

SCIENCE

Substance made up of one type of

stronger and more resistant to corrosion. Used in

Topic Corrosion			Metals & Water			Pure Metals & Alloys				
Meta	ls and their uses	Corrosion Rusting	Any reaction with oxygen at the surface of a metal. The corrosion of iron.		F Metal	Reaction with wygen in	eaction ith cold		Pure	Substance made up of one type c
Μ	letal Properties	Word Equation titanium + oxyg	for Corrosion of Titanium Jen → titanium oxide		potassium	air	water		Alloys	Mixtures of metals.
Physical	The properties that describe a substance on its own.	Symbol Equation Ti + $O_2 \rightarrow TiO_2$	on for Corrosion of Titanium		sodium lithium	<u>ಹಿ</u>	555 55	T		Lead mixed with tin- lower melting
Properties	(colour, strength, density, etc.)	Formula	Used to represent the products and reactants in a symbol equation.		calcium magnesium	<u>ð</u>	\ \ \		Solder	point than lead used for fixing
Chemical Properties	How a substance reacts with other substances.	Ratio	Comparison of the proportion of two quantities e.g. in TiO_2 there are two oxygen atoms for every titanium-		aluminium zinc		•••	reactivity		pipes / electrica equipment.
Properties of Metals	flexible, malleable, shiny, good conductors.	Rusting of Iron	More complex than general corrosion- requires water as well.		iron tin	\ \ \	•••	Increasing	Demokrati	with copper and magnesium
	Used in electrical circuits because it is a good	Rusting of Iron V Iron + oxygen +	Word Equation - water → iron hydroxide		lead copper	✓ ✓	••• X	-	Duraiumii	making it lighter and stronger.
Copper	unreactive. Used in water pipes because	Preventing Rust	Use a barrier such as paint/plastic/oil to keep away air/water		mercury silver	•••	× ×			lron mixed with carbon.
	it is unreactive, non- poisonous and malleable.		Metals & Acids		gold platinum	× /	× ×		Stainless	chromium and nickel making it
Aluminium	Used in window frames because it is strong and light.	Potassium - Lithium	React explosively with dilute acids.		Key				Steel	stronger and more resistant to
	oxygen.	Calcium - Zinc Iron - Lead	React very quickly with dilute acids. React slowly with dilute acids.		fire	view reac quick	ts very kly or partial	v reacts quickly		corrosion. Used in cutlery.
Metals & Oxygen	metal + oxygen → metal oxide	Copper - Platinum	Do not appear to react with dilute acids at all.			reac	tion	reaction	Explaining Strona	g How Alloys Are
<u> </u>	oxide Metals react with halogens	Effervescence	ine production of a gas. Occurs when metals react with an acid. Metals react with acids to form hydrogen and a salt			How qu	ickly /	vigorously	large	into new positions
Metals & Halogens	and other non-metals. e.g. zinc + fluorine \rightarrow zinc	Metals & Acids V metal + acid \rightarrow s	Vord Equation salt + hydroaen	ĸe	activity	somethi	ing rec	icts.	Metal ato arranged in	ms are A large force will In an alloy, the different layers. move the layers. atoms jam up the structure so the layers cannot slide so easily.
	fluoride Speed up chemical reactions	e.g. magnesium	+ sulfuric acid \rightarrow magnesium sulfate + hydrogen The first word in the salt is the metal the second	Re Se	eactivity eries	order of	f their r	eactivity.		Melting and boiling points for
Catalysts	without being permanently changed themselves. Found in cars to help convert	Hydrochloric Acid	depends on the acid used. HCI – forms salts ending in chloride			Metals p hydroxid hydroae	oroduc des an en whe	ce metal d en	Melting /	pure substances are fixed and
Catalytic Converter	dangerous gases into harmless ones- often contain platinum, palladium and rhodium	Sulfuric Acid Nitric Acid Obtgining Salts	H_2SO_4 – forms salts ending in sulfate HNO ₃ – forms salts ending in nitrate Mix the acid and the metal. Filter the solution to remove any excess metal. Heat the solution to	Me Wo	etals & ater	reacting (sodium sodium	g with + wat hydro>	water. ter → kide +	Boiling Points	temperatures. Alloys melt and boil over a range
			evaporate water leaving just the solid salt.			nyaroge	=11)			of temperatures.



MATHS





MATHS

Key Concepts – Enlargement, Similarity & Congruence

Properties of similar shapes:

- The corresponding angles will be the same if shapes are similar.
- Corresponding edges must remain in proportion.



