

Year 8 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
French
Geography
History
ICT and Computer Science
Maths

Music
Physical Education
Science
Spanish
Technology: Food
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: **Focus on Non Western Art and Artefacts: (2D/3D Mixed media)**

I need to know: How to read and interpret cultural influences in contemporary art. How to make connections and extract information to inform your creative process.

Key Words	Definitions
Shape	<i>A shape refers to the external boundary, outline, or external surface of a 3D object. Form refers to the three dimensional quality of an object. It is a surface or boundary that describes a volume or space.</i>
Form	
Volume	<i>Volume is the quantity of three-dimensional space enclosed by a closed surface, for example, the space that a substance or shape occupies or contains.</i>
Line	<i>As a visual element in art and photography, a line can be explicit and also implied. When joined it forms a shape. The quality of line used can convey meaning: i.e. thick - heavy, thin - fragile, faint - delicate, bold - loud, curved - natural, straight – mechanical...</i>
Primary Source	<i>In the study of art history, a primary source is an artefact, document, diary, manuscript, autobiography, recording, or other source of information. In practical work, the artist looks directly at the subject of study, i.e. the real face, object or landscape.</i>
Secondary Source	<i>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. In practical work, the artist may use a photograph/s to draw from combining multiple sources of information.</i>
Synthesis	<i>Bringing together a number of visual and tactile resources to design a unique sculptural form. The outcome might resemble elements of each but may not be recognisable.</i>
Visual Analysis	<i>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.</i>
Measuring	<i>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.</i>
Estimating	<i>Estimating in art usually occurs between the processes of measuring, comparing proportion and translating the real world to the 2D or 3D surface. By re-comparing, your estimations become progressively more accurate with increasing information.</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>

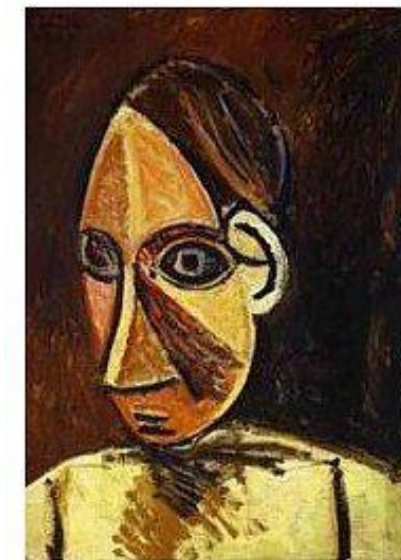
Arrow Tasks: Compare and reflect upon the influence of cultural artefacts in the making of contemporary art.



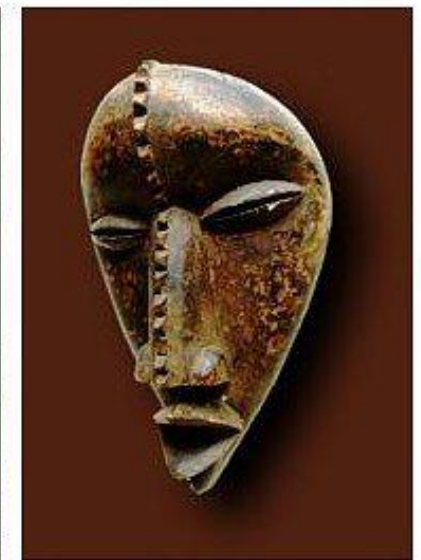
American Indian Mask Design



Student work.



Picasso Painting influenced by African Mask design.



Topic: **Focus on Non Western Art and Artefacts: (2D/3D Mixed media)**

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.
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...



Wilfredo Lam. 1954. Idolo Foresta.



Victor Brauner. 1903-1966.

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: *Selecting, composing, line, shape, form, 3D / mixed media dexterity...*

Contexts: *History, responsibility, connections, narrative, meaning...*

Rules: *Appreciation, analysis, exploration, heritage, aesthetics...*

Audience: *Personal space, community space, purpose, contemporary context...*

Resolution: *Primary and secondary sources, scale, representation, abstraction, resilience, resolving...*

Communication: *Abstraction, representation, evaluation, talk, community engagement, manage emotions...*

Legacy: *Materials, honesty, heritage, culture, celebration, purpose...*

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 **Effective Participation:** Interpret. Contextualise. Discuss issues, resolve questions, plan practical steps, identify improvements, share, influence others, negotiate, compromise, advocate.

Further thinking (why does this matter?):

It is important to us all that we recognize, appreciate and celebrate how humanity appropriates ideas. Art, design, architecture, fashion and film is influenced by a web of cultural references permeating our lives over time.

https://www.saatchigallery.com/artists/yasumasa_morimura.htm



Topic: Being a Theatre Technician

- I need to know: How to explore, select and develop ideas from real life and build them into a performance: Make, Perform, Respond

<u>Key Words</u>	<u>Definitions</u>
Process Drama	Exploring life through Drama.
Ensemble	Working together on stage to create.
Story	Developing content.
Auto-biographical	About your own life
Narrative	The way in which the story is told.
Verbatim	Theatre that uses the real words spoken
Docudrama	Theatre in a documentary style – based on a true story.
Forum Theatre	Performance technique that allows a performance to develop as it goes.
Audience interaction	The audience participating in the performance

Arrow Tasks: Research Augusto Boal and Forum Theatre

Develop a sequence of monologues charting your own lockdown experiences.



Wider Reading

Augusto Boal

The Laramie Project

Paper Birds

Any film / TV series based on the life of a real person.

What We Do:

- Explore and develop our own stories of life in lockdown.
- Develop skills in monologue writing and performance.
- Look at the work of others in docudramas and verbatim theatre.
- Write and perform our own work based on true stories.

Subject: English

Topic: English Speaking Board Exam

Year: Year 8 Summer 2

I need to know: How to take part in an interview, write a CV and prepare and deliver a pitch.

Prepare and Deliver a Pitch

Your pitch must include:

A detailed and original plan for your product/service
You must show personal interest in your product/service

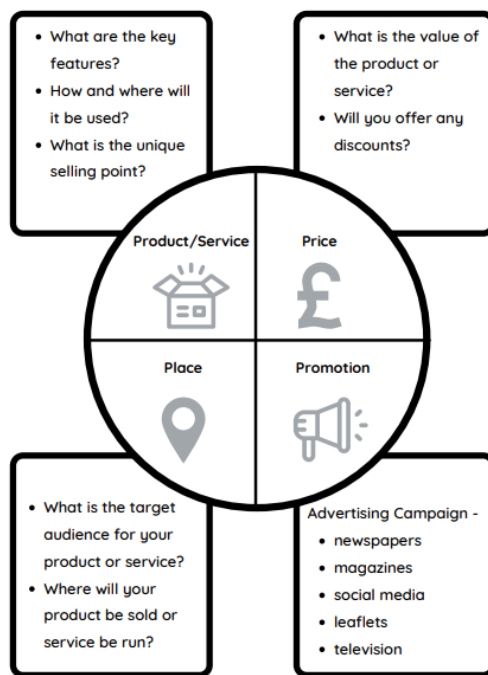
A minimum of two advantages of the product/service

Each advantage must be well explained. You must use persuasive techniques in your pitch e.g. rule of three, alliteration and facts

A detailed poster presentation including:

- Headings
- Subheadings
- Visuals (e.g. drawings, images, photos)

Prompt cards



Employability Talk

In preparation, consider the following:

- What is your chosen job, career or famous person in business?
- What does your chosen job or career involve?
- What skills are required for your chosen job or career?
- What does a day in the life of your chosen job or career involve?
- What does the career of your chosen famous person in business involve?
- Why is the job or career of interest to you?
- Why do you find your chosen famous person in business inspiring?
- How do you get into your chosen job or career e.g. the qualifications required?
- How did your chosen famous person in business get into their career?

