Liskeard School
& Community College
achieving more together

Year 8 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: **8 Autumn Term**

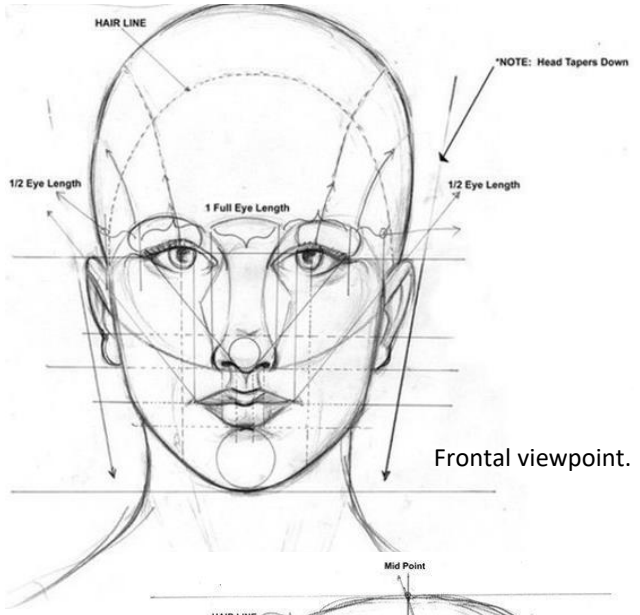
Topic: **Self Image (2D Form)**

I need to know: How to measure, record spacial relationships through the application of line, shape and tone in portraiture.

Key Words	Definitions
Primary Source	In the study of art history, a primary source is an artefact, document, diary, manuscript, autobiography, recording, or other source of information that was created at the time under study. In practical work, the artist looks directly at the subject of study, i.e. the real face, object or landscape.
Secondary Source	In the study of art history, a secondary source interprets and analyses primary sources. Secondary sources are one or more steps removed from the event. Secondary sources may contain pictures or quotes of primary sources. In practical work, the artist may use a photograph/s to draw from and may combine multiple sources of information.
Visual Analysis	When drawing you will ask yourself many silent questions. This internal conversation you will have with yourself is visual analysis, it is what will help you to make judgements about line, shape, tone, texture, contrast, colour; it enables you to refine your use of the formal elements or visual grammar.
Measuring	There are various techniques for measuring the real world to enable you to translate what you see onto a 2D surface for others to understand.
Proportion	Proportion refers to the relative size of shapes and objects. When drawing, most of the time is spent on measuring, comparing, re-measuring and re-comparing.
Estimating	Estimating in art usually occurs between the processes of measuring, comparing proportion and translating the real world to the 2D or 3D surface. By revisiting and re-comparing, your estimations become progressively more accurate with increasing information.
Scaling	Scale and proportion in art are both concerned with size. Scale refers to the size of an object (a whole). Proportion refers to the relationship between objects (another whole).
Grid Technique	The grid method enables you to reproduce and/or enlarge an image. You begin by drawing a grid over your reference photo; you then draw a grid of equal ratio on your paper; you can then translate what you see in each square. It can help because it enables you to reduce the whole, complex image, by focussing on smaller bits of information.
Tracing	Tracing and transferring images has been a technique used by artists throughout the centuries to save time and ensure accuracy in representational art. It is used by more artists than you may realize. You use a semi translucent material to draw over key outlines before transferring information from the translucent material to your artwork.

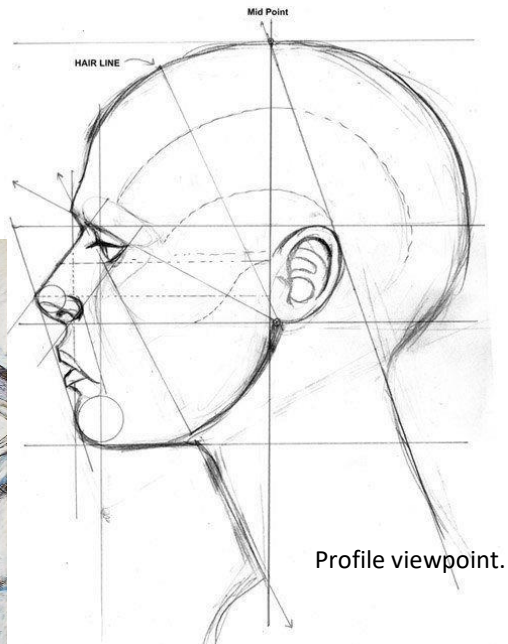
Arrow Tasks: Compare and reflect upon the portraits of Giacometti, Schiele, Holbein, Caravagio, Peter Blake, Chagal, Dali, Klee and Durer. How do their styles vary and how might you exploit their methods of working?

Links to further resources: https://www.npg.org.uk/

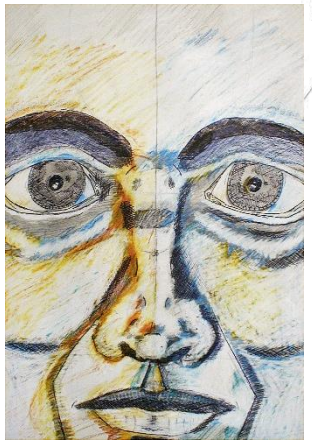


Frontal viewpoint.

Measuring, proportion and spacial relationships.



Profile viewpoint.



Yr 8 Student work.

Subject: **Art and Design** Year: **8 Autumn Term**

Topic: **Self Image (2D Form)**

Key Words	**Definitions**
Transfer	This refers to the process of using a trace to copy key information from one image to a new surface.
Viewpoint	Viewpoint describes the position of the subject to the viewer, it involves a horizon line.
Perspective	Perspective refers to the perceived space and depth in 2Dimensional art.
Symmetry	Symmetry in art is when the elements of a painting or drawing balance each other out. This could be the objects themselves, but it can also relate to colours and other compositional techniques. It might simply mean the two sides of a portrait appear the same.
Asymmetry	Something asymmetrical has two sides that don't match. In art this might result from accurate observation but might also be exploited to 'unsettle' the viewer. In composition, such as the rule of thirds or golden section, it is not unusual to use asymmetry to develop ideas of beauty and aesthetics.
Profile	In portraiture, the 'profile' refers to a side view of the face.
Aesthetics	Aesthetics is a branch of philosophy that examines the nature of art and our experience of it. An aesthetic experience could include a mixture of feelings and determines our appreciation of beauty and taste. It is complex, relies heavily on objective rules, and often influences our decisions and choice. Since virtually everything made or caused by humans will have occurred through a conscious or unconscious design process, you are directly or indirectly influenced by art every day. Clothes, phones, cars, food, websites, buildings…

Thinking, questioning and communicating your visual intelligence using practical skills in ART.

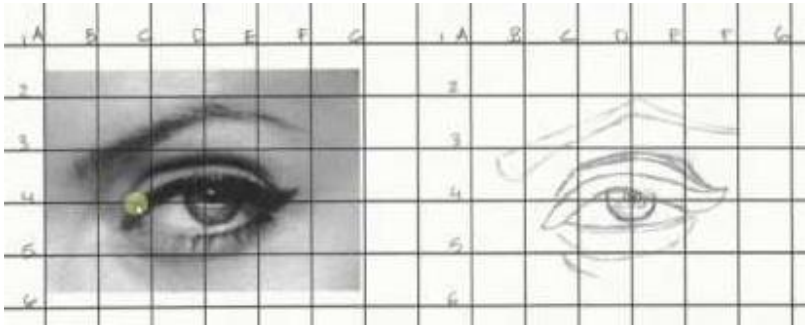
You will be able to organise your thoughts, understanding and expertise in **ART** this term under the following headings.

Skills: *Measuring, proportion, form and application of tone, scale…*
Contexts: *History, reasoning, genre, culture, responsibility, connections…*
Rules: *Values, flexibility, experimentation, organisation, prioritising…*
Audience: *Personal, commercial, ethics, morals, age, empathy, critique…*
Resolution: *Primary and secondary sources, scale, representation, commitment, ending…*
Communication: *Representation, truth, evaluate, talk, manage emotions…*
Legacy: *Materials, honesty, likeness, heritage, culture, accuracy…*

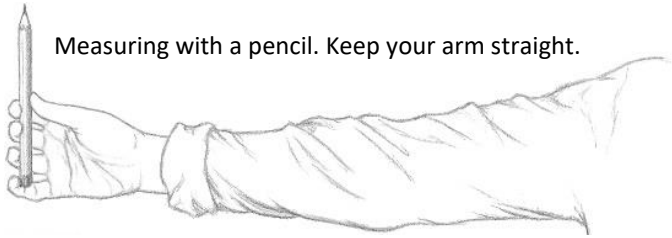
Throughout the year we will be asking you to articulate (to say, explain and use), a number of ***Personal, Learning and Thinking skills*** to help you develop your knowledge and understanding. This term we will be asking you to reflect upon your **Self-Management.** i.e. How you respond to challenge, commit, persevere, organise, prioritise, anticipate, change and manage emotions.

Further thinking (why does this matter?):
On a functional level, it is important to us all that we discern the relative sizes and value of things through approximation.

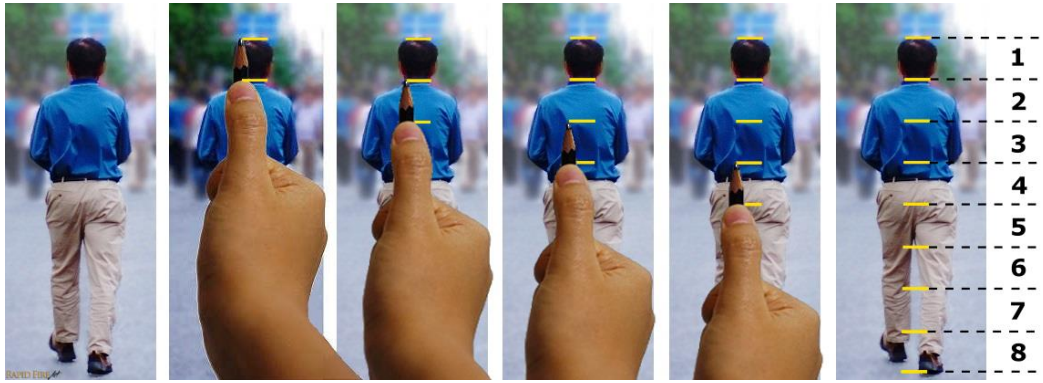
In a more subtle sense, this is fundamental to our understanding of specific distance, scale, proportion, space and its representation. Measurement need not come from using a ruler but from assessing spacial relationships.



Grid method of drawing.



Measuring with a pencil. Keep your arm straight.



Use a measurement to achieve accurate proportions.

Links to further resources: https://www.npg.org.uk/

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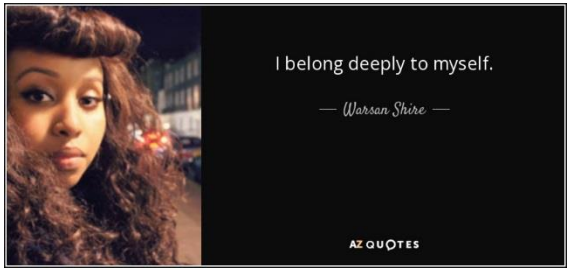
Subject: Drama Year: 8

Topic: Devising with the theme of refugees.

