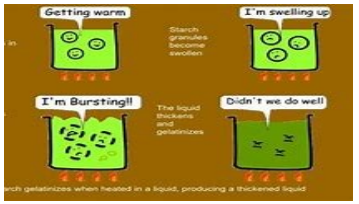
Topic: Food

Liskeard School & Community College
achieving more together
DESIGN & TECHNOLOGY

I need to be able to: secure and demonstrate a range of complex food skills, applying the knowledge of food science and dietary related diseases to modifying recipes, to cook a wider range of dishes, safely and hygienically, and understand commercial food production/ provenance of ingredients.

Key word	Definition
Allergic reaction	The immune system is part of the body's defence system, as it protects against foreign organisms like bacteria and viruses. In some people, it may also react to substances in foods, or in the environment, e.g. pollen, milk, nuts
Lactose intolerance	A person is allergic to lactose found in milk– this also includes all products made with milk– cheese, yogurt, cream, butter.
Coeliac	A person is allergic to gluten found in wheat. This includes any product made with it—flour, bread, pasta, pastry, cakes, biscuits, commercial products containing starch.
Gelatinisation	Starch (flour) is used to thicken a sauce . It absorbs the liquid , swells and bursts open at 100 °c thickening the
Reduction	Boiling a sauce to thicken it. The water boils at 100°c turning to steam. The water evaporates from the sauce
Lamination	To roll and fold pastry to create layers of air, fat and pastry (lamination) so it rises when baked– flaky , rough

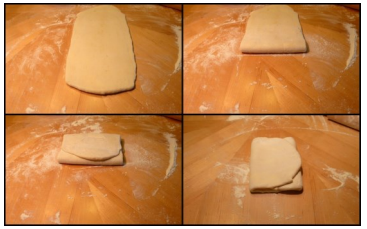
Gelatinised sauce— flour, butter and milk is cooked to make a sauce—Macaroni cheese, lasagne sauce. Quality control—thick smooth glossy sauce.

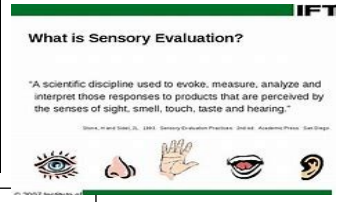


Reduction sauce– to simmer a sauce to evaporate the water to increase the thickness and intensity of the flavour**.—curry– lasagne meat sauce. Quality control—thick rich viscosity.**

Lamination– rough puff pastry. Creating layers of fat, air and pastry so it rises when baked.—Filled pastry parcels.

Quality control—well risen flaky layers.





Cake methods—creaming, melting, whisking, rubbing in—investigating the structural, sensory properties. **Evaluation techniques.**

Arrow Tasks -

- Explain the benefits of seasonal local foods. Apply this to the food miles, carbon footprint and link to global warming. Understand welfare issues when producing meat, poultry and fish. Explain how commercial foods are produced and understand food labelling . Apply this information to make informed food choices relating to diet, allergies, religious beliefs and consumer choices - vegan, vegetarian, Buddhism, low fat diet, coeliac etc.

How to use industrial equipment correctly to reduce making time. To use quality control points to achieve high quality products.

