Year 8

Learning Cycle 3

Student Name:_____

Home Learning timetable - when I am going to complete my home learning

	Mon A	Tue A	Wed A	Thu A	Fri A
Core Activity	Reading	Sparx Maths XP	Reading	Sparx Maths XP	Reading
Subject 1	Geography	History	Science	Maths	Spanish
Subject 2	RE	Art	Food	English	Computing
	Mon B	**Tue B**	**Wed B**	**Thu B**	**Fri B**
Core Activity	Sparx Maths XP	Reading	Sparx Maths XP	Reading	Sparx Maths XP
Subject 1	Geography	Maths	Science	Spanish	English
Subject 2	Music	History	Drama	DT	

Year 8 Learning Cycle 3 Knowledge Check Timetable

Lesson		17/06	18/06	19/06	20/06	21/06	24/06	25/06	26/06	27/06	28/06
		A					B				
		Mon	Tue	Wed	Thu	Fri	Mon	Tue	Wed	Thu	Fri
1	8X1	Computing	Art								Maths
	8X2	Art	DT						History		Maths
	8X3	DT							RE		Maths
	8X4	Food							Computing		Maths
	8Y1	Drama				Music			English		Maths
	8Y2	Music	Food						English		Maths
	8Y3				DT	RE			English	History	Maths
2	8X1						Geography		History		DT
	8X2					Drama	Music	History			
	8X3			Computing		Food	Spanish	Geography			Drama
	8X4					Art	Science	Spanish			Music
	8Y1						DT	Food		History	
	8Y2			RE		Computing	Spanish				History
	8Y3						Drama	Geography			
3	8X1								RE		
	8X2								Computing		Food
	8X3				Music						
	8X4			RE							DT
	8Y1						Spanish				
	8Y2						Geography				
	8Y3						Spanish				
4	8X1					Music	Science	Drama	English	Food	History
	8X2						Science	Geography	English		RE
	8X3		Art				Science	History	English		
	8X4						Drama		English	History	Geography
	8Y1				Computing		Science			Art	RE
	8Y2						Science		Drama	DT	
	8Y3		Food		Art		Science		Music		Computing

How to Use your Learning Cycle Knowledge Organiser

At Poltair we SORT it!

Poltair School believe that the Learning Cycle Knowledge Organiser should be used daily for classwork and home learning. The Learning Cycle Knowledge Organiser will inform students and parents of topics that are being covered in class during each learning cycle, enabling all students to extend their learning outside of the classroom.

What are the SORT strategies?

Summarise	Organise	Recall	Test
Summarise and condense any class notes, revision guides and revision.	Organise your revision materials by topic/subtopic. Traffic light your PLC sheets to identify areas of weakness or gaps (Red/Amber) that need to be prioritised.	Use active recall and spaced repetition to memorise your knowledge organisers until you can recall the information e.g.. Look, cover, write or self-testing	Use low stakes online tests/quizzes and answer high stakes past paper/sample questions to check and apply knowledge and understanding
Strategies			
• Cornell Notes • Flash cards • Mind mapping • Revision clocks • Dual coding	• How to use your PLC • How to schedule your home learning and stick to it!	• Look cover & test • Leitner system • Blurt it • Transform it	• Low stakes • Self-quizzing • Quiz each other • Online quizzes • High stakes • Exam style questions

How to use SORT

Step 1: Organise	Step 2: Summarise	Step 3: Recall	Step 4: Test
a. Use the daily planner on page 8 to identify all the times when you will complete your home learning and when you will complete independent revision. b. RAG each of the PLCs so you identify your RED topics – the ones that you are unsure of, or you do not fully understand. c. Write your RED topics into your daily planner for when you will revise that subject	When you revise for a specific topic use your knowledge organiser, revision guide, website etc to summarise the key knowledge you need to learn. Use any summarizing strategy, such as: • Flashcards • Mind maps • Cornell Notes • Revision Clocks For more details go to the SORT webpage: https://www.poltairschool.co.uk/sort	Once you have summarized the knowledge, you need to actively memorise it. This is the most important part of the revision process! You could use any of the following strategies to help: • Lietner System • Blurt It • Look, say, cover, write, test	The last step in revision is to be confident that you can recall and retrieve the knowledge. To do this you need to test yourself. Quick and simple ways are to ask someone else to quiz you on the knowledge or to complete an online quiz. You can also answer past exam questions. If you cannot confidently recall the knowledge you will need to repeat step 3.

At Poltair we SORT it!

ATTENDANCE FOCUS

POLTAIR

ATTENDANCE FOCUS

POLTAIR

Attendance Reflection Sheet	
What is your current attendance?	
How many sessions have you missed of school?	
How many 'I' coded sessions have you had?	
How many 'M' coded sessions have you had?	
How many 'L' coded sessions have you had?	
How many 'U' coded sessions have you had?	
How many 'O' coded sessions have you had?	
How many days does this equate to so far this year?	
If this attendance continued, how many days off would you have this year?	

To improve my attendance, I commit to the following:	
1.	
2.	
3.	
What attendance do you want to end this term with?	
What is your end of year attendance target?	
What is our minimum expected attendance to be rewarded?	

Possible strategies to REACH MY attendance Goals

- I will make attending school every day a priority.
- I will keep track of my attendance and absences.
- I will set my alarm clock for _____a.m.
- I will attend school everyday unless I am truly sick.
- I will find a relative, friend or neighbour who can take me to school if I miss the bus.
- If I am absent, I will contact my teachers to find out what I missed.
- I will set up medical and dental appointments for weekdays after school. If I must make a medical appointment during the school day, I will try to attend school for most of the day.
- When I am struggling with a challenge that is keeping me from school I will confide in an adult at school and seek help.

Home Learning & Revision Planner

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Time	Saturday	Sunday
8.30am - 4pm						8.30am - 4pm		
4pm - 5pm						4pm - 5pm		
5pm - 6pm						5pm - 6pm		
6pm - 7pm						6pm - 7pm		
7pm - 8pm						7pm - 8pm		
8pm - 9pm						8pm - 9pm		

Year 8 Learning Cycle 3 Personal Learning Checklists

English

Key Ideas	S	O	R	T
I can write a 'What, How, Why' paragraph of analysis.				
I know the key conventions of the dystopian genre.				
I understand and can recall key parts of the plot of 'The Giver'.				
I understand the key characters and the relationships between them.				
I can write about the character of Jonas, supporting my ideas with evidence and analysis.				
I can write about the character of The Giver, supporting my ideas with evidence and analysis.				

English

Key Ideas	S	O	R	T
I can analyse the setting of the novella, supporting my ideas with evidence and analysis.				
I can analyse how Lowry presents key themes.				
I understand the conventions of dystopian writing.				
I can use a range of vocabulary in my own creative writing.				
I can use structural devices to link my ideas together and ensure my writing is coherent.				
I can use a range of punctuation marks accurately in my creative writing.				
I can use a range of sentence structures in my creative writing.				

Mathematics

Key Ideas	SPARX	S	O	R	T
Can I add and subtract fractions?	M931, M835				
Can I multiply fractions?	M157, M197				
Can I divide fractions?	M110, M265				
What are squared numbers, cubed numbers, and powers of 2?					
Can I simplify indices?	M608				
What do unit fractions as powers mean?	U985				
What do negative powers mean?	U694				
What do negative unit fraction powers mean?					
Can I plot coordinates?	M618				
Can I find the midpoint between two points?	M622				

Year 8 Learning Cycle 3 Personal Learning Checklists

Mathematics

Key Ideas	SPARX	S	O	R	T
Can I draw a linear graph?	M932				
What is the gradient?					
Can I find the equation of a linear graph?	M544				
Can I draw a quadratic graph?	U989				
What are the roots and turning points of a quadratic graph?	U601, U667				
What is short division?	M354				
Can I shade fractions?	M158				
Can I convert fractions to decimals?	M958				

Mathematics

Key Ideas	SPARX	S	O	R	T
Can I order decimals?	M522				
Can I convert decimals to fractions?	M958				
Can I convert decimals and percentages?					
Can I convert percentages and fractions?					
Can I find percentages of quantities?	M437, M905				
What is the link between percentages and proportion?					
What is the 4th mode on the calculator?					

Science: Variation and Evolution

Key Ideas	S	O	R	T
You can define what a mutation is and how they can give rise to different organisms.				
You can explain how an animal in the arctic is adapted to live in its environment.				
You can explain how a cactus and a desert animal is adapted to live in its environment.				
You can explain Darwin's theory of Evolution by natural selection.				
You can articulate why Darwin's theory of Evolution was accepted by the masses.				
You understand and can apply the concept of classification to new organisms.				
You can use the binomial naming system for organisms and compare evolutionary relationships using evolutionary trees.				
You can articulate the process of selective breeding and explain why this is done.				
You can describe causes of extinction				
You can articulate what biodiversity is and why it is essential, and explain the importance of conservation.				
You can describe how to sample ecosystems in a random, unbiased way.				

Year 8 Learning Cycle 3 Personal Learning Checklists

Science: Our Planet Earth

Key Ideas	S	O	R	T
You understand how the Earth is structured				
You can explain how sedimentary rock is formed				
You can explain how igneous and metamorphic rock is formed				
You can articulate each stage of the rock cycle				
You can explain why some countries are at greater risk of Earthquake destruction				
You understand what the composition of the Earth is and how this compares across other planets				
You can explain how fossil fuels are used.				
You understand why deforestation is occurring and the negative environmental impacts of this				
You can explain the negative environmental impacts of plastic production and articulate how we can mitigate these issues.				
You can argue how to fish sustainably and why certain practices are unsustainable.				
You know the importance of studying marine ecosystems for sustainable futures.				

Art

Key Ideas	S	O	R	T
I can use tone, texture, line, shape, scale and composition in observational drawing.				
I can explain what inspired Mondrian to develop his abstract style.				
I can explain how to develop my ideas into an abstract print design.				
I have experimented gel tile printing.				
I can refine my work through annotation.				
I can explain what an abstract image is.				
I can recognise Sonia Delaunay's work and explain what inspired her.				

Computing

Key Ideas	S	O	R	T
I know how to run code using the Python IDLE				
I can write Python programs which use sequence				
I can describe what sequence means in Computing.				
I can write Python programs which use selection				
I can describe what selection means in computing.				
I can create flow diagrams of code using the correct symbols for input, output, process and selection.				
I can use comments in my code to explain what is happening.				
I know the definition of an algorithm, variable and the purpose of testing.				

Year 8 Learning Cycle 3 Personal Learning Checklists

Design Technology

Key Ideas	S	O	R	T
I can identify electronic components from their circuit symbols.				
I can describe the function of electronic components.				
I can use a soldering iron safely and with precision.				
I can use a net to form a container for my completed torch circuit.				
I can troubleshoot circuits that don't work to identify and solve a problem.				

Drama

Key Ideas	S	O	R	T
I am able to devise an effective piece of theatre that focuses on using movement to communicate ideas.				
I can describe what a stimulus in Drama and would know how to use one to generate ideas.				
I am able to use canon and unison effectively in a group performance.				
I understand how Frantic Assembly have used techniques to devise their performance material.				
I can use round-by-through to communicate a simple story.				
I understand how to identify different levels of tension and can use this when devising.				

Food

Key Ideas	S	O	R	T
I can explain the term cuisine and give examples of Mexican cuisine				
I can give examples of how to reduce food waste.				
I understand the importance of cooking some foods				
I can explain heat transfer and how conduction, convection and radiation heat food.				
I can explain the importance of the maillard reaction when cooking meat.				
I can explain how to thicken a sauce by reduction				

Year 8 Learning Cycle 3 Personal Learning Checklists

Geography – Extreme Weather

Key Ideas	S	O	R	T
Define key terms and give examples of case studies				
Explain the impacts of the UK heat wave				
Explain the causes of the Greece wildfires				
Explain the distribution of tropical storms worldwide				
Name the 3 types of tropical storms				
Explain the stages in the formation of a tropical storm				
Explain the causes of hurricane Katrina				
Explain the effects of hurricane Katrina				

Geography – Sustainable Tourism

Key Ideas	S	O	R	T
I can identify the long-term and short-term causes of WWI				
I can explain how the war was fought				
I can state how the war ended				
I can explain how the end of the war caused the potential for another war				
I can identify examples of anti-Semitism before Hitler and the Nazis				
I can explain how the Nazis escalated the treatment of groups, especially the Jewish people in Germany				
I can explain why the Holocaust is significant				

History

Key Ideas	S	O	R	T
I can identify the long-term and short-term causes of WWI				
I can explain how the war was fought				
I can state how the war ended				
I can explain how the end of the war caused the potential for another war				
I can identify examples of anti-Semitism before Hitler and the Nazis				
I can explain how the Nazis escalated the treatment of groups, especially the Jewish people in Germany				
I can explain why the Holocaust is significant				

Year 8 Learning Cycle 3 Personal Learning Checklists

Music

Key Ideas	S	O	R	T
I am able to identify leitmotifs in piece of film music.				
I am able to identify whether a piece of film music is diegetic or non-diegetic.				
I am able to use a DAW (digital audio workstation) effectively to create a piece of film music.				
I understand some of the key film composers that have been influential.				
I am able to use the musical elements effectively to alter the mood of the film music appropriately.				
I am able to understand how to use samples and loops to enhance and create sound effects.				
I understand what a click track is and how to use it to keep me in time.				
I can use my keyboard skills to record in successful MIDI.				

Religious Education

Key Ideas	S	O	R	T
I can define a religion				
I can remember some statistics about different religions around the world				
I can define key words linked to Judaism				
I can outline the belief in the Covenant				
I explain the meaning behind some Kosher Laws				

Spanish

Key Ideas	S	O	R	T
I can talk about the advantages and disadvantages of new technologies and social media				
I can talk about the different apps that I use				
I understand the rules for the imperfect tense (used to)				
I understand the rules for the imperfect tense (used to)				
I can talk about how things were different in the past to how they are now				
I can talk about how things were different in the past to how they are now				
I understand how to revise for a reading and listening assessment				
I know key language for shopping in Spain				
I know details of what Madrid (Spain's capital city) is like				

Year 8 English Knowledge Organiser Learning Cycle 3: The Giver

1. Plot

1a = Chapter 1 Jonas, the novel's 11-year-old protagonist, is nervous about the upcoming Ceremony of Twelve. Jonas's family engages in the nightly "telling of feelings."

1b = Chapter 2 Jonas's father tries to calm his fears, telling him that people are rarely disappointed in their Assignments. They discuss ceremonies. His father reveals he knows the name of a baby he has become concerned about in his role of nurturer: Gabriel.

1c = Chapter 3 Jonas's father brings home Gabriel, who has pale eyes. Jonas privately recalls when the Speaker made an announcement directed at him, as a consequence of him taking an apple that he thought appeared to change in some way as he threw it back and forth to a friend.

1d = Chapter 4 Jonas joins Asher and their friend Fiona at the House of the Old, where they do their volunteer hours. He bathes an old woman named Larissa, who talks about her friend Roberto, who has been released.

1e = Chapter 5 Jonas shares his dream about Fiona. His parents tell him he has begun to experience stirrings and give him a pill, which he will now take daily.

1f = Chapter 6 Gabriel is given one more year of nurturing. New children are given to families during a ceremony, with names of people who have been released. The elevens worry about their assignments.

1g = Chapter 7 Assignments are given out but Jonas' name is skipped and he is afraid.

1h = Chapter 8 Jonas, she says, has been selected to be the next Receiver of Memory – a position the committee has been waiting to fill for some time. He is told he will experience pain in this role and that he has the Capacity to See Beyond.

1i = Chapter 9 Jonas feels left out and strange as the Twelves discuss their assignments. Jonas' father reveals the last Receiver's name is Not-to-be-Spoken – a great dishonour. Jonas finds out that he is able to ask any question he wishes and is able to lie.

1j = Chapter 10 Jonas meets the Receiver, who tells him that he is going to use his last strength to pass the memories of the entire world onto Jonas.

1k = Chapter 11 The Receiver transmits memories of sledging in snow, sunshine and pain.

1l = Chapter 12 Jonas is unable to reveal anything about his assignment to his family or friends. He sees Fiona's hair change in the same way the apple did – the Giver tells him he has seen a memory of the colour red.

1m = Chapter 13 Jonas is angry that colour has been removed from the world. The Giver tells Jonas that he wishes the Committee of Elders would ask for his wisdom more often. One day Jonas arrives at the Giver's room to find him doubled over in pain.

