

# Year 7 Knowledge Organiser

## Summer Term (2) 2022

What you need to know!

## 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.

## Contents

Art  
Drama  
English  
Ethics, Philosophy and World Views  
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Technology: Product Design  
Technology: Textiles  
Transition groups only  
A guide to revision strategies

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

Topic: **Narrative, issues based artwork (2D or 3D).**

**I need to know:** How to think three dimensionally, draw, design and manipulate materials using skills and techniques to make three dimensional forms from 2D drawings.

Key Words	Definitions
Tone	<i>Black and white are the darkest and lightest tones. Mixing the two provide a range, or gradation, of tones from dark grey to light grey.</i>
Shades	<i>Mixing a small amount of black to a pure colour will make a shade.</i>
Tints	<i>Mixing a small amount of white to a pure colour will make a tint.</i>
Pigment	<i>A substance or compound that gives something a particular colour.</i>
Ground	<i>A ground or primer is the background surface on which you paint. It separates your painting from the supporting paper, canvas or board.</i>
Impasto	<i>The technique of applying paint or pigment thickly so that it stands out from a surface.</i>
Layering	<i>In technique, this simply means building up multiple layers of paint one on top of the other. In art theory it can also refer to layers of meaning.</i>
Weight	<i>The weight of a tone refers to its dominance within the composition or painting as a whole.</i>
Composition	<i>In the visual arts, composition is the arrangement of visual elements in a work of art. Space and silence are all important and can be seen and heard in music, writing and photography.</i>
Chiaroscuro	<i>Chiaroscuro, in art, is the use of strong contrasts between light and dark, usually bold contrasts affecting a whole composition. It is also a technical term used by artists for the use of contrasts of light to achieve a sense of volume in modelling three-dimensional objects.</i>
Line	<i>The application of line in drawing is complex. Often line is simply used to outline shapes; however, the application of line is often underestimated. Try varying your quality of line, (dark / light / straight / curved / thick / thin...) to record the idea of weight and tension.</i>
Form	<i>In relation to art the term form has two meanings: it can refer to the three dimensional presence of the work – its physical nature; or within a work of art it can refer to the element of shape among the various elements that make up a work.</i>
Modelling	<i>Refers to the manipulation of plastic, malleable materials such as clay.</i>
Joining	<i>Refers to the connection of flat, two dimensional surfaces to give the appearance of a three dimensional form. See examples opposite.</i>
Construction	<i>Refers to the complexity of a variety of methods coming together to create a three dimensional form.</i>
Low Relief	<i>Low Relief refers sculptural elements that are on top of a flat surface, like the friezes on the Parthenon or carvings on the side of old buildings. Low relief means they barely stand out from the background, almost like it's carved just around the edges.</i>

**Arrow Tasks:** Compare and reflect upon the work of Picasso, Rivera, Wyndham Lewis, and Piper. All of these artists have been heavily influenced by the experience of conflict. Consider the way visual grammar of line, shape, colour, tone, texture have been used to convey the horrors of war.

Links to further resources: <https://www.museoreinasofia.es/en/collection/artwork/guernica>



[Pablo Picasso](#). 1937. Guernica. 349.3 cm × 776.6 cm



Student work: Card mural construction



Student work: Card construction



[https://www.ted.com/talks/iseult\\_gillespie\\_why\\_is\\_this\\_painting\\_so\\_shocking/transcript](https://www.ted.com/talks/iseult_gillespie_why_is_this_painting_so_shocking/transcript)



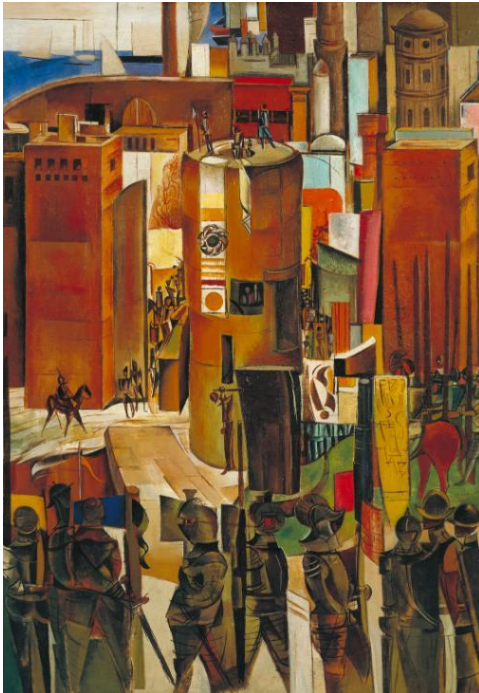
Topic: **Narrative, issues based artwork (2D or 3D).**



Diego Rivera. 1928. Distribution of Arms.



John Piper. 1942. All Saints Chapel.



Percy Wyndham Lewis 1934-7. The Surrender of Barcelona



Pablo Picasso

**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:** *Mixing tones and matching the tone to form. The application of tone to accentuate atmosphere. Using shape to describe symbolic relationships.*

**Contexts:** *History, reasoning, ideas, recognising genre and styles, culture, connections, representations of space...*

**Rules:** *Visual analysis, measuring, proportion, translation of 2D to 3D, experimentation, exploration of tonal values, compositions, adaptability ...*

**Audience:** *Personal, commercial, ethics, morals, age, empathy, critique...*

**Resolution:** *Secondary Sources, scale, representational, decisions, realism, style vs technique...*

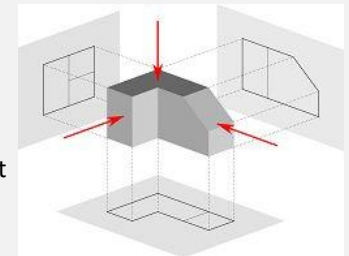
**Communication:** *Represent, truth, analyse, evaluate, talk, show...*

**Legacy:** *Material, pigment, permanence, honesty, heritage, culture, accuracy, pollution...*

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 **Independent Learning:** *Identify questions, research, explore issues, evaluate different perspectives, influences, reasoned arguments and evidence.*

**Further thinking (why does this matter?):**

On a functional level, it is important to us that we can visualise what a 3D object might look like from a 2D plan, side and front view. This simply helps us to make things in 3D.



On a more complex level, this helps us to translate information from 2D to 3D and vice versa; enabling us to perceive space and our relation to and in it. This enables the artist, designer or architect to be creative, improvise, and break the rules; whilst ensuring the construction will hold its own weight, remain safe and be exciting for those exploring its spaces and surfaces.

# Subject: Drama

Year: 7 Summer Term

## 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.



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

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.

## Topic: 'Refugee Boy' by Benjamin Zephaniah

I need to know some of the ideas associated with books written about non-fiction events. I need to be able to see how writers engage and entertain and be able to use some of those techniques in my own non-fiction writing.

### Key Words

- Refugee: a person who has been forced to leave their country in order to escape war, persecution, or natural disaster.
- Asylum: a place of shelter or safety. An asylum seeker is someone who has come to the country because it is a safe place for them, where their life will not be in danger.
- Ethiopia: Africa's oldest independent country and its second largest in terms of population.
- Eritrea: won independence from Ethiopia in 1993 after a 30-year war, but has been plagued by repression at home and tense relations with its neighbours.
- The Refugee Council: a UK based organisation which works with refugees and asylum seekers.
- Political asylum: the protection granted by a state to someone who has left their home country as a political refugee. The Home Office: a department of the Government which is responsible for immigration, security and law and order
- Persecution: hostility and ill-treatment, especially because of race or political or religious beliefs; oppression

### Key themes:

**War and conflict:** Alem is forced to become a refugee due to the war between Eritrea and Ethiopia. Whilst living in England, he encounters conflict every day and compares it to the war in Africa.

**Love:** Alem's parents love him and Mr Kelo leaves Alem in England to protect him from the dangers of war. Alem's friends and foster family also love him and protest against the decision to send him back to Ethiopia or Eritrea.

**Hope:** Alem continuously has hopes that peace will be declared between Ethiopia and Eritrea and that he will be able to return safely to Africa to live with his family.

**Injustice:** Alem is not welcome in either Ethiopia or Eritrea because he is mixed-race and is threatened at gun-point by soldiers who tell his family to leave. However, a judge (who has never been to either country) decides that it is safe for Alem to return. This leads to Alem's friends protesting against the decision.

**Isolation:** Alem is left alone in England at the beginning of the novel. Throughout the book, Alem is faced with isolation and loneliness and there are many barriers which make him feel like an outsider

### Key characters

- Alem: the protagonist of the novel. Alem is not safe in either Ethiopia or Eritrea because he is mixed-race.
- Mr Kelo: Alem's father. He is Ethiopian.
- Mrs Kelo: Alem's mother. She is Eritrean.
- Mr and Mrs Fitzgerald: Alem's foster parents.
- Ruth: Mr and Mrs Fitzgerald's daughter.
- Sheila: a social worker who supports Alem.
- Mariam and Pamela: they are from the refugee council. They help Alem to apply for asylum.
- Robert: Alem's friend from school. His real name is Roberto Fernandez.
- Sweeney: a bully from the care home.
- Stanley: a boy in the care home that shares a room with Alem. Mr Hardwick: the hotel manager who finds Alem alone.
- Nicholas Morgan: a barrister for Alem.
- Buck: one of the students from Alem's school.
- Asher: is a very friendly to Alem

### Big questions:

- Was Alem's father right to leave him in London? How do you think he felt doing it? What would you have done in that situation?
- How do you feel when people use language you do not understand?
- What is important to an average 14-year-old in the UK? What is important to Alem? Explain why Alem might feel differently?
- What have you learnt about the treatment of asylum seekers after reading this book?

### Suggested activities:

- Find out about the countries that refugees come from. What has happened in those countries that means people have to leave to live?
- How do the media represent asylum seekers in the UK? How would Alem react to the headlines?
- Write an imaginary letter to the government asking that Alem be given asylum in Britain, and explain why.