Keywords

Transformation: This means something about the shape has 'changed'.

- **Reflection:** A shape has been flipped.
- Rotation: A shape has been turned.

Translation: A movement of a shape.

Enlargement: A change in size, either bigger or smaller.

Congruent: These shapes are the same shape and same size but can be in any orientation. **Similar:** Two shapes are mathematically similar if one is an enlargement of the other.



To find the centre of enlargement connect the corresponding vertices.



Scale factor 2 -

Double the distance between each vertex and the centre of enlargement.

Questions

- 1. A triangle has lengths 3cm, 4cm and 5cm. What will they be if enlarged scale factor 3.
- 2. Rectangle A measures 3cm by 5cm, B measures 15cm by 25cm. What is the scale factor of enlargement?

ANSWERS: 1) 9cm, 12cm and 15cm 2) 5.

HONESTY | EXCELLENCE | ACCOUNTABILITY | RESPECT | TEAMWORK

Examples



MATHS

Key Concepts – Theoretical Probability

Probabilities can be described using words and numerically.

We can use **fractions**, **decimals or percentages** to represent a probability.

Theoretical probability is what should happen if all variables were fair.

All probabilities must add to 1.

The probability of something **NOT** happening equals:

1 – (probability of it happening)

Keywords

Theoretical Probability Fraction Decimal Percentage Certain Impossible Even chance

Probability scale:



There are only red counters, blue counters, white counters and black counters in a bag.

Colour	Red	Blue	Black	White
No. of counters	9	3	5	2

- 1) What is the probability that a blue counter is chosen? $\frac{3}{19} = \frac{number \ of \ blue}{total \ number \ of \ counters}$
- 2) What is the probability that red is **not** chosen?

2

4

1a) Calculate the probability of choosing a 2.

b) Calculate the probability of not choosing a 3.

1

5

Prob

 $\frac{10}{19} = \frac{number of all other colours}{total number of counters}$

3

9

Examples

There are only red counters, blue counters, white counters and black counters in a bag.

Colour	Red	Blue	Black	White
No. of counters	9	Зx	x-5	2x

A counter is chosen at random, the probability it is red is $\frac{9}{100}$. Work out the probability is black.

9 + 3x + x - 5 + 2x = 100 6x + 4 = 100 x = 16Number of black counters = 16 - 5 = 11Probability of choosing black = $\frac{11}{100}$

Questions

	1	2	3
Prob	0.37	2x	Х

2) Calculate the probability of choosing a 2 or a 3.

ANSWERS: $a_{1} = \frac{4}{12} = 0.42 P(2) = 0.42 P(3) = 0.21$



FRENCH

Learning Objectives

Key Grammar

By the end of the term, I can
communicate (talk, ask and
answer) about:

- Television programmes
- Film genres
- Review a film
- Reading preferences

Grammar Objectives

I will be able to understand and apply rules about:

- Direct object pronouns
- Faire+ infinitive and rendre + adjective
- Use of ce que

- Opinions in the past
- 'Verb + infinitive' structures

Direct object pronouns le it (masculine) it (feminine) les them

ľ it (before vowel) J'aime les documentaires. → Je les aime.

I like documentaries. → I like them.

la

Verbs followed by an infinitive Verbs of preference such as aimer, adorer, préférer and détester are often followed by an infinitive: J'adore lire les romans comigues. - I love to read comic novels

Je déteste lire les romans de science-fiction. -I hate reading science-fiction novels.

Ce que Use *ce que* to make your opinions

more interesting and complex! Instead of saying J'aime le rock (I like rock music), say: Ce que j'aime, c'est le rock (What I like is rock music) **Opinions** in the past The perfect and the imperfect are both past tenses: Use the perfect tense for completed actions in the past: J'ai vu un film. - I saw a film. Je l'ai aimé. - I liked it. Use the imperfect tense for descriptions in the past: C'était fantastique. - It was fantastic. Faire + infinitive, rendre + adjective Ca me fait danser. - It makes me dance. Ca me rend triste. - It makes me sad.