1n = Chapter 14 Jonas is given the memory of breaking his leg and other painful memories. The Giver says this is to give him wisdom. Jonas wonders where people who are released go. He secretly transmits a positive memory to Gabriel to calm him.

1o = Chapter 15 Jonas is given a terribly painful memory of being an injured solider.

1p = Chapter 16 To try to make amends for the war memory, the Giver gives happy memories of things that no longer exist in the community: birthday parties, camping and grandparents. He tells him this is family and love. Jonas stops taking the pill for his stirrings.

1q = Chapter 17 An unscheduled holiday is announced. Jonas wonders what Elsewhere is like. He realises that he loves Asher and Fiona but knows sadly they can never love him.

1r = Chapter 18 The Giver tells Jonas about Rosemary – the previous receiver – who applied for release without telling the Giver, and how her memories were released to the community, who couldn't cope with them.

1s = Chapter 19 Jonas explains that his interest in release stems from the fact that his father is releasing a twin that morning and is told he can watch the release. He is horrified to see his father inject the lightest twin baby and send it down a chute. He realises that to be released means to be killed.

1t = Chapter 20 Jonas is too upset to go home. The Giver tells him it is the same process to release the Old and criminals. Jonas demands that something is done to stop the community living in ignorance. The Giver and Jonas hatch a plan: Jonas will escape from the community, so that all of his memories will return to the people of the community. The Giver will stay to help people cope with the memories.

1u = Chapter 21 After finding out that Gabriel is to be released, Jonas steals his father's bike and child seat. He rides out of the community. They avoid the planes searching for them.

1v = Chapter 22 Seeing birds, waterfalls and flowers excites Jonas but he is worried they will starve.

1w = Chapter 23 It snows and Jonas is forced to abandon the bike. Jonas and Gabriel are cold and exhausted. They find a hill – the one from Jonas' first memory. At the bottom of the hill, Jonas sees rooms full of coloured lights and singing.

2. Dystopian Fiction

1a = Conventions of a Dystopia:

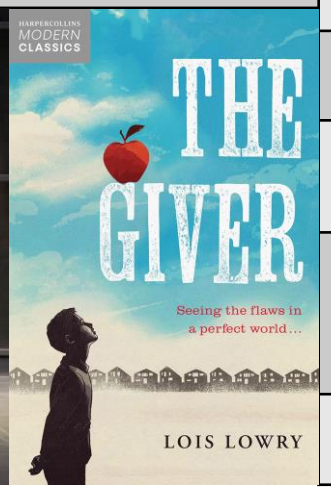
- Propaganda is used to control the citizens of society.
- Information, independent thought and freedom are restricted.
- A leader/concept is worshipped by the citizens of the society.
- Citizens have a fear of the outside world.
- Citizens live in a dehumanized state.
  Citizens conform to uniform expectations. Individuality and dissent are bad because personal freedoms are limited.
- The society is an illusion of a perfect utopian world.

1b = A Dystopian Protagonist:

- Often feels trapped and is struggling to escape.
- Questions the existing social and political systems and attempts to rebel but in a way that is still morally acceptable
- Believes or feels that something is terribly wrong with the society in which he or she lives.
- Lacks the selfish nature of those in charge.

1c = Typical settings of a Dystopia:

- Futuristic, industrial cities
- Destroyed natural habitat with little connection to nature
- High levels of surveillance
- Environments and weather that creates a strong sense of oppression or constraint.



3. Vocabulary

6a = dystopia (noun) A very bad or unfair society in which there is a lot of suffering, especially an imaginary society in the future.

6b = utopia (noun) A perfect society in which people work well with each other and are happy.

6c = disposition (noun) The particular type of character that a person naturally has

6d = placid (adjective) Having a calm appearance or character.

6e = reprieve (noun) An official order that stops or delays the punishment, especially by death, of a prisoner.

6f = assuage (adverb) To make unpleasant feelings less strong.

6g = transgress (verb) To break a law or moral rule.

6h = infringe (verb) To break a rule or law.

6i = prohibit (verb) To refuse to allow something.

6j = shelter (verb) To give protection from weather, danger or attack.

6k = cocoon (noun) The covering made of that surrounds and protects insects during the pupa stage as they develop into adult form OR a safe, warm place.

6l = admonish (verb) To tell someone they have done something wrong.

4. Subject Vocabulary

7a = language (noun)
Words or methods (techniques) used by writers to present their meanings or create effects.

7b = structure (noun) The way the writer has organized their writing.

7c = foreshadowing (noun) An indication or hint of what is to come later in the story.

7d = imagery (noun) The use of language to create vivid pictures in the readers' minds.

7e = connotations (noun) A feeling or idea that is suggested by a particular word.

7f = metaphor (noun) Comparing one thing to another directly – as if one thing is another – to highlight their similarities.

7g = simile (noun) Comparing one thing to another using the words 'like' or 'as', to highlight their similarities.

7h = symbolism (noun) The use of characters, events or ideas to represent something broader

7i = euphemism (noun) A mild or indirect word or expression used for one thought to be too harsh or blunt when referring to something unpleasant or embarrassing.

7j = irony (noun) A situation in which something which was intended to have a particular result has the opposite or a very different result.

Year 8 Mathematics Knowledge Organiser Learning Cycle 3

×	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60
7	7	14	21	28	35	42	49	56	63	70
8	8	16	24	32	40	48	56	64	72	80
9	9	18	27	36	45	54	63	72	81	90
10	10	20	30	40	50	60	70	80	90	100

Square numbers: 1, 4, 9, 16, 25, 36, 49, 64, 81, 100, 121, 144

Cube Numbers : 1, 8, 27, 64, 125

Prime numbers: 2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47…

Useful features on your calculator:

FACT: this express a number as a product of its prime factors

RATIO (menu 4): this will find missing values within equivalent ratios

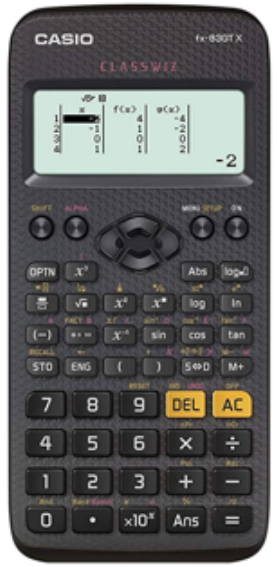
Table (menu 3): This is where you can generate values within a table- useful for plotting graphs and generating terms of a sequence

Statistics (menu 2): this will find all of the averages from a table of data

o‘‘‘ : This Is the time button and can do conversion between time units, as well as calculations with different times

Fraction button: can be used for ay calculations with fractions

S-D: Converts decimal answers to fractions and vice vera



Year 8 Mathematics Knowledge Organiser Learning Cycle 3

Sparx Maths

Homework will be set on Tuesdays and will be due on the following Tuesday morning at 7:30am

You must complete 100% of the homework- if you have not got 100% of the questions correct, then you have not done your homework

You will receive a merit for completion of your homework

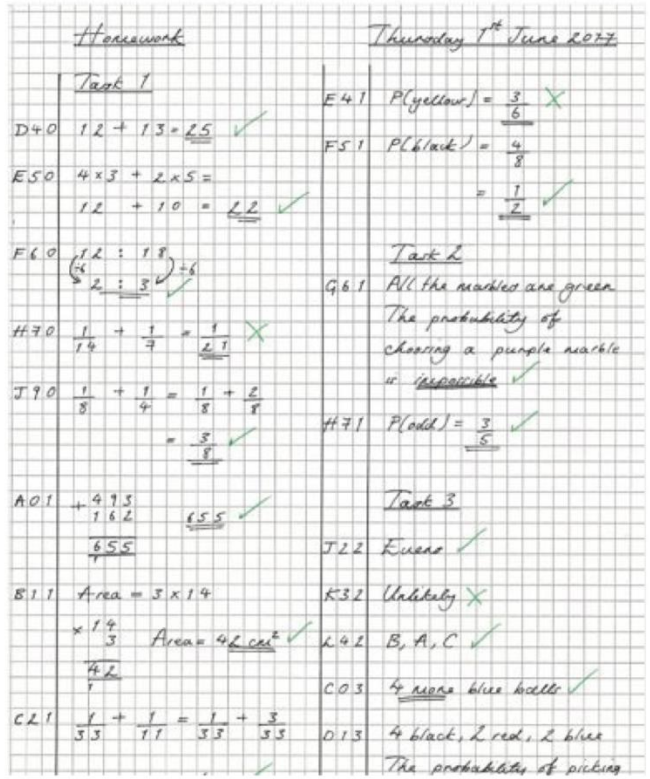
If you complete one of the extra homeworks- XP Boost or Target, you will receive another merit - they must be 100% complete

Sparx clinics will run Monday, Tuesday, Thursday in Arc 2- a Maths teacher will be on hand to support you, if you are unsure of any of the notes covered

It is your responsibility to seek help BEFORE the deadline, if you get stuck

Your bookwork will be checked in lessons- you must write full workings

You must bring your homework book to the first lesson after Tuesday 7:30am- if you do not have your book, then you have not completed your homework



Year 8 Mathematics Knowledge Organiser Learning Cycle 3

Key word	Definition
Power	Number of times a number is multiplied by itself
Base	The number to be raised to a power
Index	The exponent, power or order. The small number placed at the upper right of a base number to show the power
Cube	Index or power of 3
Square	Index or power of 2
Root	The inverse (opposite) of squaring
Power of Two	A number calculated by the repeated multiplication of the base number 2
Unit Fraction	A fraction with one as the numerator
Coordinate	Written pairs of numbers or letters to signify horizonal and vertical position
Axis	A real or imaginary reference line
Midpoint	The middle coordinate between two points
Linear Graph	A graph that is a straight line
Straight Line	A line with no bends or curves
Table of Values	Mathematical organisation of information in columns or rows
Gradient	The steepness and direction of a line read from left to right
Ratio	Comparison of two or more values, usually in the form a:b or a:b:c
Proportion	Two ratios or fractions are equal in value
Equation	A mathematical statement containing an equals sign (=) that shows two expressions are equal
Y-Intercept	Where a graph intercepts (cuts through) the y axis
X-Intercept	Where a graph intercepts (cuts through) the x axis
Quadratic Graph	A graph that's equation contains a squared term, the graph itself takes the shape of a u or n.
Parabola	The graph of a quadratic equation
Root	Solutions to a graph or equation where the graph or equation is set equal to 0
Turning Point	A point on a graph where the gradient is 0
Axis of Symmetry	Symmetry around an axis

Key word	Definition
Ones	A column in the place value tables, equivalent to single digit whole numbers (e.g. 4,5,6)
Tenths	A column in the place value tables, equivalent to 1 out of 10
Hundredths	A column in the place value tables, equivalent to 1 out of 100
Thousandths	A column in the place value tables, equivalent to 1 out of 1000
Fraction	Part of a group, number of whole.
Numerator	The top part of the fraction
Denominator	The bottom part of the fraction
Vinculum	The line in a fraction, signifying division.
Percentage	An amount out of 100
Multiplier	The number you are multiplying by
Convert	To change a value or expression from one from to another.

Year 8 Mathematics Knowledge Organiser Learning Cycle 3: Calculating with fractions

1. Add and Subtract Fractions

- Need a common denominator

$\frac{1}{2} + \frac{1}{3}$

$\frac{3}{6} + \frac{2}{6}$

$= \frac{5}{6}$

Different Denominators

$\frac{7\times1}{7\times2} - \frac{3\times2}{7\times2}$

$\frac{7-6}{14} = \frac{1}{14}$

2. Integer Multiply Fraction

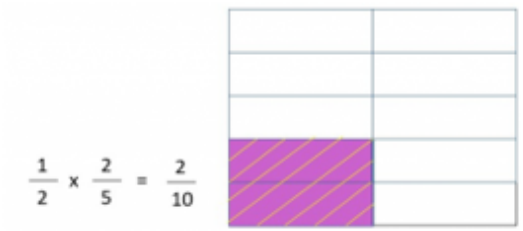
- Multiply integer by numerator
- Just divide the numerators

$5 \times \frac{1}{8} = \frac{5}{8}$

3. Multiply Fractions

$$\frac{Top \times Top}{Bottom \times Bottom}$$

$\frac{2}{5} \times \frac{3}{4} = \frac{2\times3}{5\times4} = \frac{6}{20} = \frac{3}{10}$



4. Dividing Fractions – Common Denominator

- Just divide the numerators

$\frac{12}{7} \div \frac{3}{7} = 4$ $\quad \frac{7}{9} \div \frac{2}{9} = \frac{7}{2}$

5. Reciprocal

Number	Reciprocal	The product of the number and its reciprocal is 1
4	$\frac{1}{4}$	$4 \times \frac{1}{4} = 1$
-5	$\frac{1}{-5} = -\frac{1}{5}$	$-5 \times -\frac{1}{5} = 1$
$\frac{1}{6}$	$\frac{1}{\frac{1}{6}} = \frac{6}{1} = 6$	$\frac{1}{6} \times 6 = 1$

5.Dividing Fractions – Multiplying by the Reciprocal

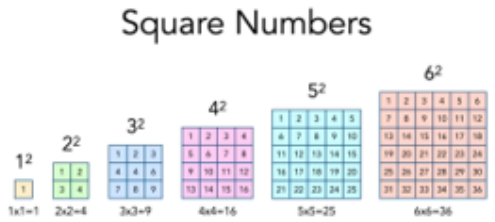
$\frac{1}{2} \div \frac{1}{3} = \frac{1}{2} \times \frac{3}{1} = \frac{3}{2}$

In order to divide fractions:

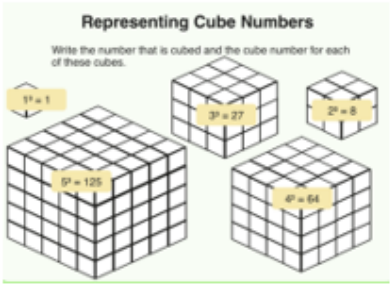
1. Flip the second fraction (find its reciprocal)
2. Change the divide sign to multiplication
3. Multiply the fractions together
4. Simplify if possible

Year 8 Mathematics Knowledge Organiser Learning Cycle 3: Indices, Powers and Roots

1. Squares

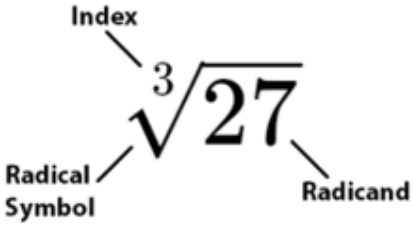


2. Cubes



3. Roots

- Opposite of squaring, cubing



4. Powers of 2

$2^1 = 2$
$2^2 = 2x2 = 4$
$2^3 = 2x2x2 = 8$
$2^4 = 2x2x2x2 = 16$
$2^5 = 2x2x2x2x2 = 32$
$2^6 = 2x2x2x2x2x2 = 64$
$2^7 = 2x2x2x2x2x2x2 = 128$
$2^8 = 2x2x2x2x2x2x2x2 = 256$

5. Index Rules – Multiply and Divide

$$a^m \times a^n = a^{m+n}$$

$$a^m \div a^n = a^{m-n}$$

6. Index Rules – Powers

$$(a^m)^n = a^{m \times n} = a^{mn}$$

7. Index Rules – Unit Fraction Powers

$$x^{\frac{1}{n}} = \sqrt[n]{x}$$

Exponent	Name of the exponent	Indication
1/2	Square root	$a^{1/2} = \sqrt{a}$
1/3	Cube root	$a^{1/3} = \sqrt[3]{a}$
1/4	Fourth root	$a^{1/4} = \sqrt[4]{a}$

8. Index Rules – Negative Powers

$$a^{-m} = \frac{1}{a^m}$$

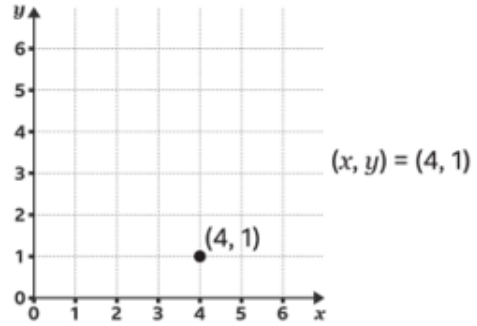
Reciprocal means **multiplicative inverse**.
Example The reciprocal of 4 is $\frac{1}{4}$ because $4 \times \frac{1}{4} = 1$