Links to further resources: [https://media.bloomsbury.com/rep/files/BenjaminZephania\\_readingGuide.pdf](https://media.bloomsbury.com/rep/files/BenjaminZephania_readingGuide.pdf)  
<https://www.bbc.co.uk/news/topics/cg41ylwvxmdt/refugees-and-asylum-seekers>  
<https://www.bbc.co.uk/bitesize/clips/zbrd2hv>



## Topic: 'Coraline' by Neil Gaiman

I need to know some of the ideas associated with fantasy fiction. I need to begin to understand how to analyse a piece of text for the language used and the structures applied to it by the writer. I need to understand how writers entertain, scare and enthrall their readers.

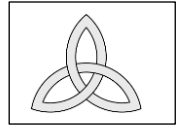
Key Words	Definitions	Big questions of the text	Key characters
Fantasy	The activity of imagining impossible or improbable things fiction based on imagined future scientific or technological advances and major social or environmental changes, frequently portraying space or time travel and life on other planets. an imagined state or society in which there is great suffering or injustice, typically one that is totalitarian or post-apocalyptic. be a warning or indication of (a future event). pull or twist out of shape a story, poem, or picture that can be interpreted to reveal a hidden meaning, typically a moral or political one. an instance of a wrong or misinterpreted perception of a	<ul style="list-style-type: none"><li>How does Coraline define bravery? In what ways does Coraline demonstrate bravery? What is your definition of bravery?</li><li>Do the mirrors Coraline encounters in the real world and the other world reflect reality or illusion? How do you know? What is the significance of mirrors in Coraline?</li><li>On page 120, Coraline says, "I don't want whatever I want. Nobody does. Not really. What kind of fun would it be if we just got everything we wanted? Just like that, and it didn't mean anything. What then?" Do you agree or disagree with her? How would you respond to her question?</li><li>What is courage?</li><li>How does Neil Gaiman use the features of a scary novel to entertain and interest his readers?</li><li>What kind of a novel is this? How do we know?</li></ul>	<ul style="list-style-type: none"><li><b>Coraline Jones</b> – The young explorer. She is curious, intelligent, resourceful, and courageous. Coraline is not afraid to face anyone; she is the most adventurous person in the book.</li></ul>
Science fiction			<ul style="list-style-type: none"><li><b>Mrs. Jones</b> – Coraline's mother. She is very busy most of the time, and sometimes a little inattentive, but she loves and cares about Coraline.</li></ul>
			<ul style="list-style-type: none"><li><b>Mr. Jones</b> – Coraline's father. He works at his house on the computer. He cares about Coraline very much and is kind, brave, and helpful.</li></ul>
			<ul style="list-style-type: none"><li><b>The Cat</b> – A black cat from Coraline's world. The cat acts as a mentor to Coraline and guides her through her journey.</li></ul>
			<ul style="list-style-type: none"><li><b>The Other Mother</b> – An evil witch, who created much of the Other World, and the primary antagonist of the novel. She looks similar to Coraline's real mother but taller and thinner. She cannot create, but only copy, twist and change things from the real objects.</li></ul>
Dystopia			<ul style="list-style-type: none"><li><b>The Other Father</b> – A creation of the Other Mother in the image of Mr. Jones, the Other Father is used to help trick Coraline into staying in the Other World.</li></ul>
			<ul style="list-style-type: none"><li><b>Miss Spink and Miss Forcible</b> – A pair of retired actresses who live in the flat under Coraline's.</li></ul>
			<ul style="list-style-type: none"><li><b>Mr. Bobo</b> – A retired circus performer living in the flat above Coraline's; he is commonly referred to as the Crazy Old Man Upstairs. mice to train, and doesn't listen to what he says to be messages from the mice.</li></ul>
Foreshadow			<ul style="list-style-type: none"><li><b>The three ghost children</b> – The spirits of three children who were previous victims of the Other Mother.</li></ul>
Distort		<div>Key themes</div> <ul style="list-style-type: none"><li>The Importance of Overcoming One's Fears.</li><li>Identity</li><li>The Potential of Imagination.</li><li>The Power of Choice.</li><li>Deception and Illusions.</li><li>The Harm of Manipulation.</li><li>The Truth about Family</li></ul>	
Allegory			
Illusion			

## Suggested activities:

- Find another fantasy, scary or sci-fi novel to read. How many of the same techniques and ideas does the author use?
- As you read any fiction, think about what the key words of the extract are: why have they been used and what effect do they have?
- What order do the events get revealed in a book – why does the author decide to reveal them like that? What difference would it make if they had revealed information in a different order?

Links to further resources: <https://www.neilgaiman.com/>  
<https://www.mousecircus.com/>  
<https://www.readbrightly.com/best-young-adult-fantasy-books/>





## Topic: If God is Trinity, what does that mean for Christians?

### I need to know:

- To explain what Christians mean by talking about God as Father, Son and Holy Spirit, using evidence from biblical texts.
- To understand how different biblical texts talk about God as Trinity and how these can be read.
- Make links between the concept of the Trinity and the roles and actions of God through the 'big story' of the Bible.
- To know how Christian communities might respond to the idea of God as Trinity.
- How Christians worship God as Trinity.
- What difference does belief in God as Trinity make for Christians?



### Key Words and Definitions:

- Apostles' Creed:** A statement of Christian belief about the nature of God.
- Ascension:**
- Gospels:** The word 'gospel' means good news. The term is also used to describe first four books of the Bible (Matthew, Mark, Luke and John) where we read about the life of Jesus.
- Holy Spirit:** Part of the Trinity that was sent to earth after Jesus ascended to heaven.
- Incarnation:** The way in which God becomes 'flesh' of human in the form of Jesus.
- Monotheism:** Belief in one true God.
- Omnibenevolent:** All-loving.
- Omnipotent:** All-powerful.
- Omniscient:** All-knowing.
- Paraclete:** Another term for the Holy Spirit.
- Resurrection:** when someone who is declared dead suddenly returns to life.
- Son:** Refers to Jesus as a person of the Trinity.
- Trinity:** The three persons of God: God the Father, Son and Holy Spirit

### God as Trinity

Christians are monotheists which means they believe in one God. However, they believe that God is made up of three persons:

- God the Father
- God the Son
- God the Holy Spirit

Christians are often blessed in church services by a minister with a reference to this belief. Catholics will often bless themselves by making the sign of cross and reciting this prayer:

*'In the name of the Father, the Son and the Holy Spirit.'*

### Trinity Sunday

Some churches celebrate Trinity Sunday. Ask students to come up with ways they could celebrate – appropriate music, prayers, Bible readings and action in the community that a church might plan which could express the belief in the Trinity.

### God as Father

Jesus taught his followers to refer to God as the Father. Thinking about God as Father refers to God as being omnipotent (all-powerful) and omniscient (all-knowing) part of God. It is also how God is seen as creator of the world. Jesus sometimes used the term 'Abba Father'. This shows God as omnibenevolent (all-loving). The idea that God wants a personal and loving relationship with people, like a father and child.

### God as Son

Christians believe that Jesus was the Son of God. For many Christians. They see Jesus as God in human form. Jesus said, *'I and the Father are one'* (John 10:30). This belief is known as the incarnation. The idea that Jesus was both human and divine.

By looking at the character of Jesus, Christians believe that God revealed something of himself to humans.



### God as Holy Spirit

Many Christians believe that after a period of time following Jesus' resurrection, he ascended (rose up) into heaven. They believe that God then sent the Holy Spirit into the world.

Christians believe the Holy Spirit does the following:

- Guides them.
- Gives them comfort and courage.
- Inspires and guides them.
- Helps to strengthen their faith.
- Can give them spiritual gifts.
- Pentecostal Christians worship God as Trinity, but they emphasise the need to allow the Holy Spirit to fill people with power, so that they can exercise the gifts of the Spirit

Christians believe that the Holy Spirit can intervene in the world in a miraculous way and is present during worship. They believe it connects them to God.

### The Apostles' Creed

I believe in Jesus Christ, his only Son, our Lord, who was conceived by the Holy Spirit, born of the Virgin Mary, suffered under Pontius Pilate, was crucified, died, and was buried; he descended to the dead. On the third day he rose again; he ascended into heaven, he is seated at the right hand of the Father, and he will come to judge the living and the dead. I believe in the Holy Spirit, the holy catholic Church, the communion of saints, the forgiveness of sins, the resurrection of the body, and the life everlasting. Amen.

## Topic: Les animaux en danger

I need to be able to: recognise and use the near future tense; to name a range of endangered animals; to describe them and their habitat; to say where they are from.

Key Words	Definitions
Verb	Words which tell you the action
Subject pronouns	Words that tell you who is doing the action.
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 are the same gender as the noun which they describe.
Definite article	'the'
Indefinite article	'a' 'some'
Singular (s)	One
Plural (pl)	More than one
Positive phrase	'is', 'do' 'does'
Negative phrase	'is not', 'does not', 'don't', 'never'
Possessive adjectives	My (in French, there are 3 forms; masculine singular, feminine singular and plural)

### Aller=to go

Je vais = I am going

Tu vas = you are going (s, friendly)

Il va = He is going

Elle va = She is going

On va = we are going

Nous allons = We are going

Vous allez= You are going (polite, pl)

Ils vont = they are going (m)

Elles vont = they are going (f)

The Verb 'Aller' is an irregular verb. It does not follow a set pattern. This verb should be learnt by heart.

You need to use a part of the verb ALLER and an infinitive to form the near future tense:

Je vais jouer au... = I am going to play

Tu vas aller au... = You're going to go

Il va écouter au ... = He is going to listen to ...

