



Knowledge Organisers

Name:

Team:



Mathematics

Our students will:

- become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language
- can solve problems by applying their mathematics to a variety of routine and non- routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.



9F.05 Statistical Measures

- Find the mode, median and range for a set of data Calculate the mean for a set of data
- Find the mode of a frequency table

- Calculate the mean of a frequency table
- Find the modal class or class containing the median of a grouped frequency table
- Estimate the mean of a grouped frequency table

Key Word	Definition	Key Concepts						35
Mode	the most common value in a set of data						Concept – what it is	Non-Concept – what it isn't
Median	the middle value in an ordered set of data; the overall value	The mean, media Mean:	n and mode in m	aths are averages.			Find the median and modal shoe sizes from the table	n The mode is the size with the highest
Mean	the total of a set of data divided by the number of items in the list; the overall value	Find the total of the values and divide the total by the number of values. $mean = \frac{total}{mmbor of values}$					Shoe Size Frequency frequency, not the the most times in	frequency, not the number that appears the most times in the table.
Range	the difference between the largest and the smallest values in a set of data; shows how consistent	Median: Arrange the values in numerical order, from the smallest value to the highest value and find the middle value. Mode:				e	5 2	Modal shoe size = 5
Average	the name of the four averages: median, mean, mode and range						6 11 7 5 The modian isn't just the middle to the middle t	The median isn't just the middle row, it's
Modal class	the most common class/group	Find the most freq	uently occurring	item in the data se	ıt.		8 4	the shoe size with half the frequency on
Consistency	how spread out a set of data is; less spread out – more consistent, more spread out – less consistent	The mean from a t set which has beer	Frequency table in organised into a	s when we find the a frequency table.	e mean average from a data		9 1	each side (e.g. in this table with a total of 23 it's the size with a fruqency of 12 on
	To calculate the mean we find the total of the values and divide the total by the number of values. The number of values is the total frequency. This can be abbreviated to n. $mean = \frac{\text{total}}{\text{number of values}} = \frac{\text{total}}{n} \qquad mean = \frac{\text{total}}{n} = \frac{(1 \times 5) + (2 \times 6) + (3 \times 3) - (4 \times 2)}{16} = \frac{34}{16} = 2.125$				Modal shoe size = 6 Median shoe size = 6	each side) Median shoe size = 7		
MathsWatch: <u>62</u> , <u>130a</u> , <u>130b</u>								
Corbett Maths: Video 50, 51, 52, 53, 53a, 54, 55, 56, 56a, 57, 57a;								
				.125	Standard Examples	Non-Standard Examples		
Career It is the job of a statist	rs Focus – Where could this take you?	E.g. The frequency table above shows the number of people.				Find the median 3 , 6 , 8 , 11 , 14 , 18 , 19	Find the median 3 , 6 , 8 , 11 , 14 , 18	
and then use statistica	al measures such as averages to analyse the data	When the data has been grouped together and put into a grouped frequency table we can find an estimate for the mean using the midpoints of each group.		8±11				
	Curriculum Links - Coherence	E.a. The frequenc	v table shows th	ne marks scored in	a test by 20 students		Median = 11	Median = $\frac{3411}{2}$ = 9.5
Required Knowledge:	·		,				First the survey of a	Find the mode
 7.01 Adding and s 7.02 Multiplying a 	ubtracting ind dividing	Marks scored	Frequency	Mid-point	Frequency × Mid-point		3, 4, 4, 5, 6, 6, 7	4,4,5,5,6,6,7,7
 7.06 Ordering 7.19 Comparing a 	verages	10 - 19	5	$\frac{10+19}{2} = 14.5$	$3 \times 4.5 = 13.5$ $5 \times 14.5 = 72.5$			Mode = no mode
- 8.22 Grouped frequency mean		20 - 29	8	$\frac{20+29}{2} = 24.5$	8 × 24.5 = 196		Mode = 4 and 6	
Applied to:		30 - 39	4	$\frac{2}{30+39} = 34.5$	4 × 34.5 = 138			Find the ranae
- 10H.20 Box Plots			n = 20	2	Total = 420		Find the range 5 9 11 16 22 28	-9, -5, 11, 16, 22, 28
Links across school: - Bioenergetics (Science) - Practical Repeats (Science) - Comparing data (Geography)			Estimated mea	$ m = rac{ ext{total}}{n} = rac{420}{20} $	= 21		Range = 28 – 5 = 23	Range = 28 9 = 37



<u>9F.05 Statistical Measures</u>

The learning outcomes for this topic are:

- Find the mode, median and range for a set of data Calculate the mean for a set of data
- Find the mode of a frequency table

Calculate the mean of a frequency table

- Find the modal class or class containing the median of a grouped frequency table
- Estimate the mean of a grouped frequency table

Useful Formulae and Hints	GCSE Questions	
<i>Mode = most common</i> If all the numbers appear the same amount of times, there is no mode. If more than one number appears the most often, then there is more than one mode.	18 Jenny played four games of golf. For these games her modal score was 76 and her mean score was 75. Her range of scores was 10. What were her scores for the four games?	 10 Mr and Mrs Wilde have five children who are all different ages. The mean age is 6.4. The range is 9. The median is 6. The oldest child is 12. Work out the ages of the children. Write their ages from youngest to oldest.
<i>Median = middle number.</i> Make sure the numbers are in	The mode of these four numbers is 8, the range is 7 and the mean is 11. Find Ping's four numbers.	youngest oldest [4]
order before finding the middle. If there are two 'middle' numbers, then the median is halfway between them.	4 A teacher asks nine of his pupils how many pets they have at home. Here are the results.	 4 These are the heights, in metres, of the players in a netball team. 1.30 1.13 1.20 1.23 1.22 1.24 1.15 (a) (i) Find the median height of the 7 players.
Range = largest subtract the smallest	1 1 1 2 3 4 5 7 111 (a) Work out the range of the nine results.	(a)(i) m [2] (ii) Work out the range of the heights of the 7 players.
The range tells you about the consistency of the data. The smaller the range is, the closer together all the numbers are and the more consistent the data is.	 (a)[1] (b) The median of the nine results is 3. The mean is 15. (i) Write down the mode. 	(ii) m [2] (iii) The sum of the heights of the 7 players is 8.47 m. Calculate the mean height of the 7 players. (iii) m [2]
<i>Mean = total ÷ frequency</i> For the reverse mean (when the mean is known but not the total)	(b)(i)[1] (ii) The teacher wants to use a sensible average to summarise the results. Which average should he use and why?	 (b) The tallest player is replaced by a substitute. The median height of the players is unchanged. The mean height of the players becomes smaller. Write down a possible height for the substitute.
Total = mean x frequency	because	(b) m [2]



9F.06 Basic angle facts

- Find missing angles on a straight line or around a point State the properties of special quadrilaterals
- Find missing angles in a triangle

- Find missing angles in a quadrilateral
- Find missing angles from an isosceles triangle (repeated angle given)
- Find missing angles from an isosceles triangle (unique angle given)

Key Word	Definition	Key Concepts					
Acute	An angle that is less than 90 degrees		Concept – what it is	Non-Concept – what it isn't			
Obtuse	An angle that is more than 90 degrees	Angles on a straight line describes the sum of angles that can be arranged	Find the size of the angle labelled a				
Reflex	An angle than it more than 180 degrees	together so that they form a straight line.					
Right angle	An angle that is exactly 90 degrees	Angles on a straight line add to 180° .		Find the size of the angle labelled a			
Equilateral	A triangle with three equal sides		a 110° b 55°				
Isosceles	A triangle with two equal sides		180 - 110 - 70	a 110° b 55°			
Quadrilateral	Any 2D shape with four sides		a = 70°				
Parallelogram	A quadrilateral with opposite sides and angles equal and two pairs of parallel sides			110 + 55 = 165 180 - 165 = 15 a = 15° Angles on a straight line must meet at a point. The 110 and 55 are not part of the			
Rhombus	A parallelogram with all sides equal		Find the size of the angle labelled h				
Trapezium	A quadrilateral with one pair of parallel sides	Angles around a point describes the sum of angles that can be arranged	This the size of the angle labelled b				
Kite	A quadrilateral with two pairs equal adjacent sides	together so that they form a full turn.	180 – 55 = 125				
	Additional Resources	Angles around a point add to 360° .	a = 125°	same 180-degree angle.			
MathsWatch: <u>45</u> , <u>46a</u>	, <u>46b</u> , <u>121</u> , <u>122</u>						
Corbett Maths: Videos	s <u>30</u> , <u>33</u> , <u>35</u> , <u>37</u> , <u>39</u> ; Worksheets <u>30/34/35/39</u> , <u>33</u> , <u>37</u>		Standard Examples	Non-Standard Examples			
Career	s Focus – Where could this take you?			3x - 10			
Cartographers use ang angles when producing are accurate.	les regularly when drawing and revising maps. They use g 3D models and spatial information to ensure diagrams		y E1°	2x + 55			
	Curriculum Links - Coherence		51				
Required Knowledge: - 7.01 Adding and subtracting - 7.20 Measuring and drawing angles - 7.22 Angles in a triangle		Angles in a triangle refers to the sum (total) of the angles at each vertex in a triangle. The sum of the interior angles of a triangle is 180°. E.g.	Find the size of the angle marked y. Missing angle is also 51 as it is an isosceles	Find the size of the angle x Angles in a triangle add to 180 so			
- 7.22 Angles in a triangle Applied to: - - 9F.07 Angles in a polygon - 9F.08 Angles on parallel lines - 10F.15 Bearings - 10F.21 Trigonometry Links across school: - - Geometric patterns (Art)		55° 72° 72° 60° 60° Right angled triangle One right angle $90+55+35 = 180^{\circ}$ Isosceles triangle Two equal sides & angles $72+72+36 = 180^{\circ}$ Equilateral triangle Three equal sides & angles $60+60+60 = 180^{\circ}$ Scalene triangle All sides & angles different $83+68+29 = 180^{\circ}$	triangle 51 + 51 = 102 180 - 102 = 78 y = 78°	3x - 10 + 2x + 55 + 90 = 180 5x + 135 = 180 5x = 45 $x = 9^{\circ}$			