9. Index Rules – Negative Fractional Powers

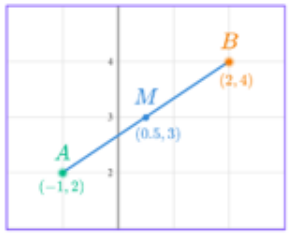
$$a^{-\frac{1}{n}} = \frac{1}{a^{\frac{1}{n}}} = \frac{1}{\sqrt[n]{a}}$$

Year 8 Mathematics Knowledge Organiser Learning Cycle 3: Straight Line Graphs

1. Plotting Co-ordinates



2. Finding the Midpoint of a line

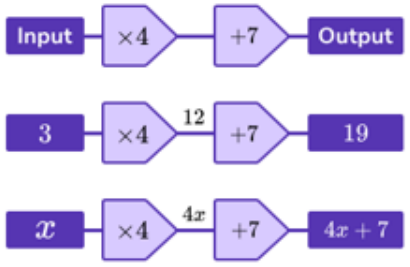


To find the coordinates of the midpoint M, take the averages of the x and y coordinates of the endpoints A and B:

Average of the x coordinates is $\frac{-1+2}{2} = \frac{1}{2} = 0.5$

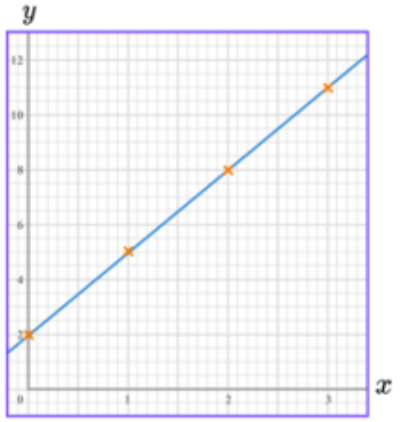
Average of the y coordinates is $\frac{2+4}{2} = \frac{6}{2} = 3$

3. Function Machines

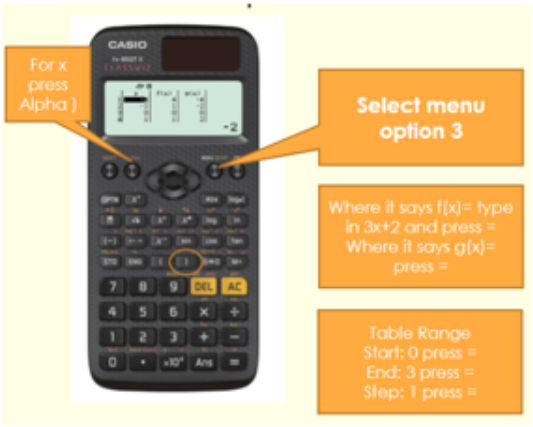


4. Plotting Linear Graphs

x	0	1	2	3
$y = 3x + 2$	2	5	8	11

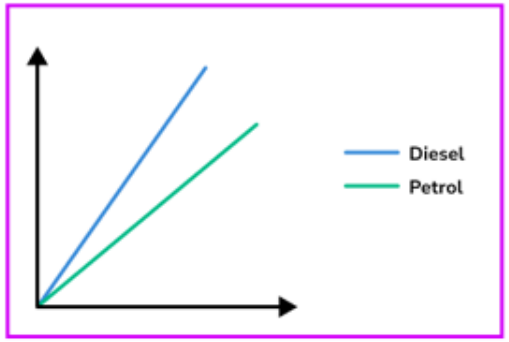


5. Plotting Linear Graphs with a calculator



6. Gradients of a Linear Graph

- Cost of petrol being £1.50 per litre
- Cost of diesel being £1.62 per litre



7. Finding the Equation of a Line

A **straight line graph** is a visual representation of a linear function.
A straight line has a general equation of

$y = mx + c$

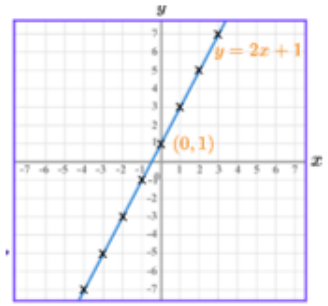
m: gradient; c: y-intercept

Example

$y = 2x + 1$

$m = 2$, and $c = 1$

The graph of this equation looks like this:



Year 8 Mathematics Knowledge Organiser Learning Cycle 3: Quadratic Graphs

1. Plotting a Quadratic Graph

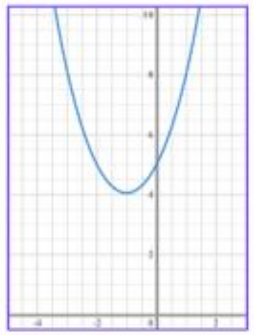
Plotting a quadratic graph involves drawing a table of values for the x and y coordinates of a quadratic function, and then plotting these on a set of axes.

Example

$y = x^2 + 2x + 5$

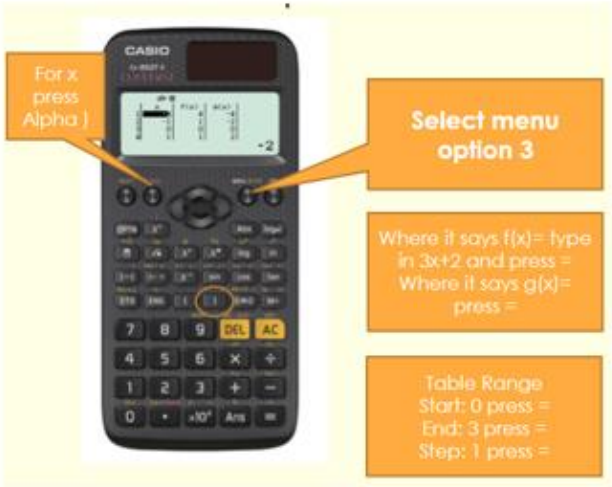
x	-3	-2	-1	0	1	2
y	8	5	4	5	8	13

Substitute each x value into $x^2 + 2x + 5$ to get the corresponding y value.



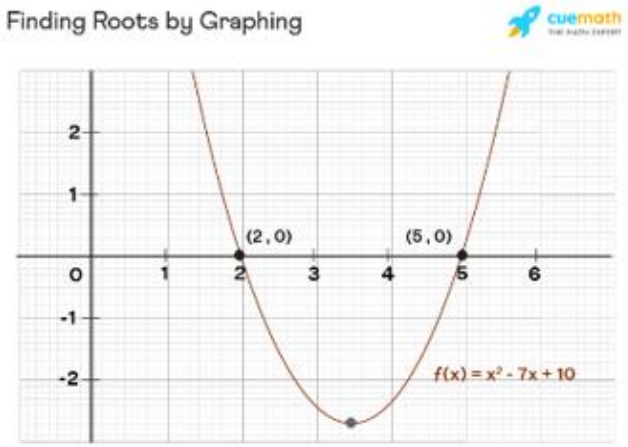
2. Plotting Quadratic Graphs using a Calculator

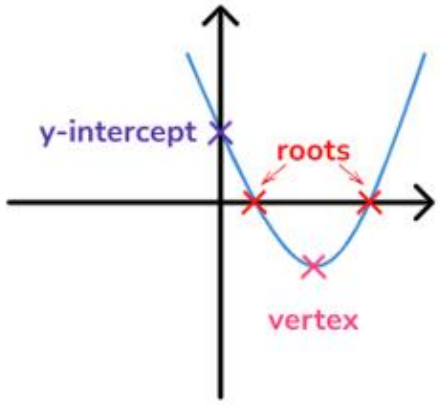
- Setting our f(x) to the quadratic we want to plot



3. Roots of a Quadratic Graph

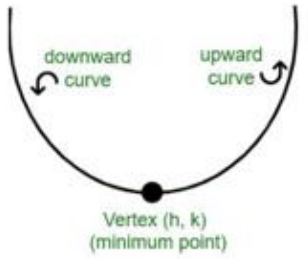
- Where the graph intersects at y = 0

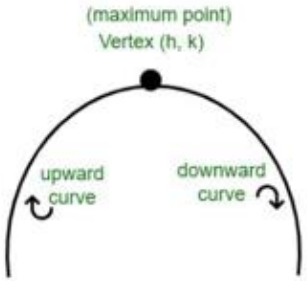


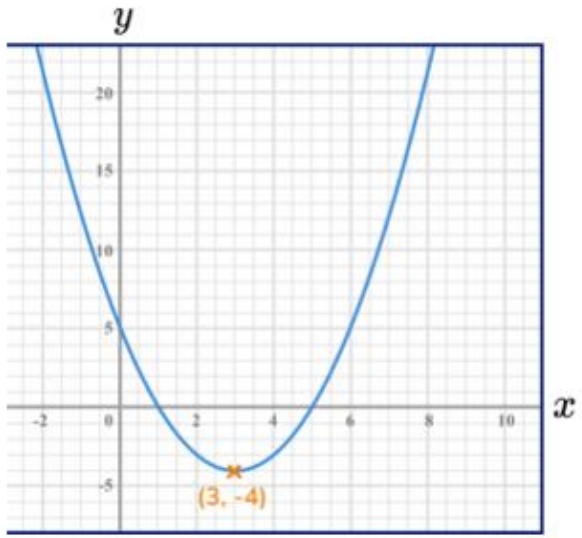


4. Turning Points of a Quadratic Graph

- Where the gradient is 0







Year 8 Mathematics Knowledge Organiser Learning Cycle 3: Percentages, Decimals and Fractions

1. Short Division

8785 ÷ 7

$$7 \overline{)\,8^{1}7^{3}8^{3}5}\quad 1\,2\,5\,5$$

8785 ÷ 7 = **1255**

2. Converting Fractions to Decimals (non-calc)

$\frac{3}{4} = 4\overline{)3.00}$ → 0.75

3. Ordering Decimals

4·08 14·101 4·062 4·1

0	4	·	0	8	0
1	4	·	1	0	1
0	4	·	0	6	2
0	4	·	1	0	0

smallest → 14·101 Greatest

Ascending order

4. Converting Decimals to Fractions

Convert 0.75 to a fraction

$\frac{75}{100} = \frac{15}{20} = \frac{3}{4}$ (÷5, ÷5 / ÷5, ÷5)

5. Converting between Decimals and Percentages

From Decimal		To Percent
0.125	0.12.5 (2 Places)	12.5%

From Percent		To Decimal
75%	0.7.5. (2 Places)	0.75

move the decimal point 2 places to the left, and remove the "%" sign

6. Converting Fractions and Decimals

$\frac{13}{20} = \frac{65}{100}$

1	·	$\frac{1}{10}$	$\frac{1}{100}$	$\frac{1}{1000}$
Units		Tenths	Hundredths	Thousandths
0	·	6	5	0

$\frac{13}{20} = 0{\cdot}65$

7. Percentages to Fractions

Convert 75% to a fraction

$\frac{75}{100} = \frac{15}{20} = \frac{3}{4}$ (÷5, ÷5 / ÷5, ÷5)

Convert $\frac{3}{4}$ to a Percent

$\frac{3}{4} = \frac{75}{100}$ (×25 / ×25)

Answer = 75%

Percent	Decimal	Fraction
1%	0.01	$\frac{1}{100}$
5%	0.05	$\frac{1}{20}$
10%	0.1	$\frac{1}{10}$
12½%	0.125	$\frac{1}{8}$
20%	0.2	$\frac{1}{5}$
25%	0.25	$\frac{1}{4}$
$33\frac{1}{3}$%	0.333...	$\frac{1}{3}$
50%	0.5	$\frac{1}{2}$
75%	0.75	$\frac{3}{4}$
80%	0.8	$\frac{4}{5}$
90%	0.9	$\frac{9}{10}$
99%	0.99	$\frac{99}{100}$
100%	**1**	
125%	1.25	$\frac{5}{4}$
150%	1.5	$\frac{3}{2}$
200%	2	

8. Finding Quantities of Amounts

9. Percentages link to Proportion

$$\frac{\text{Top of Fraction}}{\text{Bottom of Fraction}} = \frac{\text{Percent}}{100}$$

10. Calculator 4th Mode

Year 8 Science Knowledge Organiser Learning Cycle 3

How can I use the Periodic Table?

Group 1 – **Alkali Metals**

Group 7 – **Halogens**

Group 0 – **Noble gases**

Group number – tells you the number of **electrons** in an elements **outer** shell.

Elements in the **same group** have **similar properties**.

Mass Number = number of **protons** and **neutrons** added together.

Element **symbol**
Element **name**

Atomic / Proton Number = number of **protons** which is the same as the number of **electrons**.

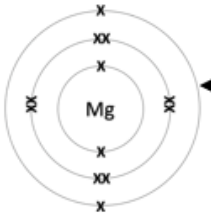
relative atomic mass
atomic symbol
name
atomic (proton) number

Neutrons = Mass number – Atomic number

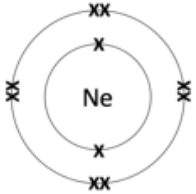
Non-Metals

Transition Metals

Noble gases have a **full outer shell** of electrons E.g., Neon (Ne)

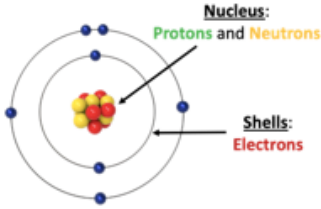


Magnesium (Mg) has **12 electrons** in total. It is in **group 2** so has 2 electrons in its **outer** shell. Mg's electronic configuration is 2,8,2.



1	2											3	4	5	6	7	0
																	4 He helium 2
7 Li lithium 3	9 Be beryllium 4											11 B boron 5	12 C carbon 6	14 N nitrogen 7	16 O oxygen 8	19 F fluorine 9	20 Ne neon 10
23 Na sodium 11	24 Mg magnesium 12											27 Al aluminium 13	28 Si silicon 14	31 P phosphorus 15	32 S sulfur 16	35.5 Cl chlorine 17	40 Ar argon 18
39 K potassium 19	40 Ca calcium 20	45 Sc scandium 21	48 Ti titanium 22	51 V vanadium 23	52 Cr chromium 24	55 Mn manganese 25	56 Fe iron 26	59 Co cobalt 27	59 Ni nickel 28	63.5 Cu copper 29	65 Zn zinc 30	70 Ga gallium 31	73 Ge germanium 32	75 As arsenic 33	79 Se selenium 34	80 Br bromine 35	84 Kr krypton 36
85 Rb rubidium 37	88 Sr strontium 38	89 Y yttrium 39	91 Zr zirconium 40	93 Nb niobium 41	96 Mo molybdenum 42	[97] Tc technetium 43	101 Ru ruthenium 44	103 Rh rhodium 45	106 Pd palladium 46	108 Ag silver 47	112 Cd cadmium 48	115 In indium 49	119 Sn tin 50	122 Sb antimony 51	128 Te tellurium 52	127 I iodine 53	131 Xe xenon 54
133 Cs caesium 55	137 Ba barium 56	139 La* lanthanum 57	178 Hf hafnium 72	181 Ta tantalum 73	184 W tungsten 74	186 Re rhenium 75	190 Os osmium 76	192 Ir iridium 77	195 Pt platinum 78	197 Au gold 79	201 Hg mercury 80	204 Tl thallium 81	207 Pb lead 82	209 Bi bismuth 83	[209] Po polonium 84	[210] At astatine 85	[222] Rn radon 86
[223] Fr francium 87	[226] Ra radium 88	[227] Ac* actinium 89	[267] Rf rutherfordium 104	[270] Db dubnium 105	[269] Sg seaborgium 106	[270] Bh bohrium 107	[270] Hs hassium 108	[278] Mt meitnerium 109	[281] Ds damstadtium 110	[281] Rg roentgenium 111	[285] Cn copernicium 112	[286] Nh nihonium 113	[289] Fl flerovium 114	[289] Mc moscovium 115	[293] Lv livermorium 116	[293] Ts tennessine 117	[294] Og oganesson 118

Subatomic Particle	Mass	Charge
Proton	1	+1
Neutron	1	0
Electron	Negligible	-1



Year 8 Science Knowledge Organiser Learning Cycle 3

Key words	Definition
Independent variable	The variable you change in an investigation
Dependent variable	The variable you measure in an investigation
Control variable	The variable you keep the same in an investigation
Hypothesis	A prediction of what will happen in an investigation
Reliability	We use control variables to ensure a reliable experiment
Reproducible	To re-do our experiment and get similar results due to a reliable method
Mean	Doing an experiment 3 times then dividing by 3 to get an average
Fair test	An experiment where only the independent variable changes.
Anomalous result	Result that does not fit with the rest of the data.