Useful link to practice the near future: <https://www.bbc.co.uk/bitesize/guides/>

Challenge: Research a French speaking country where you would find endangered animals (e.g. A country in Africa or province in Canada), find out about its animals and habitats and describe them in French.

	anglais	français
1	We're going to go to the zoo	Nous allons aller au zoo
2	I'm going to see lots of animals	Je vais voir beaucoup d'animaux
3	for example	par exemple
4	an elephant, a rhino and a giraffe	un éléphant, un rhinocéros et une girafe.
5	We're also going to see	Aussi, nous allons voir
6	flamingos, a lion and a red panda.	des flamants, un lion et un panda roux.
7	I love the baboons and monkeys	J'adore les babouins et les singes
8	but I don't like the snakes and spiders!	mais je n'aime pas les serpents et les araignées!
9	And you, do you like to visit the zoo?	Et toi? Qu'est-ce que tu aimes visiter au zoo?
10	Where do the animals come from?	D'où viennent les animaux?
11	It's from/ they are from...	c'est de.../ ils viennent de....
12	South America	l' Amérique du Sud
13	Africa	l'Afrique
14	Asia	l'Asie
15	Australia l'Australie	l'Australie
16	Europe	l'Europe
17	North America	l' Amérique du Nord
18	Where do the animals live?	Où habitent les animaux?
19	They live in/ It lives in	Ils habitent dans.../ Il/elle habite dans....
20	the jungle/ rainforest	la jungle/ la forêt tropicale
21	the mountains	la montagne

### L'alphabet

<b>A</b>	<b>B</b>		<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>	<b>H</b>	<b>I</b>	<b>J</b>
ah	beh		say	day	euh	eff	jay	ash	ee	gee
<b>K</b>	<b>L</b>		<b>M</b>	<b>N</b>	<b>O</b>	<b>P</b>	<b>Q</b>	<b>R</b>		
kah	ell		emm	enn	oh	pay	koo	air		
<b>S</b>	<b>T</b>		<b>U</b>	<b>V</b>	<b>W</b>	<b>X</b>	<b>Y</b>	<b>Z</b>		
ess	tay		oo	vay	Dooble-vay	eeeks	ee-grec	zed		

## Topic: Fieldwork

**I need to know:** In this topic, you will use various Geographical skills to investigate the enquiry question of 'Where is the best place in Liskeard School?'. You will have the opportunity to learn some fieldwork techniques that Geographers might use, collect your own data and learn how to present the data accurately.

Key Words	
Fieldwork	Research completed in the natural environment.
Field Sketch	Are used to collect data when completing field work. A drawing of a location that is annotated with key detail to help us remember what the area is like.
Microclimate	The climate of a very small area that is usually different from the climate of the surrounding area.
Primary Data	Data that is collected by a researcher from first-hand sources.
Secondary Data	Data that has been collected for another purpose, but still gives us detail for our own enquiry.
Questionnaire	A set of questions that is used to survey people.
Place	A physical location such as a particular position or area
Sense of Place	The feelings somebody has about a place
Your teacher will give you any more key words that you learn about	



### Arrow Tasks:

These tasks will be asked of you in lesson to help extend and further your understanding. Can you have a go at any now?

- Why might your results be different to somebody else who has just completed the same field work task?
- How can we make sure that our fieldwork is accurate?
- How could we improve this technique or enquiry if we were to do this again?

**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.

- Complete the questionnaires that you have made in today's lesson. Ask at least 5 people who either go to this school, or work in this school to complete your questionnaire.
- Research one more fieldwork method. How might we use this method to answer our enquiry question?

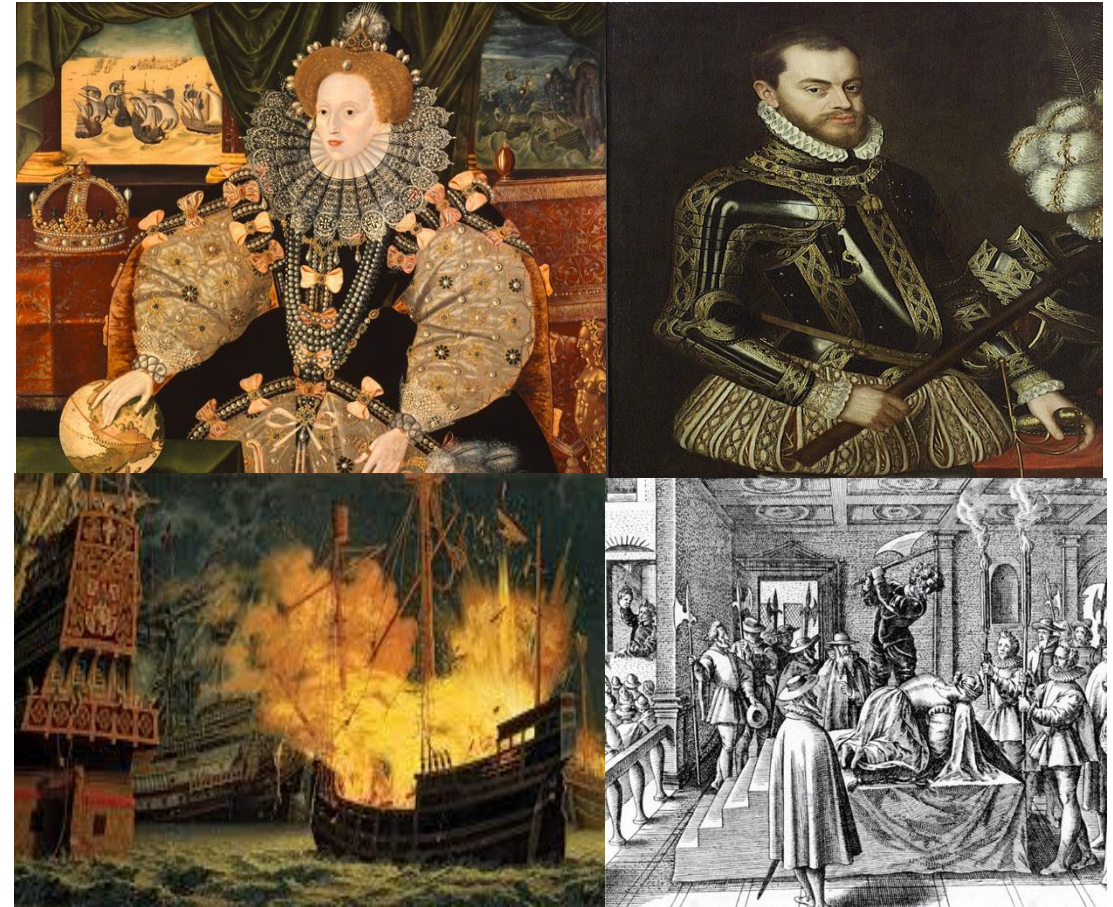


Fieldwork Skills	Data Presentation Skills	Post Enquiry Analysis
<p>A very important aspect of becoming a fantastic Geographer is the ability to complete field work and data presentation methods. Each lesson, you will learn a different method of collecting data to answer our enquiry question of 'Where is the best place in Liskeard School?'. We will look at methods such as sense mapping, field sketches, environmental quality surveys and questionnaires.</p>	<p>You will spend time learning about how to choose the best method to present your findings. This may be graphs, annotated field sketches or even photographs. You will build up lots of evidence to answer the enquiry question in your final lesson.</p> <div data-bbox="922 778 1258 1102" data-label="Figure"> </div> <div data-bbox="875 1217 1335 1497" data-label="Image"> </div>	<p>After each of your lessons, you will be given the opportunity to summarise your findings based on the data you have collected that day. You will keep hold of this evidence so that by the end of the term, you will be able to confidently chose an area at school that you think is the best place and will be able to back this choice up with your own data!</p> <p><b>Links to further resources:</b></p> <p>Link to BBC Bitesize page that shows some of the skills that we use in GCSE:  <a href="https://www.bbc.co.uk/bitesize/guides/zq42ycw/revision/1">https://www.bbc.co.uk/bitesize/guides/zq42ycw/revision/1</a></p> <p>Information on fieldwork from National Geographic:  <a href="https://www.nationalgeographic.org/encyclopedia/field-work/">https://www.nationalgeographic.org/encyclopedia/field-work/</a></p>

## Topic: Elizabeth I

I need to know: Elizabeth I became Queen of England in 1558 and is one of the most famous queens we have ever had. Elizabeth faced many challenges but was determined to be the best possible monarch. She used portraits painted of her to show her power and wealth. Elizabeth had to deal with many problems including solving religious issues in England, the threat to her position from her cousin (Mary Queen of Scots) and Philip II trying to invade England (Spanish Armada) after she refused to marry him!

Key Words	Definitions
Mary Queen of Scots	Elizabeth's cousin. She would be Queen if Elizabeth died as she had no children.
Philip II	The King of Spain and the most powerful man in Europe. A Catholic who wanted to marry Elizabeth.
Catholic	The religion of most of Europe when Elizabeth was queen.
Protestant	A different type of Christianity to Catholicism – England was becoming more Protestant
Anthony Babington	A rich Catholic who was secretly planning to kill Elizabeth so that Mary could take over.
Treason	A crime against the king or queen
Execution	How Mary Queen of Scots was killed – she had her head cut off!
Armada	A fleet of ships – like Spain launched against England in 1588
170 vs 150	Number of Spanish ships vs English ships
Sir Francis Drake	The leader of the English navy in the fight against the Spanish
Galleons	The name given to the ships used by the Spanish and the English
Fireship	An old ship that is set alight and sent towards enemy ships



Arrow Tasks: How reliable are the portraits of Elizabeth I?

What was the biggest factor in the defeat of the Spanish Armada?