Qu'est-ce que tu aimes	What do you like
lire?	reading?
J'aime/Je préfère lire	I like/I prefer to read
Je n'aime pas/Je	I don't like/I hate
déteste lire	reading
les (auto)biographies	(auto)biographies
la littérature	non-fiction
non-romanesque	
les romans d'amour	love stories, romances
les romans d'aventure	adventure novels
les romans comiques	comedies
les romans historiques	historical novels
les romans d'horreur	horror novels
les romans de	science fiction
science-fiction	

Books



	Televi	sion
	Qu'est-ce que tu aimes/ n'aimes pas regarder à la télé?	What do you like/not like to watch on TV?
	J'aime (bien/beaucoup)	I like (very much/a lot).
	Je n'aime pas (du tout)/ Je déteste	I don't like (at all)/I hate
	les comédies	comedies
	les dessins animés	cartoons
	les documentaires	documentaries
	les émissions musicales	music programmes
	les émissions de sport	sports programmes
	les émissions de télé-réalité	reality tv programmes
	les jeux télévisés	game shows
	les séries	series
	Je les aime/adore/déteste.	I like/love/hate them.
1	Je ne les aime pas.	I don't like them.
	Ça dépend.	It depends.
	Je les trouve	I find them
	amusant(e)s. funny.	
	intéressant(e)s.	interesting.
	divertissant(e)s.	entertaining.
	enfantin(e)s. childish.	
	ennuyeux/ennuyeuses.	boring.
	éducatifs/éducatives.	educational.
	nuls/nulles, rubbish,	

Connectives

mais	but
parce que/car	because
par contre/en revanche	on the other hand
cependant/pourtant	however



FRENCH

	Model Text		Cinema
Qu'est-ce que tu aimes regarder à la télé ?	Salut ! J'aime bien regarder les émissions de sport parce que je les trouve très divertissants. En revanche	Hi ! I like to watch sports shows because I find them very entertaining. However	Quel dernier film as-tu vu? What was the last filmyou saw?J'ai vuI sawun film d'actionan action filmun film d'arts martiauxa martial arts film
Qu'est-ce que tu n'aimes pas regarder à la télé ?	Je n'aime pas du tout les dessins animés car je les trouve un peu enfantins.	I don't like cartoons at all as I find them a bit childish.	un film comiquea comedyun film d'horreura horror filmun film romantiquea romantic film
Parle d'un film que tu as vu récemment ?	J'ai vu un film d'action au cinéma qui s'appelait « Jumanji ». L'action se déroule dans la jungle. Il y a quatre personnages principaux. Je l'ai aimé parce que c'était passionnant. Je le recommande.	I saw an action film at the cinema called "Jumanji". It takes place in the jungle. There are 4 main characters. I liked it because it was exciting. I recommend it.	un film de science-fiction a science-fiction film un film à suspense a thriller un western a western au cinéma/en DVD at the cinema/on DVD en streaming streamed (on the Internet) à la télé on TV Je l'ai aimé/adoré/détesté. Je ne l'ai pas aimé. I didn't like it.
Qu'est-ce que tu aimes lire ?	J'adore lire la littérature non- romanesque parce que j'aime apprendre.	I like to read non-fiction books because I like to learn.	<u>C'était It was</u> Je (ne) le recommande I (don't) recommend it. (pas).
Parle d'un de tes livres préférés ?	Un de mes livres préférés s'appelle Cheval de Guerre écrit par Michael Murpurgo. J'ai lu Cheval de Guerre sur ma liseuse en vacances l'année dernière. C'était très émouvant. Cheval de Guerre, c'est un roman de guerre et un roman historique aussi.	One of my favourite books is called War Horse written by Michael Murpurgo. I read War Horse on my e-reader on holiday last year. It was very moving. War Horse is a war novel and a historical novel also.	
Qu'est ce que tu vas regarder et lire ensuite ?	Le weekend prochain je vais regarder un film d'horreur a la télé avec ma famille parce qu'on aime les films effrayants. Ensuite je vais lire Soldat Peaceful de Michael Murpurgo, c'est mon auteur préféré.	Next weekend I am going to watch a horror film on TV with my family because we like scary films. Then I am going to read <i>Private Peaceful</i> by Michael Murpurgo, (he) it is my favourite author.	