BBC Bitesize, How to Pitch like a Pro - <https://www.bbc.co.uk/bitesize/articles/znqfhhbk>
How to Pitch Yourself and Your Ideas - <https://www.bbc.co.uk/bitesize/articles/zhdqxqp3>
BBC Bitesize, Business Plans - <https://www.bbc.co.uk/bitesize/guides/z7t3f4j/revision/1>
How to Persuade Your Audience - <https://www.bbc.co.uk/programmes/p01lmc9w>
BBC Four, Getting Your Message Across - <https://www.bbc.co.uk/programmes/p01lmbnd>

ESB Award Overview

Section 1 Employability Talk (40% of assessment)

Section Aims -

- To learn about the skills and qualifications required for a variety of career paths.
- To gain knowledge on the labour market.

Assessment -

Deliver a 4 minute talk, with knowledge and enthusiasm, about a famous or successful person in business or about a job or career that is of interest to you. The talk needs to be supported by a visual presentation (poster).

Section 2 Take Part in an Interview (20% of assessment)

Section Aims -

- To learn about the layout of a Curriculum Vitae (CV) and the information that needs to be included on a CV.
- To understand how to prepare for undertaking an interview.

Assessment -

Take part in a 2 minute friendly and supportive interview with an assessor based on your CV. You need to provide the assessor with a hard copy of your CV and respond to questions positively.

Section 3 Prepare and Deliver a Pitch (20% of assessment)

Section Aims -

- To learn how to structure and present a business pitch.
- To learn about the different persuasive writing techniques and how to use them within your pitch to sell your product or service.

Assessment -

Prepare and deliver a 2 minute business pitch for a product or service of your own invention. The talk needs to be supported by a visual presentation poster.

Section 4 Listening, Responding and Exchanging Views (20% of assessment)

- Listen and respond to questions from the group and the assessor in the first three assessments (sections 1, 2 and 3).
- Actively contribute to the group discussion by asking questions and offering comments.

Return to contents page



Topic: What is so radical about Jesus?

Enquiry question – What is so radical about Jesus?

Jesus. In this unit we will look at how Jesus treated society's least lovable people and the challenge this offers to Christians today. Jesus is seen to be radical in these stories because he publicly argues with authority. By his actions Jesus exemplifies what it is to live in accordance with God's will, providing a role model for Christians. Jesus doesn't just want to help people he meets, he wants to make the world a fairer and more just place, whether he is there to help individuals or not. This requires changes to what people think, to custom and tradition. His challenge is particularly focused on the powerful, on the side of the powerless. In this sense Jesus is radical.

Key Words and Definitions

- **Agape:** A Greek word meaning 'love'; refers to Jesus' sacrificial & generous love for others.
- **Blasphemy:** speaking against God.
- **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.
- **Messiah:** 'the anointed one'; a rescuer.
- **Parable:** a story with a hidden meaning.
- **Pharisee:** name means 'separated ones' – they had great religious authority, especially concerned with keeping religious laws.
- **Prophecy:** messages from God that sometimes gave a prediction about the future.
- **Rabbi:** religious (Jewish) teacher.
- **Resurrection:** when someone who is declared dead suddenly returns to life.
- **Salvation:** being saved from sin.
- **Sin:** disobedience of the law of God.

I need to know:

- To consider whether Jesus was radical in his behaviour & how Christians may follow his example in daily life.
- To explain how Christians respond to the teaching and example of Jesus.
- To examine the 'Nazareth Manifesto' to evaluate Jesus' role within messianic prophecy.
- To explain the impact of Jesus' teachings on the treatment of the marginalised today.

The Fall & salvation

The book of Genesis – the first book in the Bible – opens with God's creation and gift of a perfect world to humans. However, humanity (Adam & Eve) disobey and betray God's trust. As a consequence, they must leave God's perfect garden, bringing sin and suffering into the world. Christians believe that Jesus is 'good news', not only exemplifying how to live in accordance with God's will, but also by making the ultimate sacrifice (through his crucifixion) leading to salvation to all who turn to him.

Common misconceptions about Jesus

Although Jesus is the most painted figure in the world, there are no records anywhere in the New Testament that describe what he actually looked like, only the sort of person he was. This leads some people to doubt if he even existed because most of what we know about him was written by his follower. However, there is historical, and non-Christian evidence that could confirm Jesus was a real person.

Jesus the prophet

Prophets are messengers of God and Christianity has a long history in the Old Testament of prophets bring God's message to people in order to guide them back to living in accordance with God's will. Christians also claim that one Old Testament prophet, Isaiah, predicted the coming of a future messiah or saviour of humankind about 800 years before the Gospels. Jesus certainly brought God's message, but was this as a prophet or as the messiah?

Jesus the Rabbi

Jesus was a teacher, speaking on moral issues and ideas. His main message is of repentance and forgiveness, rooted in a central message of love. Much of Jesus' work involved healing the sick, some of whom had given up hope of being healed. However, at the time of Jesus, the Jewish people lived under Roman occupation. Some of Jesus' teachings conflicted with the practices of religious authorities at the time, making him a figure of controversy.

Sinners

The term 'sinners' does not necessarily mean people who are particularly immoral. 'Sinner' is a term used by Jewish rabbis of any ordinary Jews who did not follow their particular observance of the Law; similarly, Pharisees used this term to describe people who did not keep to their interpretations of the Law. People considered 'sinners' often belonged to marginalised groups. However, clearly the term also applies to those who deliberately flouted the Law, including prostitutes and tax collectors. Many of the Gospel stories tell of Jesus keeping the company with people considered 'sinners'.

Agape in action

Jesus taught Christians that they must "love your neighbour as yourself." The love Jesus is referring to in this teaching is *agape* love, the idea of doing actual good for others. Many Christians today demonstrate this through their work with marginalised groups. In this topic we explore the work of:

- Street pastors: these are volunteers who support people in need at night on the streets of towns and cities.
- Elizabeth Fry: a 19th century Quaker who dedicate her life to improving conditions in British prisons.