- I need to know: How to undertake background research to help communicate ideas. Create a sensitive performance as part of an ensemble.

Key Words	Definitions
Still image	A picture you create in a group.
List Poem	A poem created from list of objects.
Mirroring	Performing the same movements as another actor, at the same time.
Flocking	Moving as a group.
Unison	Performing in harmony with others.
Ensemble	Working as a larger group.
Cross-cutting	Performing two scenes together.
Flashback	A scene showing past events.
Flashforward	A scene showing future events.
Dramatic tension	A moment where the audience are on the "edge of their seats".
Sound-scape	Creating different sounds together.
Narration.	Telling a story.



Wider Reading: Look at the following websites:

Refugee council and refugee action.

Read "Refugee Boy" by Benjamin Zephaniah.

Research "Mountain Language" by Harold Pinter.

What We Do:

- Use original stories to devise a piece of drama with depth and sensitivity.
- Communicate a character's story to the audience, using a variety of drama techniques.
- The final piece uses more advanced drama techniques to create work that encourages the audience to think about a current issue.

Arrow Tasks: Considering the structure of the piece and its' impact on the audience.

Links to further resources: www.refugeecouncil.org.uk/truth

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Subject: English Year: 8

Topic: Reading Fiction – Exploration in Creative Reading

I need to know how to respond to two non-fiction texts. I need to know what to look for and how to analyse key words and techniques in a text. I also need to begin to think about comparing the text' themes and ideas.

Key Words

Alliteration: two words starting with the same sound
Implicit: suggested though not directly expressed
Simile: a comparison of two objects using like or as
Metaphor: a comparison of two objects which isn't literally true
Narrator: the character who recounts the events
Perspective: a particular point of view
Rule of three: a pattern used by writers

Big questions of the texts

- How do readers use titles and details to understand a story?
- How do readers identify sequence; compare; contrast?
- How do readers make inferences about the characters, events, and setting?
- How do readers figure out the message or perspective of the writer?
- How do readers understand more about a story depending on who narrates?
- What choices does a writer make to accomplish the purpose of the writing?

Key Skills

Identify and interpret information and ideas: select evidence from a text

Explain, comment on and analyse how writers use language and structure to achieve effects and influence readers, (using relevant subject terminology to support your views).

Evaluate texts critically and support this with appropriate textual references.

Read the question and start picking out what you need tfor your answer.

Aim for some perceptive details that aren't explicit – use your skills of inference.

Suggested activities:

- Read the question before you read the source so you know what you're looking for.
- Words and word classes, phrases, language features, language techniques, sentence forms
- Comment on the effect of language, making perceptive comments as to why the writer may have selected / used the language. (What is not there in black & white.)
- Select judicious quotes.

Links to further resources: https://www.bbc.co.uk/bitesize/subjects/zr9d7ty

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Subject: Ethics, Philosophy and World Views Year: 8 Autumn Term

Topic: Good and bad; right and wrong: How do I decide?

I need to know:

- How Humanists make decisions and apply this to moral dilemmas.
- Key terminology associated with moral issues.
- What the golden rule is and to explain the impact it could have on daily life.
- The Christian teachings on living the moral life.
- Islam and the morality and the act of giving
- The Five Moral precepts of Buddhism.

Key Words and Definitions (*Key concepts used in GCSE)

- **Ethics -** Involves questions of right and wrong. It is about following accepted rules of behaviour.
- **Morality*** - standards which determine whether something is right or wrong.
- **Relative Morality** - moral standards that are flexible depending upon the circumstances.
- **Absolute Morality** – morals standards are either right or wrong. They do not change despite circumstance. For example, stealing is always wrong.
- **Utilitarianism** – the belief that a good act is one that brings the greatest good for the greatest number.
- **Golden Rule** – The principle of treating others how you want to be treated.
- **Qur'an -** that which is read or recited'. It is the Divine book (the most important Muslim sacred text) revealed to the Prophet Muhammad: Allah's (God) final revelation to humankind.
- **Sunnah -** The second most important source of wisdom for Muslims. It contains the way Muhammad lived his life.
- **Hadith -** A book which contains the words and teachings of Muhammad. Muhammad was said to be kind, compassionate and have wisdom.
- **The Ten Commandments** – A list of commandments/rules form the Old Testament.
- **The Sermon on the Mount** – Jesus's most significant sermon giving guidance on how to live a moral life.
- **Buddha** – the 'enlightened one'.

Humanism

- Humanists do not believe in **God**
- They believe that **science** provides answers to life's big questions
- They believe that people should use logic and reason to make **decisions**
- Humanists will weigh up the amount of happiness and pain caused before deciding to do something.

'All human beings are born free and equal in dignity and rights.' The Universal Declaration of Human Rights.

Christianity and Morality

Many Christians follow the Ten Commandments. Today many Christian believers focus on the teachings of Jesus from the New Testament. Jesus said there were two greatest commandments… ***' Thou shalt love the Lord thy God with all thy heart, and with all thy soul, and with all thy mind. ... And the second is like unto it, Thou shalt love thy neighbour as thyself***. Matthew 22:36-39.

The Sermon on the Mount (Matthew 5-7) – This was Jesus' most famous sermon giving guidance to people on how live a moral life.

The Golden Rule

The Golden Rule is the principle of treating others as you want to be treated. It is a rule that is found in many religions and cultures.

'Do unto others as you would have them do unto you.' Matthew 7:1

Islam and Morality

- Any action that is morally good benefits society. Any action that is morally bad, does not benefit society.
- Muhammad said a person can reach the best levels in paradise by having a good moral character. To reach those levels a person has to be a good devout Muslim who keep the duties (such as the Five Pillars of Islam), but also follows a moral code which best them treat others with respect and kindness.
- Muslims follow virtues from the Islam moral code.

Buddhism and Morality

Many Buddhists follow the teachings of the Buddha. This includes the Middle Way which has three parts to it:

1. Wisdom – Buddhists need to recognise that everything changes, and things are interdependent.
2. Morality – the Buddhist moral code for living. See the Five precepts on the next page.
3. Mental training – usually meditation.

Arrow Tasks – You could enhance your learning by visiting one of the suggested websites on the next page. Evaluation question challenges – Can anyone be of good moral character all the time? 'Anyone can give to those less fortunate.' Do you agree?

Subject: Ethics, Philosophy and World Views Year: 8 Autumn Term

Topic: Good and bad; right and wrong: How do I decide?

The Ten Commandments

1. Thou shalt have no other gods before me.
2. Thou shalt not make unto thee any graven image.
3. Thou shalt not make the name of the Lord God in vain.
4. Remember the Sabbath day to keep it holy.
5. Honour thy father and thy mother.
6. Thou shalt not kill.
7. Thou shalt not commit adultery
8. Thou shalt not steal.
9. Thou shalt not bear false witness against thy neighbour.
10. Thou shalt not covert anything that belongs to thy neighbour.

Buddhists follow the teachings of the Buddha and try to behave in a way that affects their environment positively. This includes the Five Moral Precepts which gives guidance on living a moral life:

1. Do not harm any living being.
2. Do not steal.
3. Respect Each other.
4. Speak kindly of others
5. Avoid actions that are harmful to your body and mind.

Buddhists may also try to follow the Noble Eightfold Path (the Middle Way): Right understanding, right intention, right speech, right action, right livelihood, right effort, right concentration and right mindfulness.

The Virtues of the Muslim Moral Code

Respect , Charity, Honestly (telling the truth), Tolerance (accepting others as they are), Kindness, Justice, Forgiveness (moving on from a wrong someone has done you), Modestly and humility (Not being proud and arrogant), Decent speech (not hurting others by what you say), Trustworthiness (able to be relied upon), Patience (for example, not losing one's temper when delayed)

The Five Pillars of Islam

One of the ways Muslims might try to live a moral life is to follow the Five Pillars of Islam which are five special duties…

- Shahadah - Believing and saying the words - "There is no god except Allah, Muhammad is the messenger of Allah".
- Salat - Praying five times a day, in the correct way.
- Sawm - Not having anything to eat or drink during the month of Ramadan during daylight hours.
- Zakah - Giving 2.5% of their money to help the less fortunate.
- Hajj - This is making a pilgrimage to Makkah at least once in your life, if it can be afforded.

Muslims and the act of giving

- Not only do Muslims give for Zakah but they may also give through Khums. This is paid by Shi'a Muslims and is a 20% tax on business profits paid once a year. It is to be spent for the good of Allah. Sadaqah is voluntarily giving – more like charity. It doesn't have to be money but can also be time.

Links to further resources: https://www.youtube.com/watch?v=PDxKxnVZtgo https://www.youtube.com/watch?v=SbDUm9yzPwM https://humanists.uk/ https://www.youtube.com/watch?v=9tpL1K8ZqrU https://www.youtube.com/watch?v=Ze7w3-BL3OM https://www.truetube.co.uk/ - excellent clips linked to this topic!

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Subject: French

Year 8: Autumn Term 2

Topic: Paris, je t'adore! – Talking about what you can see and do in Paris

There will be more specific vocabulary.

This will be given to you by your class

I need to be able to: ask and give details about a visit to Paris

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 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) mon/ma/mes /ton/ta/tes

On peut + infinitive = you can..

On peut visiter les musées : *you can visit the museums*
On peut faire les magasins = *you can do some shopping*

J'aime + the infinitive: I like to….

J'aime **aller** au cinema : I like o go to the cine

J'aime **prendre** des photos:I like to take photos

Je **n**'aime **pas faire** les magasins: I don't like shopping

Key question words:

où: where

quand: when

qui: who

A quelle heure …: at what time

Est-ce qu'il y a..: is there…?

C'est combien? : how much is it?

Perfect tense of "er" verbs

You use the perfect tense to say **what you did** or **have done**.