1. Designing and performing experiments

1. ***Repeatable*** – The **same** person gets the **same results** after repeating the experiment using the same method and equipment.
2. ***Reproducible*** – Similar results can be achieved by **someone else** or using a **different method**/piece of equipment.
3. ***Accurate*** – Results are close to the true answer
4. ***Precise*** – data is **close** to the **mean** (or the average!)

For data to be **reliable**, it must be **repeatable** and **reproducible**

2. The Variables

Independent variable – The factor we change!

Control variables – these are factors we **keep the same** to ensure a reliable experiment (one we can repeat and reproduce.)

Dependent variable – the factors we are **measuring** overall.

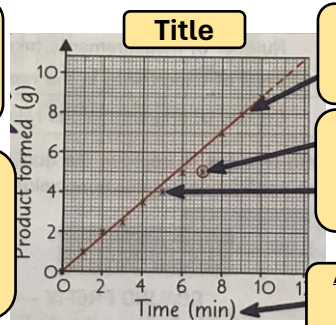
Variable	Example
Independent variable –	I want to see if how hot water is increases the rate of diffusion from a teabag. So, I am changing the temperature (degrees Celsius) of water.
Control variables –	I want **keep everything else the same**, e.g., the type of teabag, the volume of water (mL) used, the timer started at the same time, the same end point.
Dependent variable –	I want to know if increasing water temperature increases the rate of diffusion from a tea bag. Therefore, I want to **measure** the rate of diffusion!

3. Presenting Data

- **S**cale – evenly spread
- **P**lot – draw with a small, neat 'x'
- **L**ine of best fit
- **A**xis – both X (bottom) and Y (side) axis have titles and units!
- **T**itle

Axis: Dependent variable on Y-axis with unit.

We must always draw a graph with a pencil using a ruler!



Line: Line of best fit through near to as many points as possible.

Plot: Mark points with small, neat crosses

Axis: Independent variable in the X-axis with unit.

Drawing conclusions from data:

1. State the **relationship** between the independent and dependent variable, e.g., **'as the time increases the product formed increases.'**
2. **Use statistics to support your answer.** 'For example, at 10 minutes there was 50g of product, compared to 160g at 20 minutes'
3. **Refer to the original hypothesis – does the data support this?**

When **evaluating** think of the **positives** and **negatives** of the method (the validity - did they use enough controls? And of the results – were results **reliable**, **accurate**, **reproducible**?) and come to an overall **conclusion**.

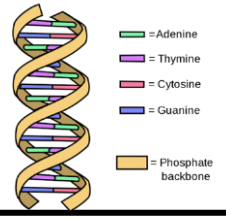
Year 8 Science Knowledge Organiser Learning Cycle 3: Variation and Evolution

Key words	Definition
DNA	A molecule found in the nucleus of humans, containing genes which encode proteins for growth and development of organisms. Made up of base pairs A, C, T and G.
Mutation	A change in the base pair of a molecule of DNA. This might result in a change in the phenotype of an organism.
Phenotype	The physical characteristics of an organism.
Evolution	An unending process by which inherited characteristics within a population change over time through natural selection.
Speciation	Evolution through natural selection which results in the formation of a new species which population is fertile and able to produce fertile offspring.
Biodiversity	The variety of all living things in an ecosystem.
Classification	The arrangement of organisms into taxonomic groups: kingdom, phylum, class, order, family, genus, and species
Adaptation	A biological mechanism by which organisms adjusts to new environmental conditions.
Extinction	The reduction of a species to a population of zero.
Conservation	The protection and management of species and habitats (ecosystems) in a sustainable way.
Selective Breeding	Process by which humans use animal and plant breeding to selectively develop organisms with advantageous characteristics.
Random Sampling	Unpredictable technique where each member of a population is equally likely to be selected in sampling. This can be achieved through a random number generator which prevents bias.

Year 8 Science Knowledge Organiser Learning Cycle 3: Variation and Evolution

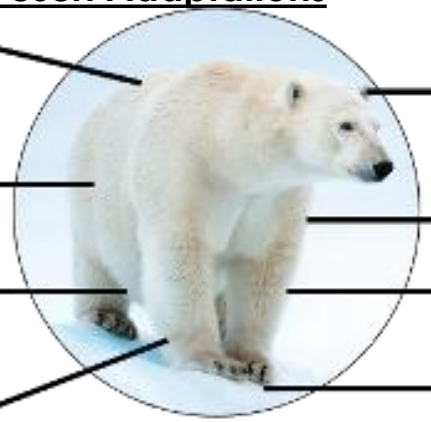
1 Mutations

A change in the **base pair** of a molecule of DNA. This might result in a change in the **phenotype** of an organism.



Adenine binds with **Thymine**,
Cytosine binds with **Guanine**.

2 Arctic and Desert Adaptations



Small surface area to volume (SA:V) ratio to conserve heat.

Thick layer of insulating **blubber** to conserve heat

Black skin to absorb more thermal energy from the sun.

Greasy coat with insulation properties

Small ears to decrease the surface area exposed to the cold (conserve thermal energy)

White fur for camouflage.

Translucent fur to allow sun's rays to penetrate to the skin.

Large feet to distribute the weight onto the ice and provide grip.

Thick/thin fur – thick for shade, thin for heat loss.

Ability to survive long periods **without water**.

Tolerate high body temperatures

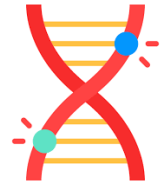
Large surface area to volume (SA:V) ratio to release heat.

Slit-like nostrils and eyelashes to keep sand out.

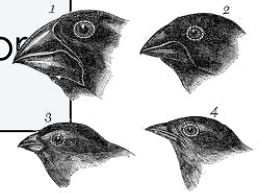
Large feet to distribute the weight onto the ice and provide grip.

3 Evolution By Natural Selection

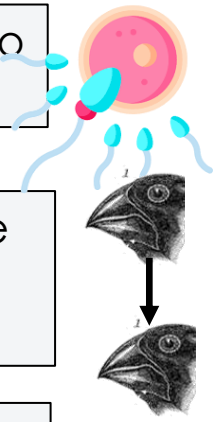
1. A **random DNA mutation** occurs in an individual, resulting in variation.



2. This mutation may provide an **advantageous characteristic** for that individual



3. The individual will be more likely to **survive** and **reproduce**



4. So that **allele** is more likely to be **passed onto** that individuals' **offspring**

5. The **frequency** of that allele **increases** in that population **over time**.

4 Further reading

Evolution by Natural Selection

Adaptations and Competition

Year 8 Science Knowledge Organiser Learning Cycle 3: Variation and Evolution

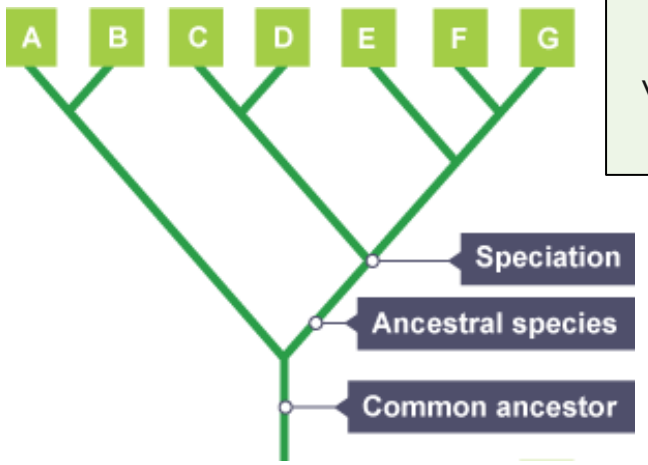
1 Classification

Living organisms are classified into groups depending on their **structure** and **characteristics**. This system was developed in the eighteenth century by **Carl Linnaeus**.

Linnaeus's system of classification

- Kingdom
- Phylum
- Class
- Order
- Family
- Genus
- Species

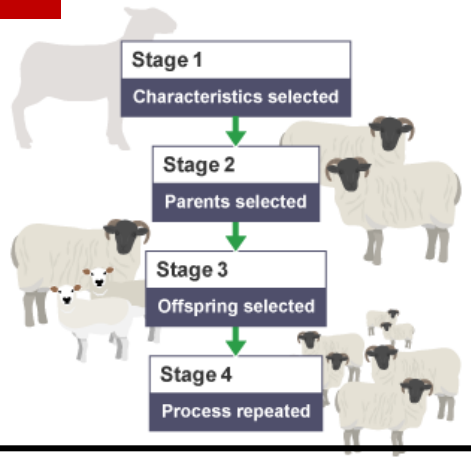
2 Evolutionary Relationships



Evolutionary trees represent **relationships between organisms**. Branches show places where **speciation** has occurred (and a new species has **evolved**).

Here, species A and B share a recent common ancestor so species A is most similar to species B. C and D also share a common ancestor, though this is different from the ancestor of A and B. All 7 species share one common ancestor at the bottom of the tree in the distant past.

3 Selective Breeding



1. Decide which characteristics are **important enough** to select e.g., **pest resistance** in plants, **high milk production** in animals.
2. **Choose parents** that show these characteristics from a mixed population.
3. **Breed these parents**. Choose the **best offspring**, with the desired characteristics, to produce the next generation.
4. Repeat the process **continuously** over many generations, until all offspring show the desired characteristics.

Caution! Selective breeding **reduces genetic variation** in a population which could cause **severe problems** like population **extinction**.

4 Further reading

Classification and Carl Linnaeus

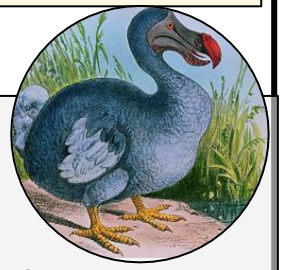
Evolutionary Trees

Selective Breeding

Year 8 Science Knowledge Organiser Learning Cycle 3: Variation and Evolution

1 Extinction

- **Extinction occurs** when there are **no** remaining individuals of a species alive.
- Animals that have **not adapted** well to their environment are **less likely** to **survive and reproduce** than those that are well adapted.
- Extinction has a **role in evolution** as some species disappear. Others survive and continue to evolve.



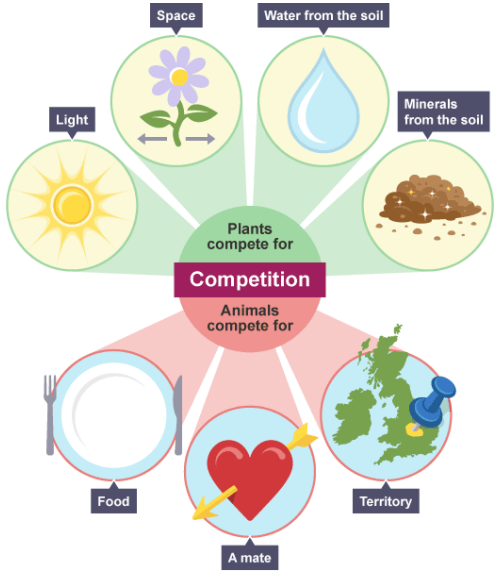
Causes of Extinction:

- new **diseases**
- new **predators**
- new, more successful **competitors**
- changes to the environment over geological time, such as **climate change**
- a **single catastrophic event**, such as a massive volcanic eruption or a collision between an asteroid and the Earth

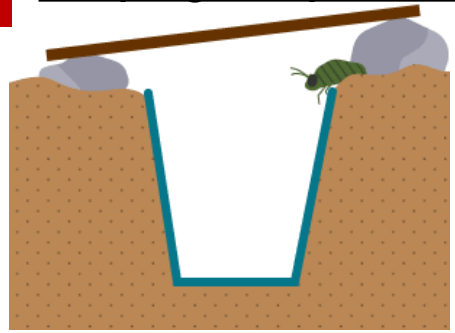
2 Biodiversity and Competition

Areas like tropical rainforests have millions of different species and are very biodiverse. Some areas like the Polar Regions have fewer species and are less biodiverse.

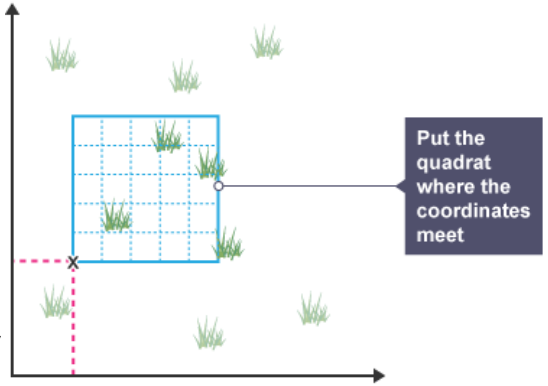
- Biodiversity is the number of different species in an ecosystem. An area with large populations of few species is not biodiverse.
- Organisms compete for resources.



4 Sampling of Populations



Pitfall traps are small areas dug into the ground, often with food inside, to trap small animals to be counted to estimate population size.



Quadrats can be randomly placed in a habitat to estimate population sizes. Greater than 10 data points should be collected at random to reduce bias.

5 Further reading

Extinction

Sampling Techniques

Year 8 Science Knowledge Organiser Learning Cycle 3: Variation and Evolution

5

Question	Two new species of bird evolved after they were separated by a mountain. Explain how.
Key Info	This question could be asked in many different ways for different organisms – **the principles remain the same:** • '**Two new species**' indicates **speciation** has occurred • The **mountain** is acting a **physical geographical barrier** – this could be anything! • There might be **different environmental conditions** on different sides of the mountain. • A random mutation may make that species **better adapted** for survival • The alleles of this individual may then be **passed down to their offspring**, increasing the allele frequency in the population.
Top Exam Tips	Break each stage down. Consider **drawing a diagram** when planning your response to help you to visualise the process.
Model Answer	In this case, the mountain is acting as a **geographical barrier** separating the two populations of bird into different **environmental conditions**. A random mutation in the DNA of one bird may have resulted in an **advantageous characteristic**, making that bird more likely to **survive and reproduce** (natural selection). When reproduction occurs, the advantageous allele may be passed down to the bird's offspring meaning the **frequency** of the advantageous allele increases in a population. Eventually two new species emerge which are unable to reproduce to produce **fertile** offspring, thus speciation has occurred.
Practice Questions	Scientists believe that ancestors of the modern Island Fox first colonised what is now Santa Cruz Island during the last Ice Age, approximately 16 000 years ago. At that time, lowered sea levels made the three northernmost islands into a single island and the distance between this island and the mainland was reduced to about 8 km.  **(i) How could the Island Fox have developed into a completely different species from the mainland Grey Fox?**

Use of **key terminology**

Fluent, coherent sentences.

Broken down into simple chunks, sequentially.

Referring back to the question.

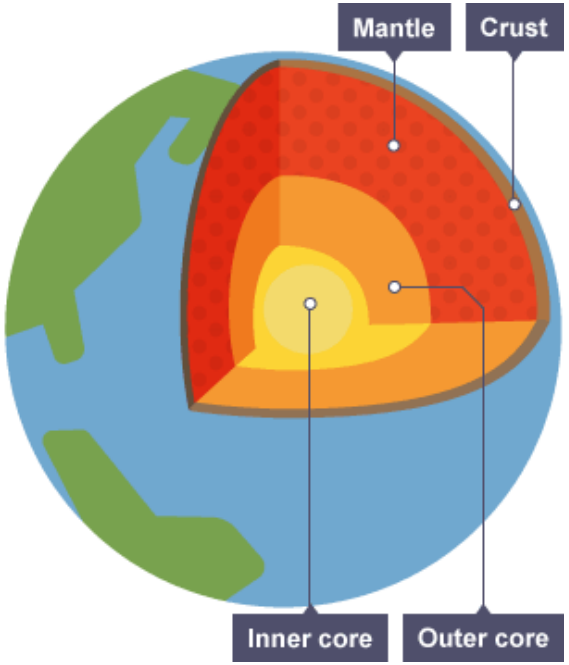
Year 8 Science Knowledge Organiser Learning Cycle 3: Our Planet Earth

Key words	Definition
Mantle	A largest component of the Earth's structure between the core and the crust. Largely solid with viscous (thick) liquid behavior allowing convection currents.
Sedimentary	Rocks formed from pre-existing rocks or pieces of once-living organic organisms which compress over time.
Igneous	Rock formed from molten (liquid) rock that has cooled and solidified.
Metamorphic	Rock formed from other rocks which change due to heat or pressure.
Plate Tectonic Theory	A theory suggesting the crust of the Earth is split into plates the movement of which results in earthquakes and volcanic activity.
Fossil Fuel	A non-renewable resource extracted from the ground which takes millions of years to form. Coal, oil, natural gas.
Deforestation	The process of cutting down trees.
Land Use	The way in which land is being used by a population.
Pollution	Chemicals and substances which are harmful to our health or the natural environment which cause damage.
Biodegradable	A substance which can be broken down into increasingly smaller pieces by bacteria, fungi, or microbes to be reabsorbed into the environment without causing pollution.
Sustainable	The ability for current generations to meet our own need without impeding (preventing) future generations from meeting their needs.
Aquaculture	The rearing of aquatic animals or the cultivation of aquatic plants for food.