ARABIC

Topic	:	Key Words	Writing Template
الْهِوَايَات Hobbies Key Concepts		دَائِمًا Always عَادَةً Usually كَثِيْرًا Often	إِسْمِي خَالِدٌ، هِوَايَتِي الْمُفَضَّلَةُ هِيَ لَعِبُ كُرَةِ السَّلَّةِ ، أَنا أَلْعَبُ كُرَةَ السَّلَّةِ تَلاتَ مَرَّاتٍ في الأسْبُوعِ، في يَوْمِ الإِثْنَيْنِ أَلْعَبُ فِي الْمَدْرَسَةِ
		عَامَّةَ Generally أَحْيَانًاSometimes نَادِرًا Rarely	مع رملاني، وَقِي يَوْم الأربِعَاءِ العب في الساعة النامِيةِ مَعَ جِيْرَانِي، وَفي يَوْمِ السَّبْتِ في السَّاعَةِ التَّاسِعَةِ صَبَاحًا مَعَ أَخِي وأصدقائه، أخب لَاعتُ مُمْتَانُ ، أَحْبَانًا أَلْعَبُ كُرَةَ الْقَدَمِ في الْمَدْرَسَة،
Verbs	Days	أبَدًا Never	وَلاَ أَلْعَبُ كِرِكِتْ أَبَدًا لأَنَّهُ مُمِلٌّ جِدًّا
ا ألْعَبُ play أَلْعَبُ أَرْكَبُ أَمَارِسُ إَمَارِسُ study أَمَارِسُ أَسْتَمِعُ إلَّ أَسْتَمِعُ النتَمِعُ إلى I watch أَسْتَجَعُ إلى I listen to أَسْتَجَعُ إلى I listen to أَتَصَفَّحُ إلى I browse أَدْهَبُ إلى I go to أَدْهَبُ إلى J go to	في يَوْمِ الأَحَدِ في يَوْمِ الأَثْنَيْنِ في يَوْمِ النُّكَرَّبِعَاءِ في يَوْمِ الْأَرْبِعَاءِ في يَوْمِ الْجُمُعَةِ في يَوْمِ الْسَّبْتِ	 What is your hobby? How often do you carry it out? Can you add days and times in there? With whom? Can you give opinions about hobbies/sports that you like or dislike? 	Tennis Chess Tennis Cricket Fishing Running
Times	5	Sentence Starters	Keaang ESquash 8
في السَّاعَةِ الْوَاحِدَة في السَّاعَةِ الثَّانِيَةِ في السَّاعَةِ الثَّالِثَةِ في السَّاعَةِ الرَّابِعَةِ		اب ي وَقْتِ فَرَاغِي In my spare time هِوَاتِي الْمُفَضَّلَة My favourite hobby is On the weekend فِي نِهَايَةِ الْأُسْبُوْع In the holidays في الْعُطَّلَاتِ	Football Yoga



HISTORY

	Key Dates		Key terms and concepts
1760	According to many historians, this is the rough date when the Industrial Revolution began.	Industrial Revolution	The shift from producing things by hand to mass factory production. This also saw a shift in living styles, as people relied less on the land and instead
1769	Richard Arkwright patented the spinning frame,		moved to big cities
1,00	a machine which reduced the cost of cotton spinning. The patent meant he was officially	Rural	Relating to the countryside. Before the Industrial Revolution, most people lived in these areas
	machine	Urban	Relating to a town or city
1791	Thomas Paine publishes the pamphlet – The Rights of Man	Economy	A system of making and trading things. AS a result of the Industrial Revolution, the economy expanded significantly
1837	Queen Victoria came to the throne. She had a	Factory	A building or group of buildings where goods were made by machine
	The 1800s are known as the Victorian period.	Mine	The area underground from which things like coal are removed. A large amount of coal was needed to fuel the Industrial Revolution
1851	The Great Exhibition celebrated new inventions of this period The Enfranchisement of Women is published by	Working classes	People who do low paid jobs during this period. These included factory workers and domestic servants (eg maids)
	ohn Stuart Mill. It is likely influenced heavily by Harriet Taylor Mill	Cholera	An infectious disease which is often caught through infected water. Outbreaks of cholera were common in dirty, overcrowded cities.
1858	The Great Stink. This was caused by the poor sewage system and led to outbreaks of cholera in Britain	Enlighten- ment	period starting around the 1700s that saw new ideas and philosophies spreading. Knowledge and learning was prioritised.

"The majority of the working class had to endure
almost a century of hard work with little or no
advance. They did not share in any of the
benefits of the economic transformation (The
Industrial Revolution) they had helped to create."