You may also wish to explore how Christian theology was used to attack the slave trade, linking to your History learning.

https://www.bbc.co.uk/religion/religions/christianity/history/slavery_1.shtml

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	<p><u>Aller=to go</u></p> <p>Je vais = I am going</p> <p>Tu vas = you are going (s, friendly)</p> <p>Il/elle /on va = He/she/we is going</p> <p>Nous allons = We are going</p> <p>Vous allez= You are going (polite, pl)</p> <p>Ils/elles vont = they are going (m)</p>	<p><u>être = to be</u></p> <p>Je suis = I am</p> <p>Tu es= you are</p> <p>He/she is = il/elle est</p> <p>Nous sommes = we are</p> <p>Vous êtes = you are</p> <p>Ils/elles sont = they are</p>
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	<p><u>Agreement of adjectives</u></p> <p>Adjectives have to agree with the nouns they describe. Add an "e" to the adjective if it describes a feminine noun, add an "s" if it describes a plural noun</p> <p>Un lion intelligent une girafe intelligente</p> <p>Un lion féroce des lions féroces</p>	
Negative phrase	'is not', 'does not', 'don't', 'never'		
Possessive adjectives	My (in French, there are 3 forms; masculine singular, feminine singular and plural)		

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

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

Topic: Cornwall

I need to know: In this topic you will explore our wonderful county of Cornwall! You will investigate some of the key physical features found in Cornwall, the changing population of the county and how this has changed over time – impacting on both jobs, and culture. You will then investigate how and where the Cornish culture has spread across the rest of the world!

Key Words	Definitions
County	A territorial division of a country (e.g. Cornwall, Devon etc).
Physical Features	Natural features that you find on the Earth's surface.
Geology	The study of the Earth. Through studying rocks, we can understand how the Earth has changed through time
Population	The whole number of people living in a country, city, or area.
Economy	People produce goods and services, which other people buy. The economy means the whole network of people producing and consuming goods
Industry	An industry is a group of companies that are related based on their primary business activities. There could be primary, secondary, tertiary and quaternary industries.
Culture	The differences in way of life for a certain group. It includes ideas, attitudes, language and traditions.
Your teacher will give you any more key words that you learn about.	

Arrow Tasks:

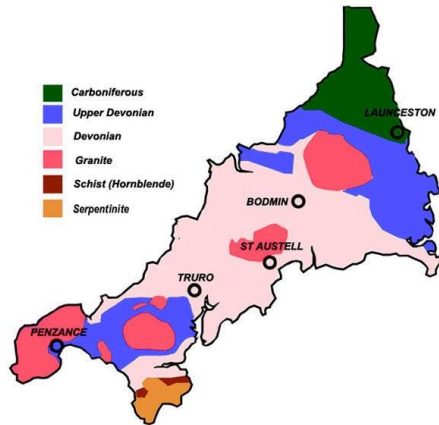
These tasks will be asked of you in lesson to help extend and further your understanding. Can you have a go at any now?

- Explain how and why the industry within Cornwall has changed. Predict what might happen in the future.
- Evaluate the impact that an aging population within Cornwall may have in the future.

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 into one Cornish myth or legend. Find out the story. Where in Cornwall did this supposedly take place? How does this link to Cornish Culture?

The Physical Geography of Cornwall



The geology of Cornwall is largely made up of igneous rock, such as granite. It has many in land physical features, such as high tors, rivers, lakes and moorland; as well as coastal features, such as beaches, bars, sand dunes and caves.



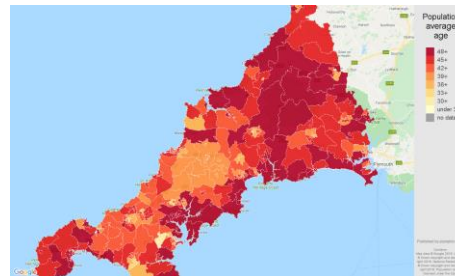
Cornwall Over Time



Traditional industries such as mining, fishing and farming happen much less in Cornwall now than in the past. Many of the jobs found in Cornwall now are in the 'service' industry. Around 25% of all the jobs in Cornwall are linked to the tourist industry.

The Human Geography of Cornwall

Cornwall is home to approximately 570,000 people. This number changes considerably in the summer months. Many of the people that live here are either younger families or retired people. This will impact the economy of Cornwall as many people who are of working age move out of the county in order to find higher paying work. This can be described as a push factor for Cornwall.



Topic: The Civil Rights Movement

I need to know: The end of Slavery in the USA in 1865 did not make Black people in America equal immediately. Some people did see Black people as equal but lots, particularly in the south did not. It would take a long time for Blacks to be treated fairly by everyone. Black people faced segregation – different facilities for Blacks and Whites e.g. schools, waiting rooms. Protesters like Rosa Parks and Martin Luther King worked hard to gain equal rights for Black people in the 1950s and 1960s.

Key Words	Definitions
Segregation	The policy of keeping Blacks and Whites apart
Discrimination	Treating someone badly due to skin colour, race, religion
Racism	The belief that one race is better than another
Civil Rights	The rights for equal treatment in work places, schools, transport, housing, public places etc.
KKK	The Ku Klux Klan – a group of White people that would attack, threaten and intimidate Black people
Emmett Till	A 14-year-old Black boy who was murdered for speaking to a White woman in a shop
'Little Rock 9'	A group of Black children who wanted to stop segregation and so went to a school for White children. Government soldiers had to protect them
Rosa Parks	A 42-year-old woman who refused to move seats on a bus
Montgomery bus boycott	To support Rosa Parks and campaign for equality on buses the Black people protested in Montgomery by refusing to use the bus. It lasted a year and was successful – the law changed.
Martin Luther King	Probably the most famous campaigner for Civil Rights in America.
'I have a dream'	The name given to the famous speech given by Martin Luther King in 1963. One of the most well know speeches ever.
Civil Rights Act	A law that said Black and White people had to be treated the same. A great achievement but took a long time to happen

Arrow Tasks: Who was the most significant person in Civil Rights Movement?

Write your own speech that could have been given by Martin Luther King to campaign for equality and fairness.

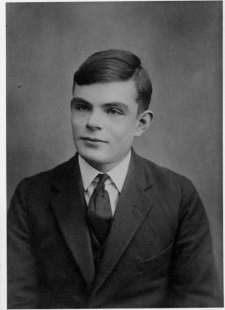


Top left: Black students at Little Rock being walked into school by soldiers
 Top Right: Rosa Parks – arrested for not moving on a bus for a White man
 Bottom left: Example of a Segregation sign that kept people
 Bottom Right: Martin Luther King in Washington – 'I have a dream' speech

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

Computing | Back to the future | Summer Term

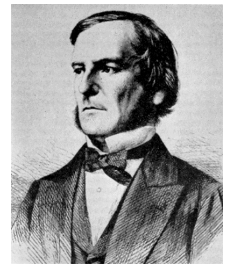
I need to know: Some of the famous figures in the world of computing e.g. **Alan Turing**, **Sir Tim-Berners-Lee**, To understand how messages can be encrypted using ciphers. To understand how to use a cipher key to decipher codes. To consider the impact that the world wide web has had on the world and where we would be without it. To understand the basic Boolean logic gates of **AND**, **OR** and **NOT**.