Year 8 Science Knowledge Organiser Learning Cycle 3: Our Planet Earth

1 Structure of the Earth

The **crust i**s the Earth's outer layer and is made of rocks. Rocks are solids which are made of grains of minerals which fit together.



Rocks can be classified into three types depending on what minerals they contain and how they are formed.

The three types of rock are:

- igneous
- metamorphic
- sedimentary

2 Rock Types

Igneous rocks are formed from the **cooling** of **molten rock**. Molten rock is rock that has been heated to such a high temperature that it **melts into a liquid**. The basalt which makes up the Giant's causeway is an igneous rock.

Sedimentary rocks are formed by **small rock pieces** which are transported by rivers and laid down in layers. **Chalk** is a sedimentary rock.

Metamorphic rocks are formed when another rock is under **heat and pressure**. **Marble** is a metamorphic rock, it is highly decorative and used for statues.

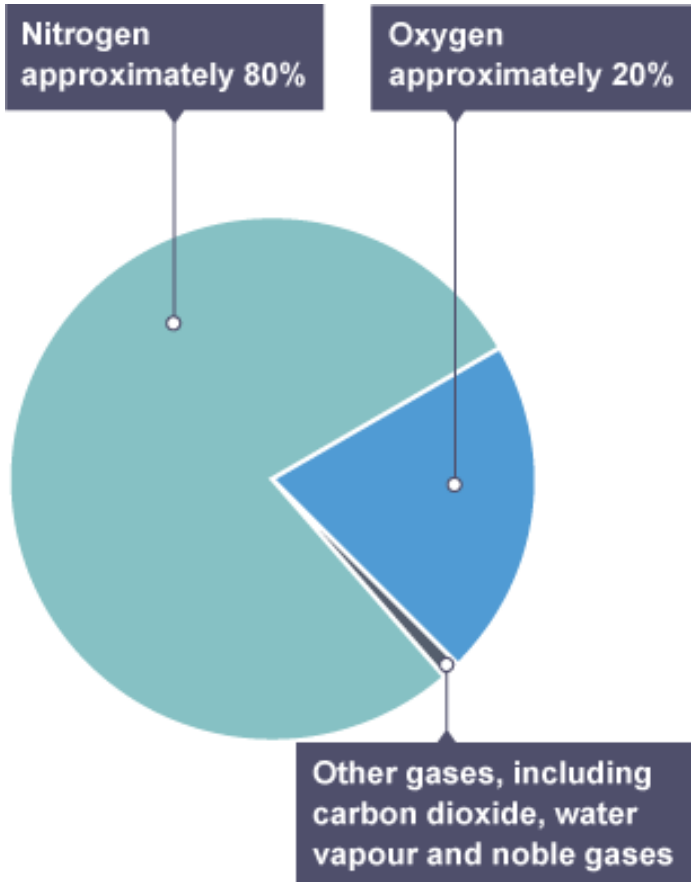
5 Further reading

Earth's Structure and Types of Rock

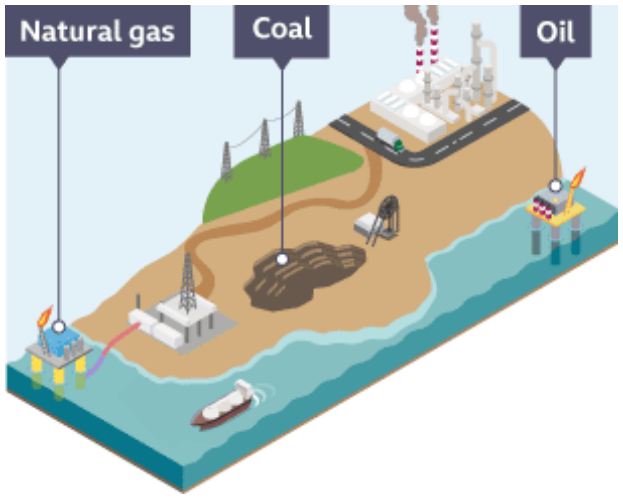
Year 8 Science Knowledge Organiser Learning Cycle 3: Our Planet Earth

1 Atmospheric Composition

For around 200 million years, the **proportions of different gases** in the atmosphere have been relatively **stable**. The pie chart below shows the percentages of gases that make up the atmosphere.



2 Fossil Fuels



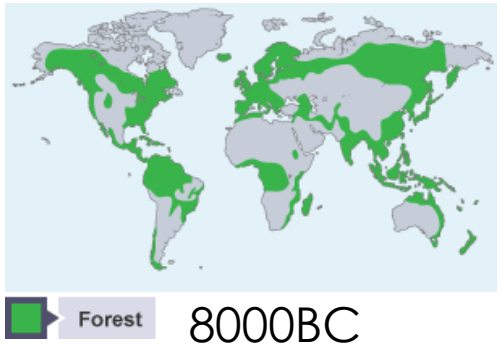
Fossil fuels are a **finite resource**, meaning that they cannot be replaced once extracted from the ground.

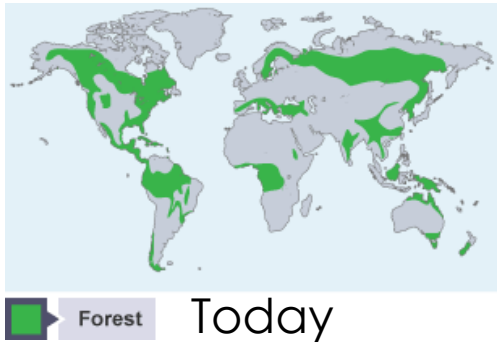
In 2015, **80%** of energy consumed in the world came from fossil fuels.

Examples include: coal, oil, and natural gas.

When fossil fuels are **combusted** (burned) **carbon dioxide** (a **greenhouse gas**) is released into the atmosphere contributing to **global warming**.

3 Deforestation





As a result of land use change, **deforestation** (the cutting down of trees and woodland) has reached **unprecedented** levels.

- This **decreases CO_2 absorption** (so increases global warming)
- Contributed to the **extinction** of many plant and animal species.

4 Further reading

Earth's Atmosphere

Deforestation

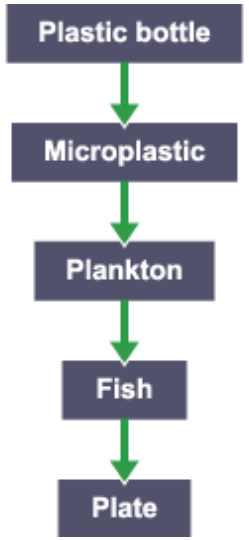
Fossil Fuels

Year 8 Science Knowledge Organiser Learning Cycle 3: Our Planet Earth

1 Plastics

Plastics are useful products.

However, plastic has a number of **negative environmental impacts** when not disposed of correctly,



Once the plastic makes its way to the sea it **decomposes really slowly**. The process can take **more than 400 years.**

The plastic breaks down into tiny particles that can be incredibly damaging to all sorts of sea life. These tiny particles are called **microplastics** which can make their way to our plate.

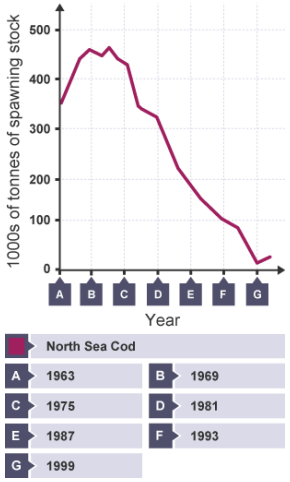
2 Tackling Plastic Pollution

Metals, glass, building materials, clay ceramics and most plastics are made from **limited natural resources**.

- Some items made from these materials can be reused, and this saves the most energy and reduces the impact on the environment.
- Other products cannot be reused in this way, but they can be **recycled**.

4 Sustainable Fishing

Sustainable fisheries do not reduce the overall number of fish, because the number of fish that are caught and killed does **not ever exceed the birth of new fish**.



Overfishing is **unsustainable** and can cause a **critical point** in populations that means certain **species** cannot ever recover and will become **extinct**.

5 Further reading

Plastic Pollution

Sustainable Fishing

What enrichment opportunities can enhance my understanding of Science?

Science reading opportunities

Reciprocal Reading
The Fab 5

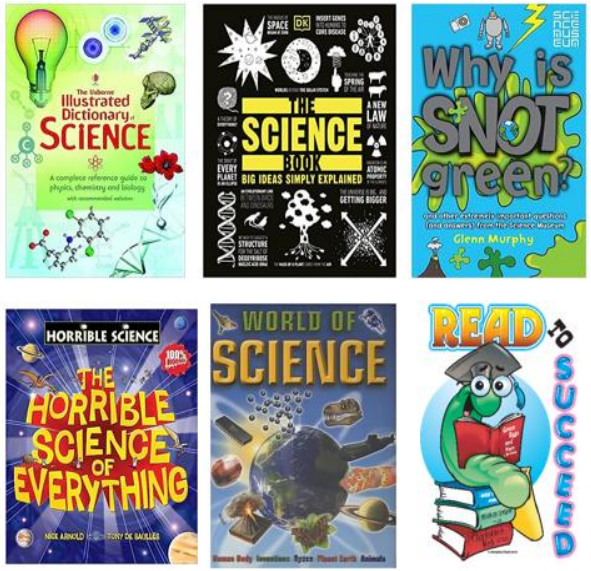
PREDICT
I think… I predict…
I wonder…
I imagine… I suppose…

QUESTION
I wonder… Who? What? Where?
When? Why? How? What if?
What does?

CLARIFY
I'm not sure of this word… section… image…
diagram… label…
what does this mean?
I think I recognise this word…
does it link to… can I have help with a synonym…

TALK THE TEXT
Why is this text important?
How does it link to my learning?
What key information can
I take from the text?

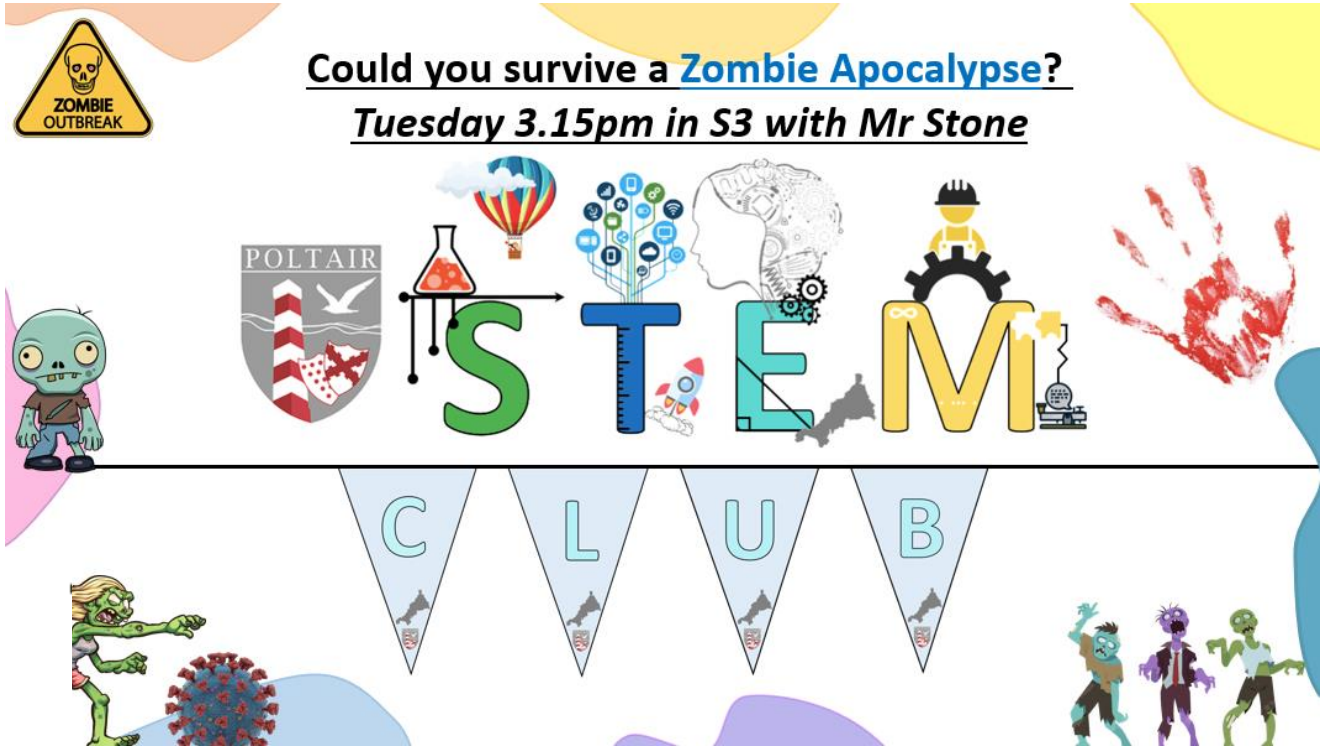
SUMMARISE
Label the key points / Paragraphs…
bullet point key ideas…
highlight key words…
The most important part is…
next… also… finally…



Science discovery websites:

1. Spectacular Science (nationalgeographic.com)
2. KS3 Science - BBC Bitesize
3. Science Experiments for Kids - Science Experiments for Kids (science-sparks.com)
4. Discover | Natural History Museum (nhm.ac.uk)
5. Cornwall Wildlife Trust | Cornwall Wildlife Trust
6. Eden at home | Eden Project
7. NASA

STEM Club (Science, technology, engineering and maths)



Year 8 Art Knowledge Organiser Learning Cycle 3: Natural Forms Abstract

1

Key Terms	Definitions
Tone	How the light falls on an object. From dark to light
Texture	What is the object made from?
Pattern	Repeating marks that can represent texture.
Message	The story, meaning or message in the art work.
Environment	The natural world we live in.
Collage	Using coloured paper torn into pieces and stuck down to create colour and tone.

2

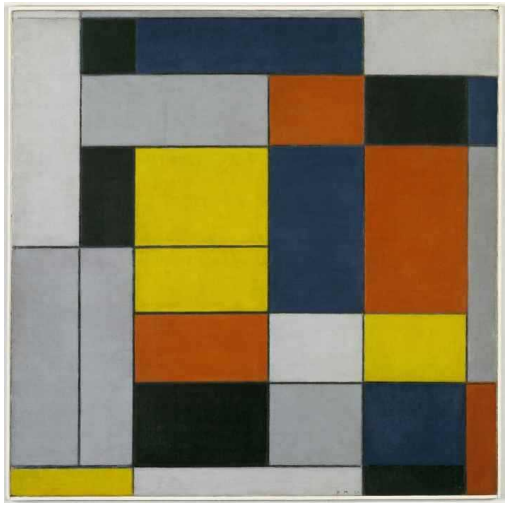
What do I need to know?

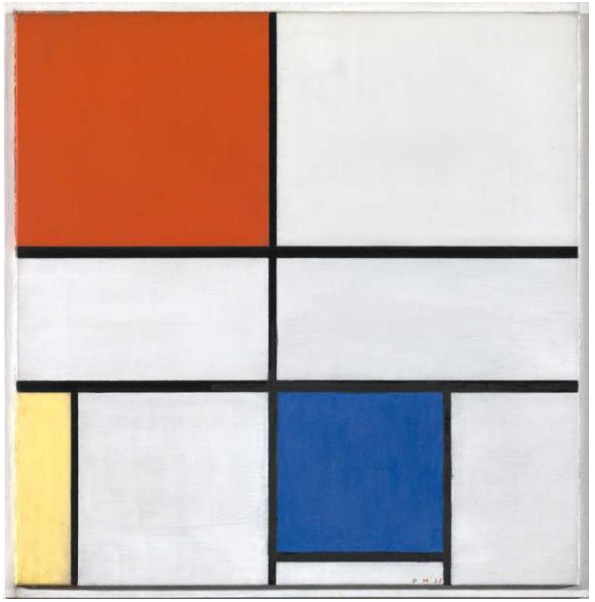
You will use all the skills you have learnt this year combining mark making, tone, texture, pattern, and colour to create a final abstract outcome inspired by the natural world.