Economic Historian – Charles Feinstein (1998)

Evidence People's Lives got Better	Evidence People's Lives got Worse
The Industrial Revolution brought new work opportunities for people who had previously lived in the countryside	Working conditions in the new industrial towns and cities were terrible. The pay was low and the work was hard and dangerous.
There was a transformation in medical knowledge and by the end of the period, surgery was much less painful or dangerous.	Many people left their homes in the countryside and moved to the towns which were overcrowded
New ideas and philosophies were explored	Child labour was common and despite campaigns to improve conditions, many were still forced to work in dangerous conditions



HEART FOR LIFE

Overview

Mental Health -Key words	
Self- confidence	A feeling of trust in one's abilities, qualities, and judgement.
Self-esteem	Confidence in one's own worth or abilities; self-respect.
Health and well-being	A combination of physical, social, intellectual and emotional factors which contribute towards a healthy body both physically and mentally.
Resilience	The capacity to recover quickly from difficulties.
Body image	How a person sees them self, compared to the standards that have been set by society.
Emotions	A strong feeling deriving from one's circumstances, mood, or relationships with others.
Physical activity	Physical activity simply means movement of the body that uses energy.
Healthy relationships	Any relationship which supports, nurtures, loves, supports, and motivates the other to succeed and has mutual respect and value.
Unhealthy relationship	Any relationship which devalues, disrespects, or makes the other person feel worthless, unloved, or not important.
Peer pressure	The direct influence on people by peers, or the effect on an individual who gets encouraged to follow their peers by changing their attitudes, values or behaviours to conform to those of the influencing group or individual.
Moral support	You encourage that person and show that you approve of what they are doing, rather than giving practical help.

What Skills will I Develop in Heart for Life?

Each lesson will have opportunities to develop your skills through a variety of learning activities, ranging from:

- Thinking skills
- Enquiry and evaluation skills Research skills
- Debate and communication skills
- Active learning.
- Reflective learning skills.
- Personalised learning skills. Revision and recall.





Students will explore how we are all unique and that recognising and demonstrating personal strengths build self-confidence, self-esteem, good health, and wellbeing. Students will understand what can affect wellbeing and resilience (e.g. life changes, relationships, achievements and employment) and the impact that media and social media can have on how people think about themselves and express themselves, including regarding body image, physical and mental health. Students will evaluate how to build simple strategies to help build resilience to negative opinions, judgements and comments and to recognise and manage internal and external influences on decisions which affect health and wellbeing and articulate a range of emotions accurately and sensitively.

Key Concepts

Relationships, Living in the Wider World and Health and Wellbeing. The United Nations Convention on the Rights of the Child

Essential Attributes Developed Through Heart for Life.

- Self -Improvement
- Resilience
- Self-organisation
- Clarifying own values
- Developing and maintaining a healthy self concept
- Empathy and compassion
- Respect for others
- Skills for employability
- enterprise skills



ART & DESIGN

BOTHE Design Projects - Learning Objectives

- To learn about the history of the BOTEH design
- To learn about and explore drawing ideas featuring key features of the BOTEH design
- To learn about and explore ideas and techniques through watching recorded clips and power point presentations
- To learn about ideas and designs which reflect cultural interests, traditions and surroundings
- To explore drawn ideas reefing them into finished coloured pieces
- To apply knowledge and understanding to own work.
- To layer colours and materials onto own work through focussed drawing and selection of materials and techniques
- To build and secure knowledge and understanding through own research and shared information in lessons
- To create a final piece at the end of this unit.

Content

- Students will learn about the background of the BOTEH design and the history and continuation of this design
- They will learn how to draw and focus on key elements and where these designs can be found
- Students will learn the aspects of drawing , colour work and embellishment
- The will learn how to add key features to their own work
- Students will learn how to focus and add relevant and accurate detail to their own work, layering with colour techniques
- Students will understand the use and inclusion of recycled appropriate materials in their own work
- Students will include numeracy and literacy into their work
- Students will self and peer assess work and oracy will be included in all Art lessons
- They will complete a final piece at the end of this unit.

Key Words

Mango curved BOTEH JENGAH Persia India Pakistan tear drop shapes Paisley Glasgow embroidery stamps printing greeting cards bag designs carved wooden stone popular designs lampshades cypress trees mehndi designs and patterns detailed pashmina shawls

soft furnishings Changthangi goats intricate colourful embellished decorated thread work table décor sarees kameez designs wall hangings repeat patterns random patterns





Images





















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DESIGN & TECHNOLOGY

Dags for Life

Reusing and recycling is a key issue with regards to cutting down on pollution and waste. You will be creating a bag for life, using circles and stripes as your inspiration. Circles and stripes are a reoccurring theme in art, particularly abstract art, and many artists and designers have created patterns, compositions and designs by purely using the shape of circles and stripes mixed with colour and texture. You will use specialist fabric paints, crayons and markers to decorate a recycled cotton bag in your design. You will then go on to add texture, pattern and detail using embellishing techniques.