Quality control example—elastic dough—gluten window check

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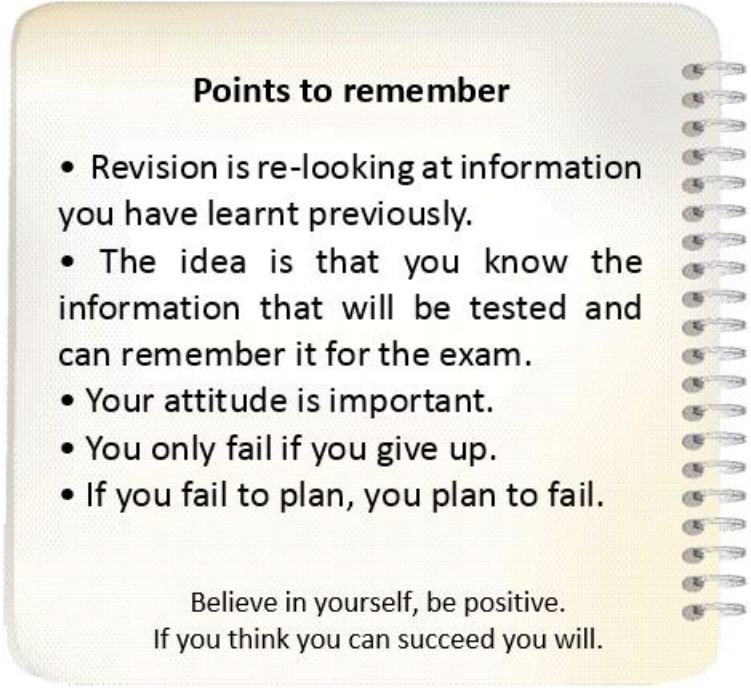
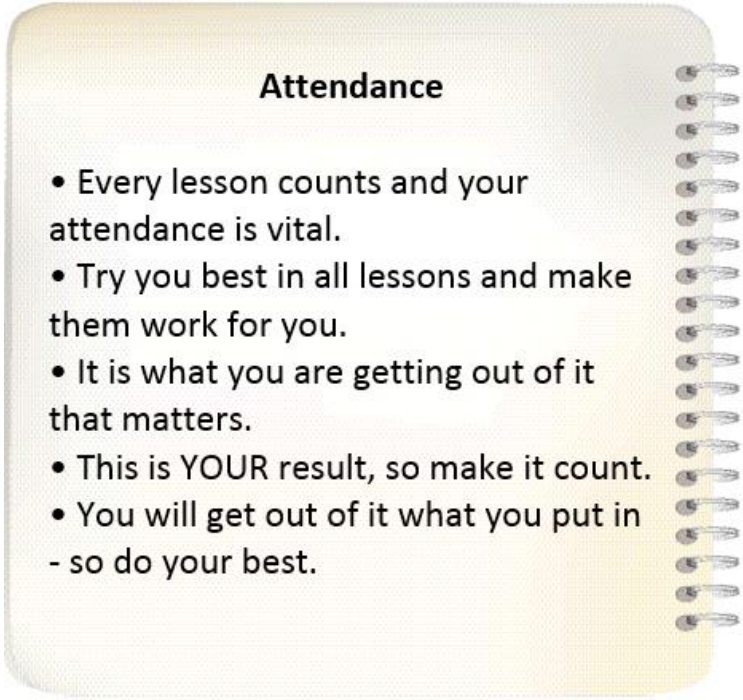
#Revise to succeed

A Guide to Revision

We hope you find these pages about revision useful. You will need to use these skills throughout your time at school, from Year 7 all the way through to Year 13. Developing these skills early means they will become second nature and revision will become easy!

We want you to achieve the best possible results throughout your time at school and achieve results that will not only increase your life chances but also take you to the next step on your chosen career pathway. Speak to any one of your teachers for more advice on revision.





#Revise to succeed

Revision materials you'll need

These are to help you organise your revision and keep everything in one place.

Top Tip: Revision materials are available from the school shop in the library.

You can also buy these items very cheaply from a local pound shop!

#Revise to succeed

Revision Strategies

- Plan your time – create a revision timetable
- Break revision into chunks
- Find a quiet space to revise

- Revise in 20 minute blocks
  - This is the optimum concentration time
  - Have a short break between blocks

- Avoid distractions!
  - Turn off your phone
  - Turn off the TV

#Revise to succeed

Brain Dump

WHEN: beginning of 20 minute revision block

HOW:

- Take a blank piece of paper
- Write down (DUMP!) everything you know about the topic
  - No books
  - No notes
  - Be as messy as you like
- Time limit of 60 seconds
- Now revise the topic (15 minutes)
- Finally, go back to your DUMP and add everything you have learnt
  - Use a different colour pen