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- Find missing angles from an isosceles triangle (unique angle given)





9F.07 Symmetry and Angles in polygons

- Name simple polygons
- Find lines of or rotational symmetry of a shape
 - Create shapes with a given symmetry

- Find the exterior angle of a regular polygon
- Find missing angles in a polygon using the formula for the angle sum
- Find the number of sides of a polygon from an exterior angle





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- Find missing angles in a polygon using the formula for the angle sum
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Useful Formulae and Hints	GCSE Questions	
All shapes have a rotational symmetry of at least 1. it is not possible to have rotational symmetry order 0.	 (a) Work out the size of the exterior angle of a regular 12-sided polygon. (a)° [2] (b) Use your answer to part (a) to write down the size of the interior angle of a regular 12-sided polygon. 	2 (a) Write down the number of lines of symmetry of this hexagon.
Sum of the exterior angles = 360 degrees So	(b)° [1] 18 The diagram shows a square, a regular hexagon and part of another regular polygon meeting at point P	(a)[1] (b) Write down the order of rotation symmetry of this shape.
Exterior angle = $\frac{360}{number of sides}$ and Number of sides = $\frac{360}{exterior angle}$	Not to scale	
Sum of the interior angles =	(a) Show that the size of one interior angle of a regular hexagon is 120°. [2]	(b)
One interior angle = 180 x (number of sides – 2) ÷ number of sides		(c)[1] (d) Sara says All parallelograms have 2 lines of symmetry and rotation symmetry of order 2. Explain why Sara is not correct.
Exterior + interior angle = 180 degrees	(b) Find the number of sides of the other regular polygon.(b)	



9F.08 Angles in parallel lines

- Identify alternate or corresponding angles
- Find one-step alternate angle solutions
- Find one-step corresponding angle solutions

- Find one-step allied angle solutions
- Find missing angles using a combination of parallel line rules
- Find missing angles using parallel line rules and isosceles triangles



Newsome Academy **9F.08 Angles in parallel lines**

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- Find missing angles using parallel line rules and isosceles triangles





9F.09 Multiples, factors and primes

The learning outcomes for this topic are:

- Find multiples of a given value Recognise prime numbers from a list
- Find all factors of a given value

Find the prime factor decomposition of a number

- Find the HCF and LCM of a pair of numbers (from a list)
- Find the HCF and LCM of a pair of numbers (from prime factorisation)