Images

Content

- Study artists who have used stripes and circles in their work
- Create patterns
 and designs
- Experiment with specialist materials
- Create your bag design
- Add embellishment

	Key Words
Reusing and recycling	Using items that can be reused or recycled
Pollution and waste	Harmful to the environment and use the earths limited resources
Abstract	Shapes and patterns that are not realistic images
Composition	The shape and form of the design
Applique	When one shape of fabric is sewn on top of another
Reverse applique	The fabric is layered and sewn underneath and then the top layer is cut out to reveal the layer underneath
Tassel	Decorative element
Hand embroidery	Hand sewn stitches that add pattern and texture to a design
Sequins	Small plastic shapes that add sparkle to a design
Recycled cotton	Fabric which has been constructed from previously used materials
Fabric paints, crayons and markers	Specialist materials which can be heat sealed into the fabric to eliminate fading and prolong life of the item
Embellishment	Adding items and techniques to add detail



RELIGIOUS EDUCATION

Creation & Environment

ORIGINS OF HUMANS JEWISH CREATION STORIES CHRISTIAN CREATION STORIES ENVIRONMENTAL ISSUES

Key Questions

What is the Evolution theory? What is the Big Bang Theory? What is the Muslim response to Big Bang Theory? What does it mean to be s steward of god? How do people abuse gods gift?

Purpose of life in Islam

In 1859, a British man called Charles Darwin published a book called 'On the Origin of Species'. This book was based on his studies of creatures he had encountered on his travels. He put forward the theory that all living creatures that exist today, including human beings, have evolved over a period of perhaps millions of years, from more primitive life forms to how they are today by a process of natural selection.

What is the Big Bang Theory

The big bang is how astronomers explain the way the universe began. It is the idea that the universe began as just a single point, then expanded and stretched to grow as large as it is right now (and it could still be stretching).

In 1927, an astronomer named Georges Lemaître had a big idea. He said that a very long time ago, the universe started as just a single point. He said the universe stretched and expanded to get as big as it is now, and that it could keep on stretching.

Keywords

Creation – the beginning of something, the action or process of bringing something into existence Environment - the surroundings or conditions in which a person, animal, or plant lives or operates Steward – a person who is made responsible, or look after, or supervise another person or group Evolution - the process by which different kinds of living organism are believed to have developed from earlier forms during the history of the earth

Big bang theory - the rapid expansion of matter from a state of extremely high density and temperature which according to current cosmological theories marked the origin of the universe **Humanists** - an advocate or follower of the principles of humanism

How did Allah create the world?

Allah was responsible for the creation of the universe. There are references to it in many places in the Qur'an. From these it is possible to build a picture:

- Allah decided to create the universe and because of his unlimited power and authority he commanded things to come into being.
- Allah then made all living creatures, the angels, the planets and the rain to allow vegetation to grow.
- Allah sent angels to Earth to collect seven handfuls of soil, all different colours, and that with soil Allah made the first man, Adam, breathing life and power into him.
- Eve (Hawa), the first woman, was created from the side of Adam and lived with him in Paradise.
- The Earth had been created to allow Adam and Eve and their descendants (the human race) to live and thrive.
- Creation took Allah six days to complete.

Computing - Knowledge Organiser

MADANI

Year 8 - HT5 – Python Programming (Sequencing)

Keywords:	
Algorithms	An Algorithm is a set of instructions/rules that are carried out (performed) one after another.
Sequencing	When designing algorithms, it is important to make sure that all the steps are presented in the correct order. This is known as sequencing.
Variables	A value that will change whilst the program is executed. (e.g. temperature, speed, etc).
Selection	Selects a pathway or a decision within a computer programme through the code based on whether a condition is true.
Data	Information stored or processed by a computer
Syntax	The rules of the programming language allowing for the program to be compiled and executed
Code	The instructions that you write to program a computer.
Programming	The process of writing computer programmes.
Concatenation	It is often necessary to join text strings together in a program to make a new text string. This is called concatenation.
Iteration	Code is repeated (looped), either while something is true or for a number of times.