IMPACT: you should be able to add 7-15 new things to your DUMP

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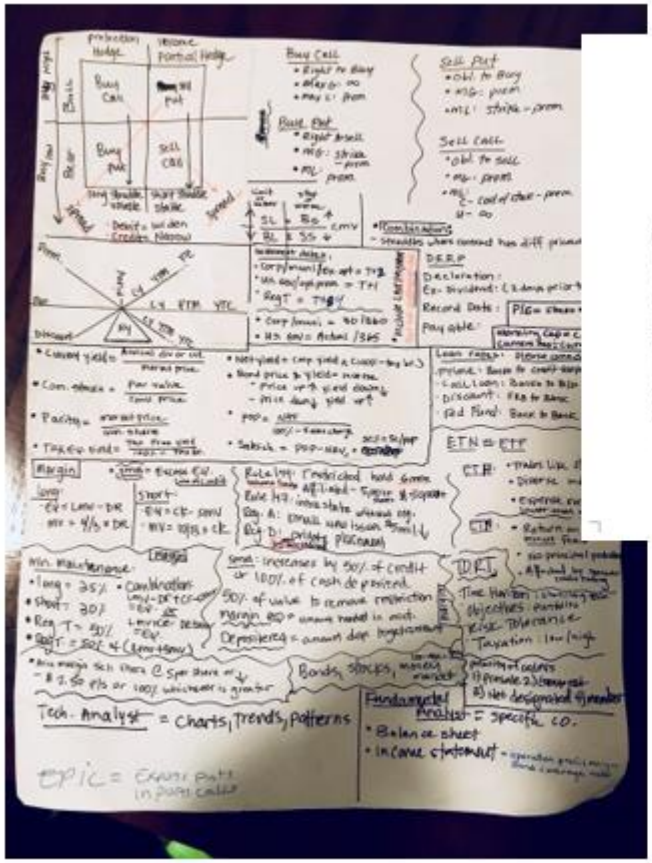
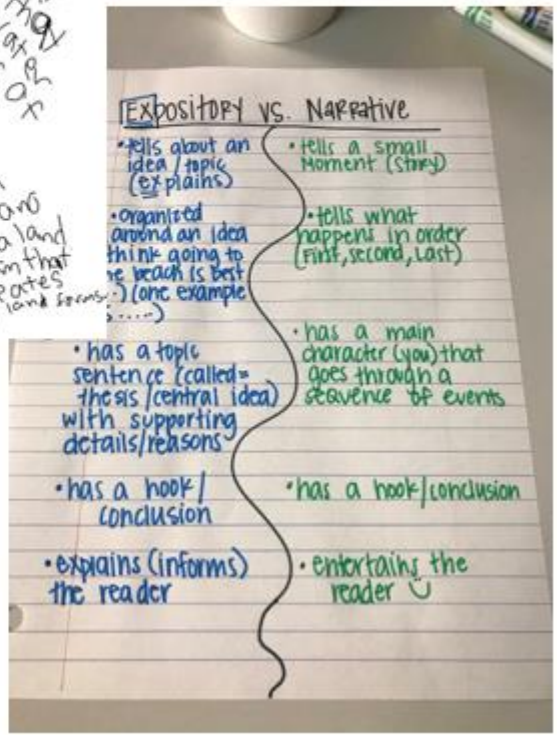
Examples of Brain Dumps





Top Tip: Repeat a brain dump regularly.

This will help identify which aspects of a topic you have **forgotten** to include. These are the areas you need to **focus on** when revising!

#Revise to succeed

MIND MAPS

WHEN: to organise information from your exercise/text book.

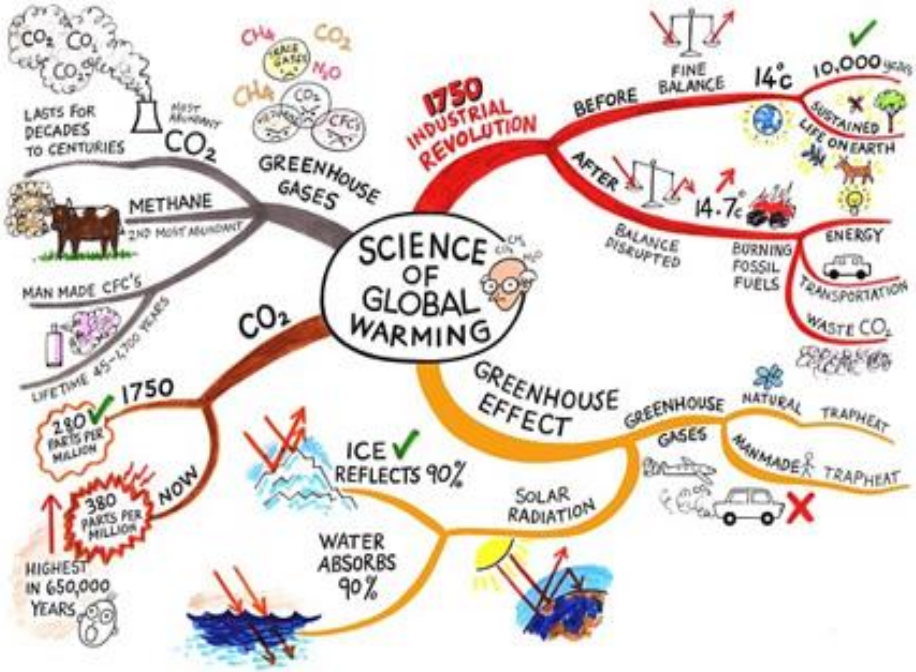
HOW:

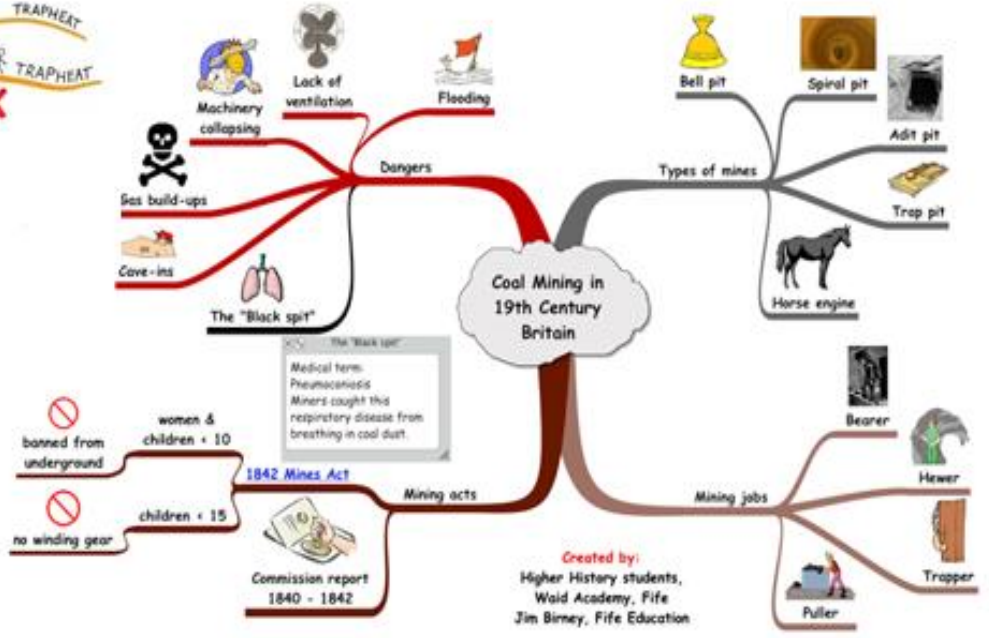
- Put the topic in the centre of a blank page
- Add big branches with the main ideas/themes of the topics
- Add small branches to these with more detail
- Try to write only 1 or 2 words per branch
  - Focus on the key points only
- Add an image to each branch (dual code)
- Revisit your mind map next time you DUMP

IMPACT: whole topic with the key ideas on a single page.

#Revise to succeed

Examples of Mind Maps





Top Tip: Use **'dual coding'** in your mind maps.

Dual coding means using both words and images to record the information you need to remember.

Top Tip: Use different **colours** for each branch of your mind map.

This helps your brain distinguish between each of the different information stems.

#Revise to succeed

FLASH CARDS

WHEN: to organise information from your exercise or text book.

HOW:

- Put a key question on one side
- Bullet point the key points that answer the question on the other side

- Put a formula / word on one side
- Put the definition on the other side
- You might be able to group key formulae/words together

- Bullet point the key points of a topic on one card (use both sides)

IMPACT: great for targeting key questions/formulae/words that you are finding hard to remember. Easy to carry around.

#Revise to succeed

Examples of Flash Cards

Top Tip: Once you have created your flash cards, take a photo with your phone.

Create revision folders in your gallery so that you can revise in the car, on the bus… in fact anywhere when you've got a few spare minutes!

#Revise to succeed

Mnemonics

WHEN: remembering a list of things or items in a particular order

HOW:

- Create a song, rhyme or poem using the first letter of each word in a sequence

For example:

- **R**ichard **o**f **Y**ork **g**ave **b**attle **i**n **v**ain (to remember the colours of the rainbow)
- **Red Orange Yellow Green Blue Indigo Violet**

- Write out the first letter of each word in a sequence or list then make up your own rhyme

IMPACT: great for remembering sequences and orders of words relating to a topic.

Top Tip: Be **creative** when using mnemonics.

The sillier the rhyme, the more likely you are to remember it! **Repeat** the rhyme **regularly** to make sure it goes into your long term memory

#Revise to succeed

Liskeard's Six Effective Learning Strategies

Check out the link on our school website for more information:

http://www.liskeard.cornwall.sch.uk/students/six-strategies-for-effective-learning

1. SPACE IT OUT

Don't just revise what you've just learnt.
Study older information to keep it fresh.

2. RETRIEVE

Without using your books, write or sketch everything you know. Then check it!

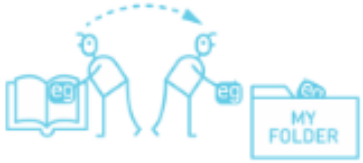
3. ELABORATE

Think about the detail.
Describe, Explain, Compare, Question...

4. INTER-LEAVE

Don't study one topic for too long.
Switch between topics when studying.

5. USE EXAMPLES



Collect examples you have used in class, or found yourself.
Link the examples to what you are studying.

6. DUAL CODE

Turn your words & notes into diagrams or pictures.
Turn your diagrams & pictures into words or notes.

#Revise to succeed

Revision Websites

In addition to the website links within the subject pages, there are as a wide range of resources available online. Below is just a small section of those available.

https://www.educationquizzes.com/ks3/	Interactive resources for a wide range of subjects
https://www.bbc.com/bitesize/levels/z4kw2hv	Resources for a wide range of subjects
https://mathsmadeeasy.co.uk/ks3-revision/	Great for maths, also offers English and science resources
https://www.senecalearning.com/	Quick fire interactive questions across a range of subjects

Top Tip: Ask your teacher for a list of the topics you need to revise.

Websites contain a lot of information, some of which that will not be relevant to your course. Make sure you revise everything you need to know!

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