Key Word	Definition	Key Concepts					
Multiple	The times table of a number e.g. multiples of 7 are 7 , 14 , 21 , 28 ,	Factors are numbers that divide an integer (a whole number) with no remainder.	Concept – what it is	Non-Concept – what it isn't			
Factor	Numbers that divide exactly into a number, these come in pairs e.g. factors of 12 are 1 , 12 , 2 , 6 , 3 , 4	Factors are always integers and can sometimes be called divisors. Factors have a commutative property such that you can switch the order of the	The lowest common multiple (LCM) is the	Do not confuse the terms multiple and factor. It's easy to work out the wrong one			
Prime	A number with exactly two factors, itself and one	calculation and the calculation remains the same; $2 imes 3=3 imes 2$	table of two or more numbers.	Juctor: It's cuty to work out the wrong one.			
Prime factorisation	Splitting a number into a list of prime factors that have the number as their product	The number of factors can determine other properties of a number, such as whether it is a prime number or a square number .	The highest common factor (HCF) is the	Find the LCM of 28 and 42			
HCF	Highest common factor, the largest number that divides exactly into two or more numbers	To find all of the factors of any integer, we write out all of the factor pairs in order.	largest integer that two or more numbers can both be divided by.	28 = 1 x 28, 2 x 14 , 4 x 7 42 = 1 x 42 , 2 x 21 , 3 x 14 , 6 x 7			
LCM	Lowest common multiple, the smallest number that is in the times tables of two or more numbers	Multiples are the result of multiplying a number by an integer. E.g. The first 5 multiples of 7 are: 7, 14, 21, 28, and 35. Multiples can be integers, decimals, fractions, negative numbers or surds, and can	For 28 and 42	So LCM = 14			
Index Form Product	Writing repeated multiplication as a power Multiplying two or more numbers	sometimes be called products . In general, if n is any number and x is an integer, m is a multiple of n where:	HCF = 14	Remember to choose the highest number for HCE, all numbers can be divided by 1, so			
Additional Resources MathsWatch: 28 , 78 , 79 , 80		$n \times x = m$ To calculate multiples of a number n , we have to multiply n by an integer. We can list multiples of a number by multiplying n by the position of the value in the list. E.g. The 9th multiple of 4 is equal to $9 \times 4 = 36$.	LCM = 84	that will always be a common multiple, but very rarely the highest.			
Corbett Maths: Videos <u>216</u> , <u>218</u> , <u>219</u> , <u>220</u> , <u>223</u> , <u>224</u> , <u>225</u> ; Worksheets <u>216</u> , <u>218</u> , <u>219</u> , <u>220</u> , <u>223</u> , <u>224</u> , <u>225</u> ; Worksheets <u>216</u> ,		Prime numbers are positive integers that have only two factors, themselves and 1.	Standard Examples	Non-Standard Examples			
Caree	rs Focus – Where could this take you?	This means that you cannot divide a prime number by any number apart from 1 or itself, and get an integer answer.	Find the HCF and LCM of 18 and 24	Two numbers have a HCF of 15 and an LCM of 180			
Cyber security experts use prime numbers and prime factorisation to create security systems for networks and encryption for apps and websites.		 A number that is not prime is called a composite number. The first 8 prime numbers are: 2, 3, 5, 7, 11, 13, 17, and 19. 1 is not a prime number as it has only 1 factor. 2 is the only even prime number. To determine whether a number is prime, we need to look for factors of the number, either manually or by using a number trick. If the number has a factor that is not 1 or itself, it is not prime. 	Draw the prime factor trees to complete the Venn diagram Prime factors of 18 Prime factors of 24	$15 = 3 \times 5$ for the centre of the Venn diagram $180 \div 15 = 12 = 2 \times 2 \times 3$ for the other sections of the Venn diagram			
Required Knowledges - 7.02 Multiplying a	Curriculum Links - Coherence	Factor trees are a way of expressing the factors of a number, specifically the prime factorisation of a number. Each branch in the tree is split into factors. Once the factor at the end of the branch is a prime number, the only two factors are itself and one so the branch stops and we circle the number.	2 2 3 2 3 2	Putting the numbers into the diagram (remembering not to split the repeated factor of 2) gives 60 and 45			
Applied to: - F.12 Adding and s - 9F.19 Direct prop Links across school: - Coding (Computing)	subtracting fractions ortion ng)	E.g. $50,$ 120 120 $120 = 2 \times 2 \times 2 \times 3 \times 5$ 4 3 5 2 $120 = 2^3 \times 3 \times 5$ 2 2	HCF = product of the numbers in the intersection = 2 x 3 = 6 LCM = product of all the numbers = 3 x 2 x 3 x 2 x 2 = 72				