To form the perfect tense, you use" avoir**" + past participle**

To form **the past participle**, **take off "er" and replace with "e"**

J'ai jou**é** =I played

Tu as regard**é** = you watched

Il/elle/on a ador**é** =he/she/we loved

Nous avons visit**é** = we visited

Vous avez mang**é** = you ate

Ils/elles ont ecout**é** = they listened

Key time markers

d'abord: first
ensuite: next
puis: then
après: afterwards
finalement: finally, lastly

Arrow Tasks: watch the videos of your choice from "Le Louvre" museum and write a summary. Did you find it interesting? Why? Would you like to visit the museum?

https://louvrekids.louvre.fr/tales/c/0

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

French	English
1 Qu'est-ce qu'on peut faire à Paris?	What can you do in Paris?
2 A Paris, on peut faire beaucoup de choses?	In Paris, you can do a lot of things!
3 On peut visiter les monuments , comme la Tour Eiffel et la Cathédrale Notre-Dame.	You can visit monuments like the Eiffel Tower or Notre-Dame.
4 On peut aussi aller à un match de foot.	We can also go to a football game.
5 J'adore aller au match du PSG!	I love to go to PSG games!
6 Le Samedi soir, je n'aime pas regarder la télé, c'est ennuyeux!	On Saturday night, I don't like to watch TV, it's boring!
7 Je prefere aller au cinema avec copains!	I prefer to go to the cinema with my friend!
8 Est-ce que tu veux visiter les Catacombes?	Do you want to visit the Catacomb?
9 Oui, c'est une super idée!	Yes, it's a great idea!
10 C'est ouvert a quelle heure?	What time does it open?
11 C'est ouvert de 10h a 18h.	It is open from 10 am to 8 pm
12 C'est combien, l'entrée?	How much does it cost to go in?.
13 C'est 4,50 euros pour les adultes et 3,80 euros pour les jeunes	It's 4.50 euros for adults et 3.80 euros for young people.
14 Est-ce qu'il y a une cafétéria?	Is there a café?.
15 Non, mais il y a un restaurant tout près!	No, but there is a restaurant near by.
16 Est-ce qu'il y a une boutique de souvenirs?	Is there a souvenir shop?
17 Non, il n'y a pas de boutique!	No, there is no shop!
18 As-tu déjà visité Paris?	Have you already visited Paris?
19 Oui, j'y suis allé l'année dernière pendant les grandes vacances.	Yes, I went there last year during the summer holidays.
20 Qu'est-ce que tu as visité?	What did you visit?

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Subject: Geography
Topic: Borders and Conflict

Year: 9 Spring 2

I need to know: In this topic, you will explore how borders between countries are decided and how they change over time. You will also investigate how these borders, and the resources found within them, can cause conflict between different countries or areas. You will have the opportunity to investigate conflicts in the UK and in other countries across different continents.

Key Words	Definitions
Physical geography	The earth's natural features and what our planet is like such as rivers, oceans, ecosystems and hazards.
Human geography	How and where people live, such as population, development and settlement.
Border	A boundary or outer edge of something.
Conflict	To disagree with someone or something. This can lead to arguments or fighting.
Resource	A resource is something that humans attach value to due to its usefulness.
Territory	A geographical area (space) that belongs to a particular group.
Physical map	A map showing landforms and natural features in an area.
Religion	A set of beliefs or ideals that a group follow.
Language	The words used and understood by a group of people. There are many different languages across the world.
Culture	Culture is a pattern of behaviour shared by a society, or group of people. Many different things make up a society's culture. These things include food, language, clothing, tools, music, arts, customs, beliefs, and religion.
Your teacher will give you any more key words that you learn about.	

Arrow Tasks:

These questions will be asked of you in lesson to help extend and further your understanding. Can you come up with some answers to these questions?

- Will Europe's borders change again in the future? Justify your decision.
- How might the factors that influence where borders are located also influence where people live?
- What might happen if a country does not have enough energy to meet its demand? How will it affect people and businesses?
- Suggest solutions to the conflict. What should each of the sides do? Is there a solution where everybody is happy?

Homework Tasks: These are some examples of homework tasks you might get for this topic to help develop your geographical skills. Your teacher will explain the tasks in more detail, especially if they give you one not listed here.

- Research a 'local' conflict – a conflict in a small area. Is there any 'conflicts' happening where we live?

Subject: Geography
Topic: Borders and Conflict

Year: 9 Spring 2

Borders

Borders are everywhere! Whether you are thinking about the border around countries, counties or towns, they all look very different. What borders do you know?

Physical and Human Geography

These are the two types of geography you have studied so far and will continue to do so in this unit. You will explore how the borders of Europe have changed over time. Are the borders there because of physical features or because of human decision?

Conflict

In geography, we look at conflict by studying the how disagreements might happen over the use of space. This could be disagreement over how to use land or resources, over government powers and over territory. Conflicts can happen at different scales:

- Local
- National
- Global

Conflict over Energy

What would happen if the lights went out?
Not just the lights… all the energy to power our homes, cars and businesses?

Russia supplies lots of countries in Europe with gas by a series of pipelines through Ukraine. This helps to power our homes and businesses. What could happen to the supply of energy to Europe if tensions between Russia and Ukraine build?

Conflict over Water

How has the building and filling of a reservoir in Africa led to conflict?

The Grand Renaissance Dam has been built in Ethiopia, who want to begin producing Hydro Electric Power (HEP) to help develop their country. Egypt needs the water supply to maintain agriculture and livelihoods in its own country. You will explore the issues around this and come to a decision… Should Ethiopia be allowed to construct and fill up the reservoir?

Links to Further Resources

World Atlas https://www.worldatlas.com/
Europe's changing borders
http://news.bbc.co.uk/1/shared/spl/hi/europe/02/euro_borders/html/
Russia and Ukraine
https://www.cfr.org/global-conflict-tracker/conflict/conflict-ukraine
The Grand Ethiopain Renaissance Dam
https://www.bbc.co.uk/news/topics/cyz5g9xez7mt/river-nile-dam-dispute
World Conflict Tracker
https://www.cfr.org/global-conflict-tracker/?category=us

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Subject: History Year: 8 Autumn Term 2

Topic: Civil War and Cromwell

I need to know: In 1642 the English Civil War began. King Charles I and Parliament fought for control of the country and there was a series of battles. In the end Parliament won and Charles I was executed. Oliver Cromwell then ruled the country as Lord Protector and life was very strict.

Key Words	Definitions
Civil War	A war between 2 sides from the same country
Charles I	King of England during the Civil War
Oliver Cromwell	Led Parliament's army against Charles I
Cavalier	Nickname of a member of the King's army
Roundhead	Nickname of a member of Parliament's army
New Model Army	Newly trained, organised version of Parliament's army
Divine Right of Kings	Belief that the King has been given his power by God and no-one can challenge him
Tax	Money paid by the people to help the King run the country
Ship Tax	A tax that Charles enforced to pay for the upkeep of the navy but used it too much
Parliament	Building where the government meets to run the country
Grand Remonstrance	A list of criticisms of the King produced by Parliament
Edgehill	First battle of the English Civil War in October 1642
Lord Protector	Title taken by Oliver Cromwell when he took over running the country
Puritan	A very strict Protestant
Drogheda	Town in Ireland where Cromwell's army killed innocent men, women and children

Oliver Cromwell

Leader of Parliament's Army

A 'Roundhead'

(Parliament Army)

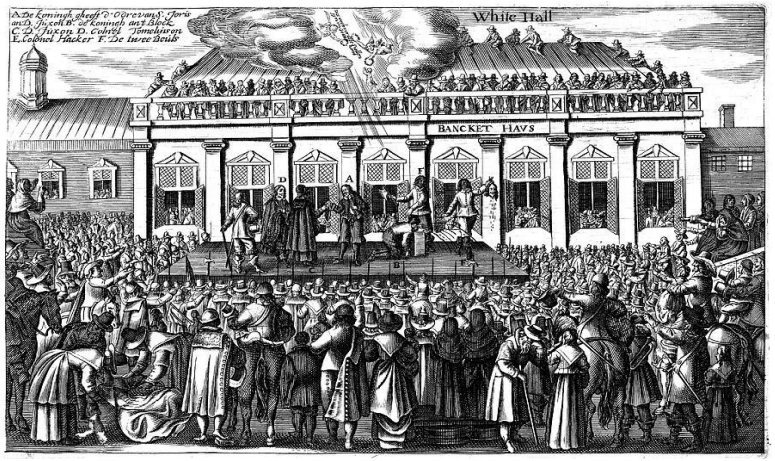
King Charles I

Two 'Cavaliers'

(King's Army)

The execution of King Charles I

30 January 1649



Arrow Tasks: Could the Civil War have been avoided?

What would you have done with King Charles in 1949?

Links to further resources: https://www.bbc.com/bitesize/topics/zk4cwmn/resources/1

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Subject: Computing

Year: 8 – Autumn term 1 and 2

Topic: Computer Systems

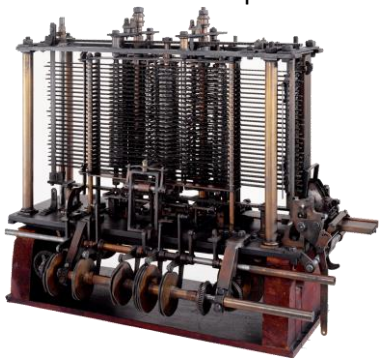
I need to know: the different layers of computing systems: from programs and the operating system, to the physical components that store and execute these programs, to the fundamental binary building blocks that these components consist of. You will also learn about artificial intelligence and open source software.

The Antikythera mechanism

- It was retrieved in 1900 from a Roman shipwreck off the coast of Antikythera island.
- It was constructed in the 1st or 2nd century BC.
- We now know that it was a complex geared mechanism that could predict solar eclipses, as well as the position of the moon and known planets.


Babbage's Analytical Engine

- Babbage (1837) conceived of a programmable machine that would perform calculations, as specified by instructions on punched cards.



Modern computers

- Receive an input , processes it, produces output
- General-purpose: designed to automate any process, as specified by a program
- The data and instructions to be performed can be stored in memory .

Your software

You use programs for every task that you perform on your computer.

- The word **software** simply means **programs**.

The **physical components** of a computing system are called **hardware**. Hardware is any component of a computing system that you can touch

- Processor
- Memory
- Storage
- Graphics processor
- Connections

The **storage** (secondary memory) is the set of components that **stores** programs and data. Storage is **persistent**: it retains its contents when the power is off.

- Hard disk drives (HDD)
- Solid-state drives (SSD)
- USB flash drives
- USB sticks
- SD cards

Subject: Computing

Year: 8 – Autumn term 1 and 2

Topic: Computer Systems

The **main memory** is the component that **stores** the programs and data **currently in use**. Memory is **volatile**: its contents are lost when the power is off.

Terminology: The main memory is commonly referred to as **RAM** (random-access memory).

- This is what the main memory looks like in desktops and laptops.
- Sometimes, memory is integrated with other components, rather than being a separate component.

The **processor** is the component that **executes** program instructions.

An instruction may:

- Perform arithmetic or logic operations on data
- Perform input/output of data
- Control program flow

Terminology: Commonly referred to as the **CPU** (central processing unit).

- This is what the processor looks like in desktops and laptops.
- Sometimes, the processor is integrated with other components, rather than being a separate component.

How it works with other components

- Instructions are **fetched** one by one from memory into the processor, along with any required data.
- The processor **decodes** and **executes** each instruction.
- Any resulting data is moved into memory.

The **operating system** is a set of programs that controls the operation* of a computing system.

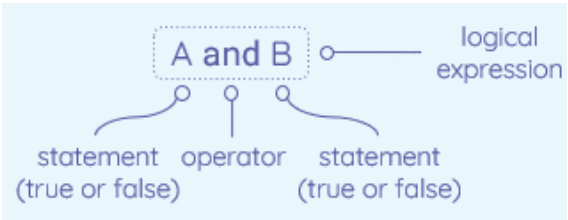
- Program execution
- Memory management
- File system organisation
- Input and output
- Communication
- Graphical user interface

Windows Mac

There are three fundamental logical operations:

- not (inversion)
- and (conjunction)
- or (disjunction)

Logical operations operate on statements that are **true** or **false**.