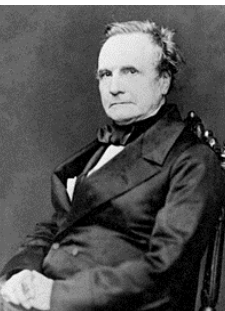
Alan Turing played a vital role in deciphering the messages encrypted by the **German Enigma machine**, which provided vital intelligence for the Allies. He took the lead in a team that designed a machine known as the '**bombe**' that successfully decoded German messages.



Berners Lee is a British computer scientist who invented the World Wide Web. He also created the first **web browser** and editor. The world's first **website**, <http://info.cern.ch>, was launched on 6 August 1991. It explained the World Wide Web concept and gave users an introduction to getting started with their own websites.



English mathematician who helped establish modern symbolic logic and whose algebra of logic, now called Boolean algebra, is basic to the design of digital computer circuits. He **invented Boolean Logic** which is a logical theory which is centred around three simple words known as Boolean Operators: "**OR**," "**AND**" and "**NOT**"



The **calculating engines** of English mathematician Charles Babbage (1791-1871) are among the most celebrated icons in the prehistory of computing. Babbage's **Difference Engine No. 1** was the first successful automatic calculator and remains one of the finest examples of precision engineering of the time.

Cipher	A Cipher is a 'Secret Message' often written in code
Decipher	A method to unscramble a cipher so that the 'Secret Message' can
Encryption	A method used to scramble messages so that if they are intercepted
The Enigma	This is the machine that the Germans invented to write their
www	The world wide web, or web for short, are the pages you see when
The	Is the network of connected computers that the web works on, as
HTML	Stands for Hyper Text Markup Language. <i>HTML</i> is the standard markup language for Web pages. <i>HTML</i> elements are the building blocks of <i>HTML</i> pages.
CPU	The brain of the computer
Logic	The formal processes used in thinking and reasoning
Logic Gates	The basic building blocks of a digital circuit

AND



Inputs		Output
A	B	C
0	0	0
0	1	0
1	0	0
1	1	1

OR



Inputs		Output
A	B	C
0	0	0
0	1	1
1	0	1
1	1	1

NOT



Input	Output
A	C
0	1
1	0

What do I need to be able to do?

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

- Recognise line symmetry
- Reflect in a horizontal line
- Reflect in a vertical line
- Reflect in a diagonal line

Keywords

Mirror line: a line that passes through the centre of a shape with a mirror image on either side of the line

Line of symmetry: same definition as the mirror line

Reflect: mapping of one object from one position to another of equal distance from a given line.

Vertex: a point where two or more line segments meet.

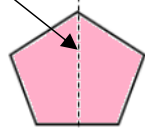
Perpendicular: lines that cross at 90°

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)

Lines of symmetry

Mirror line (line of reflection)



Parallelogram

No lines of symmetry



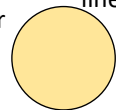
Rhombus

two lines of symmetry



Shapes can have more than one line of symmetry....

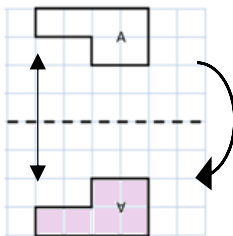
This regular polygon (a regular pentagon has 5 lines of symmetry)



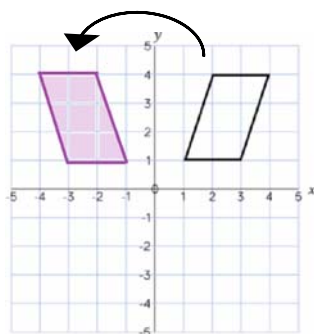
A circle has an infinite amount of lines of symmetry

Reflect horizontally/ vertically (2)

All points need to be the same distance away from the line of reflection



Reflection in the line y axis – this is also a reflection in the line $x=0$

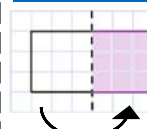


Lines parallel to the x and y axis

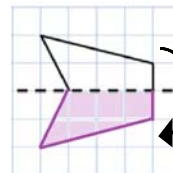
REMEMBER

Lines parallel to the x-axis are $y = \underline{\hspace{1cm}}$

Lines parallel to the y-axis are $x = \underline{\hspace{1cm}}$

Reflect horizontally/ vertically (1)

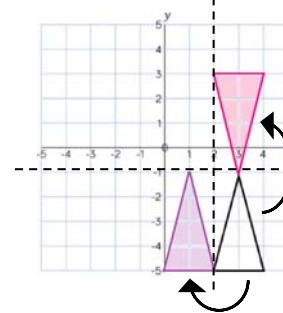
Reflection in a vertical line



Reflection in a horizontal line

Note: a reflection doubles the area of the original shape

Reflection on an axis grid

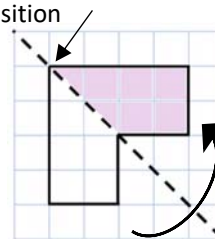


Reflection in the line $y=-2$

Reflection in the line $x=2$

Reflect Diagonally (1)

Points on the mirror line don't change position



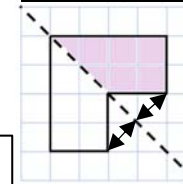
Fold along the line of symmetry to check the direction of the reflection

Turn your image

If you turn your image it becomes a vertical/horizontal reflection (also good to check your answer this way)



Drawing perpendicular lines

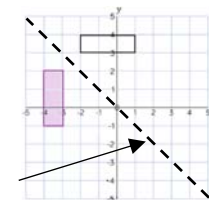
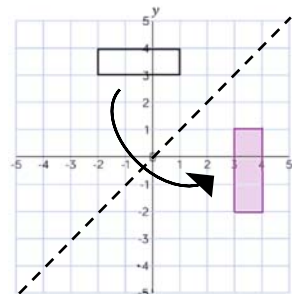


Perpendicular lines to and from the mirror line can help you to plot diagonal reflections

Reflect Diagonally (2)

This is the line $y = x$ (every y coordinate is the same as the x coordinate along this line)

This is the line $y = -x$
The x and y coordinate have the same value but opposite sign



If you turn your image it becomes a vertical/horizontal reflection (also good to check your answer this way)

What do I need to be able to do?