Comparative/Boolean operators	
==	Equal To
!=	Not Equal to
>	Greater than
<	Less than
>=	Greater than or equal to
<=	Less than or equal to

Arithmetic operators			
Operation	Symbol	Example	Output
Addition	+	3+10	13
Subtraction	-	8-5	3
Multiplication	*	4*5	20
Division	/	30/6	5

Finding Errors- Follow these steps

- 1. Have you checked that you have closed brackets correctly?
- 2. Have you checked that you have closed quotes correctly?
- 3. Are your variable names spelt in the same way consistently? Remember python is case sensitive
- 4. Have you remembered to use commas to separate variables inside print?
- 5. Have you used quotes around strings which you would want to print out word for word?

Computing - Knowledge Organiser



Data Types		
A data type determines what type of value a variable will hold and indicates how it will be stored. Below are the most common data types. Remember, by default user input is always		
a string!	· · · · · · · · · · · · · · · · · · ·	
String	A String is a combination of letters, numbers, or characters. (E.g., Hello, LE5 1SK)	Str
Integer	An Integer is a whole number (E.g., 1, 1509,99)	int
Float/Real	A Float or Real is a decimal number, not a whole number (E.g., 1.5, 30.9, 0.5)	float
Boolean	Boolean is one of two values (E.g., Yes/no, Wrong/right, True/false)	Bool
Character	Character or Char is a single character (E.g. x,!, 9)	Char

Examples of sequenced code:

```
name = input("What is your name? ")
print("Hello", name)
What is your name? Muhammad
Hello Muhammad
```

2.

1.

```
age = int(input("Enter your age: "))
print("You are", age, "years old")
```

Enter your age: 15 You are 15 years old



The Speckled Band Sir Arthur Conan Doyle YEAR 8 UNIT 1 HT 5

Terminology

GENRE = A style or category of art, music, or literature. Is an example of the Gothic genre.

ALLUSION= An **allusion** is a figure of speech that references a person, place, thing, or event. Each of these concepts can be real or imaginary, referring to anything from fiction, to classics, to folklore, to historical events and religious manuscripts.

SUBTEXT= The inner meaning of the text- aspects found beneath the surface.

SYMBOLISM= A literary device that uses symbols, or marks e.g. A heart for example is a symbol of love.

FORESHADOWING = Foreshadowing is a literary device in which a writer gives an advance hint of what is to come later in the story. Foreshadowing often appears at the beginning of a story, or a chapter, and it helps the reader develop expectations about the upcoming events.

CHARACTER ANALSIS=Character analysis is when you evaluate a character's traits, their role in the story, and the conflicts they experience. Authors will

Context

also reveal character traits, which are a character's behaviours, motivation, personality types, and their relationships with others.



Historical Context: Sir Arthur Ignatius Conan Doyle was a British writer and medical doctor. He created the character Sherlock Holmes in 1887 for A Study in Scarlet, the first of four novels and fifty-six short stories about Holmes and Dr. Watson.

The Detective Genre: Detective fiction is a subgenre of crime fiction and mystery **fiction** in which an investigator or **a detective**—either professional, amateur or retired—investigates a crime, often murder. ... Some of the most famous heroes of **detective fiction** include C. Auguste Dupin, Sherlock Holmes, and Hercule Poirot.

The Gothic: Gothic tradition can be seen in: supernatural encounters, remote locations, complicated family histories, ancient manor houses, dark secrets and mysteries to create an atmosphere of suspense and terror-the plot of the novel contains most of these elements.

- The detective genre

- The Gothic



Reading Wise Key Vocabulary

Commonplace Metropolis Deductions Unravelled Agitation Premature Haggard Comprehensive Bequeathed

Abandoned Ancestral Seldom Mania Intensified Terror Hurled Vagabonds Plantation Conse-

HONESTY | EXCELLENCE | ACCOUNTABILITY | RESPECT | TOLERANCE

Baboon Howling Splashing Clanging Vagabonds Seared Impending Blanched

Year 8 – Population



What should I already know?

- Social and economic indicators of development which influence population growth, including birth rates and death rates
- Physical and human factors affecting population distribution in a country
- Why people around the world choose to migrate and what the effects are.