What is **artificial intelligence**?

- Any machine that performs tasks that typically require intelligence in humans

Applications of AI	Moral considerations
Self-driving cars	Who is responsible in an accident? (Accountability)
Medical diagnosis	How can decisions be explained? (Transparency)
Banking Detecting fraud Approving loan & mortgage applications	How can we guarantee that machine training does not lead to discrimination? (Bias) How can decisions be explained? (Transparency)
Automation Performing tasks instead of humans	How will humans handle lower demand for labour? How will the benefits of AI be fairly distributed?

Arrow Tasks: AI Experiments with Google (experiments.withgoogle.com/collection/ai) is an impressive showcase of AI projects that you can explore. Make sure you check out Quick, Draw! (quickdraw.withgoogle.com), which is very well known.

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Subject: Mathematics Year: 8 Autumn 2 Topic: Proportional Reasoning – Multiplying & Dividing Fractions

What do I need to be able to do?

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

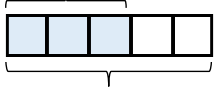
- Carry out any multiplication or division using fractions and integers.
- Solutions can be modelled, described and reasoned

Representing a fraction

Numerator
Denominator

$\frac{3}{5}$

Number of parts represented
Numerator



Number of parts to make up the whole
Denominator

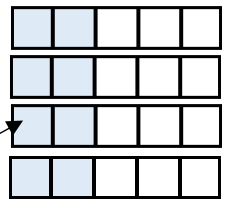
ALL PARTS of a fraction are of equal size

Repeated addition = multiplication by an integer

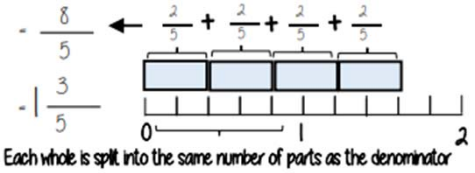
$4 \times \frac{2}{5} \rightarrow \frac{2}{5} + \frac{2}{5} + \frac{2}{5} + \frac{2}{5}$

Integer (Whole number)

Each part represents $\frac{1}{5}$



Revisit
When adding fractions with the same denominator = add the numerators



Each whole is split into the same number of parts as the denominator

Keywords

Numerator : the number above the line on a fraction. The top number. Represents how many parts are taken

Denominator: the number below the line on a fraction. The number represent the total number of parts..

Whole: a positive number including zero without any decimal or fractional parts.

Commutative: an operation is commutative if changing the order does not change the result.

Unit Fraction: a fraction where the numerator is one and denominator a positive integer.

Non-unit Fraction: a fraction where the numerator is larger than one.

Dividend: the amount you want to divide up.

Divisor: the number that divides another number.

Quotient: the answer after we divide one number by another. e.g. dividend÷ divisor = quotient

Reciprocal: a pair of numbers that multiply together to give 1.

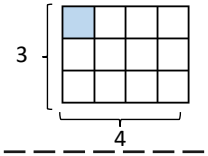
Multiplying unit fractions

$\frac{1}{4} \times \frac{1}{3} = \frac{1}{12}$

Parts shaded

Total number of parts in the diagram

Modelled:



Multiplying non-unit fractions

Shade in 3 parts

Repeat it on this many rows

$\frac{3}{4} \times \frac{2}{3}$

This many columns

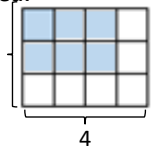
This many rows

$\frac{3}{4} \times \frac{2}{3} = \frac{6}{12}$

Parts shaded

Total number of parts in the diagram

Modelled:



Quick Multiplying and Cancelling down

$\frac{\cancel{3}^{1}}{5} \times \frac{4}{\cancel{9}_{3}}$

The 3 and the 9 have a common factor and can be simplified

Quick Solving
Multiply the numerators
Multiply the denominators

$\frac{1 \times 4}{5 \times 3} = \frac{4}{15}$

The reciprocal

When you multiply a number by its reciprocal the answer is always 1

$3 \times \frac{1}{3} = 1$

$\frac{1}{3} + \frac{1}{3} + \frac{1}{3} = 1$

The reciprocal of 3 is $\frac{1}{3}$ and vice versa

Reciprocals for division

e.g $5 \div \frac{1}{4} = 20$

$5 \times 4 = 20$

Multiplying by a reciprocal gives the same outcome

Dividing an integer by an unit fraction

$1 \div \frac{1}{4} = 4$

How many quarters are in 1?

"There are **4 quarters** in **1 whole.** Therefore, there are **20 quarters** in **5 wholes**"

$5 \div \frac{1}{4} = 20$

Dividing any fractions

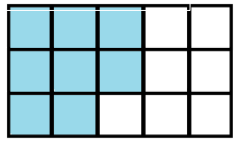
Remember to use reciprocals

$\frac{2}{5} \div \frac{3}{4}$

$\frac{2}{5} \times \frac{4}{3}$

Multiplying by a reciprocal gives the same outcome

Represented



$= \frac{8}{15}$

Subject: Mathematics Year: 8 Autumn 2 Topic: Representations – Working in the Cartesian Plane

What do I need to be able to do?

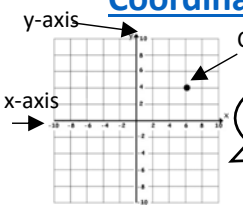
By the end of this unit you should be able to:

- Label and identify lines parallel to the axes
- Recognise and use basic straight lines
- Identify positive and negative gradients
- Link linear graphs to sequences
- Plot y = mx + c graphs

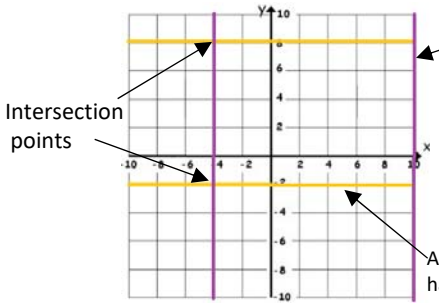
Keywords

Quadrant: four quarters of the coordinate plane.
Coordinate: a set of values that show an exact position.
Horizontal: a straight line from left to right (parallel to the x axis)
Vertical: a straight line from top to bottom (parallel to the y axis)
Origin: (0,0) on a graph. The point the two axes cross
Parallel: Lines that never meet
Gradient: The steepness of a line
y-Intercept: The point where a line or curve crosses the y-axis of a graph.

Coordinates in four quadrants



Lines parallel to the axes



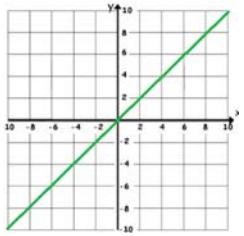
'a' can be ANY positive or negative value including 0

Lines parallel to the **y axis** take the form **x = a** and are **vertical**

Lines parallel to the **x axis** take the form **y = a** and are **horizontal**

e.g. (3, -2) (7, -2) (-2, -2) all lay on this line because the y coordinate is -2

Recognise and use the line y=x



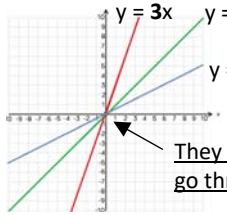
This means the x and the y coordinate have the same value

Examples of coordinates on this line: (0, 0) (-3, -3) (8, 8)

The axes **scale is important** – if the scale is the same y = x will be a straight line at 45⁰

Recognise and use the lines y=kx

The value of **k** changes the steepness of the line

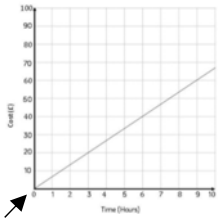


Note: y =x is the same as y=**1**x

The bigger the value of k the **steeper** the line will be.

The closer to 0 the value of k the closer the line will be to the x axis.

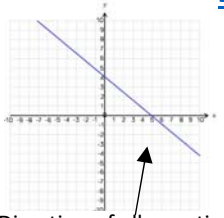
Direct Proportion using y=kx



The line must be straight to be directly proportional – variables increase at the same rate **k**

Direct proportion graphs always start at (0,0) as they are describing relationships between two variables

Lines with negative gradients

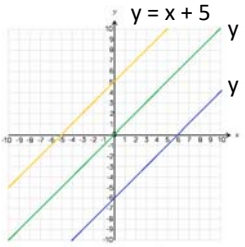


Any straight-line graph with a negative x value has a negative gradient.

E.g. y = -2x
y = -x y + x = 12

Direction of all negative gradients

Lines in the form y = x + a



All the lines are **parallel** because the gradients are the same

y = x + a

This is the line y=x when the y and x coordinate are the same

This shows the translation of that line.

e.g. y = x + 5
Is the line y=x moved 5 places up the graph

5 has been added to each of the x coordinates

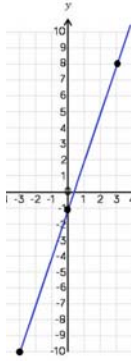
Plotting y = mx + c graphs

$y = 3x - 1$ → 3 x the x coordinate then – 1

x	-3	0	3
y	-10	-1	8

Draw a table to display this information

This represents a coordinate pair (-3, -10)



You only need two points to form a straight line

Plotting more points helps you decide if your calculations are correct (if they do make a straight line)

Remember to join the points to make a line

Subject: Mathematics | Year: 8 Autumn 2 | Topic: Representing Data

What do I need to be able to do?

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

- Draw and interpret scatter graphs
- Describe correlation and relationships.
- Identify different types of non-linear relationships.
- Design and complete an ungrouped frequency table.
- Read and interpret grouped tables (discrete and continuous data)
- Represent data in two way tables.

Keywords

Variable: a quantity that may change within the context of the problem.
Relationship: the link between two variables (items). E.g. Between sunny days and ice cream sales
Correlation: the mathematical definition for the type of relationship..
Origin: where two axes meet on a graph.
Line of best fit: a straight line on a graph that represents the data on a scatter graph.
Outlier: a point that lies outside the trend of graph.
Quantitative: numerical data
Qualitative: descriptive information, colours, genders, names, emotions etc.
Continuous: quantitative data that has an infinite number of possible values within its range.
Discrete: quantitative or qualitative data that only takes certain values.
Frequency: the number of times a particular data value occurs.

Draw and interpret a scatter graph.