Top left: Famous portrait of Elizabeth I by George Gower

Top right: Philip II – King of Spain

Bottom left: A fireship used in the defeat of the Spanish Armada

Bottom Right: The execution of Mary Queen of Scots

Links to further resources: <https://www.bbc.co.uk/bitesize/guides/zcn4jxs/revision/1>

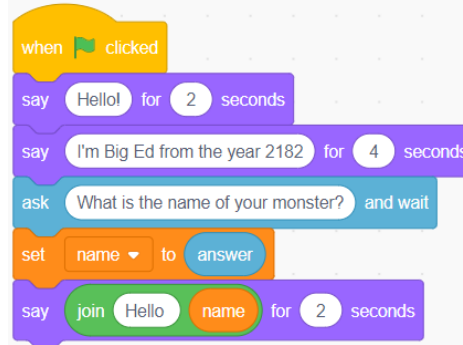
# Computing | Programming | Key Concept– Computational thinking and problem solving

**I need to know:** In this unit you will need to develop your understanding of **Variables, Constants, Data Types, Sequence, Selection** and **Iteration**. You will also understand that an **algorithm** is a **set of instructions** that are followed precisely. You will be able to spot **errors** and **debug** them.

## Key Concept– Sequence

The script on the right is an example of **sequence**. The instructions are followed one after another.

There are two **variables**– **Answer & Name**. **Answer** stores the input of the name that is typed. **Name** stores the same information as the **answer** variable.



## Key Concept– Selection

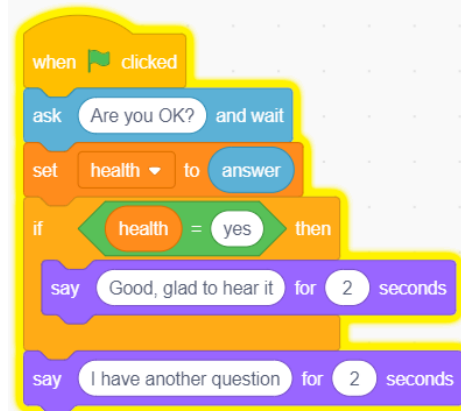
The script on the right is an example of **selection**. There is a decision within the code:

**If health = 'yes' then:**

**Say 'good to hear it'**

**else**

**Say 'I have another question'**



## Key Concept– Iteration

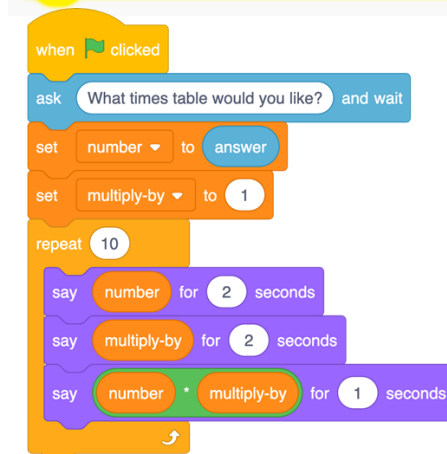
The script on the right is an example of **iteration**. When run, the program asks the user which times table they would like. The variable **answer** & variable **number** stores the **input**.

The **repetition** block is **repeating** the following x10:

**Output** variable **number** for 2 seconds

**Output** variable **multiply-by** for 2 seconds

**Output** (**number \* multiply-by**) for 1 second

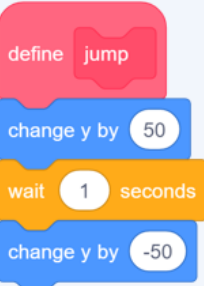


Algorithms	Are a set of instructions for solving a problem
Debugging	An part of programming is testing your program and 'debugging' (which means removing the bugs).
Variables	Is a named memory address that holds a value. The value held in a variable can change.
Constants	A constant allows a value to be assigned a name. Unlike a variable, the value assigned to a constant cannot be changed whilst the programming in running.
Data types	Data can be different types e.g. <ul style="list-style-type: none"><li>• Integer (whole number)</li><li>• Real/ float (decimal number e.g. 3.14)</li><li>• Boolean (0 or 1, yes or no, on or off)</li><li>• Character (a letter or number)</li><li>• String (mixture of letters, numbers and punctuation)</li></ul>
Algorithm	Algorithms can be represented as pseudocode or a flowchart, and programming is the translation of these into a computer program.
Subroutine	<b>Subroutines are a group of instructions that will run when called by the main program or other subroutines.</b>
Decomposition	<b>Breaking a problem down into smaller, more manageable subproblems</b>
Lists	<b>Unlike variables, lists allow you to hold multiple items of data under one name.</b>

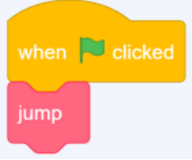


# Computing | Programming | Key Concept– Computational thinking and problem solving

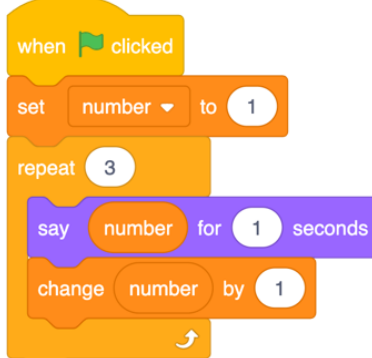
**I need to know:** In this unit you will need to develop your understanding of **Variables, Constants, Data Types, Sequence, Selection and Iteration**. You will also understand that an **algorithm** is a **set of instructions** that are followed precisely. You will be able to spot **errors** and **debug** them.



**Subroutines** are a group of instructions that will run when called by the main program or other **subroutines**.



An example of **count controlled iteration**– The Scratch Cat will say “1, 2, 3” leaving a second in between each number.



**Forever:** This will repeat the code until the game is stopped. It is a **condition-controlled iteration**.

**Repeat ():** This will repeat the code for a set amount of times as defined in the white space. It is a **count-controlled iteration**.

**Repeat until:** This will repeat the code until the condition becomes true. It is a **condition-controlled iteration**.

This block of code was used to create a shopping\_list and then replace a list item in 'shopping list'. Which item was replaced with 'flour'?





## What do I need to be able to do?

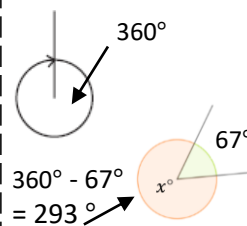
### By the end of this unit you should be able to:

- Understand/use the sum of angles at a point
- Understand/use the sum of angles on a straight line
- Understand/use equality of vertically opposite angles
- Know and apply the sum of angles in a triangle
- Know and apply the sum of angles in a quadrilateral

### QUESTIONS FOR PRACTISE –

[CLICK HERE](#)

## Sum of angles at a point



### Find angle BOE

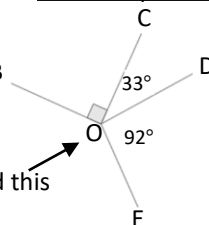
$$90^\circ + 33^\circ + 92^\circ = 205^\circ$$

$$360^\circ - 205^\circ$$

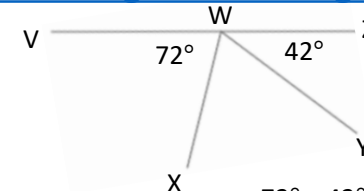
$$\text{BOE} = 155^\circ$$

Angle notation – find this missing angle

The sum of angles around a point is  $360^\circ$



## Sum of angles on a straight line



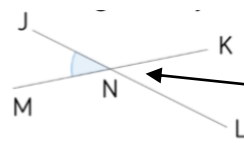
Adjacent angles that share a common point on a line add up to  $180^\circ$

### Find angle XWY

$$72^\circ + 42^\circ = 114^\circ$$

$$180^\circ - 114^\circ = 66^\circ$$

## Vertically opposite angles

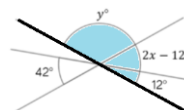


Angle JNM is vertically opposite to angle KNL

$$\text{JNM} = \text{KNL}$$

### Vertically opposite angles are the same

Other angle rules still apply. Look for straight line sums and angles around a



Form equations with information from diagrams:

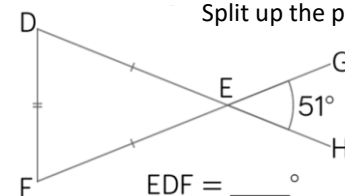
$$2x - 12 = 42$$

$$2x = 54$$

$$x = 27^\circ$$

## Angle Problems

Split up the problem into chunks and explain your reasoning at each point using angle notation



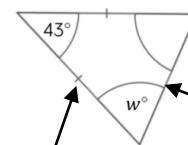
1. Angle DEF =  $51^\circ$  because it is a vertically opposite angle DEF = GEH

2. Triangle DEF is isosceles (triangle notation)  $\therefore$  EDF = EFD and the sum of interior angles is  $180^\circ$

$$180^\circ - 51^\circ = 129^\circ \quad 129^\circ \div 2 = 64.5^\circ$$

3. Angle EDF =  $64.5^\circ$

## Sum of angles in triangles



The two base angles will be the same size

Look at triangle notation. This indicates an isosceles triangle

$$\therefore 180 - 43 = 137$$

$$137 \div 2 = 68.5^\circ$$

A triangle can only have ONE right angle

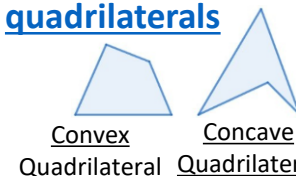
### Sum of interior angles in a triangle = $180^\circ$



Have a go!