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

- Understand and use mean, median and mode
- Choose the most appropriate average
- Identify outliers
- Compare distributions using averages and range

Keywords

Spread: the distance/ how spread out/ variation of data
Average: a measure of central tendency – or the typical value of all the data together

Total: all the data added together

Frequency: the number of times the data values occur

Represent: something that shows the value of another

Outlier: a value that stands apart from the data set

Consistent: a set of data that is similar and doesn't change very much

Mean, Median, Mode

The Mean

A measure of average to find the central tendency... a typical value that represents the data

24, 8, 4, 11, 8,

Find the sum of the data (add the values) **55**

Divide the overall total by how many pieces of data you have **$55 \div 5$**

Mean = 11

The Median

The value in the centre (in the middle) of the data

24, 8, 4, 11, 8,

Put the data in order **4, 8, 8, 11, 24**

Find the value in the middle **4, 8, 8, 11, 24**

Median = 8

NOTE: If there is no single middle value find the mean of the two numbers left

The Mode (The modal value)

This is the number OR the item that occurs the most (it does not have to be numerical)

24, 8, 4, 11, 8,

This can still be easier if the data is ordered first

Mode = 8

Choosing the appropriate average

Here are the weekly wages of a small firm

£240	£240	£240	£240	£240
£260	£260	£300	£350	£700

Which average best represents the weekly wage?

The average should be a representative of the data set – so it should be compared to the set as a whole - to check if it is an appropriate average

The Mean = £307

The Median = £250

The Mode = £240

Put the data back into context

Mean/Median – too high (most of this company earn £240)
 Mode is the best average that represents this wage

It is likely that the salaries above £240 are more senior staff members – their salary doesn't represent the average weekly wage of the majority of employers

Identify outliers

Outliers are values that stand well apart from the rest of the data

Outliers can have a big impact on range and mean. They have less impact on the median and the mode

Sometimes it is best to not use an outlier in calculations

Height in cm
 152 150 142 158 182 151 153 149 156 160 151 144

Where an outlier is identified try to give it some context. This is likely to be a taller member of the group. Could the be an older student or a teacher?



Outliers can also be identified graphically e.g. on scatter graphs

Comparing distributions

Comparisons should include a statement of average and central tendency, as well as a statement about spread and consistency.

Here are the number of runs scored last month by Lucy and James in cricket matches

Lucy: 45, 32, 37, 41, 48, 35

James: 60, 90, 41, 23, 14, 23

James has two extreme values that have a big impact on the range

Lucy **Mean:** 39.6 (1.d.p), **Median:** 38, **Mode:** no mode, **Range:** 16

James **Mean:** 41.8 (1.d.p), **Median:** 32, **Mode:** 23, **Range:** 76

"James is less consistent than Lucy because his scores have a greater range. Lucy performed better on average because her scores have a similar mean and a higher median"

[Return to contents page](#)

KEY FEATURES OF REGGAE MUSIC

Off-Beat	Guitar & Piano emphasise chords on beats 2 & 4 or on the second weaker quaver e.g. 1+ 2+. This is called chop .
Organ Shuffle/Bubble	Left hand plays offbeat quavers whilst the right hand plays the offbeat chop .
Staccato	When notes are played short and detached.
Riff	Repeated music pattern. Often the bass-line will be based around a riff.
Chord Pattern	Often quite simple, repeated chord patterns used throughout a song.
Rim Shot	Where the drum stick hits the rim and the skin of the snare drum simultaneously.
Political Lyrics	Songs often critical of politics and raise awareness of social issues such as racism and poverty
Horn Stabs	Short interjecting melodies played by the 'horn section'

Reggae Instrumentation

Vocals - Lead singer

Backing Vocals - often 2 or 3 backing singers would be in the band. Often sing responses to the lead vocal line and sometimes add harmonies.

Guitar - electric guitar, often quite thin sounding playing 'chop' chords

Piano - often doubling the chop chords played on guitar. Played staccato.

Organ - plays the 'Bubble' - quite a tricky part to master. The 'Hammond' organ was popular with artists in the 1970s.

Bass Guitar - played with a heavy and deep sound by boosting the low frequencies.

Horn Section - usually comprise of trumpet, saxophone & trombone. They often play introductions and 'stabs'.

REGGAE DRUM GROOVES

REGGAE DRUM GROOVES		Have a listen...
One Drop	You don't hit on beat 1. You play the kick drum on beat 3.	'One Drop' - Bob Marley
Stepper	The kick drum is played on all 4 beats, which gives a strong driving rhythm.	'Exodus' - Bob Marley
Rocker	Beats 1 and 3 are emphasised.	'Night Nurse' - Gregory Issacs

DEVELOPMENT OF REGGAE

MENTO:

- Jamaican folk music popular in the 1950s
- Used guitar, banjo & drums
- Featured lots of verses (Strophic Form)
- Light-hearted lyrics of every day life

SKA:

- Fast dance music that emerged in the late 1950s
- Fuses American Rhythm & Blues with Mento rhythms
- Uses electric guitars and jazzy horn sections (trumpets, saxophones & trombone)
- Uses offbeat jumpy rhythms
- Has lyrics about local issues

REGGAE:

- Slower than Ska and emerged in the 1960s
- Amplified bass guitar riffs
- Associated with **rastafarianism** (a religious movement worshipping Haile Selassie)
- Characteristic rhythm in 4/4 with missing beat emphasis
- Repeated off beat quavers
- Verse & Chorus form

ROCK STEADY:

- Dance music that emerged in the mid-1960s
- Rhythms more relaxed than Ska
- Loud bass guitar playing steady 4/4 beat
- Political themes in lyrics

DUB:

- Popular in the 1970s
- Instrumental remixes of existing reggae tracks
- Most of the vocals would be removed
- Drum and bass parts emphasised
- Effects such as echo delay and reverb added.
- Early form of popular electronic music.

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>
<u>Interpersonal Skills</u>	The ability to communicate or interact well with other people.
<u>Teamwork</u>	The combined action of a group, especially when effective and efficient.
<u>Communication</u>	The use of word, behaviours, and body language to share information.
<u>Leadership</u>	The art of motivating a group of people to act toward achieving a common objective.
<u>Followship</u>	A willingness to accept direction and guidance from a leader.
<u>Active Listening</u>	The process by which an individual secures information from another individual or group whilst building strong relationships.
<u>Conflict Resolution</u>	The informal or formal process that two or more parties use to find a peaceful solution to their dispute.
<u>Responsibility</u>	The state or fact of having a duty to deal with something or of having control over someone.
<u>Empathy</u>	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 2

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

Arrow Tasks:

Explain why the average number of skeletons in the human body is more than one.

Standard Form:

0.001	=	1×10^{-3}
0.01	=	1×10^{-2}
0.1	=	1×10^{-1}
10	=	1×10^1
100	=	1×10^2
1,000	=	1×10^3
10,000	=	1×10^4
100,000	=	1×10^5

Averages:

Values: a, b, c, d
 Average = $(a+b+c+d) \div 4$
 The reason we $\div 4$ is because there were 4 values. Remember, the average can **never** be less than the **smallest** or **bigger** than the **biggest** value.