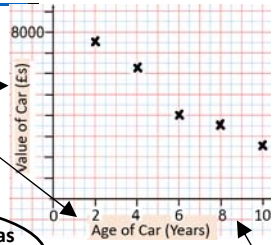
Age of Car (Years)	2	4	6	8	10
Value of Car (£s)	7500	6250	4000	3500	2500

- This data may not be given in size order
- The data forms information pairs for the scatter graph
- Not all data has a relationship

The link between the data can be explained verbally

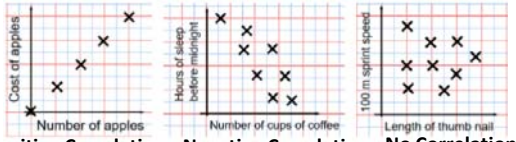
"This scatter graph show as the age of a car increases the value decreases"

All axes should be labelled



The axis should fit all the values on and be equally spread out

Linear Correlation



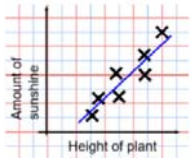
Positive Correlation — As one variable increases so does the other variable

Negative Correlation — As one variable increases the other variable decreases

No Correlation — There is no relationship between the two variables

The line of best fit

The Line of best fit is used to make estimates about the information in your scatter graph



Things to know:

- The line of best fit **DOES NOT** need to go through the origin (The point the axes cross)
- There should be approximately the same number of points above and below the line (It may not go through any points)
- The line extends across the whole graph

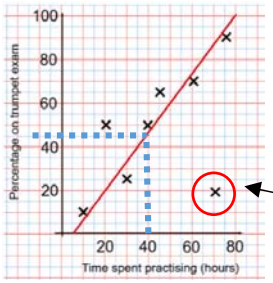
It is only an estimate because the line is designed to be an average representation of the data

It is always a **straight line.**

Using a line of best fit

Interpolation is using the line of best fit to estimate values inside our data point.

e.g. 40 hours revising predicts a percentage of 45.



Extrapolation is where we use our line of best fit to predict information outside of our data.
This is not always useful – in this example you cannot score more that 100%. So revising for longer can not be estimated

This point is an "**outlier**" It is an outlier because it doesn't fit this model and stands apart from the data

Ungrouped Data

The table shows the number of siblings students have. The answers were **3, 1, 2, 2, 0, 3, 4, 1, 1, 2, 0, 2**

The number of times an event happened

Number of siblings	Frequency
0	2
1	3
2	4
3	2
4	1

2 people had 0 siblings. This means there are 0 siblings to be counted here

0
3
2 + 2 + 2 + 2 OR 2 x 4 = **8** + 3 OR 3 x 2 = **6**
4

2 people have 3 siblings so there are 6 siblings in total

Best represented by discrete data. (Not always a number)

OVERALL there are 0 + 3 + 8 + 6 + 4 Siblings = 21 siblings

Grouped Data

If we have a large spread of data it is better to group it. This is so it is easier to look for a trend. Form groups of equal size to make comparison more valid and spread the groups out from the smallest to the largest value.

Discrete Data The groups do not overlap

Cost of TV (£)	Tally	Frequency
101 - 150	𝍸 ||	7
151 - 200	𝍸 𝍸 |	11
201 - 250	𝍸	5
251 - 300	|||	3

We do not know the exact value of each item in a group – so an estimate would be bused to calculate the overall total (Midpoint)

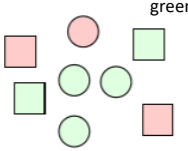
Continuous Data To make sure all values are included inequalities represent the subgroups

x Weight(g)	Frequency
$40 < x \leq 50$	1
$50 < x \leq 60$	3
$60 < x \leq 70$	5

e.g. this group includes every weight bigger that 60Kg, up to and including 70Kg.

Representing data in two-way tables

Two-way tables represent discrete information in a visual way that allows you to make conclusions, find probability or find totals of sub groups



There are 2 green squares

There are 5 green shapes

	Squares	Circles	Total
Green	2	3	5
Red	2	1	3
Total	4	4	8

There are 8 items in total

Using your two-way table

To find a fraction
e.g. What fraction of the items are red? **3 red items** but **8 items in total** = $\frac{3}{8}$

Interleaving: Use your fraction, decimal percentage equivalence knowledge

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Subject: Music Year: 8

Topic: Gamelan Music (Autumn Term 2)

I need to be able to: Create an authentic and 'layered' performance of Indonesian Gamelan Music using tuned percussion instruments. The performance will be well balanced, and an awareness of the cultural identity of the music will be observed.

Key Words	**Definitions**
Skeleton tune	The most basic melodic pattern
Texture	Thickness of sound
Kotekan	Playing fast interlocking parts
Development	Musical ideas are explored further

Skills – Team ethos, confidence. Awareness of cultural identity. Melodic and tonal appreciation. Layering and balance. Texture & Melody. Structure & Form. Melodic Ostinatii. Social Context. Independent Part-playing.

Arrow Tasks: Composing

Create an original Gamelan piece for group performance.

The gamelan ensemble is made up of xylophones, gongs, gong-chimes, drums and cymbals

Links to further resources:

www.music-research-inst.org/subs/im5_1/appendix/a3.htm

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Subject: Physical Education Year: 8

Concept: Attacking and Defending in Invasion Games

The big picture: Invasion games are team games in which we try to invade the other team's space. There are normally two teams, two goals and the idea is to outscore the opposition. In Year 8 we build on our prior attacking skills of keeping possession and creating space and scoring opportunities. We also build our defensive skills to apply pressure, deny space and win the ball back. We continue to develop strategies to outwit the opposition and collectively succeed .
Key Concepts: Attacking and Defending. The value of PE for Life and Physical Health.

Physical Literacy – Motor Competence

Motor Skills	Sport Specific Skills
Passing 	**Developing passing/handling skills to keep possession in attack/defence.** **Netball**-bounce pass, shoulder pass, chest pass, overhead pass. **Football**-short passes, long passes (lofted/along the ground), throw-ins. **Rugby** - Basic pass, spin pass, pop pass, offload, off-the-ground pass, one-handed pass, reverse pass, inside pass. **Hockey** – push pass, drive, slap (open/reverse).
Defensive skills 	**Developing defensive skills to prevent the opposition from scoring and win possession**. **Netball** – marking, shadowing, interception. **Football** - tackling, jockeying, blocking, interceptions, man marking, channelling. **Rugby** – front, side and rear tackle. Jackling, channelling. **Hockey** – Jab and block tackle, marking, interceptions, closing down.
Beating a player 	**To avoid the opposition, retain possession and create attacking opportunities.** **Netball –** dodging, ball handling while stationary/in the air. **Football** -close control (both feet), dribbling, range of turns. **Rugby**– side-step, dummy, feint, swerve, change of direction, hand off. **Hockey** – close control, Indian dribble, give and go.
Shooting 	**Developing long and short-range shooting/try scoring skills to create scoring opportunities.** **Netball** – stationary and stepping. **Football** – short and long range, first time. **Rugby** – grounding the ball, one/two hands. **Hockey** -open/reverse stick. Push, Slap,

Life Skills

Managing Emotions
Try your hardest but remember that sport should be fun. Be considerate to others in victory and respectful and kind in defeat

Respect
Paying attention to and showing care to teammates, opponents and referees.

Supporting and encouraging
Helping each other feel good and perform well.

Teamwork + Cooperation
Working together and helping others so that they can succeed.

Physical Literacy – Knowledge of rules, strategies and tactics

Key Rules

Netball – Start the game with a centre pass. A player is offside if they move into an area of the court not designated for their position. Any infringement results in a penalty pass or shot. Netball is played by a team of 7. Positions are GK, GD, WD, C, WA, GA, GS. You cannot replay a ball.
Hockey – For a free hit your opponent must be 5m and you can self-pass. Ball out of play over the side = side-line pass, ball out of play by the defence over the backline =long corner, ball out of play by the attackers over the backline = 16yd hit. Starting the game – centre pass in any direction. There is no offside.
Football- A foul results in a free kick. If the ball goes off the side-line it is a throw in. If the ball is put out of play by the defence over the backline = corner, if the ball is put out of play by the attackers over the backline = Goal kick. The game starts with a kick-off. Offside there must be a defender between an attacker and the GK.
Rugby – To start the game there is a drop kick. If a player passes the ball forward or knocks it forward a scrum is awarded. If the ball goes off the side-line it is either a line-out or a quick throw in. Advantage is usually played for most offences. A player is offside if they are in front of their teammate with the ball.

Strategies common to all invasion games.

Winning and keeping possession of the ball.

Creating space and moving into space.

Creating scoring chances.

Prevent the opposition from scoring by denying space + applying pressure.

Health and Wellbeing

Invasion games promote many different areas of fitness that keep us healthy and are needed in everyday life. Physical components of fitness include **speed, strength, power, cardiovascular endurance, muscular endurance and flexibility**. **Strength** is the ability to do things that demand physical effort, like breaking through a tackle in rugby. **Speed** is how quickly you can move, for example beating your opponent to the ball. **Power** is the combination of speed and strength for example shooting from distance in football. **Muscular Endurance** is the ability of a muscle to exert force repetitively, over time, like when a rugby player makes repeated tackles**. Cardiovascular endurance** is how well you can do exercises that involve your whole body for an extended time, like keeping up with play for the whole of a netball game. **Flexibility is t**he range of motion in a joint that allows you to stretch for things, for example making a jab tackle in hockey.

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Subject: Science Year: 8 Autumn Term 2

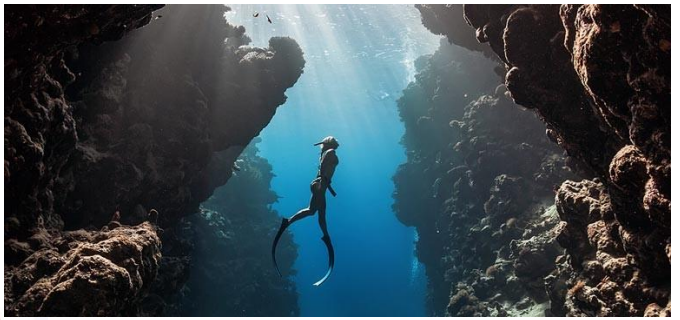
Topic: Breathing

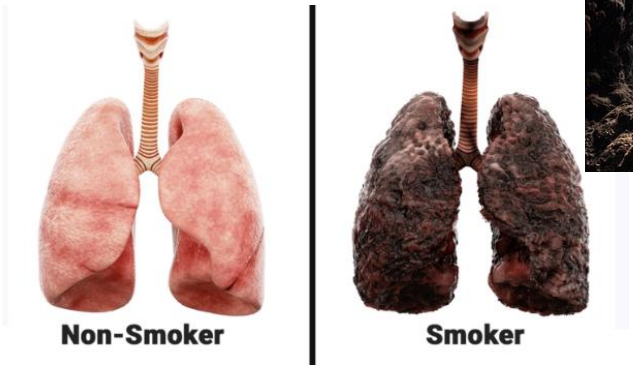
I need to be able to: Investigate a claim linking height to lung volume

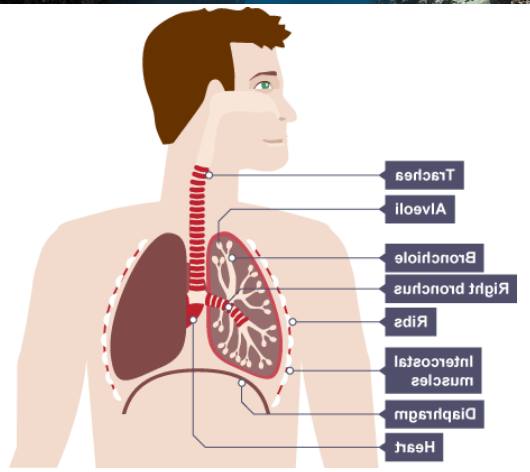
Key Words	Definitions
Breathing:	The movement of air in and out of the lungs.
Trachea (windpipe):	Carries air from the mouth and nose to the lungs
Bronchi:	Two tubes which carry air to the lungs.
Bronchioles:.	Small tubes in the lung
Alveoli:	Small air sacs found at the end of each bronchiole
Ribs:	Bones which surround the lungs to form the ribcage
Diaphragm:	A sheet of muscle found underneath the lungs
Lung volume:	Measure of the amount of air breathed in or out

Why does it matter?