3

What will I learn?

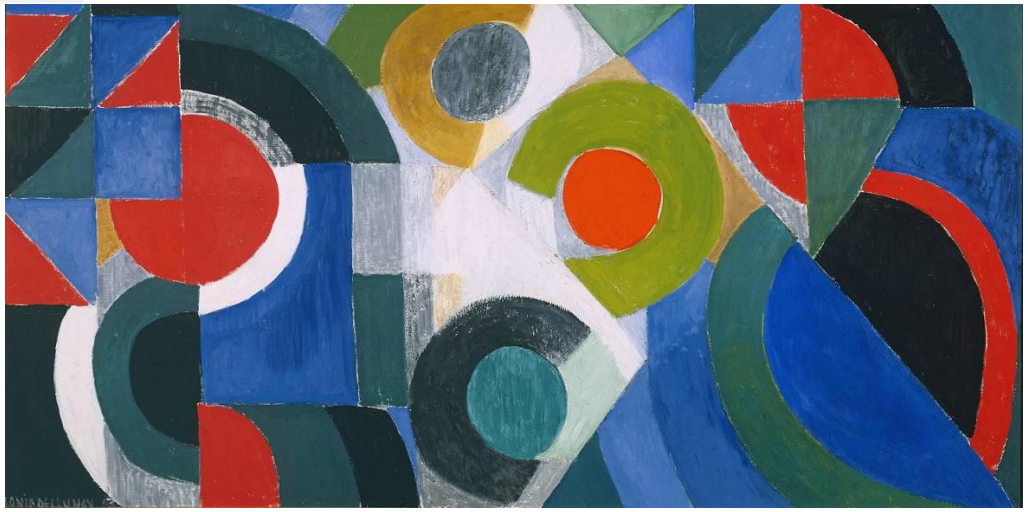
You will be introduced to the work of Sonia Delaunay and Piet Mondrian and discover how they created abstract work inspired by nature.





Piet Mondrian

Sonia Delaunay



Year 8 Computer Science Knowledge Organiser Learning Cycle 3: Python Programming

1 Python: designing code using Python

Algorithm	Logical instructions for carrying out a task -needed to design computer programs.
Comments	Adding one or more sentences to explain the purpose of a section of code, use # at start of comment.
Python	A high-level coding language
IDLE	Integrated Development and Learning Environment
Variable	A memory location within a computer program where values are stored. The value can be changed during the program.
Flowchart	A diagram that shows a process, made up of boxes representing steps, decision, inputs and outputs.
Errors	**Syntax errors** occur when you write something incorrectly. The IDLE will give you an error message **Logic errors** are when there is a mistake in the design of the code.
Testing	The purpose of testing is to ensure the code meets the design requirements.

this is a comment.
Comments are useful to help others understand what your code does

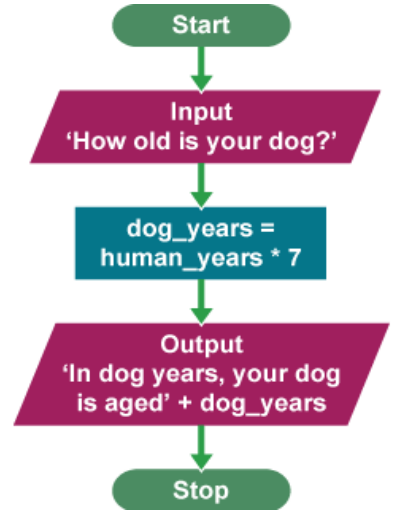
MyAge = 13
#this is a variable

print("My age is:", MyAge)
#this prints a message to the screen

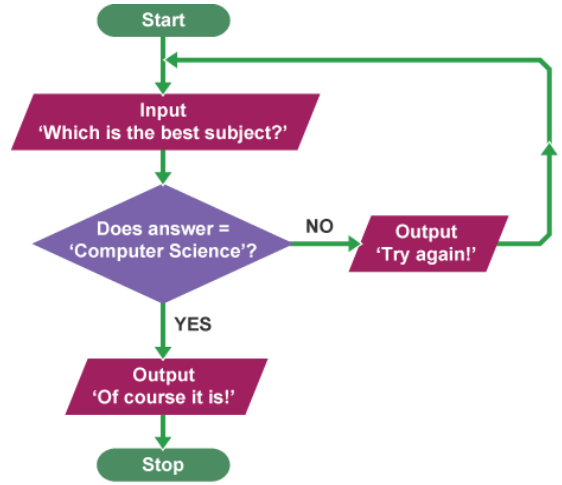
Name = input()
#this waits for the user to enter information and then adds it to the variable Name

2 Python Sequence

Key Words	Definition
Sequence	a set of instructions that follow on one from another.
Selection	A choice in the code. Uses: If....then...else
Flow diagram/chart	A Flowchart can be used to describe an algorithm



Flowchart showing sequence



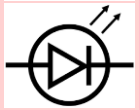
Flowchart showing selection

Year 8 Design Technology Knowledge Organiser Learning Cycle 3: Electronics

1 KEY VOCABULARY

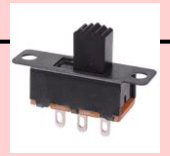
Soldering	Joining two metal surfaces together by melting a metal called solder between them
Component	A part of an electronic circuit
LED	A Light Emitting Diode
Switch	A device that opens or closes to block/allow electric current to flow in a circuit
Cell	A device that converts a store of chemical energy into electrical energy
PCB	A Printed Circuit Board has holes and conductive tracks between the components in a circuit
Conductor	A material that allows electric current to flow through it easily
Polarity	Some components only work if they are connected the right way round in a circuit. We say they have a polarity
Input	A signal put into a circuit
Output	When a device converts electrical energy to another store as a result of an input
Net	A 2D shape that can be cut and folded to make a 3D object

2 COMPONENTS AND THEIR FUNCTION



An LED is a Light Emitting Diode. Although it emits (gives out) light, it is different to a lamp/bulb.
LEDs only allow current to flow through them in one direction. We say that they have a polarity.
They have to be soldered the right way round into a circuit. You can work this out by looking for the flat edge at the base of the LED and the length of the metal legs

A resistor is used to reduce the flow of current in a circuit. The higher the resistance, the lower the current flowing through it in a given time at a set potential difference (voltage).
In this circuit, we are using the resistor to prevent too much current flowing into the LED as this could cause damage.



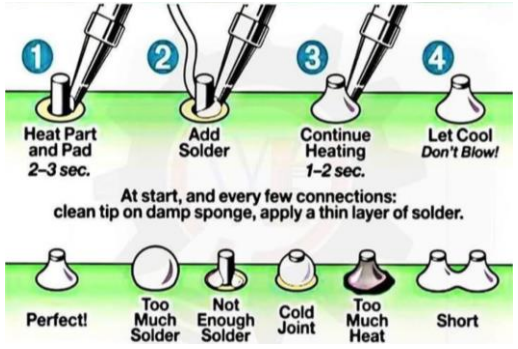
A single pole single throw (SPST) switch can be used to turn a circuit on or off by breaking the circuit and stopping the flow of current. With 3 pins, the extra connection could be used to switch on another part of the circuit, or if a motor was used instead, make it rotate in the opposite direction

3 SOLDERING

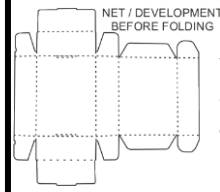
We use a hot soldering iron to melt solder.

The solder is an alloy containing mostly tin.

Follow the steps below when soldering:



4 USING A NET



A net is a 2D shape that can be cut out and folded to make a 3D object.

Heavy lines show where to cut. Dotted lines show where to fold.

We can design and use nets for packaging and containers.

Net shapes can be nested. This means that they are rotated so that many can fit onto the sheet that they are being cut out from. This reduces wastage and saves money.

5 WORKSHOP SAFETY

1) Always wear goggles when using machine tools. This includes soldering.
2) Do not use a tool unless your teacher has shown you how to use the tool safely. Ask to be shown again if you have forgotten how to use the tool safely.
3) Always assume that a soldering iron is hot. Only handle the coloured plastic handle when picking it up or putting it away. The metal end of the soldering iron will remain hot for a long time, even after the soldering iron has been switched off.

6 LINKS & FURTHER READING

How to make a Net:

https://www.youtube.com/watch?v=8Pu-0e5xdxc

How to solder:

https://www.youtube.com/watch?v=AqvHogekDI4

Revise:

Mind map Maker

is.gd/mindmapmaker

Year 8 Drama Knowledge Organiser Learning Cycle 3: Physical Theatre

1 What is physical theatre?

Physical theatre draws inspiration from a variety of performing arts genres, including mime, commedia dell'arte, and contemporary dance.

All forms of physical theatre place a strong emphasis on using the body to communicate stories

4 Levels of tension

Jacques Lecoq developed an approach to acting using seven levels of tension. This encourages the actor to think about the level of tension that they hold in their body on a scale of 1 to 7.

1. Exhausted
2. Laid back
3. Neutral
4. Alert
5. Suspense (is there a bomb in the room
6. Passionate (there IS a bomb!)
7. Tragic (the bomb is about to go off!)

2 Tier 3 Vocabulary

Stimulus	A starting point or trigger to generate ideas. This could be a poem, theme, object, moment in history, a picture.
Gesture	A movement of the head, hand or other body part to express meaning.
Motif	A repeated pattern—an image, sound, word, or symbol that comes back again and again within a particular story.
Unison	Acting, moving or speaking together, or at the same time.
Canon	Where actors take turns to do the same movement.
Stylised	Using artistic forms and conventions to create effects; not natural or spontaneous.
Abstract	The idea of representing events, situations or feelings rather than acting them out in a realistic manner.
Breaking the fourth wall	The actor breaks the invisible, imaginary wall separates actors from the audience and speaks directly to them.
Verbatim	Verbatim theatre is a form of documentary theatre which is based on the spoken words of real people. Actors use real people's words exclusively, word for word.
Proxemics	How close or near you are to others on stage. This can help to communicate meaning and relationships.

3 Practitioner: Frantic Assembly

Frantic Assembly are a **physical theatre** company, led by Artistic Director and co-founder Scott Graham.
With a focus on movement and physical theatre to convey story, their unique style, bold, collaborative and dynamic approach has made them an internationally renowned company.

Techniques
Chair duets- a devising technique that uses movement on a chair to help establish the relationship between two or more of the characters on stage'.
Round -by-through-A string of movement material with R-B-T at the centre of each movement choice. E.g. moving **round** your partner, putting your arm **through** a space by their arm.
Further Links: https://www.franticassembly.co.uk/
https://www.youtube.com/watch?v=PB-9LERsyY8
https://www.youtube.com/watch?v=ieWs3hl3O4w

4 Practitioner: The Paper Birds

The Paper Birds is a UK based devising theatre company.
Formed in 2003 upon graduation from Bretton Hall, The Paper Birds was founded upon friendship and a mutual love of contemporary theatre, and movement
They are recognised as UK leaders in devised verbatim theatre and use many physical theatre techniques in their devising work.

Further Links:
https://www.thepaperbirds.com/

Year 8 Food Knowledge Organiser Learning Cycle 3: Reduce Food Waste

1 TIER THREE VOCABULARY

Cuisine	a style or method of cooking that is characteristic of a country or region.
 **Fish Slice**	a kitchen tool which consists of a flat part with narrow holes in it attached to a handle
Sustainable	producing food but protects land, energy and water resources, to maintain supplies for future generations
Food Waste	When food that is safe and healthy for humans to eat is disposed of,
Maillard Reaction	Reaction between protein and sugar where heat is involved causes meat to brown.
Conduction	Heat transfer through a solid
Convection	Heat transfer through air or a liquid
Radiation	Heat transfer through rays

2 Cuisine

Cuisines evolve over time and are influenced by many different factors.
Often a traditional style of cooking is based around the ingredients that are grown and reared, or available, locally.
Other factors include: preparation and cooking methods; the use of specific equipment; service and presentation of food
Mexican Cuisine
The staple foods of Mexico include corn, beans, squash and chillies. Corn is used to make masa, a dough that is then turned into tortillas and tamales, whereas beans and corn feature prominently in many dishes.
Herbs and spices, particularly chilies are used in many dishes creating strong, earthy flavours.
Mexico's six regions vary considerably in cuisine due to key differences in geography, climate and ethnic makeup.
Specialty dishes include: refried beans, enchilada, mole (traditional sauces), pozole (traditional soup)

3 Food Waste

Ways to Reduce Food Waste

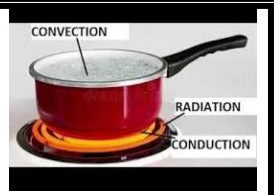
- Deliberately create leftovers – cook extra vegetables and make a soup for lunch later in the week.
- Make double the quantity of your evening meal and take the rest for lunch the next day.
- Don't throw away stale bread – whizz in a food processor to make breadcrumbs and freeze; make a summer pudding with seasonal soft fruit; spray with oil, rub with garlic, cover with tin foil and bake for delicious homemade garlic bread.
- Make extra rice or pasta and make a salad for your lunchbox.
- Freeze unused wraps, pitta and sliced bread.
- If eggs are nearing their date, separate and freeze.
- Freeze tubs of baking fat to prevent it going off before you next want to bake.

4 Maillard Reaction

In 1912, the French scientist Louis Camille Maillard discovered a chemical action between certain amino acids and certain sugars when extreme heat is added (in this case, the heat from your barbecue). This explains why meat browns on the top when it is barbecued, creating intense molecules of flavour. Examples of Maillard Reaction- toast, toasted marshmallows, meat.

5 Heat Transfer

The application of heat in the preparation of a food or mixture may:
improve digestibility;
improve appearance, flavour, odour and texture;
increase the availability of nutrients;
prevent spoilage;
increase keeping qualities.



When cooking food, **conduction** is the transfer of heat by direct contact with foods on a surface,
Food which is placed in such a liquid or gas (usually in an enclosed space) becomes cooked. This happens because heat from **convection** currents is transferred from the air or liquid to the outside of the food, then gradually to the centre, via conduction
Radiation is energy in the form of rays. The rays pass through the air until they come into contact with the food For example grilling, microwaving, sun drying.

6 LINKS & FURTHER READING

Video: Food Waste

https://www.bbc.co.uk/bitesize/articles/zyjytrd#zmryvwx

Article: Maillard Reaction

https://www.sciencefocus.com/science/what-is-the-maillard-reaction

Revise:
Mind map Maker
is.gd/mindmapmaker

Year 8 Geography Knowledge Organiser Learning Cycle 3: Extreme Weather

1 Key terms

Heat wave – A prolonged period of abnormally hot weather
Drought- A prolonged period of abnormally low rainfall leading to a shortage of water.
Flooding - occurs when a river bursts its banks and overflows onto the surrounding land
Flash flood- a sudden localised flood due to a heavy period of rainfall.
Wild or bush fire- is an uncontrolled fire that burns in the wildland vegetation, often in rural areas.
Tropical storm- is a hazard that brings heavy rainfall, strong winds and other related hazards such as mudslides and floods.
Monsoon-a seasonal prevailing wind in the region of South and SE Asia, blowing from the south-west between May and September and bringing rain (the *wet monsoon*), or from the north-east between October and April (the *dry monsoon*).