	Key Vocabulary and Definitions
Population	The number of people living in a particular country, area or place.
Population density	The average number of people per square kilometer.
Natural Change	The difference between the birth rate and death rate (how quickly the population grows or declines)
Population distribution	How the people in a place are spread around.
Migration	The movement of people from one area to another, this could be within a country or between countries.
Underpopulated	A country doesn't have enough people to make use of the resources and technology available.
Overpopulated	A country has too many people and not enough resources to maintain a reasonable standard of living, which slows down development.

Factors affecting population density

Physical factors

- Relief (shape and height of land), its easy to build houses and travel in areas of low land, so these places will have a high density.
- **Resources**, Areas rich in resources (e.g. coal, oil, wood, fishing etc.) tend to densely populated e.g. Western Europe
- Climate, Areas with temperate climates tend to be densely populated as there is enough rain and heat to grow crops e.g. UK

Human Factors

- **Political**, Countries with stable governments tend to have a high population density e.g. Singapore
- Social, Groups of people want to live close to each other for security e.g. USA
- Economic, Good job opportunities encourage high population densities, particularly in large cities in HICs and LICs around the world

The Demographic Transition Model (DTM)

The DTM shows how population changes overtime in a country as it becomes more developed.



Most LICs are at stage 2, most NEEs are at stage 3 and HICs are at stage 4 (e.g. UK) and stage 5.

Population Pyramids

When looking at **population**, **structure** as well as total numbers is important. This means looking at the number of people in each age group and how those numbers are changing.

These are known as population pyramids.

- a wide base to the pyramid indicates a young population
- wider bars at the top of the pyramid indicate an ageing population



This pyramid for **the UK has a narrow base** and a relatively **even number of people in each age group**.

Population Control

The Chinese one child policy reduced overpopulation in China. For – The population growth slowed helping provide resources to the population such as food, water and energy. The one child generation receive excellent education and love from their parents. Against – The government forced abortions and sterilisation on women. A preference for boys has lead to illegal abortion of female babies and large gender gap. China is now facing problems caused by an ageing population. The policy was stopped in 2016



Migration and the EU refugee Crisis

Push factors are bad things that force people to move away from where they are. Pull factors are good things that attract

people to a new place.

EU Refugee Crisis - Migrants from North Africa are hoping to reach Europe for safety and better life. Thousands have drowned in the Mediterranean.

For – We have a **moral** duty to help them, if they stay they could be **killed**, they want to work and help the **economy**.

Against – They want to claim **benefits**, they are **illegal** immigrants, there are **too many** coming to our country.





Rounders



- Batting grips and their uses; stance; hitting in different directions; forehand
- Bowling basic action; stepping action; variation of speed, height, angle, spin
- Fielding under-arm throwing; over-arm throwing; catching; long barrier stops; stumping out opponent.
- Consistency of skills and techniques
- Responds to environmental conditions with some success.
- Tactical awareness.
- Impact of communication during the game

Rules:

- If the batter hits the ball and reaches 4th post in one hit, the batting team will receive a rounder. If the batter hits the ball and reaches 2nd or 3rd post, the batting team will score ½ a rounder.
- If the batter hits the ball behind, they can only run to first post until the ball gets played forward.
- The ball must not be bowled between the batter's head and knee. If it is above the head, or below the knee it is a no ball. The ball also must not be bowled at the batter's body or to the opposite side to which they are batting on.
- If the bowler bowls 2 consecutive no balls, the batting team will receive ½ rounder.
- You must run outside of the posts.



Athletics throws

- **Throw**: shot putt, javelin, or discus initial stance, grip, preparation, movement, release, recovery.
- select the most appropriate techniques and tactics relevant for the field event
- adhering to rules, health and safety guidelines
- adjust run ups, take offs and/or throwing technique to maximise performance based on feedback

Javelin:

• 3 different types of grip. Pull javelin back with a straight arm, pull javelin forward in a similar movement to an over arm throw. High elbow and follow through with throw.

Discus:

• Throwing hand on top of discus, fingers spread out. Pull throwing arm back and low. Transfer weight from the back foot to the front foot, release the discus from your index finger.

Shotput:

• Place shotput on neck. Hold shotput with fingers. Bend knees and transfer weight to back foot. Push the shotput forwards and keep elbow high and follow through.

Athletics track





- coordination of legs and arms and stride pattern
- Leg and arm action (hip to lip)
- Posture (body upright, head forward)
- Relay changeovers (upsweep/downsweep)
- Adhering to rules, health and safety guidelines, and considering appropriate risk management strategies
- demonstrating communication and influence on team performance, eg, Relay
- Ability to influence the performance and motivation of self and others