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Useful Formulae and Hints	GCSE Questions		🛬
	4 (a) Write down each of the following.		
Even numbers are numbers that	(i) An even number.	2 (a) Write down	17 Two model cars, A and B, are in a race.
remainder.	[1]	(i) a multiple of 13,	They start together on the starting line. Assume each car travels at a constant speed.
	(ii) A factor of 25.	[1]	Car A takes 30 seconds to complete each lap of the track.
Odd numbers cannot be divided	[1]		The two cars next cross the starting line together 150 seconds after the start of the race.
by tw o without a remainder.	(iii) A prime number between 10 and 20.	(ii) a prime number between 40 and 50.	Find the four possible times that car B could take to complete one lap.
		[1]	You may find this information helpful.
A prime number has exactly two	(iv) A cube number.		$150 = 2 \times 3 \times 5 \times 5$
factors, one and itself.	[1]	(b) Find the lowest common multiple (LCM) of 16 and 2	28.
	(b) Find the highest common factor (HCF) of 35 and 91.		
A multiple is a number in the	[2]		. [2]
times table of the original number.			
		¬ [18 (a) Write 490 as the product of its prime factors
	19 Two numbers have these properties.	13 (a) Show that the highest common factor (HCF) of 18 and 63 is 9.	
A factor is a number that will divide exactly into a number.	 Both numbers are greater than 6. Their highest common factor (HCF) is 6. 	[2]	(a)
Factors come in pairs that	Their lowest common multiple (LCM) is 60.	(b) Find the lowest common multiple (LCM) of 18 and 63.	(b) Buses to Ayton leave the station every 25 minutes. Buses to Bleeford leave the station every 40 minutes. Buses to both places leave at 9am
original number.	Find the two numbers.	[2]	What is the next time buses to Ayton and Bleeford leave the station together?
	and[3	B]	(b)[4]
When finding the prime			
factorisation of a number (also	18 Doctor Jones starts an appointment every 20 m	ainutes. 2 (a) Comple	ete this list to show all the factors of 30.
factor decomposition) remember	Doctor Warholm starts an appointment every 35	5 minutes.	10 20 [2]
you are looking for factors [numbers that multiply together]	The first appointment for both doctors starts at a	8.30 am.	
rather than sums.	What is the next time that they have an appoint	ment start at the same time? (b) Write do	own the highest common factor (HCF) of 25 and 30.
		[4]	(b)[1]
A multiple is a number in the times table of the original number. A factor is a number that will divide exactly into a number. Factors come in pairs that multiply together to give the original number. When finding the prime factorisation of a number (also called product of primes or prime factor decomposition) remember you are looking for factors [numbers that multiply together] rather than sums.	19 Two numbers have these properties. • Both numbers are greater than 6. • Their highest common factor (HCF) is 6. • Their lowest common multiple (LCM) is 60. Find the two numbers.	13 (a) Show that the highest common factor (HCF) of 18 and 63 is 9. [2] (b) Find the lowest common multiple (LCM) of 18 and 63. [3] 1 2 (a) Comple 5 minutes. 5 minutes. 8.30 am. ment start at the same time?	[2] 18 (a) Write 490 as the product of its prime factors. (a)



9F.10 Squaring and square roots

- Square numbers (up to two digits) Square root numbers (integer solutions)
- Calculate squares of numbers

- Find patterns in square numbers
- Find square roots of fractions
- Estimate the value of a square root