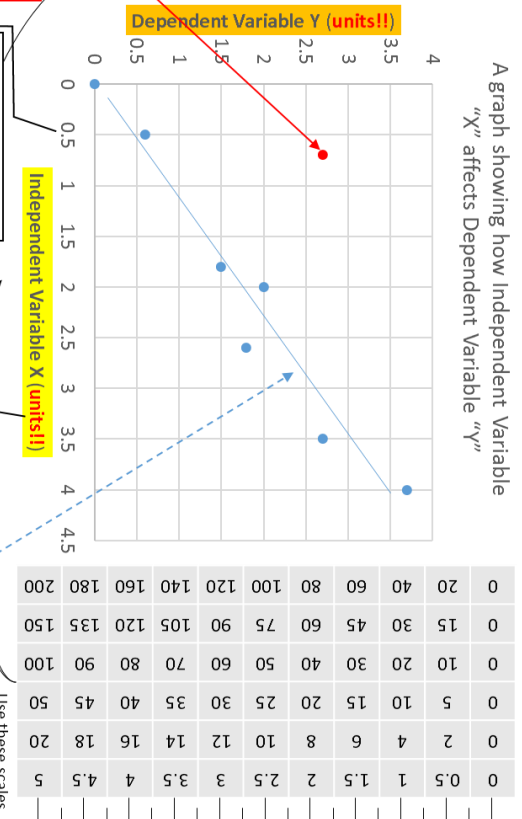
Independent Variable: X-Values	Dependent Variable: Y-Values
0	0
0.5	0.6
0.7	2.7
1.8	1.5
2	2
2.6	1.8
3.5	2.7
4	3.7

Anomalous results (outliers) are results which are inconsistent with other observations. An outlier may be due to variability in the measurement or it may indicate experimental error; the latter are sometimes excluded from the data set.

Linear Scale – Start at Zero unless there is a very good reason not to. ALWAYS go up in even sized steps / chunks! Logarithmic scales aren't generally necessary at GCSE level.

Don't forget to include an axis TITLE and units! Put units in brackets after the axis title. E.g. (cm), (secs), (mins).

A line of best fit is usually straight or simply curved. After discounting anomalous results (or outliers), the line should be as close to all points as possible.



Why does it matter?

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

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

Topic: Working Scientifically 2

I need to be able to: Analyse data, devise questions and discuss limitations of investigative work.

Key Words	Definitions
Linear relationship	When two variables are graphed and show a straight line which goes through the origin, and they can be called directly proportional.
Outlier	A piece of data that does not fit the pattern.
Mean	An average of a set of data, calculated by adding all the values and dividing by the number of values.
Experimental error	Variations in measurements, owing to the method, measurement techniques or the instrument.
Random and systematic error	Random errors are when the same quantity is measured and inconsistent values obtained. Systematic errors arise from an inaccuracy in the system and give rise to errors of the same value
Hypothesis	An explanation you can test which includes a reason and a 'science idea'.
Observation	Information gathered by your senses.
Prediction	What you think will happen in an experiment
Evidence	Measurements or observations offered to support or oppose a theory.
Argumentation	Using logical reasoning, debate and negotiation to reach conclusions
Bias	When an experimenter affects the outcome, or when a journalist favours a point of view.
Risk:	How likely something is to be harmful
Hazard:	situation that presents a threat to people
Control measure	An action taken to remove the hazard or to reduce the exposure to it.

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**.

Simple Conclusions

The perfect **CONCLUSION** should start:

As _____ increases, _____

↑
Write what the independent variable is here

↑
Write what the dependent variable is here

↑
Choose the right word: increases, decreases or stays the same

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?

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).

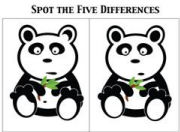
Follow the steps and conduct an experiment.

Compare and Evaluate Questions



COMPARE means say **SIMILARITIES** and **DIFFERENCES**

You must use words like cheaper, stronger faster, colder, etc

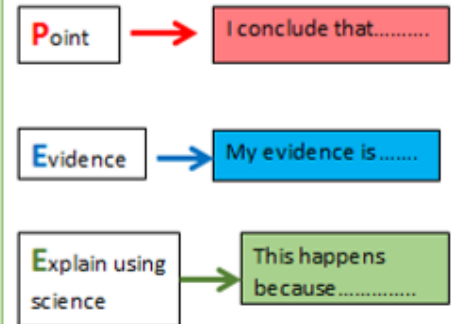


EVALUATE means say the **PROS** and **CONS** for each one

Remember, things can be better in some ways and worse in others. You don't have to just pick one.



Conclusion from your data



Spanish, year 8- Reutilizar, Reducar, Reciclamos

I need to be able to discuss how to help the environment: Reusing, reducing and recycling.

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

Me preocupa(n): To say I am worried and I am concerned.

Nos preocupa(n)- We are worried

Remember to add the letter 'n' if the word that follows is plural.

It works the same for:

Me fastida

Me irrita

Me molesta

Which all mean 'I am annoyed about...'

Comparative

You use the comparative to say that something 'is more modern' or 'bigger' and so on, than something else.

**más + adjective + que-
more.... than**

**menos + adjective + que-
less...than**

The adjective must agree with the noun.

Future Tense

The future tense is used to express what will take place.

(WILL)

Regular Endings
(add these to the infinitive of a verb)

Yo -é
tu-ás
él/ella-á
nosotros -emos
vosotros -éis
Ustedes-án.

Challenge:

Create an organisation and campaign to help the environment in the local area - poster/presentation

	español	inglés
1	¿Qué te importante más- reutilizar, reciclar o reducir?	What is more important- Reusing, recycling or reducing?
2	Me importante más reutilizar cosas.	The most important thing for me is reusing things.
3	y no reducir magosto de recursos.	and not to reduce major resources.
4	¿Qué haces para reutilizar cosas?	What things can you reuse?
5	Primero, uso pilas recargables.	Firstly, rechargeable batteries
6	¿Qué haces para reducir el malgasto de recursos?	What do you do to reduce the waste of resources?
7	Ahorro energía y ahorra la luz.	Save energy and turn off the light
8	Me pongo un jersey en vez de poner la calefacción.	I put on a sweater instead of putting on the heating
9	Y evito el uso de combustibles fósiles y uso el transporte público.	And I stop using fossil fuels and I use public transport
10	¿Qué haces para reciclar?	What do you do to recycle?
11	Reciclo las latas, el papel y el cartón.	I recycle cans, paper and cardboard.
12	y separo la basura.	and I separate the rubbish.
13	En cinco años, me gustaría trabajar en Costa Rica, por salva las tortugas	In 5 years, I would like to work in Costa Rica to save the turtles.
14	Y limpiar los playas.	And to clean the beaches.
15	Qué haces por el medio ambiente?	What do you do for the environment?
15a	Eres ecológico/a?	Are you eco-friendly?
16	Sí, soy bastante ecológico/a	Yes, I am quite eco-friendly
17	Uso menos electricidad.	I use less electricity.
18	Cojo el autobús...	I take the bus...
19	Apago los luces y cierro las ventanas también reciclo la basura.	I switch off the lights and I close the windows, also I recycle the rubbish.
20	Debes reciclar botellas, papel y vidrio.	You should recycle bottles, paper and glass.
21	Se puede tomar una ducha en vez de un baño.	You can have a shower instead of a bath.
22	Deberíamos usar transporte público.	We should use public transport.