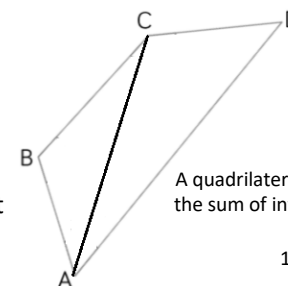
Tearing the corners from triangles forms a straight line which is therefore  $180^\circ$

## Sum of angles in quadrilaterals



Interior angles are those that make up the perimeter (outline) of the shape

### Sum of interior angles in a quadrilateral = $360^\circ$



Interior Angles

A quadrilateral is made up of two triangles = the sum of interior angles is the same as two triangles:

$$180^\circ + 180^\circ = 360^\circ$$

## Keywords

**Vertically Opposite:** angles formed when two or more straight lines cross at a point.

**Interior Angles:** angles inside the shape

**Sum:** total, add all the interior angles together

**Convex Quadrilateral:** a four-sided polygon where every interior angle is less than  $180^\circ$

**Concave Quadrilateral:** a four-sided polygon where one interior angle exceeds  $180^\circ$

**Polygon:** A 2D shape made with straight lines

**Scalene triangle:** a triangle with all different sides and angles

**Isosceles triangle:** a triangle with two angles the same size and two angles the same size

**Right-angled triangle:** a triangle with a right angle

Keep working out clear and notes together

## What do I need to be able to do?

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

- Identify and represent sets
- Interpret and create Venn diagrams
- Understand and use the intersection of sets
- Understand and use the union of sets
- Generate sample spaces for single events
- Calculate the probability of a single event
- Understand and use the probability scale

[QUESTIONS FOR PRACTISE – CLICK HERE](#)

## Identify and represent sets

The **universal set** has this symbol  $\xi$  – this means **EVERYTHING** in the Venn diagram is in this set

A set is a collection of things – you write sets inside curly brackets { }

$\xi = \{\text{the numbers between 1 and 50 inclusive}\}$

My sets can include every number between 1 and 50 including those numbers

$A = \{\text{Square numbers}\}$

$A = \{1, 4, 9, 16, 25, 36, 49\}$

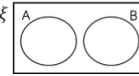
All the numbers in set A are square number and between 1 and 50

## Interpret and create Venn diagrams

**Mutually exclusive sets**

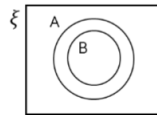
The two sets have nothing in common

No overlap



**Union of sets**

The two sets have some elements in common – they are placed in the intersection



**Subset**

All of set B is also in Set A so the ellipse fits inside the set.

**The box**

Around the outside of every Venn diagram will be a box. If an element is not part of any set it is placed outside an ellipse but inside the box

## Intersection of sets

Elements in the intersection are in set A AND set B

The notation for this is  $A \cap B$

$\xi = \{\text{the numbers between 1 and 15 inclusive}\}$

$A = \{\text{Multiples of 5}\}$

$B = \{\text{Multiples of 3}\}$

The element in  $A \cap B$  is 15

In this example there is only one number that is both a multiple of 3 and a multiple of 5 between 1 and 15

## Keywords

**Set:** collection of things

**Element:** each item in a set is called an element

**Intersection:** the overlapping part of a Venn diagram (**AND**  $\cap$ )

**Union:** two ellipses that join (**OR**  $\cup$ )

**Mutually Exclusive:** events that do not occur at the same time

**Probability:** likelihood of an event happening

**Bias:** a built-in error that makes all values wrong (unequal) by a certain amount, e.g. a weighted dice

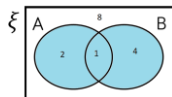
**Fair:** there is zero bias, and all outcomes have an equal likelihood

**Random:** something happens by chance and is unable to be predicted.

## Union of sets

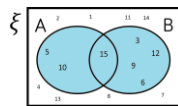
Elements in the union could be in set A OR set B

The notation for this is  $A \cup B$



There are 7 elements that are either a multiple of 5 OR a multiple of 3 between 1 and 15

This Venn shows the **number of elements** in each set



$\xi = \{\text{the numbers between 1 and 15 inclusive}\}$

$B = \{\text{Multiples of 3}\}$

$A = \{\text{Multiples of 5}\}$

The elements in  $A \cup B$  are

5, 10, 15, 3, 9, 6, 12

## Sample space – for single events



A sample space for rolling a six-sided dice is

$S = \{1, 2, 3, 4, 5, 6\}$



A sample space for this spinner is

$S = \{\text{Pink, Blue, Yellow}\}$

You only need to write each element once in a sample space diagram

- A Sample space represents a possible outcome from an event
- They can be interpreted in a variety of ways because they do not tell you the probability

## Probability of a single event

Probability =  $\frac{\text{number of times event happens}}{\text{total number of possible outcomes}}$



Probability notation  
 $P(\text{event})$

$P(\text{Blue}) = \frac{4}{10}$   
 $= \frac{2}{5}$

There are 4 blue sectors

There are 10 sectors overall

Probability can be a fraction, decimal or percentage value

$\frac{4}{10} = \frac{40}{100} = 0.40 = 40\%$

Probability is always a value between 0 and 1

## The probability scale

Impossible 0 or 0%      Even chance 0.5,  $\frac{1}{2}$  or 50%      Certain 1 or 100%

The more likely an event the further up the probability it will be in comparison to another event (It will have a probability closer to 1)



There are 2 pink and 2 yellow balls, so they have the same probability

There are 5 possible outcomes  
So 5 intervals on this scale,  
each interval value is  $\frac{1}{5}$

## Sum of probabilities

Probability is always a value between 0 and 1



The probability of getting a blue ball is  $\frac{4}{5}$

$\therefore$  The probability of **NOT** getting a blue ball is  $\frac{1}{5}$

The sum of the probabilities is 1

The table shows the probability of selecting a type of chocolate

Dark	Milk	White
0.15	0.35	

$P(\text{white chocolate}) = 1 - 0.15 - 0.35 = 0.5$



Subject: Music

Year 7: Summer Term 2

"**Music** gives a soul to the universe, wings to the mind, flight to the imagination and life to everything."

Topic: ADVERT MUSIC

**I need to be able to:** Create an advert to 'sell' to the rest of the class. You must think of a suitable product (this can be made up if you like?), and you must think about the Music and how it 'relates' to the product that you are selling.

<b><u>KEY WORDS</u></b>	<b><u>MEANING</u></b>
<b>ADVERT</b>	An advert is an announcement online, in a newspaper, on television, or on a poster about something such as a product, event, or job.
<b>Product</b>	an article or substance that is manufactured or refined for sale.
<b>Target Audience</b>	a particular group at which a product such as a film or advertisement is aimed.
<b>Catchphrase</b>	A phrase that is often repeated by and therefore becomes connected to a particular organisation or person.
<b>Jingle</b>	a short slogan, verse, or tune designed to be easily remembered, especially as used in advertising

### **FAMOUS ADVERT SLOGANS**

**Nike** – Just Do It.

**Apple** – Think Different.

**Wendy's** – Where's the Beef?

**Coca-Cola** – Open Happiness.

Can you create your  
own design?



**WATCH** The 15 funniest commercials of all time: <https://www.youtube.com/watch?v=GVaQ5aeGi00>

**Arrow Task:** Research adverts from different countries. What is different about their products compared to what we sell in the UK? How has the advert 'sold' the product to the Target Audience?

I need to know: The importance of interpersonal skills and how to implement and develop these skills through physical activity and Inter Tutor Rounders.

<u>Key Words</u>	<u>Definitions</u>
<b><u>Interpersonal Skills</u></b>	The ability to communicate or interact well with other people.
<b><u>Teamwork</u></b>	The combined action of a group, especially when effective and efficient.
<b><u>Communication</u></b>	The use of word, behaviours, and body language to share information.
<b><u>Leadership</u></b>	The art of motivating a group of people to act toward achieving a common objective.
<b><u>Followship</u></b>	A willingness to accept direction and guidance from a leader.
<b><u>Active Listening</u></b>	The process by which an individual secures information from another individual or group whilst building strong relationships.
<b><u>Conflict Resolution</u></b>	The informal or formal process that two or more parties use to find a peaceful solution to their dispute.
<b><u>Responsibility</u></b>	The state or fact of having a duty to deal with something or of having control over someone.
<b><u>Empathy</u></b>	The ability to understand and share the feelings of another.

I need to be able to:

- Define the different components that make up interpersonal skills.
- Understand how I can demonstrate the components of interpersonal skills in my physical education lessons.
- Reflect on my own interpersonal skills and how I interact with others.
- Apply interpersonal skills during practical lessons.

## Interpersonal Skills within Rounders

The most successful teams work well together with everyone understanding their roles and being able to communicate effectively (batter, bowler, fielder, back stop). Being a sport reliant on every member of a team doing their bit to succeed, rounders embodies teamwork, communication and organisation in the hope of encouraging everyone to become more confident in themselves as individuals and the abilities of their team mates.



## Arrow Tasks

Choose a famous sportsperson and explain how they show all the interpersonal skills in their sport.

Links to further resources: [Interpersonal skills and professional qualities - Interpersonal skills and professional qualities - GCSE Hospitality \(CCEA\) Revision - BBC Bitesize](#)

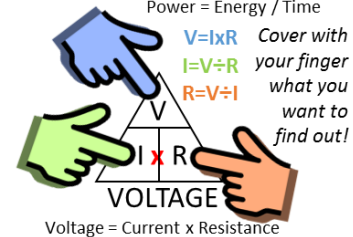
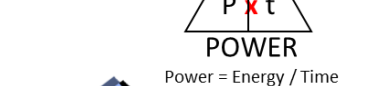
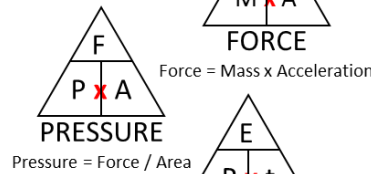
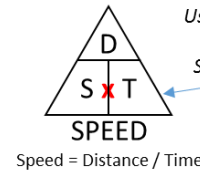


## Topic: Maths in Science 1

I need to be able to: Plan investigations to obtain valid results and present data appropriately

Key Words	Definitions
Continuous variable	Has values that can be any number
Discontinuous variable:	Has values that are words or discrete numbers.
Bar chart/column graph	Displays the values of categories
Line graph:	Shows the relationship between two continuous variables
Pie chart	Shows the proportions or percentages that make up a whole
Line of best fit	A straight or curved line drawn to show the pattern of data points
Scatter graph	Shows the independent variable vs dependent variable
Range	The maximum and minimum values of a variable
Interval:	The gap between the values of the independent variable.
Repeatable:	When repeat readings are close together
Variable	A factor that can be changed, measured and controlled
Correlation	A relationship between variables where one increases or decreases as the other increases