2 UK Heatwave 2023

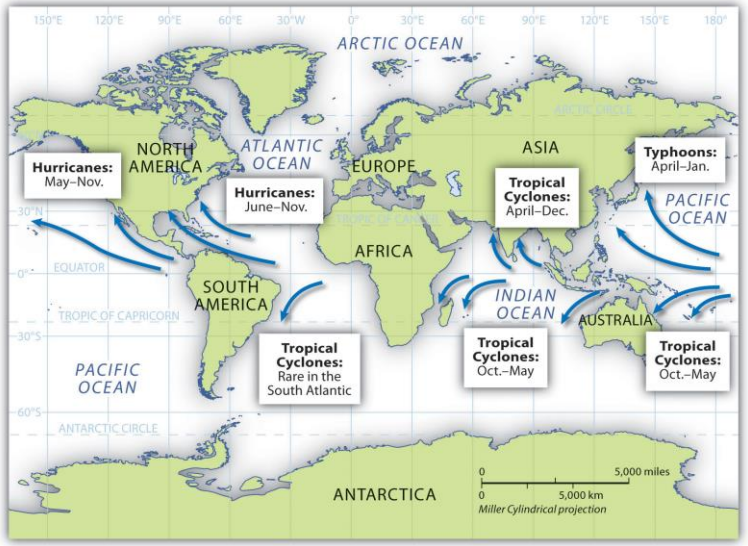
Facts and Figures
July 26, Faversham in Kent saw temperatures reach 35.3C
Causes
Jet stream usually high, bringing warmer air from the South from areas such as Spain.

Impacts	Management
• Fatalities and health issues such as heat stroke and exhaustion. • Transport disruption, road surfaces melted, and rail lines deformed. • Crop failures. • Boosted the UK tourism industry.	• Hose pipe bans • Social workers and councils on alert to watch out for elderly and young. • Advise about staying well on News stations.

3 Causes of Greece's wildfires 2023

There are many ways fires can hurt you. The first is getting caught by the flames. With fast winds and dry plants, a fire can spread faster than you can run from it. Burns are the biggest killer. Heatstroke and dehydration pose a particular problem for firefighters. Many things can spark a wildfire: campfires, cigarettes, lightning, even sunlight. But how far it spreads depends on the weather.
By burning fossil fuels and destroying nature, people have heated the planet by 1.2C – and Europe by 2C – above pre-industrial levels, making the hot, dry conditions in which wildfires thrive more common across the continent.

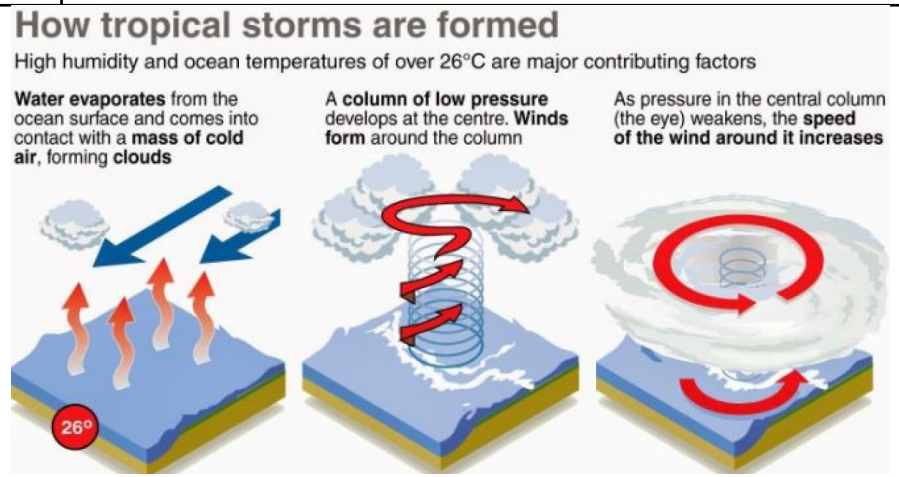
4 Tropical storm distribution



Year 8 Geography Knowledge Organiser Learning Cycle 3: Extreme Weather

5 Formation of tropical storms

Formation of Tropical Storms	
1	The sun's rays heats large areas of ocean in the summer and autumn. This causes warm, moist air to rise over the particular spots
2	Once the temperature is 27º, the rising warm moist air leads to a low pressure. This eventually turns into a thunderstorm. This causes air to be sucked in from the trade winds.
3	With trade winds blowing in the opposite direction and the rotation of earth involved (Coriolis effect), the thunderstorm will eventually start to spin.
4	When the storm begins to spin faster than 74mph, a tropical storm (such as a hurricane) is officially born.
5	With the tropical storm growing in power, more cool air sinks in the centre of the storm, creating calm, clear condition called the eye of the storm.
6	When the tropical storm hits land, it loses its energy source (the warm ocean) and it begins to lose strength. Eventually it will 'blow itself out'.



6 Hurricane Katrina

Hurricane Katrina, tropical cyclone that struck the southeastern United States in late August 2005. The hurricane and its aftermath claimed more than 1,800 lives, and it ranked as the costliest natural disaster in U.S. history.

- **Over 1 Million People Were Told to Evacuate for Hurricane Katrina**

On August 28, as the storm grew in size, people on the Gulf Coast were told to evacuate. State and local governments did not have enough resources to evacuate everyone and handle the displacement of so many people. Over 1 million people were told to evacuate the Gulf Coast.

- **Over 1,000 People Died From Hurricane Katrina**

The saddest of all Hurricane Katrina facts is that over 1,800 people lost their lives as a result of the storm. Most of these deaths were in Louisiana, where over 1,500 people died because of the storm.

Year 8 Geography Knowledge Organiser Learning Cycle 3: Sustainable Tourism

1

Components of Film Tourism

35%

To emotionally immerse oneself in a place where the TV show/movie was filmed

34.9%

To experience the city's scenery shown in the movie or TV show

34.4%

To visit restaurants featured in the movie or TV show

33.9%

To discover a meaningful place with a story rather than visit a trendy destination

33.6%

To visit a location, one's admired celebrity has once been to

2

Advantages of tourism in Kenya

1. Provides a major source of income into Kenyan economy - 21% of foreign exchange earnings
2. Provides jobs - 11 percent of paid employment comes from tourism
3. Just under 1 million tourists from Germany, UK, USA provides a market for local goods
4. Helps to protect wild animals & scenery and develops facilities e.g. Bamburi Nature Trail near Mombasa.
5. Promotes understanding of culture
6. Money is used to provide local schools and healthcare
7. Tourism has helped improve other related industries and the infrastructure.

Disadvantages of tourism in Kenya

1. Poorly paid, unreliable, seasonal employment in menial jobs (tourist numbers dropped by nearly 2/3rds between 199-1997)
2. Money goes to big companies not local people (only 15% reaches Kenya from traditional tourism)
3. Environment polluted and natural environments spoiled - boats dropping anchors damages coral, people taking parts of coral reef, wildlife disturbed by trucks, ground damaged & eroded
4. Conflicts between local tribes e.g. Masai Mara and Kenyan government through exploitation of local culture.
5. Local tribal people have been forced to change lifestyle to accommodate tourists, for example Masi people were driven off their land.
6. Nomadic tribes forced of their land
7. Local people can be exploited
8. Overcrowding of game parks & accommodation. 90% tourists visit south & east.
9. Wildlife disturbed - tourist numbers, mini-buses, balloons.
10. Tourists may offend locals e.g. scantily dressed in Muslim areas.
11. Pressure on resources like fresh water.

3

SAVORED JOURNEYS

ESSENTIAL TRAVEL GUIDE TO DUBAI

START PLANNING

Getting Around
Use the Dubai Metro, the tram, monorail, or taxis to get around. No walking

Dubai has luxury shopping, modern architecture, and a popping nightlife. Anything you want to explore, Dubai has

Metro tickets cost 4 -18 AED depending on the type

Affordable Luxury Hotels:
JW Marriott Hotel
Jumeirah Beach Hotel
The Address Dubai

BEST AREAS FOR VISITORS
Sightseeing - Bur Dubai
Food & Restaurants - Jumeirah Beach
Vibe & Culture - Dubai Creek

Dec. - March have cooler weather and less humidity

WHAT TO SEE & DO

TOP THINGS TO DO
Wild Wadi Waterpark
The Dubai Mall
The Palm Islands
The Deira Souks
Burj Khalifa
Dubai Marina

Dubai Dhow Cruise
Enjoy views of the Dubai skyline while eating delicious food

MUST-DO TOURS
Atlantis Aquaventure

Dubai Desert Dune Bashing

Dubai Helicopter Tour

Skip the Line: Burj Khalifa - At the Top Sky Ticket

Must Do:
Dune bashing and quad biking are the ultimate adventures

Take a day trip Abu Dhabi and Sheikh Zayed Mosque - the largest mosque in the UAE

Beach Vibes
If you're looking for relaxation, try Jumeirah Beach and Kite Beach.

WHAT TO EAT & DRINK

If you're in the Dubai Mall, make sure to try Gunyadin, and Wafi Gourmet

Try rooftop bars such as 40 Kong, Mercury Lounge, Iris Dubai, and Siddharta Lounge for some classy fun

Top Eats
The Royal Kebab Restaurant
Jedoudna Restaurant
BBQ Tonight
Noodle House
Toscana
Lal Qila Dubai
Karam Beirut

For a bottomless brunch, on Friday head to Nobu Dubai for a delicious breakfast

Unique Dining
Nathan Outlaw
Zheng He's
Thiptara
Pierchic

Drinking
Longs Bar
Left Bank
The Rooftop Swimming Pool
The Cocktail Bar
The Terrace Bar

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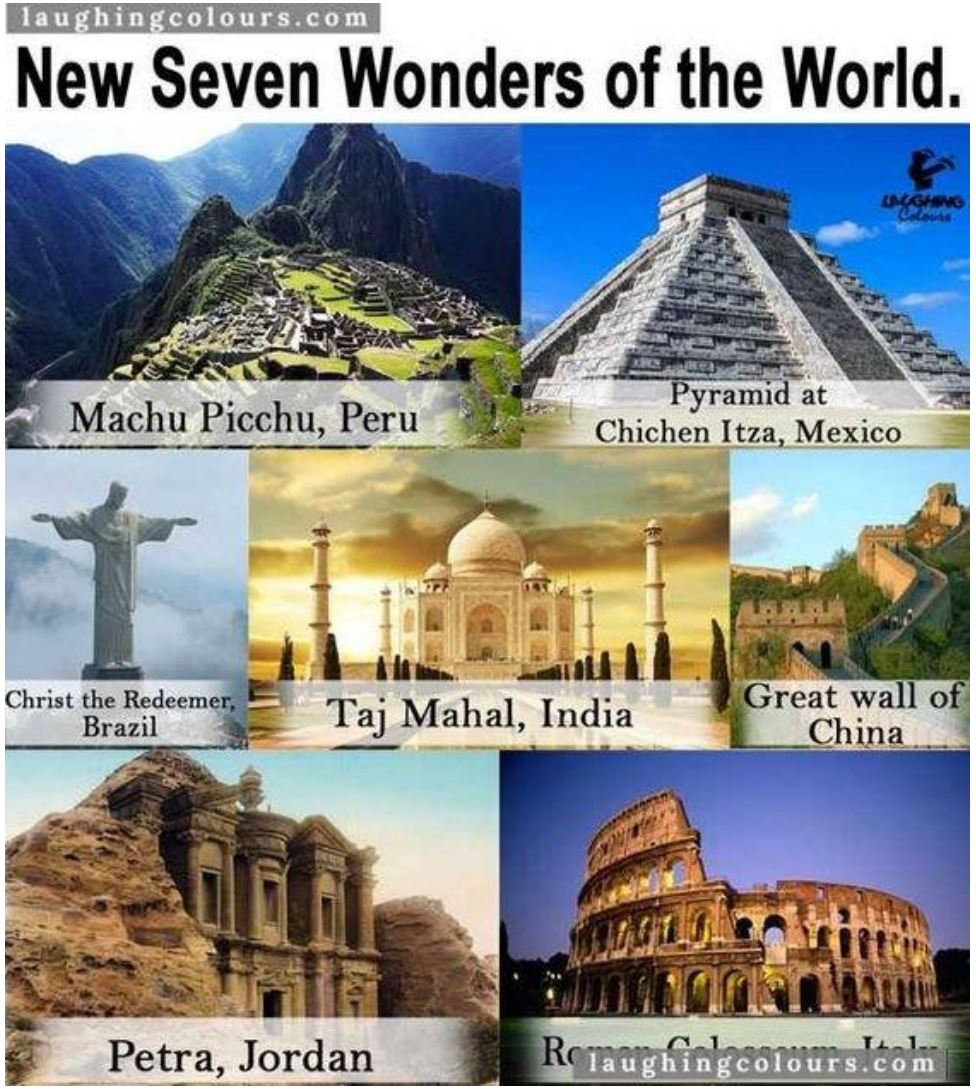
Year 8 Geography Knowledge Organiser Learning Cycle 3: Sustainable Tourism

4



5

Ecotourism

Advantages

1. 45% of the income of ecotourism stays in the UK
2. Endangered species are protected by conservation projects
3. Greater knowledge and involvement in fragile environments such as rainforests can help put pressure on governments to protect them
4. Income can bring benefits such as medical care to people who would otherwise could not afford them
5. Regulations to protect and area for ecotourism also benefits local by protecting their own environment

Disadvantages

1. 55% of income goes abroad
2. Endangered species come into contact with humans, leaving them less wary and more vulnerable to poaching
3. The presence of tourists can put stresses on the environment e.g. the accommodation, heating, water supplies, access routes, rubbish all have negative effects
4. Can disrupt the social and cultural structures of people
5. Regulations can stop local people from using their own resources in order to 'preserve' them and maintain the environment

Year 8 History Knowledge Organiser Learning Cycle 3: Enquiry Question: Why wasn't the First World War the 'War to end all Wars'?

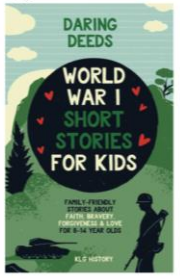
Historical Skills we will develop in this enquiry:

- ✓ Our understanding of significance
- ✓ Our understanding of using sources

Bringing the past back to life at Poltair!

Reading like a historian

Daring Deeds - World War I Short Stories for Kids KLG History



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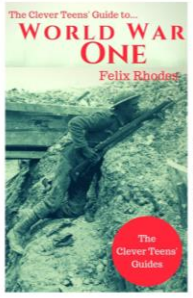
Anything you can read linked to our enquiry questions is amazing and if you tell your teacher what you've been reading and make suggestions to us for books students might like then we will be rewarding you with Merits!



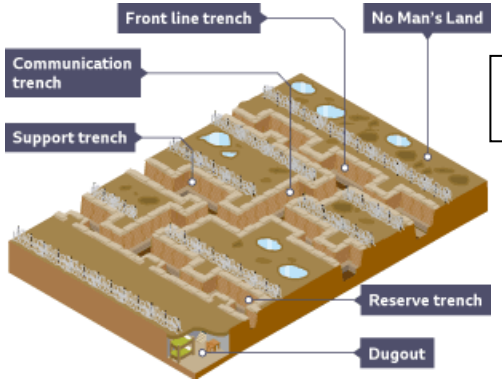
The Clever Teens' Guide to World War One Felix Rhodes (Author)

Remember to check out the library; there are some fantastic history books in there too!

1.Key Terms	Description
Alliance	When countries sign an agreement to support each other
Imperial	Having/building Empires
Militarism	Building up military forces (often to intimidate others)
Assassination	When someone is killed after planning (usually someone important)
Terrorism	The use of violence and intimidation to try to achieve a political aim
Troops	Soldiers
Trench	A long narrow ditch
Cease Fire	Agreement to stop fighting to organise peace
Treaty	An agreement signed by 2 or more countries, often to agree peace

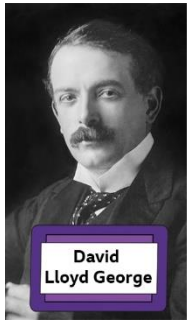
2. CORE KNOWLEDGE

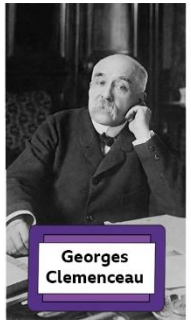
1 What were the long-term causes of WWI?	Alliances, Militarism, Imperialism
2 What was the short-term cause of WWI?	The assassination of Archduke Franz Ferdinand
3 What was the German plan to take control of France in 6 weeks?	The Schlieffen Plan, it failed and led to the creation of trench warfare
4 How was the war on the Western Front Fought?	Mostly using the Trench System, each side defended their trenches and fought to take control of others trenches to make progress
5 What roles did the Empires play in WWI?	It wasn't just one of the causes but those who were parts of the Empires fought in WWI for their countries too; for example, India, Australia fought for the British.
6 What advancements in warfare were there in WWI?	There was the creation of the tank, use of machine guns, poison gas, shells, bombs with huge amounts of shrapnel in them, hand grenades
7 How did the war come to an end?	Germany had to unconditionally surrender in November 1918, leading to the armistice
8 What decided the end of the war?	The Paris Peace Treaty; the Treaty of Versailles. This was signed in June 1919 and officially ended WWI
9 What problems were there in the Treaty?	Germany was forced to sign with humiliating conditions for themselves.
10 Why was the treaty so harsh to Germany?	Links to the reasons why the war began but also France were in a powerful position, and they had suffered huge damages because of the Trench system and so were desperate for a harsh treatment of Germany.