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.



[Return to contents page](#)

Topic: Treasure Box

I need to be able to:

- learn about the Art deco design 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

* Design process



*

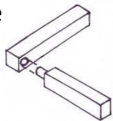
CAD



* CAM



* Dowe



* QCC

QUALITY CONTROL



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.

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.

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.

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.

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 products which are not up to the required standard.

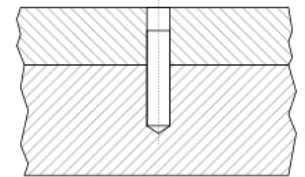
New materials, tools and equipment used in the treasure box project



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

Return to contents page

Topic: Eco Bag

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

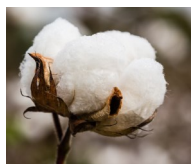
* Stencil



* Calico



* Natural fibres



* Man-made fibres

**Definitions**

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.

A strong, coarse fabric made from the jute plant.

Fibres that have been produced by plants and animals. These fibres can be spun and then woven.

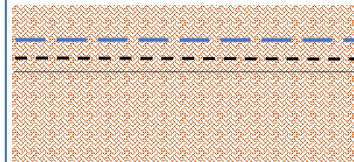
A type of fibre that is made artificially, such as polyester. These are often called 'synthetic'.

Stage 1



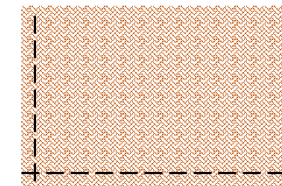
Firstly, get two pieces of calico and scrape paint on one side in the style of Jasper Johns and then stencil the lettering.

Stage 2



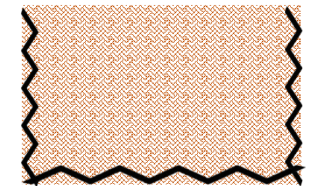
To create the top hem, fold the top of the bag 1.5cm and fold again. Then pin, tack and machine sew. Do this for the top of both panels.

Stage 3



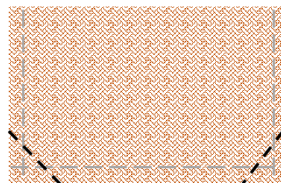
Then pin, tack and sew the two panels of the bag together, with the printed sides facing inwards.

Stage 4



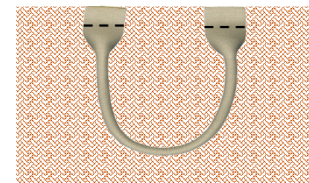
Using the sewing machine's zig zag setting, sew the sides and bottom of the fabric to stop it from fraying.

Stage 5



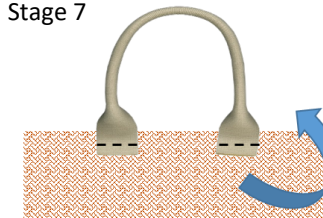
Pinch the two bottom corners and pull them to create a straight edge. Machine stitch along the straight line.

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!

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

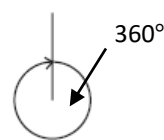
Right-angled triangle: a triangle with a right angle

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)

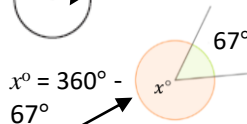
Sum of angles at a point**Find angle BOE**

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

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

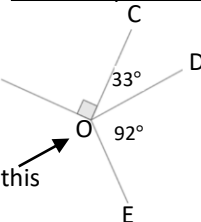
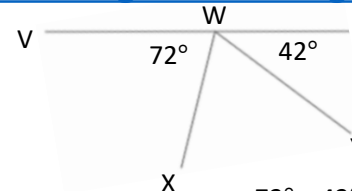
$$\text{BOE} = 155^\circ$$

Angle notation – find this missing angle



$$x^\circ = 360^\circ - 67^\circ$$

The sum of angles around a point is 360°

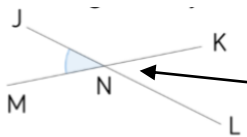
**Sum of angles on a straight line**

Adjacent angles that share a common point on a line add up to 180°

Find angle XWY

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

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

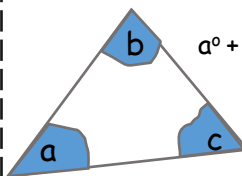
Vertically opposite angles

Angle JNM is vertically opposite to angle KNL

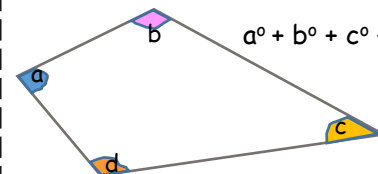
$$\text{JNM} = \text{KNL}$$

Sum of angles in triangles

Sum of interior angles in a triangle = 180°



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

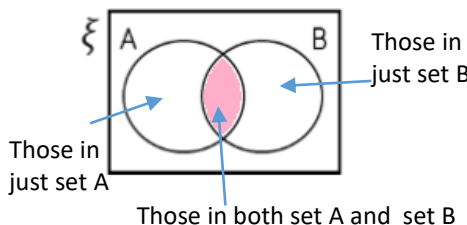
Sum of angles in quadrilaterals

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

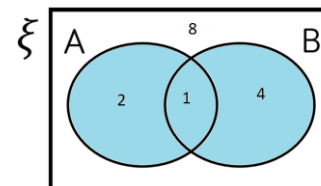
Sum of interior angles in a quadrilateral = 360°

Interpret and create Venn diagrams

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

**Intersection of sets**

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

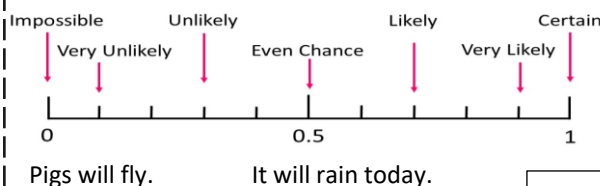
$$\text{This is written as } P(\text{blue}) = \frac{1}{5}$$

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

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

[Return to contents page](#)

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
Time	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