Remembering "formula triangles" makes recall & application easier!  
Use acronyms to help further E.g. Dirty Smelly Turnips (DST)



E

- Equation
- Write the equation in the form you need

S

- Substitution
- Put the numbers from the question into your equation
- Make sure you have converted any units to the ones in the equation

C

- Calculation
- Perform the calculation in your calculator and write down the answer

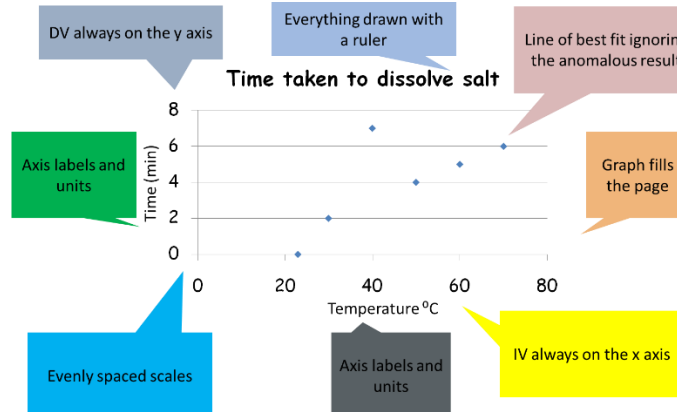
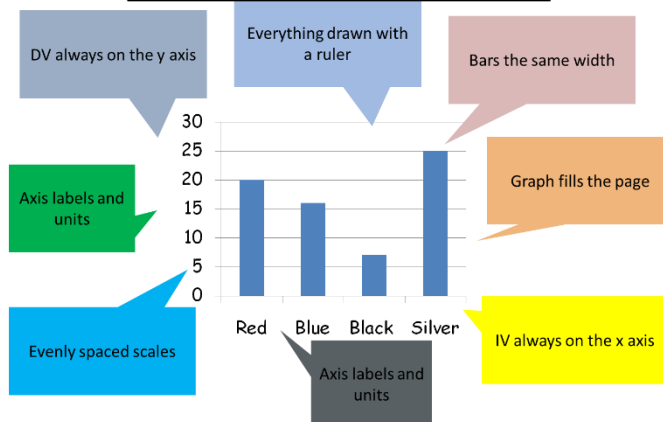
U

- Units
- Add the correct units next to your answer

### Why does it matter?

Look at graphs in the news currently. Analyse what they show using a PEE paragraph

Bar charts are only used if you have CATEGORIC variables



## Topic: Working Scientifically 1

I need to be able to: Plan investigations to obtain valid results and present data appropriately

Key Words	Definitions
Scientific enquiries	Different ways to investigate including observation over time, fair test and pattern seeking.
Variable	A factor that can be changed, measured and controlled
Independent variable:	What you change in an investigation to see how it affects the dependent variable.
Dependent variable	What you measure or observe in an investigation
Control variable	One that remains unchanged or is held constant to stop it affecting the dependent variable.

## Arrow Tasks:

Plan an investigation to test something in your home. For example, the best biscuit to dunk in tea, or the strength of different tissue types (toilet roll, kitchen roll, tissues).

Follow the steps and conduct an experiment.

## Why does it matter?

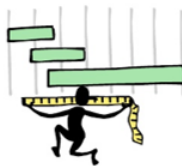
Look out for TV adverts that quote data. Where has that data come from? Why is important to include this in adverts?

## Variables in Exam Questions



The **INDEPENDENT** variable is always the title on the **LEFT** of a table or the title on the **BOTTOM** of a graph. It shows what is being **CHANGED** in the experiment.

The **DEPENDENT** variable is always the title on the **RIGHT** of a table or the title on the **SIDE** of a graph. It shows what is being **MEASURED** in the experiment.



The **CONTROL** variables you have to think of yourself. Think about what they had to **KEEP THE SAME** to make it **FAIR**.

## Conclusion from your data

Point



I conclude that.....

Evidence



My evidence is.....

Explain using science



This happens because.....

**Step 1**  
Make an Observation



**Step 2**  
Ask a Question

**Step 3**  
Make A Hypothesis

**Step 4**  
Conduct an Experiment

**Step 5**  
Draw Conclusions

**Step 6**  
Report Your Results

## Topic: Los animals en peligro

I need to be able to: recognise and use the near future tense; to name a range of endangered animals; to describe them and their habitat; to say where they are from; to be able to recognise verbs in a past tense.

Key Words	Definitions
Verb	Words which tell you the action
Subject pronouns	Words that tell you who is doing the action.
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 are the same gender as the noun which they describe.
Definite article	'the'
Indefinite article	'a' 'some'
Singular (s)	One
Plural (pl)	More than one
Positive phrase	'is', 'do' 'does
Negative phrase	'is not', 'does not', 'don't', 'never'
Possessive adjectives	My (in French, there are 3 forms; masculine singular, feminine singular and plural)

Ir = To go

Voy = I am going

vas = You are going (s, friendly)

va= He is going

va= She is going

va usted = you are going (polite, s)

vamos= We are going

vais= You are going (friendly, pl)

van= they are going (m)

van ustedes = you are going (polite, pl)

**The verb 'ir' is a very important verb and should be learnt by heart.**

### '...ir' verbs in the present tense:

Vivir = to live

Vivo = I live/am living

Vives = you live /are living

Vive = he,she lives / is living

Vivimos = we live / are living

Vivís = you live /are living (pl)

Viven = they are living

Useful link to practice the near future: <https://www.bbc.co.uk/bitesize/topics/zg9mhyc/articles/zf9bhbkb>

Challenge: Research a Spanish-speaking country where you would find endangered animals (e.g. A country in South America), find out about its animals and habitats and describe them in Spanish.

	inglés	español
1	We're going to go to the zoo	Vamos a ir al zoo
2	I'm going to see lots of animals	Voy a ver muchos animales
3	for example	por ejemplo
4	an elephant, a rhino and a giraffe	un elefante, un rinoceronte y una jirafa.
5	We're also going to see ...	También, vamos a ver ...
6	flamingos, a lion and a red panda.	los flamencos, un león y un panda rojo.
7	I love the baboons and monkeys	Me encantan los babuinos y los monos
8	...but I don't like the snakes and spiders!	...pero no me gustan los serpientes y las arañas!
9	And you, do you like to visit the zoo?	¿Y tú. ¿Qué te gusta visitar al zoo?
10	Where do the animals come from?	¿De dónde vienen los animales?
11	It's from/ they are from...	Es de.../ Son de....
12	South America	Sudamérica
13	Africa	África
14	Asia	Asia
15	Australia	Australia
16	Europe	Europa
17	North America	Norteamérica
18	Where do the animals live?	¿Dónde viven los animales?
19	They live in/ it lives in...	Viven en.../ Vive en....
20	the jungle/ rainforest	la selva
21	the mountains	la sierra
22	the savannah	la sabana
23	the forest	el bosque
24	the sea	el mar
25	the ocean	el océano

## El alfabeto (y la pronunciación)

A	B	C	D	E	F	G	H	I	J
aah	beh	theh	deh	eh	efeh	heh	acheh	ee	hota
K	L	LL	M	N	Ñ	O	P	Q	R
kah	eleh	eyeh	emeh	eneh	enye	oh	peh	koo	ereh
RR	S	T	U	V	W	X	Y	Z	
erreh	eseh	teh	oo	oobeh	Oobeh dobleh	ekis	Ee gri-egga	theta	



### Topic: Food

I need to be able to: understand and apply key cooking skills to produce good quality recipes. To ensure all food is made safely by applying hygiene, health and safety procedures and improve product outcomes by using evaluation techniques and targets.

Key word	Definition
Quality control	The description to achieve to know when a skill has been performed correctly.
Weighing	To measure the weight using scales of an ingredients to ensure the recipe ratio is correct.
Sensory	To test the aesthetics ( appearance, texture, aroma, flavour if a product
Risk	To identify all the hazards in a method to ensure measures are taken to reduce the risk.
Hygiene	Steps to take to reduce the risk of pathogenic bacteria multiply or contaminating a product.
Pathogenic bacteria	Bacteria that can grow and contaminate food causing food poisoning.
Nutritional function	The 5 nutrients (protein, carbohydrate, fat, vitamins, minerals) their function in the body and best foods



**Rubbing in**—Using your finger tips and thumbs to rub the fat and the flour together.

Quality control – breadcrumb texture



**Kneading**— Using your hands to stretch the dough to develop long stretchy elastic strands of gluten in bread dough. Quality control—gluten window



**Creaming** - To combine the butter and sugar together . It incorporates air to make cakes rise. Quality control – pale fluffy light texture.



**Cutting**—To use a sharp piece of equipment such as a knife, grater, cutter to make a product smaller or a specific shape. Quality control – brunoises, julienne, paysanne, macedoine, jardinière



**Arrow Tasks**—Explain how you could change the recipe to make it healthier - reduce fat, sugar, fat. Increase the fibre, include 5 portions of fruits and vegetable.

## Topic: Ball Hurler

### I need to be able to:

- understand the design process and the working properties of plywood and softwood.
- gain practical skills in using the hand tools, machines and equipment needed to work with wood.
- learn about basic wood joints, triangulation and potential energy.
- be aware of health and safety in the workshop and understand the importance of risk assessment.

### Stages of the Design Process:

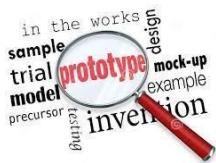
Context    Design Brief    Task Analysis    Research  
Investigation    Specification    Design & Development  
Making    Testing    Evaluation

### Key Words

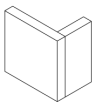
#### \* Design process



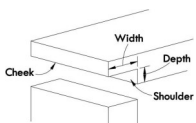
#### \* Prototype



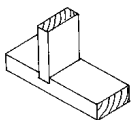
#### \* Butt joint



#### \* Rabbet joint



#### \* Housing joint



#### \* Dowel



### Definitions

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.