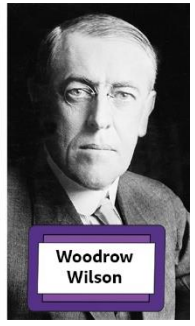


The set up of the Trench System on the Western Front

The leaders of Britain, France and the USA at the Paris Peace Treaty







Year 8 History Knowledge Organiser Learning Cycle 3: Enquiry Question: Why wasn't the First World War the 'War to end all Wars'?

Historical Skills we will develop in this enquiry:

- ✓ Our understanding of significance.
- ✓ Our use of knowledge to explain

1.Key Terms	Description
Holocaust	This is a word to describe the actions of Nazi Germany 1933-45 against Jewish people who were targeted, having rights removed and then eventually their lives.
Shoah	Many people use this term to define the events in Nazi controlled Germany against Jewish people. It is the Hebrew word for catastrophe
Anti-Semitism	Persecution of a person/group of people because they are Jewish
Scapegoat	A person or group who are given the blame for events/issues
Boycott	Refusing to use a product/service/business
Concentration Camp	A place where criminals/people against the government are forced to go. Essentially a prison with very hard conditions.
Extermination Camp	Places the Nazi Party created to kill Jewish people and other groups of people the Nazis felt were 'undesirable', 1941-45
Final Solution	The decision the Nazis took in January 1942 to kill all Jewish people in Germany and the places the Nazis controlled.
Gestapo	The Nazi secret police
SS	Wore Black uniforms and ran the concentration and extermination camps. They were supposed to be the perfect examples of the Aryan Race
Aryan	Nazis version of the perfect race; blonde hair, blue eyes. In Hitler's view the perfect examples of 'true Germans'

Left: Image of Image of a Jewish Shop in Germany 1933 during the Boycott of Jewish businesses. The word Jude is German for Jew.

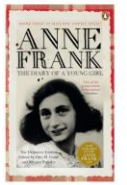
Right: Jewish Synagogue burning as a result of Kristallnacht, 1938.

2. CORE KNOWLEDGE

1 How long have Jewish people been persecuted through history?	Since the Death of Jesus
2 In the medieval period how were Jewish people treated?	Badly, they were expelled from England and during the Black Death they were blamed for poisoning water wells and 10, 000 were burnt at the stake
3 What event in 1881 increased Anti-Semitism in Russia?	The assassination of the Tsar (Emperor) of Russia, Alexander II. A Jewish person was blamed and there was violence against Jews so they fled
4 What fake document was created in Russia in 1903 which increased Anti-Semitism?	The Protocols of the Elders of Zion. It claimed there was a Jewish conspiracy to take over the world.
5 How did Hitler encourage people to hate Jewish people?	He used them as a scapegoat – blaming them for Germany's economic problems, losing WWI etc.
6 What year were Jewish businesses boycotted?	1933
7 What year were the Nuremburg Laws passed?	1935
8 Name 2 things the Nuremburg Laws did	Jewish people could not be citizens, could not vote and could not marry German citizens
9 What was Kristallnacht?	Night of the broken glass, 9th November 1938: Night of violence against Jewish people, Jewish businesses and synagogues were burnt down/destroyed
10 What other groups were discriminated against by the Nazis?	Sinti and Roma gypsies, people with disabilities, black people, LGBTQ individuals

Bringing the past back to life at Poltair!

Reading like a historian



The Diary of a Young Girl: The Definitive Edition of the World's Most Famous Diary Anne Frank **(Author)**

These are **suggestions** of reading that might help boost your history knowledge for the current enquiry.

In this topic I would recommend you only stick to suggested reading as of course it can be a very upsetting topic.

If you tell your teacher what you've been reading and make suggestions to us for books students might enjoy, then we will be rewarding you with Merits!

When Hitler Stole Pink Rabbit Judith Kerr (Author)

Remember to check out the library; there are some fantastic history books in there too! Try reading a different topic in the same time period for this enquiry though.

Year 8 Music Knowledge Organiser Learning Cycle 3: Lights, Camera, Music!

1 TIER THREE VOCABULARY

Leitmotif	A musical theme that is associated with a particular character, idea or emotion.
Diegesis (Diegetic Music & Non-Diegetic Music)	Diegetic music is must that is part of the scene and story. Non-diegetic music is music that is background music.
Tonality	Tonality describes the mood of the piece and can usually be described as major or minor.
Chords	A group of two or more notes played together.
MIDI	A way of creating music using computer software.
Sound Design	The process of creating and manipulating sound effects, music, and dialogue to enhance a movie.
Dynamics	The loudness and softness in music, use to create contrast and emotion.
Click Track	A series of audio cues to synchronise music with a visual element, like a movie.
Loops	Short sections of music or sound effects that repeat continuously.
Foley	The art of creating sound effects to mimic real-life sounds in movies.

2 MUSICAL ELEMENTS

Tempo	**Fast**	**Excitement**, action of fast-moving things (e.g., a car chase scene)
	Slow	**Contemplation**, rest or slow-moving things (e.g., a funeral procession)
Melody	**Ascending**	Upward movement, or a feeling of **hope** (e.g., climbing a mountain)
	Descending	Downward movement, or a feeling of **despair** (e.g., movement down a hill)
	Large Leaps	**Distorted** or grotesque things (e.g., a monster)
Harmony	**Major**	Happiness, **optimism** success
	Minor	Sadness, **seriousness** (e.g., a character learns of a loved one's death)
	Dissonant	**Scariness**, pain, mental anguish (e.g., a murderer appears)
Rhythm & Metre	**Strong sense of pulse**	**Purposefulness**, action (e.g., preparations for a battle)
	Dance-like rhythms	**Playfulness**, dancing, partying (e.g., a medieval feast)
	Irregular rhythms	Excitement, **unpredictability** (e.g., a fast-moving fight)
Dynamics	**Loud**	**Menace**, tension (e.g., the countdown to an invasion)
	Soft	**Gentleness**, weakness, intimacy, small things (e.g., a new-born lamb)
	Crescendo/Diminuendo	Objects or events getting **closer** / objects getting **further away**.

4 DIEGESIS

Diegesis describes anything inside the story. For music this means whether the music can be heard by the characters and whether it is part of the scene or not. Music can be background music or part of the scene.

DIEGETIC MUSIC
Where the music is part of the scene and can be heard by the characters.

NON-DIEGETIC MUSIC
Where the music is background music and is only for the audience.

5 KEY FILM COMPOSERS

The chances are, if you have watched a film, you will have heard music from one of these five famous film composers. These composers have written to famous films like Star Wars, E.T., Harry Potter, The Getaway, The Duchess, Batman, and much more!

Their music is so famous now that their music has become more famous that most songs!

6 LINKS & FURTHER READING

Video:
60 Second Guide to Film Music Diegetic/Non-Diegetic Music
is.gd/diegesis

Lesson:
Beginners Guide to Mixcraft
is.gd/guidetomixcraft

Revise:
Flash Card Maker
is.gd/flashcardmaker

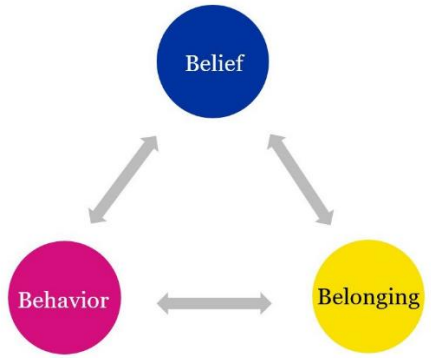
Year 8 Religious Education Knowledge Organiser Learning Cycle 3

1. Key words

Key Terms	Description
Cult	a group of people with extreme dedication to a certain leader or set of beliefs that are often viewed as odd by others
New Religious Movement	A term preferred by some people to refer to groups that are often seen as cults by those who are not members.
Mormon Church	A Christian Church that started in the USA in 1830.
Rastafari	An Africa-centred religion which developed in Jamaica in the 1930s.
Bahai	A religion founded in the 19th Century that teaches the essential worth of all religions and the unity of all people.
Zoroastrianism	One of the world's oldest monotheistic religions. It is thought to have influenced the belief systems of Judaism, Christianity, and Islam.

2. What is religion?

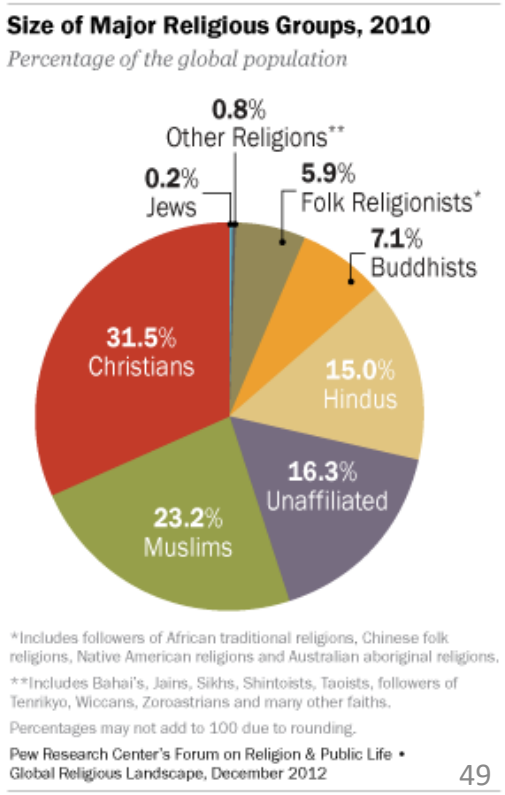
3. 3Bs model of religious identity



Some scholars have suggested that the 3 Bs are a way to understand people's religious identities. For many people talking about a person's religious identity, is more useful than trying to define what a religion is.

4. Religious beliefs around the world

Whilst the 6 major religions (Christianity, Islam, Judaism, Hinduism, Sikhi and Buddhism) make up the majority of religious beliefs, there are thought to be over 4000 different religions or denominations of religions around the world.



Year 8 Religious Education Knowledge Organiser Learning Cycle 3

1. Key words

Key Terms	Description
Orthodox Judaism	A stricter/more traditional form of Judaism.
Reform Judaism	A more liberal form of Judaism. Sometimes known as Progressive Judaism.
Covenant	A promise/agreement between two people or groups of people.
Abraham	The founder of monotheism. Jews believe that Abraham made a covenant with God to make his descendants God's chosen people.
Moses	Led the Israelites out of slavery in Egypt and received the Ten Commandments, marking a new covenant with God and the beginning of Judaism.
Torah	The Jewish holy book.
Synagogue	A Jewish place of worship.
Kosher	Things that are permitted within Jewish law.
Shabbat	The Sabbath (day of rest).This runs from Friday sunset until Saturday sunset.
Anti- Semitism	Prejudice and discrimination that is aimed at someone because they are Jewish.

2. Covenants

God had promised Abraham that he would have many descendants, but he and his wife Sara were very old and had no children. Despite this, Sara gave birth to a son, Isaac. Some years later, God told Abraham that he must sacrifice Isaac. Abraham trusted God and so he prepared to do what he was asked. Just as he was about to kill his son, the Angel Gabriel appeared and told him to sacrifice an animal instead. Because of his loyalty, God made a covenant with Abraham, promising that he would take care of his descendants and that they would be his people. Abraham's descendants went on to become the people of Israel and later the Jewish people.

Many years later, the Israelites were slaves in Egypt. They were led to safety by Moses, who with God's help parted to Red Sea to create a safe escape route for them. Whilst they were wandering in the desert trying to return to their promised land, God spoke to Moses and gave him a set of rules (including the Ten Commandments). This formed the basis of a new covenant with the Jewish people and is the reason that Jews follow the 613 laws found in the Torah.

3. Shabbat

Shabbat begins at sunset on a Friday and lasts until sunset on a Saturday. During this time, Jews are not permitted to do any work and should be more focussed on God. This comes from the Ten Commandments, which say 'Remember the Sabbath and keep it holy'.

Many Jews will avoid cooking, driving and using any electrical equipment on Shabbat as although it does not require work in modern times, these are things that would have required work in ancient times

4. Kosher Food Laws

Many of the 613 laws given to Moses are about things that Jewish people should/shouldn't eat. Food that Jewish people are permitted to eat is called kosher.

The laws include:

- Jews should not eat pork
- Jews should not eat any animal that has a cloven (split) hoof
- Jews should not eat meat and dairy in the same meal
- Jews should not eat shellfish

5. Difference between Orthodox and Reform Jews

Orthodox	Reform
No work at all during Shabbat.	It is personal choice whether things like driving are done on Shabbat.
All rabbis are male. Prayers can only be led by men.	Women can lead prayers and become rabbis.
Kosher food laws are observed very strictly.	Some people may choose not to eat kosher food, or to eat some foods that are not kosher.
God is always referred to as 'He'.	Female pronouns are sometimes used to refer to God.

Year 8 Spanish Knowledge Organiser Learning Cycle 3

1. Topic vocabulary – La tecnología

¿Qué opinas del Internet?	**What do you think about the internet?**
El internet (no) es (muy) ….	The internet is(n't) (very)...
El internet puede ser ….	The internet can be…
seguro	safe
educativo	educational
entretenido	entertaining
útil	helpful/useful
gracioso	funny
fácil de usar	easy to use
emocionante	exciting
barato	cheap
conveniente	convenient
pesado	annoying
difícil de usar	hard to use
caro	expensive
tonto	silly
lento/ despacio	slow
adictivo	addictive
extremista	extreme
una pérdida de tiempo	a waste of time

¿Qué aplicaciones usas?	**What apps. do you use?**
uso … para ...	I use … to…
es una buena aplicación para…	it's a good app. for...
sacar fotos	to take photos
personalizar fotos	to personalize photos
compartir fotos	to share photos
subir fotos	to upload photos
subir y ver vídeos	to upload and watch videos
contactar con…	to be in contact with...
pasar el tiempo	to pass the time
pasar un rato	to pass a bit of time
controlar las calorías	to monitor my calories
buscar música	to search for music estar en
contacto con…	to be in touch with
ver mis series preferidas	to watch my favourite series
chatear/ charlar con…	to chat with...
descargar…	to download
controlar mis actividades físicas	to monitor my physical activity
organizar las salidas con…	to organize outings with…
enviar/ mandar mensajes	to send messages

2. Transactional language - shopping

Como pedir..	**How to ask...**
¿Cuánto cuesta(n)?	How much is it/ are they?
Quiero…	I want…
Quisiera…	I wanted...
Me gustaría…	I would like...
Me da…	Give me...
¿Dónde están los probadores?	Where are the changing rooms?
¿Algo más?	Anything else?
¿Puedo…?	Can I….?
¿Tiene…?	Do you have…..?
¿Hay….?	Are there ….?
¿Me puede ayudar?	Can you help me?
¿De qué color?	What colour?
¿De qué tamaño?	What size?
Los problemas	**Problems**
hay una mancha	there is a stain
hay un agujero	there is a hole
falta un botón	it is missing a button
la cremallera está rota	the zip is broken
es/son demasiado ...	it is/they are too …
no me queda bien	it doesn't suit me

3. Question words

¿Qué?	What?
¿Dónde?	Where?
¿Cómo?	How?
¿Cuál?	Which?
¿Quién?	Who?
¿Cuándo?	When?
¿Cuánto?	How much?
¿Cuántos?	How many?
¿Por qué?	Why?
¿Adónde?	To where?
¿Con quién?	With whom?

4. Further reading and websites

The present tense:
https://www.bbc.co.uk/bitesize/topics/zg9mhyc/articles/z63n7nb

The preterite tense:
https://www.bbc.co.uk/bitesize/topics/zg9mhyc/articles/zhgfmfr

Using infinitives to talk about now and the future:
https://www.bbc.co.uk/bitesize/topics/zg9mhyc/articles/zf9bhbk

Pronouncing words in Spanish:
https://www.bbc.co.uk/bitesize/topics/zhy27nb/articles/zk78382