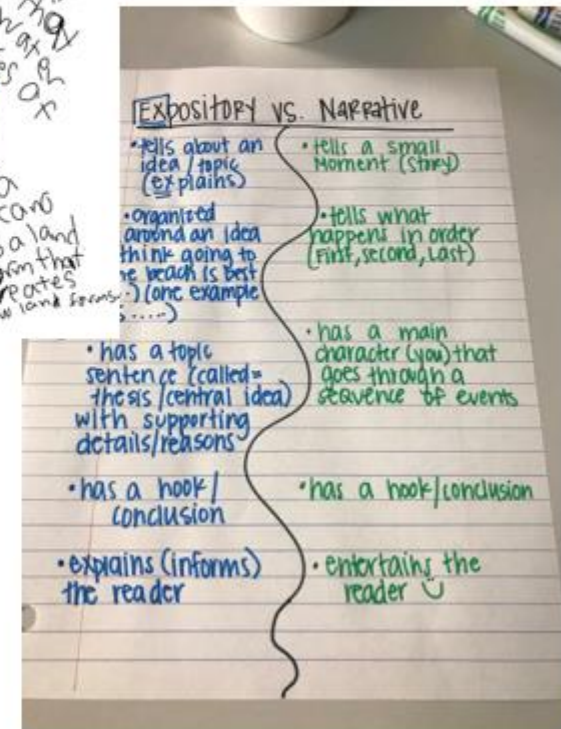
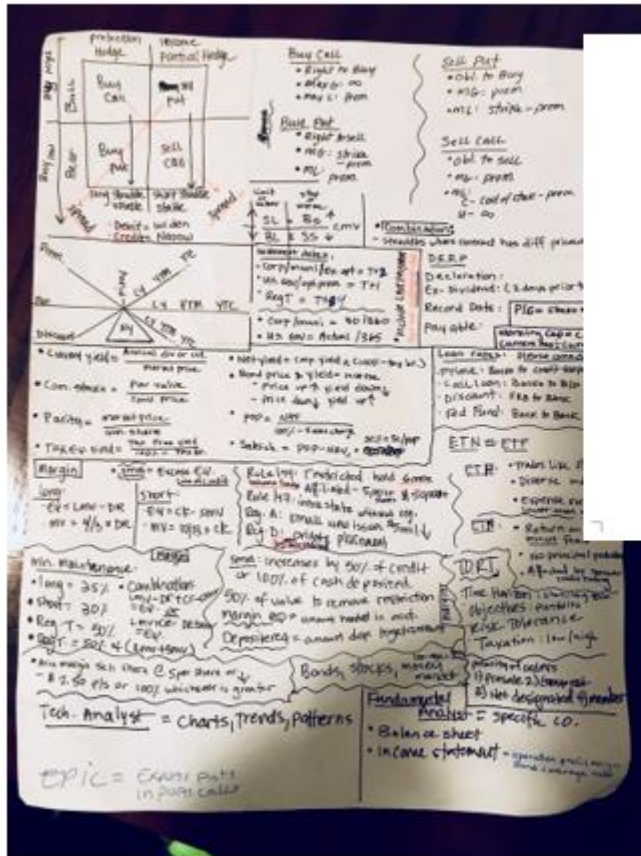
WHEN: beginning of 20 minute revision block

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

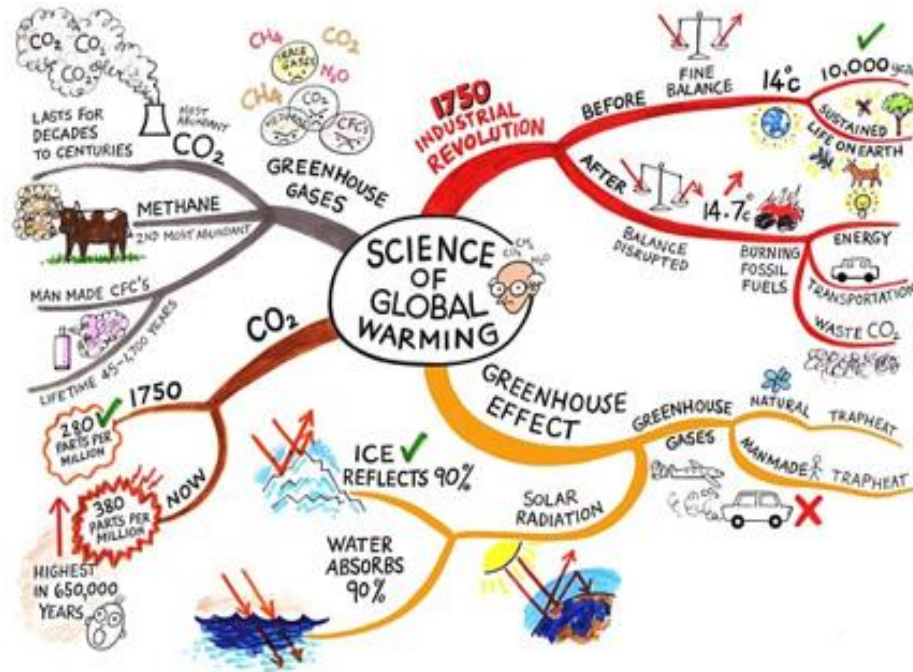
WHEN: to organise information from your exercise/text book.

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

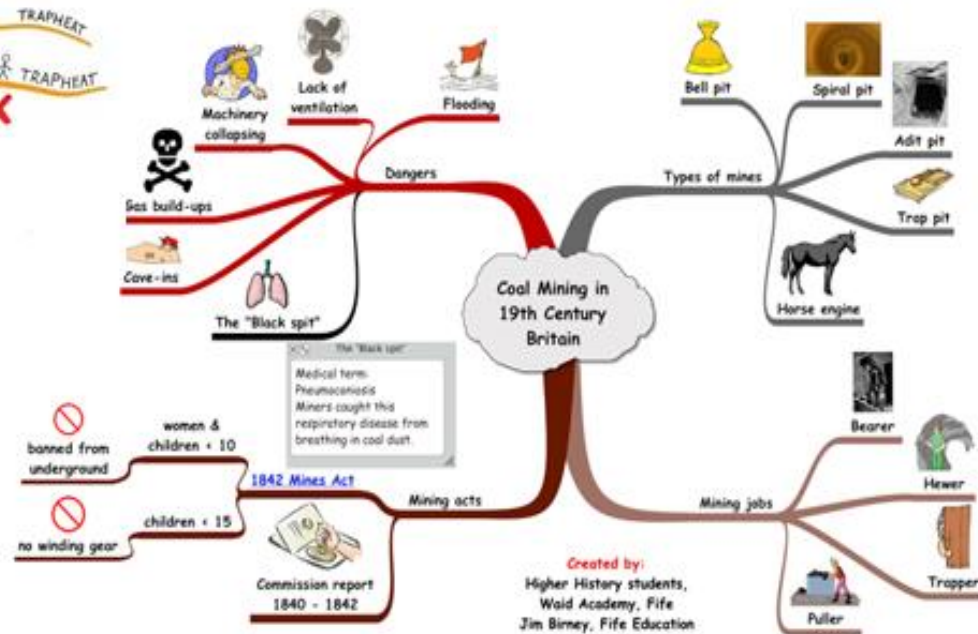


Top Tip: Use different colours for each branch of your mind map.

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!