In gas exchange, oxygen and carbon dioxide move between alveoli and the blood. Oxygen is transported to cells for aerobic respiration and carbon dioxide, a waste product of respiration, is removed from the body. Breathing occurs through the action of muscles in the ribcage and diaphragm. The amount of oxygen required by body cells determines the rate of breathing..







Explain how exercise, smoking and asthma affect the gas exchange system.
Explain how the parts of the gas exchange system are adapted to their function.
Explain observations about changes to breathing rate and volume.
Explain how changes in volume and pressure inside the chest move gases in and out of the lungs.

↑Arrow Tasks: Evaluate a possible treatment for a lung disease.
Predict how a change in the gas exchange system could affect other processes in the body.
Evaluate a model for showing the mechanism of breathing.
Explain how freedivers and sperm whales are similar and how they are different.

Links to further resources: https://www.youtube.com/watch?v=gEUu-A2wfSE
https://www.youtube.com/watch?v=bHZsvBdUC2I

"Why does it matter?" https://www.youtube.com/watch?v=X7roaf8kckM

Subject: Science Year: 8 Autumn Term 2

Topic: Electromagnets

I need to be able to: Investigate ways of varying strength of an electromagnet

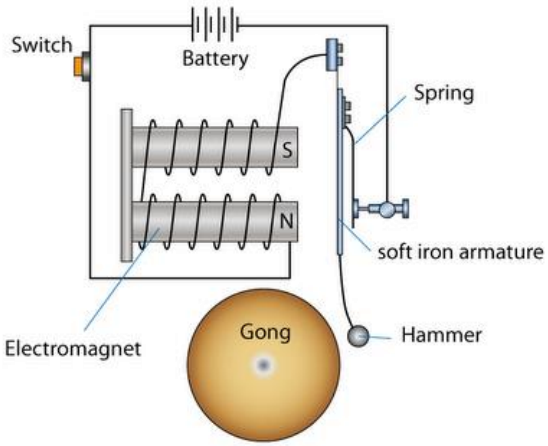
Key Words	Definitions
Electromagnet	A non-permanent magnet turned on and off by controlling the current through it.
Solenoid	Wire wound into a tight coil, part of an electromagnet.
Core	Soft iron metal which the solenoid is wrapped around.

Why does it matter?

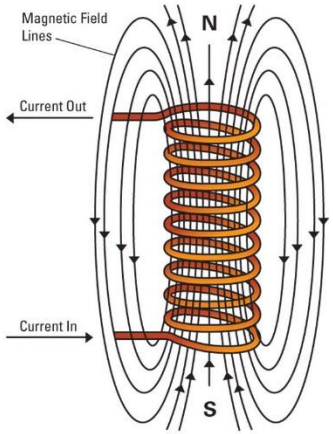
Research the industrial and medical uses of electromagnets.

Electromagnets are widely used as components of other electrical devices such as:

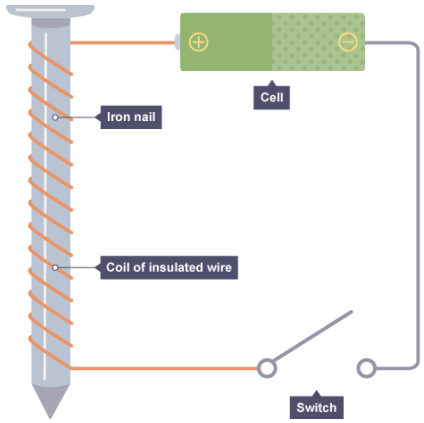
- motors,
- generators,
- relays,
- loudspeakers,
- hard disks,
- MRI machines,
- scientific instruments,
- and magnetic separation equipment

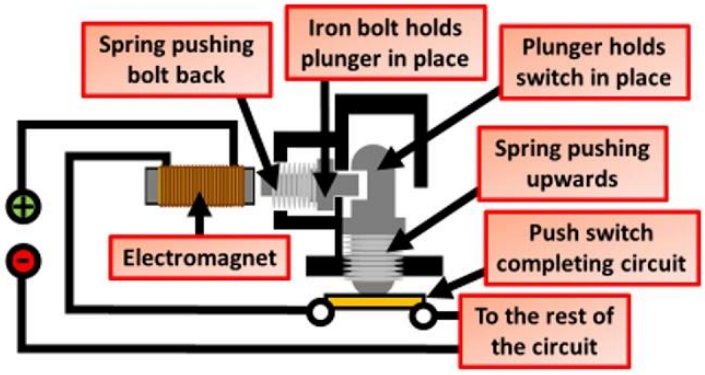


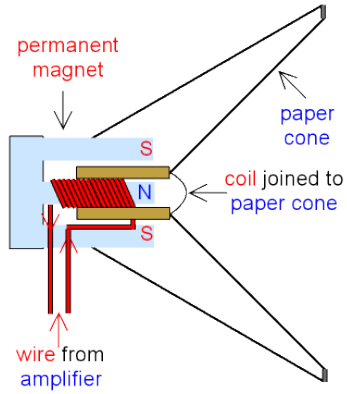
Solenoid



Electromagnet







↑Arrow Tasks:
Critique the design of a device using an electromagnet and suggest improvements.

Suggest how bells, circuit breakers and loudspeakers work, from diagrams

Links to further resources: https://www.bbc.com/bitesize/guides/z3g8d2p/revision/4
https://sciencing.com/two-electromagnet-over-permanent-magnet-8208293.html

Subject: Science

Year: 8 Autumn Term 2

Topic: Magnetism

I need to be able to: Explore the magnetic field pattern around different types or combinations of magnets

Key Words	Definitions
Magnetic force	Non-contact force from a magnet on a magnetic material.
Permanent magnet	An object that is magnetic all of the time.
Magnetic poles	The ends of a magnetic field, called north-seeking (N) and south-seeking poles (S).

Why does it matter?

The Earth has its own magnetic field. Research the effects of this magnetic field to us on Earth and how we can use it.

Why is the Earth's magnetic field moving?

Bar magnets

Most materials are not **magnetic**, but some are. A magnetic material can be magnetised or will be attracted to a magnet. These metals are magnetic:

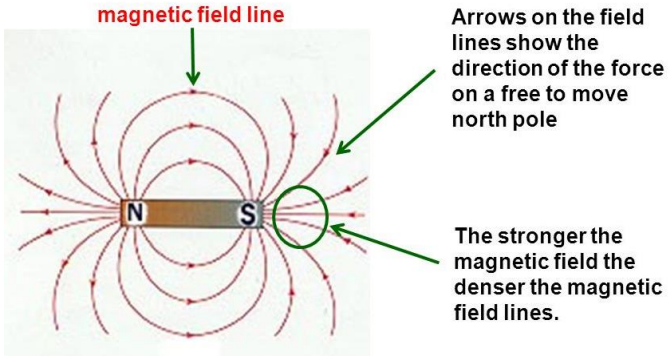
- iron
- cobalt
- nickel

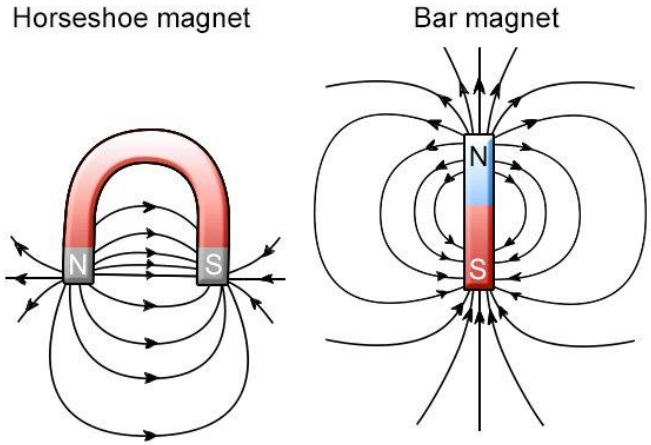
Steel is mostly iron, so steel is magnetic too.

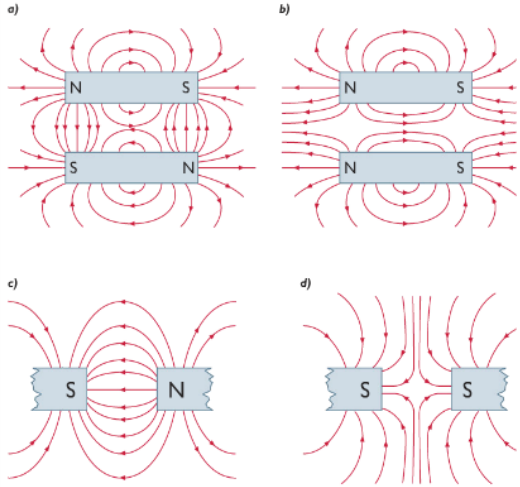
A bar magnet is a **permanent magnet**. This means that its magnetism is there all the time and cannot be turned on or off. A bar magnet has two magnetic poles:

- **north pole** (or north-seeking pole)
- **south pole** (or south-seeking pole)

Magnetic field around a bar magnet







↑Arrow Tasks:
Predict the pattern of field lines and the force around two magnets placed near each other.

Predict how an object made of a magnetic material will behave if placed in or rolled through a magnetic field.

Links to further resources: https://www.bbc.com/bitesize/guides/z3g8d2p/revision/1
https://www.educationquizzes.com/ks3/science/magnets-01/
"Why does it matter?" https://www.livescience.com/64930-earths-magenetic-field.html

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Subject: Spanish Year: 8 Autumn Term 2

Topic: Todo sobre mi vida.

I need to be able to: Talk about your opinions on media. Using the present tense and the preterite (a past) tense together.

Key Words	Definitions
Verb Infinitive	Words which tell you the action Original form of verb ending in –ar,-er,-ir
Subject pronouns	Words that tell you who is doing the action.
Noun	A place, person or a thing.
Gender	In Spanish, nouns and adjectives can be either masculine or feminine.
Adjective	Words which describe nouns. In Spanish adjectives are the same gender as the noun which they describe.
Definite article	'the'
Indefinite article	'a' 'some'
Singular	One
Plural	More than one
Positive phrase	'is', 'do' 'does
Negative phrase	'is not',' does not', 'don't', 'never'
Possessive adjectives	My (in Spanish, there are 2 forms; singular and plural – Mi /mis

Verb endings of regular -ar verbs

Escuchar

Escucho = I listen

Escuchas = you listen

Escucha = he/she listens

Escuchamos = we listen

Escucháis = You listen (pl)

Escuchan = they listen

Some irregular verbs in the preterite tense:

Bailé – I danced

Fui = I went

Hice = I did

Jugué = I played

Monté en bici = I rode my bike

Vi = I saw

Salí = I went out

There will be more specific vocabulary.