A first version, / test model to trial a product before making a final version which could be made in larger quantities.

The simplest joint to make - in which two pieces of material are joined by simply placing them together without overlapping or interlocking.

A joint formed by fitting two pieces of material together where one or both pieces have a cut recess / groove to increase the strength of the joint.

Similar to the Rabbet, but where one or both pieces of material have a slot cut in, across the Grain, to a width normally equal to the thickness of the shelf or partition it is to hold.

A cylindrical rod of material, used to connect two pieces of material or to strengthen a joint.

### Materials, tools and equipment used in the ball hurler project



Pillar drill / drill press



Linisher (belt sander)



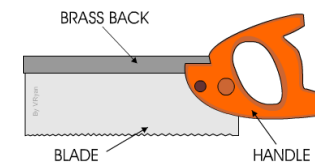
#### Softwood

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



#### Plywood

Plywood is a strong wooden board consisting of two or more layers of hardwood or softwood **laminated** (pressed together and glued) with the direction of the grain alternating to give strength.



Tenon saw

The deep straight blade makes the tenon saw ideal for cutting wood joints



Chisel and mallet

Used for making the housing joint

### Arrow Task:

What is triangulation and why is it useful when making a ball hurler?

What is potential energy and how is it used in the ball hurler?

Link to further resources:

<http://www.technologystudent.com>  
<http://www.mr-dt.com/>  
[http://wiki.dtonline.org/index.php/Main\\_Page](http://wiki.dtonline.org/index.php/Main_Page)

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## Topic: Cushion Cover

### I need to be able to:

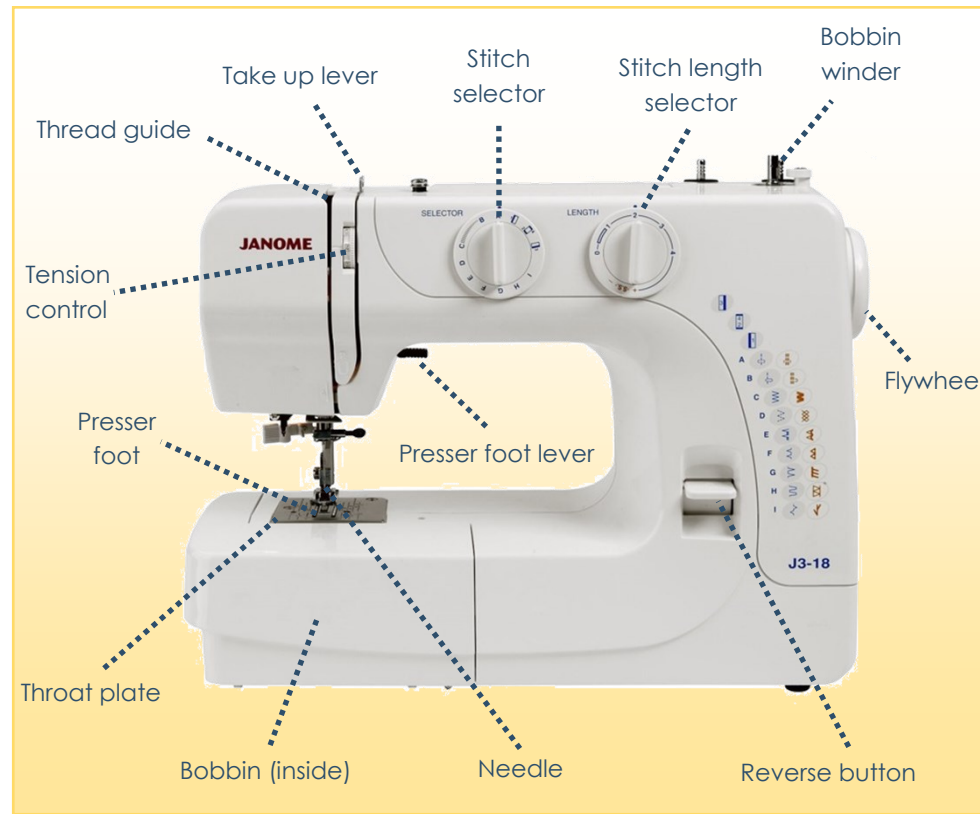
- understand the key parts of a swing machine and the threading path.
- apply hand and machine sewing techniques.
- understand the function of seams & hems and be able to apply to your product.
- gain an awareness of the work of famous artists and be able to consider the need for aesthetics within a textile product.
- be aware of health and safety when using textile materials and equipment.



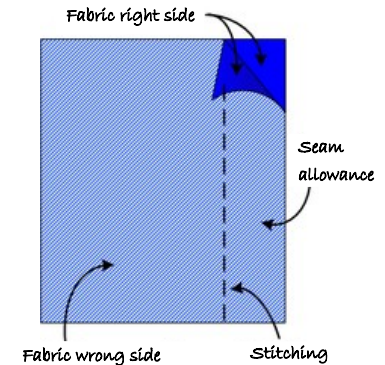
### What is a hem?

A finishing method where the edge of a piece of fabric is folded narrowly and sewn to prevent unravelling or fraying.

Key Words	Definitions
* Thread	A large number of very thin fibres spun together and usually wound on spools, used in sewing.
* Sewing Machine	A machine used to sew fabric and other materials together with thread.
* Tacking	A temporary stitch used to hold fabric together.
* Pins	Designed to hold fabric in place, prior to sewing.
* Needle	A very thin piece of polished metal used for sewing. It has a sharp point at one end and a hole (eye) in the other for thread to go through.
* Surface Design	A technique that changes the surface of fabric. This would include: painting, dyeing, printing/stamping, stencilling.
* Poly-cotton	A fabric that is made up of cotton and polyester fibres.

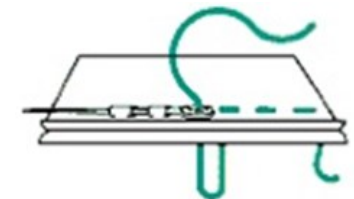


Arrow Task: Can you think of alternative methods you could use to join your pieces of fabric together, when constructing the cushion cover? What would be their strengths and do those methods have limitations?



### What is a seam?

A line of stitching that joins two or more layers of fabric.



### Tacking

Link to further resources: [www.instructables.com/lesson/Hemming-and-Seam-Finishing/](http://www.instructables.com/lesson/Hemming-and-Seam-Finishing/)

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**I will be learning to:**

- Use the sum of angles at a point
- Use the sum of angles on a straight line
- Use equality of vertically opposite angles
- Know and apply the sum of angles in a triangle and the sum of angles in a quadrilateral
- Identify and represent sets
- Interpret and create Venn diagrams
- Calculate the probability of a single event
- Understand and use the probability scale

**Keywords**

**Vertically Opposite:** angles formed when two or more straight lines cross at a point.

**Interior Angles:** angles inside the shape

**Sum:** total, add all the interior angles together

**Polygon:** A 2D shape made with straight lines

**Scalene triangle:** a triangle with all different sides and angles

**Isosceles triangle:** a triangle with two angles the same size and two angles the same size

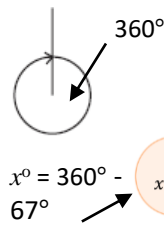
**Right-angled triangle:** a triangle with a right angle

**Probability:** likelihood of an event happening

**Set:** collection of things

**Intersection:** the overlapping part of a Venn diagram (**AND**  $\cap$ )

**Union:** two ellipses that join (**OR**  $\cup$ )

**Sum of angles at a point****Find angle BOE**

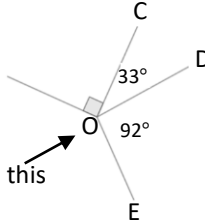
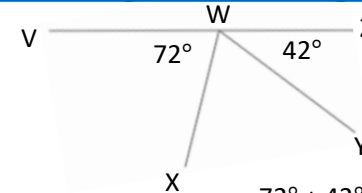
$$90^\circ + 33^\circ + 92^\circ = 205^\circ \text{ B}$$

$$360^\circ - 205^\circ$$

$$\text{BOE} = 155^\circ$$

Angle notation – find this missing angle

The sum of angles around a point is  $360^\circ$

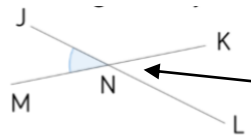
**Sum of angles on a straight line**

Adjacent angles that share a common point on a line add up to  $180^\circ$

**Find angle XWY**

$$72^\circ + 42^\circ = 114^\circ$$

$$180^\circ - 114^\circ = 66^\circ$$

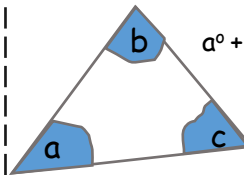
**Vertically opposite angles**

Angle JNM is vertically opposite to angle KNL

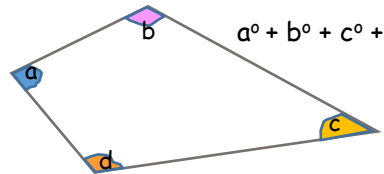
$$\text{JNM} = \text{KNL}$$

**Sum of angles in triangles**

Sum of interior angles in a triangle =  $180^\circ$



$$a^\circ + b^\circ + c^\circ = 180^\circ$$

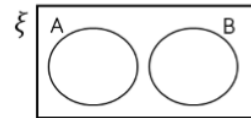
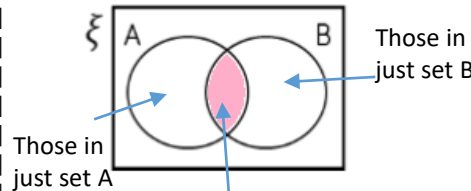
**Sum of angles in quadrilaterals**

$$a^\circ + b^\circ + c^\circ + d^\circ = 360^\circ$$

Sum of interior angles in a quadrilateral =  $360^\circ$

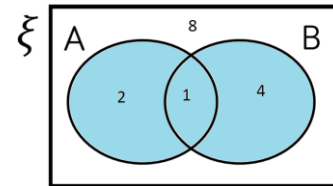
**Interpret and create Venn diagrams**

**Mutually exclusive sets**  
The two sets have nothing in common  
No overlap

**Intersection of sets**

Those in both set A and set B

The notation for this is  $A \cap B$

**Union of sets**

Elements in the union could be in set A OR set B

The notation for this is  $A \cup B$

**Probability of a single event**

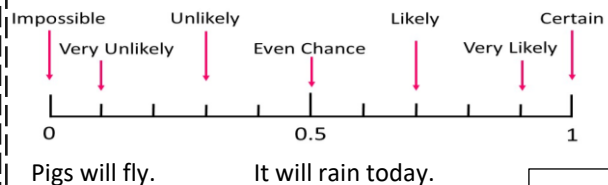
The probability of pulling out the blue sweet is 1 out of 5

$$\text{This is written as } P(\text{blue}) = \frac{1}{5}$$

$$P(\text{yellow}) = \frac{2}{5}$$

2 yellow sweets  
5 sweets in the bag

Probability is always a value between 0 and 1

**The probability scale**

Constant practice of:  
Addition  
Subtraction  
Multiplication  
Division

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## 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.