This will be given to you by your class teacher.

Wow phrases to use in speech and in writing

Para empezar = to begin with
Lo importante es = the important thing is …
Desgraciadamente = unfortunately
Para terminar … To conclude

Como si fuese lo único que importase' -as if it were the only thing that mattered

The gender of nouns.

All nouns which end in

-**a, -dad, -ión,** and **-ción** are feminine.

All nouns which end in

-**o, -or** and **-ón** are masculine.

Arrow Tasks: Find out about popular Spanish hobbies and past times. Why are they popular? Find out about typically Spanish sports and games. Prepare a short presentation, use Spanish and English.

https://www.bbc.co.uk/bitesize/topics/zfgt6v4/articles/z6vpqp3

Spanish	English
1 Muchas personas tienen móvil hoy en Día.	Lots of people have a mobile these days
2 ¿Qué haces con tu móvil por lo general?	What do you usually do with your mobile?
3 ¡Muchas cosas! Normalmente comparto mis fotos o descargo aplicaciones.	Lots of things! Normally I share photos or I download apps.
4 Nunca hablo por skype, a veces juego y mando textos, veo vídeos a menudo.	I never talk via Skype, sometimes I play games and I send texts, often I watch videos
5 Estoy de acuerdo, Skype no es muy bien pero leo SMS todos los días.	I agree, Skype is not very good but I read text messages everyday.
6 ¿Escuchas música de vez en cuando?	Do you listen to music from time to time?
7 Sí escucho música dos o tres veces a la semana	Yes I listen to music 2 or 3 times a week.
8 ¿Qué tipo de música prefieres?	What sort of music do you prefer?
9 A ver…prefiero el rap por la general, me gusta el rock y la música clásica también	Let's see…I prefer Rap in general, I like rock and classical music also.
10 Y tu…¿qué tipo de música escuchas?	And you…what type of music do you listen to?
11 No me gusta mucho escuchar música, prefiero ver la televisión.	I don't like to listen to music, I prefer to watch tv.
12 ¿Te gusta la música de Sam Smith?	Do you like Sam Smith's music?
13 Sí, escucho la música de Sam Smith de vez en cuando.	Yes, I listen to Sam Smith from time to time.
14 Yo, también, me gusta la letra y la melodía porque es guay	Me too, I like the lyrics and the tune because it is cool.
15 ¿Qué te gusta ver?	What do you like to watch?
16 Me gustan los programas de música y los documentales.	I like music programmes and documentaries.
17 El telediario es importante pero es aburrido, en mi opinión.	The news is important but it is boring, in my opinion.

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Subject: Design & Technology

Year: 8

Topic: Food

I need to be able to: understand how the functional properties (science) of ingredients affect the physical, and sensory qualities of a recipes . To ensure you can design a balance meal using ingredients to supply protein, carbohydrate, fat, vitamin and minerals. To ensure that you take into account your knowledge about diet related diseases.

Key word	Definition
Type 2 diabetes	A health problem when too much sugar is consumed on a regular basis.
Coronary heart disease	A health problem when too many calories or saturated fat is consumed on a regular basis.
Constipation, diverticular	A diet low in fibre can cause these dietary related diseases.
Obesity	A health problem when you are not eating too many calories for the amount of energy expended.
Shortening	Rubbing fat into flour prevents long chains of gluten forming resulting in a short crumbly pastry texture.
Proving	Time allowed for the yeast to breathe out carbon dioxide gas to make bread rise.
Glazing	To apply an egg and milk mixture to improve the appearance of a product (shiny brown surface).

Arrow Tasks -
* Explain how the ingredients are produced and link to the affect upon the environment. Are they sustainable? Could alternatives be used? Explain why. Try to link to environmental pollution, the effect of deforestation, use of fossil fuel to power or make the materials.

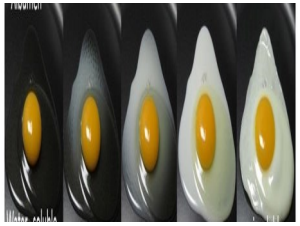
Rolling—To make a dough flat by rolling with a rolling pin.

Quality control—level and the thickness stated for the recipes.

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

Stir fry—to fry using a small amount of oil (healthy low fat cooking method. FIRE RISK

Quality control—slightly crunchy



Coagulation of egg—heat causes the amino acid protein bond to reform and go from liquid to solid.

Quality control—set structure

How to use industrial equipment correctly to reduce making time.

Quality control—smooth cake batter and creamy topping.

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Subject: Design Technology : Product Design

Year: 8

Topic: Treasure Box

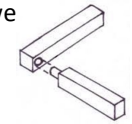
Liskeard School & Community College
achieving more together
DESIGN & TECHNOLOGY

I need to be able to:

- learn about the Art deco deign era and to show the influence of Art Deco style in designing the box lid.
- learn about CAD (computer aided design) and develop CAD skills through designing using 'Techsoft 2D design' software and learn about CAM (computer aided manufacture) as knowledge of how the laser cutter works affects the design stage.
- Develop practical skills with particular emphasis on detail and finish.

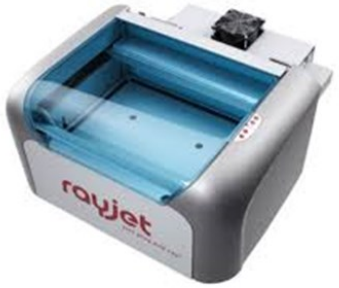
Stages of the Design Process:

Context Design Brief Task Analysis Research
Investigation Specification Design & Development
Making Testing Evaluation

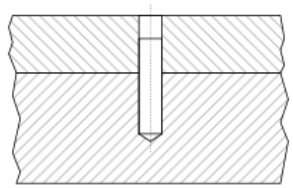
Key Words	Definitions
* Design process 	The steps a designer/maker goes through from identifying a problem and need for a product to its final making, testing and evaluating and improving.
* CAD 	Computer Aided Design is a vital tool for a Product Designer. CAD software allows a designer to quickly produce 3D images/ designs. The design can then be rotated, colour rendered and analysed/evaluated.
* CAM 	Computer Aided Manufacture: once a prototype design has been produced, it can be manufactured on a CNC machine or Rapid Prototyping machine. Products and components can be made repeatedly to the same high standard. CAM is much faster than machining by human control / by hand. Large quantities can be produced 24 hours a day, reducing the final cost/price.
* Dowe 	Dowel joints are used to strengthen a joint. It can also be made to swivel, allowing a lid to open and close on a horizontal plane.
* QCC 	Quality Control Checks are used in all areas of manufacturing to check quality against a set standard or a specification. In industry Quality Control requires constant inspection throughout the manufacturing process in order to detect prod- ucts which are not up to the required standard.

New materials, tools and equipment used in the treasure box project

Techsoft 2D design Software used to produce the surface design for the lid

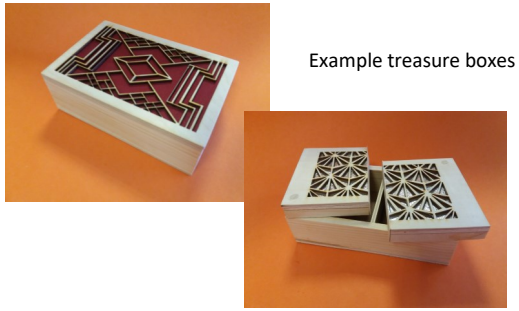


Rayjet 50 Laser engraver/cutter used to engrave and cut the lid design



The lid could open using a swivelling dowel joint

The treasure box design will be based on Art Deco—a design era that spanned from 1925—1950



Example treasure boxes

Arrow Task:

Design and make a wooden hinge.

Here is just one example...

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: 8

Topic: Eco Bag

Liskeard School & Community College
achieving more together
DESIGN & TECHNOLOGY

I need to be able to:

- understand the design process and the differences between man-made & natural fibres.
- identify the key features of Jasper Johns' work.
- demonstrate the importance of aesthetics within the designing and making process.
- develop practical hand sewing skills, and the use of the machines and equipment needed.

Who is Jasper Johns?

An American painter (born May 15, 1930). His style of work is often very **abstract** and **expressive**. Early pieces of his work were composed on a large scale, using simple graphics such as letters and numbers.



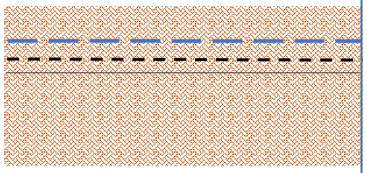
Arrow Task: Compare the environmental impact between a calico shopping bag, a rayon shopping bag and a nylon shopper.

Key Words	Definitions
* Stencil 	A thin sheet of card with letters cut out of it, used to produce the cut design on the surface below by sponging paint through the holes.
* Calico 	A strong, coarse fabric made from the jute plant.
* Natural fibres 	Fibres that have been produced by plants and animals. These fibres can be spun and then woven.
* Man-made fibres 	A type of fibre that is made artificially, such as polyester. These are often called 'synthetic'.

Stage 1

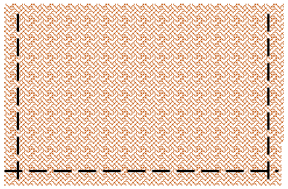
Firstly, get two pieces of calico and scrape paint on one side in the style of Jasper Johns and then stencil the lettering.

Stage 2



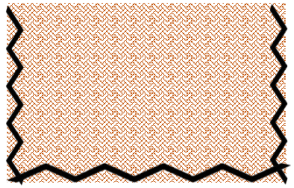
To create the top hem, fold the top of the bag 1.5cm and fold again. Then pin, tack and machine sew. Do this for the top of both panels.

Stage 3



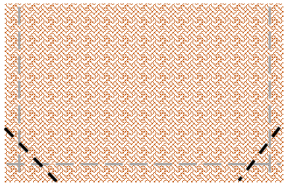
Then pin, tack and sew the two panels of the bag together, with the printed sides facing inwards.

Stage 4



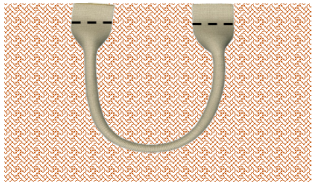
Using the sewing machine's zig zag setting, sew the sides and bottom of the fabric to stop it from fraying.

Stage 5



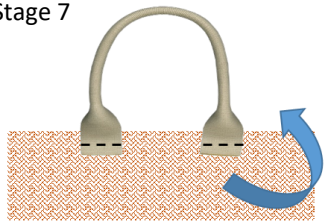
Pinch the two bottom corners and pull them to create a straight edge. Machine stitch along the straight line.

Stage 6



With the bag still inside out, sew the handle strap onto one side, in a downwards position. Then repeat on the other side of the bag.

Stage 7



Now turn the handles up the correct way and sew along the bottom so they are secure.

Stage 8

Turn the entire bag inside out so that the 'correct' side of the bag can be seen. Your Eco bag is now complete!

Links to further resources: https://www.bbc.com/bitesize/guides/zjc3rwx/revision/1

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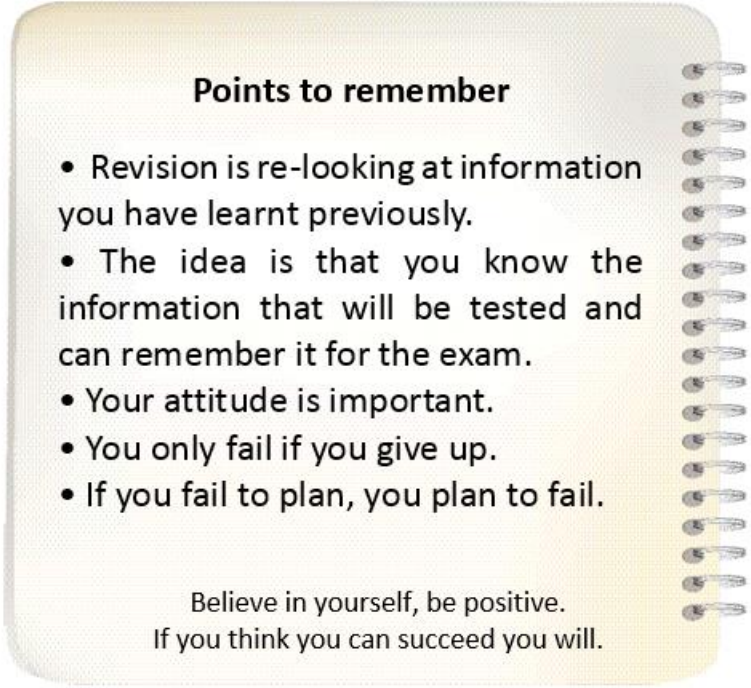
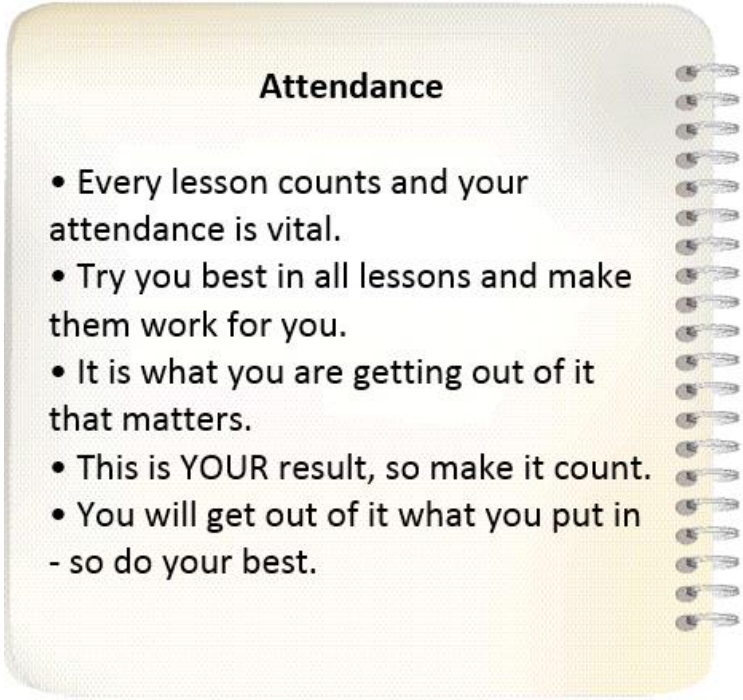
#Revise to succeed

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

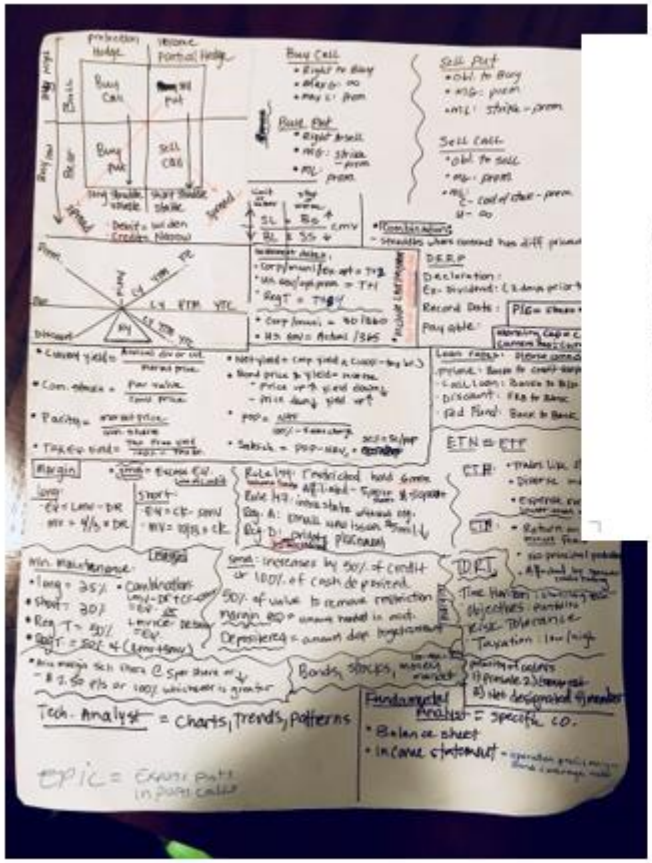
HOW:

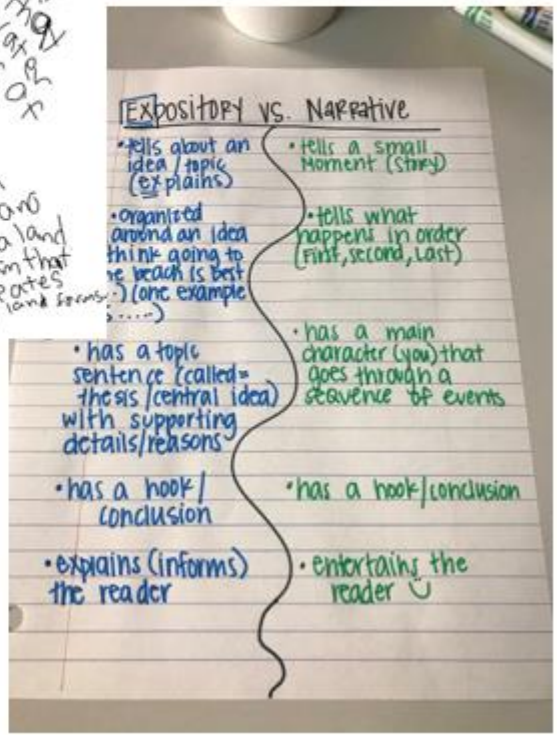
- Take a blank piece of paper
- Write down (DUMP!) everything you know about the topic
  - No books
  - No notes
  - Be as messy as you like
- Time limit of 60 seconds
- Now revise the topic (15 minutes)
- Finally, go back to your DUMP and add everything you have learnt
  - Use a different colour pen

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

#Revise to succeed

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!

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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.

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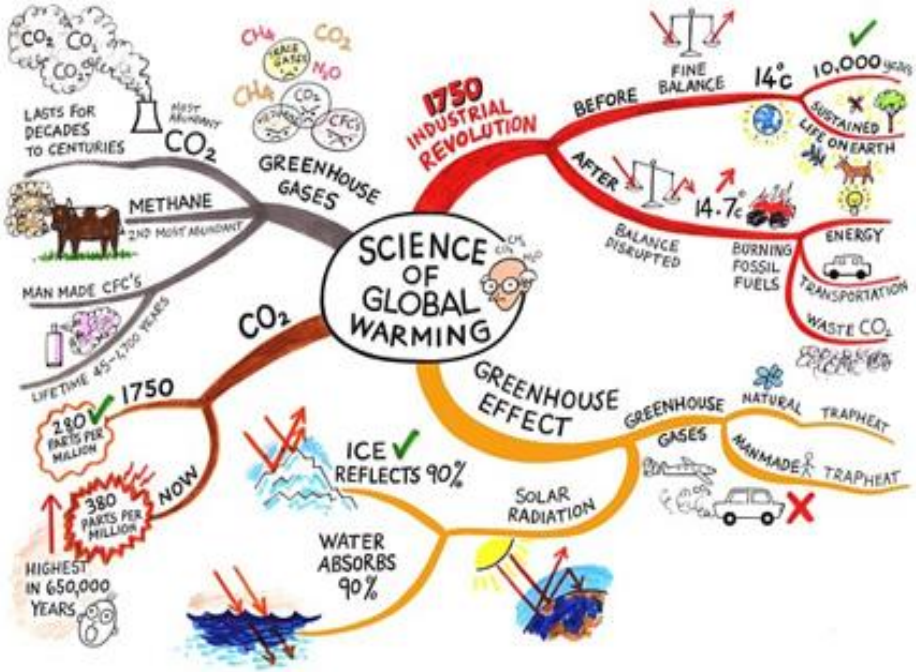
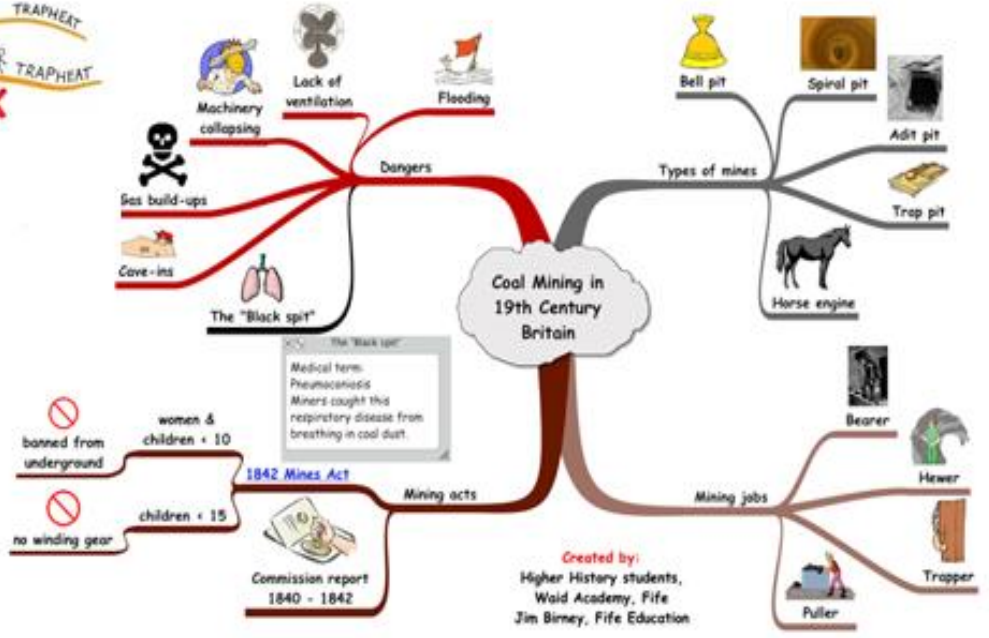
Examples of Mind Maps





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.

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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.

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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!

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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

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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!

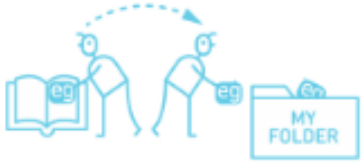
3. ELABORATE

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.

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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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