### Points to remember

- Revision is re-looking at information you have learnt previously.
- The idea is that you know the information that will be tested and can remember it for the exam.
- Your attitude is important.
- You only fail if you give up.
- If you fail to plan, you plan to fail.

Believe in yourself, be positive.  
If you think you can succeed you will.

### Attendance

- Every lesson counts and your attendance is vital.
- Try your best in all lessons and make them work for you.
- It is what you are getting out of it that matters.
- This is YOUR result, so make it count.
- You will get out of it what you put in - so do your best.

## 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!

## Revision Strategies

Revision Planner							
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Morning							
Afternoon							
Evening							

- 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



## Brain Dump

**WHEN:** beginning of 20 minute revision block

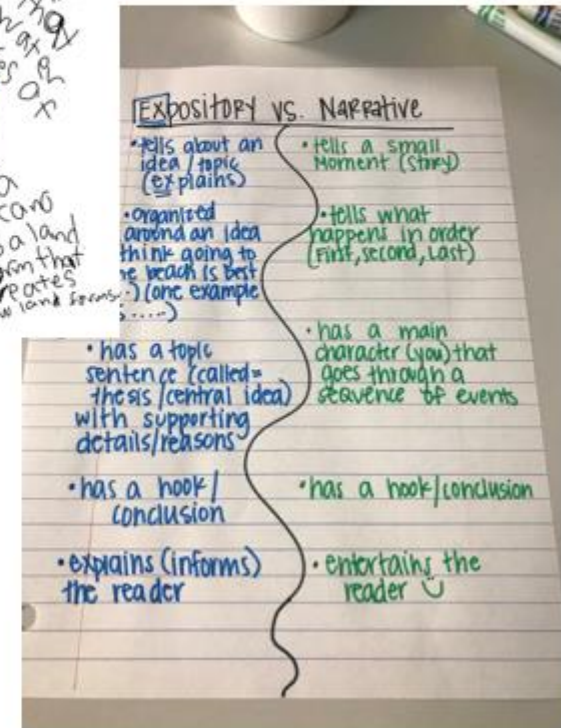
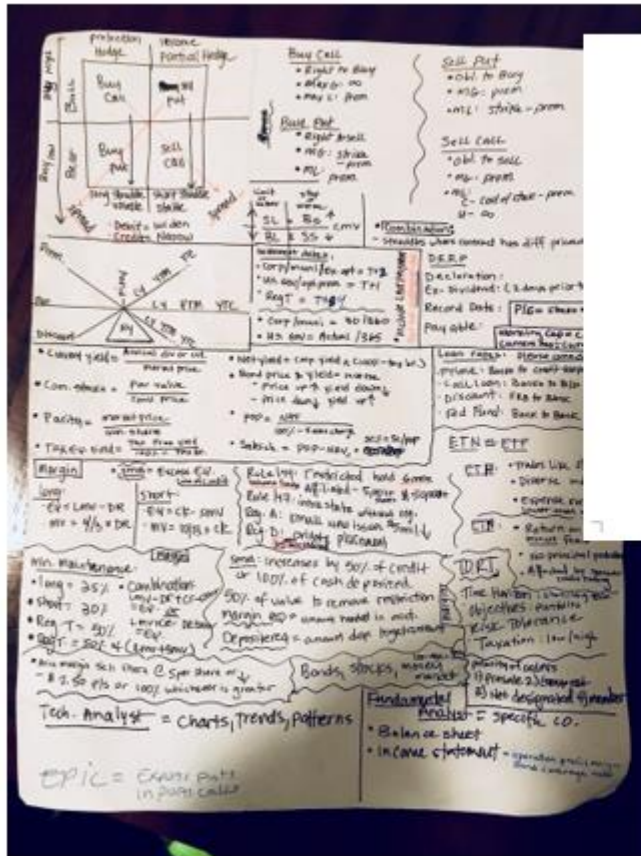
**HOW:**

- 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



## 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!

# MIND MAPS

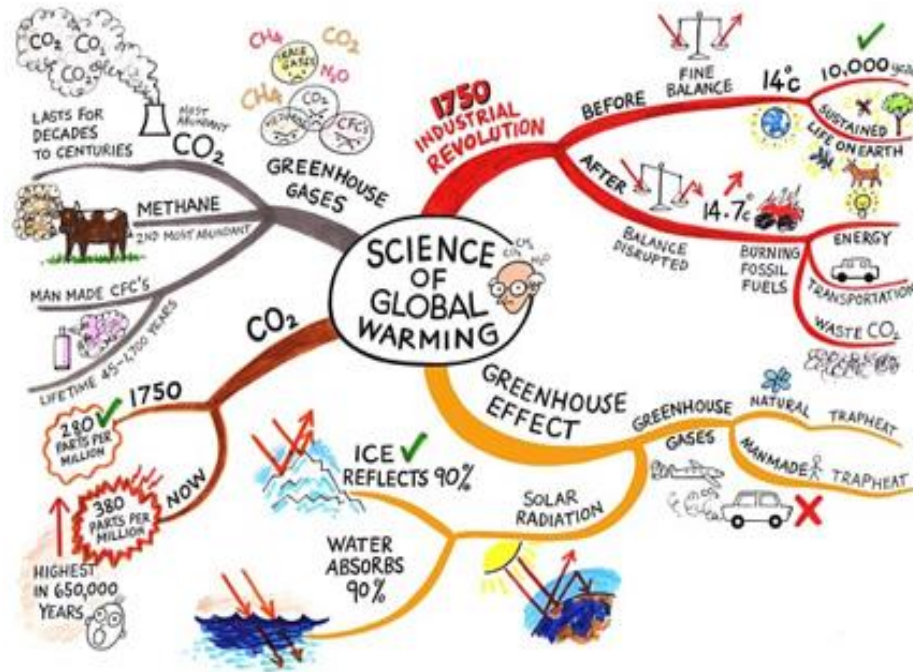
**WHEN:** to organise information from your exercise/text book.

**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.

## Examples of Mind Maps

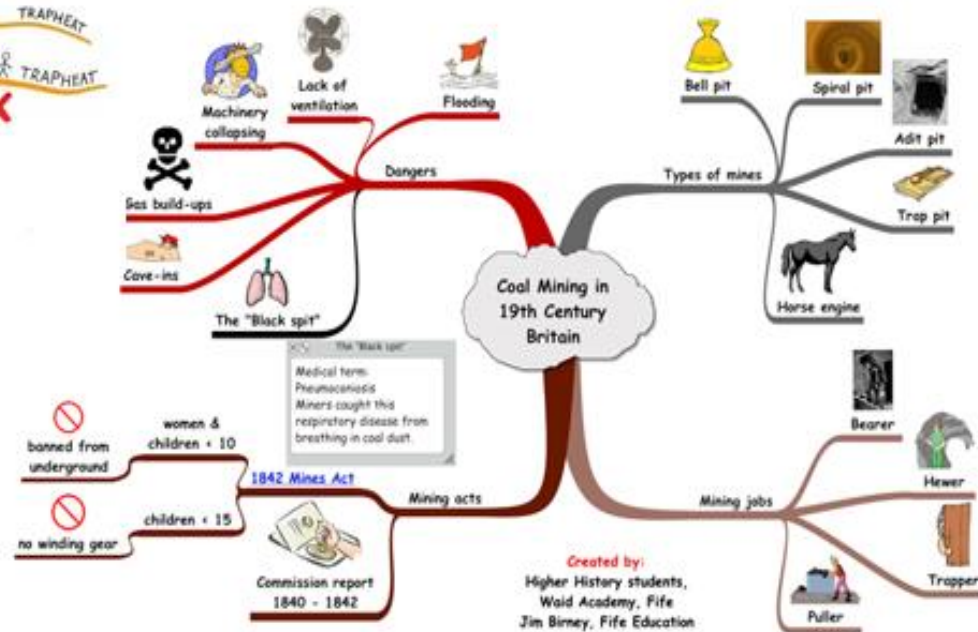


**Top Tip:** Use different colours for each branch of your mind map.

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

**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.



# 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.



## 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!



# 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:

- Richard of York gave battle in vain (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

## 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



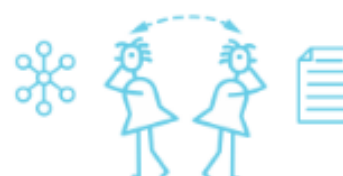
Don't study one topic for too long.  
Switch between topics when studying.

### 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.

## 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!