Key Word	Definition	Key Concepts		E
Power	The number of times a number is multiplied by itself,		Concept – what it is	Non-Concept – what it isn't
Index	The power of a number	Square Numbers and Square Roots		What is the square of – 3?
Square	Multiplying a number by itself e.g. 5 x 5 = 25	A square number is a number that is multiplied by itself.		
Cube	Multiplying a number by itself twice e.g. 5 x 5 x 5 = 125	When we square a value we always get a positive answer.	What is the square of – 3?	$-3^2 = -3 \times 3 = -9$
Square root	The inverse of squaring, show with this symbol $\sqrt{-}$	E.g. 4×4 can be written as 4^2	$(-3)^2 = -3 \times -3 = 9$	When squaring a negative we get a positive
Inverse	The opposite function, takes an output back to an input	It is spoken as "4 squared" or "4 to the power of 2"		result. Brackets around any negatives are really important when using a calculator
Base	The number that is raised to a power, e.g. in 2 ³ the 2 is the base and the 3 is the index			What is the square root of 36?
	Additional Resources		What is the square root of 36?	$\sqrt{36} = 18$
MathsWatch: <u>29</u> , <u>81</u>			$\sqrt{36} = 6 \text{ or } - 6$	Sauare rooting is not the same as halving.
Corbett Maths: Videos 214 , 226/7 , 228	s <u>212</u> , <u>213</u> , <u>214</u> , <u>226</u> , <u>227</u> , <u>228</u> ; Worksheets <u>212/3</u> ,	The first square number is 1 because $1 imes 1=1.$		Also, there are always two numbers that square to give the same answer, one
Career	's Focus – Where could this take you?	The second square number is 4 because $2 imes 2=4$		positive and one negative
A computer graphics e	engineer uses	The third square number is 9 because $3 imes 3=9$, and so on.	Standard Examples	Non-Standard Examples
squares and roots whe algorithms and equation	en building the ons that are	The first fifteen square numbers are: 1, 4, 9, 16, 25, 36, 49, 64, 81,	Work out:	Work out:
used to create images or to form new illustra	on the screen tions with CGI.	100, 121, 144, 169, 196 and 225.		a) 0.3 ²
				3 x 3 = 9
	Curriculum Links - Coherence	Square Numbers and Square Roots	a) 3 ²	So 0 2 × 0 2 = 0 00
Required Knowledge:	<u> </u>	The square root of a number is a value that can be multiplied by itself to give the	3 x 3 = 9	30 0.3 × 0.3 - 0.09
 7.02 Multiplying n 7.05 Squares and t 	numbers the order of operations	original number.		b) $\left[\frac{16}{16}\right]$
Applied to:		Square rooting a number is the inverse operation of squaring a number. The square root function looks like this $$, its mathematical name is the		$\sqrt{\frac{25}{25}}$
- 9F.17 Quadratic ex	xpansion	'radical'. When we square root a value we always get a positive and negative value.	b) $\sqrt{121}$	4 x 4 = 16
- 10F.20 Pythagoras	s' Theorem	E.g.	11 x 11 = 121	5
 IUF.24 Powers and 11F.04 Plotting qu 	adratics	The square root of 9 is 3 since 3 x 3 = 9 $\checkmark \sqrt{9} = \pm 3$		5 X 5 = 25
Links across school: - Motion (Science)		The square root of 64 is 8 since 8 x 8 = 64 $\checkmark \sqrt{64} = \pm 8$	So $\sqrt{121} = 11$	So $\sqrt{\frac{16}{25}} = \frac{4}{5}$



- Square numbers (up to two digits) Square root numbers (integer solutions)
- Calculate squares of numbers

- Find patterns in square numbers
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Useful Formulae and Hints	GCSE Questions	
Squaring a number means multiplying it by itself , NOT multiplying by two. E.g. the square of 3 is 3 ² = 3 x 3 = 9	12 (a) Find the value of (i) $\sqrt[3]{216}$,	 4 Tia thinks of a number. She finds the square root and subtracts 4. Her answer is 1. What number is she thinking of? 7 (a) Write down the value of ³√27. [1]
Square rooting is the opposite of squaring. E.g. the square root of 49 is $\sqrt{49} = 7$	(a)(i)[1]	[2] $(b) Work out 7$
Squaring a negative number gives a positive answer.	(ii)	(ii) $\sqrt[3]{64} = \dots$ [1] (b) Work out $2^3 \times \sqrt{49}$. [2] She finds the square root and then divides by 5. Her answer is 20. What number is she thinking of? [2]
So a square number an have two different square roots . E.g. if x ² = 49 then x = 7 or x = -7	$\sqrt[3]{3} + 7^2$ $3^3 + 7^2$ $3^3 + \sqrt{7}$ $\sqrt[3]{3} + \sqrt{7}$ [1]	8 (a) Evaluate. (i) $\sqrt{121}$
Powers count repeated multiplication of the same number. E.g. 5 x 5 x 5 x 5 = 5 ⁴	 Patrick writes down a number. He says If I find the square root of that number and then add 15, I get 27. What number did Patrick write down? 	(a)(i)[1] (ii) 4^{-2} (ii)[1] (b) Work out. $(9-3\times2)^2$
Roots can be the inverse of any power . E.g. the inverse of squaring is $\sqrt{?}$. The inverse of cubing is $\sqrt[3]{?}$. The inverse of the power 4 is $\sqrt[4]{?}$.	(b) Find the values of z. $z^2 = 196$ $z = \dots \text{ or } z = \dots \text{ [2]}$	(b)[2] (c) Fill in the power. 5 = 125 [1]



9H.06 Representing Data

The learning outcomes for this topic are:

- Draw a pie chart
- Describe the correlation of a scatter diagram
 - Read information from a line graph

Draw a frequency polygon

- Use a scatter diagram Compare pie charts

Key Word	Definition
Pie chart	a circle diagram showing proportions
Sector	a part of a circle formed by two radii and an arc
Scatter diagram	a diagram used for showing the relationship between two variables for multiple different individuals
Correlation	the link between two variables, may or may not be causal
Anomaly	also known as an outlier, a point that does not fit with the pattern in a scatter diagram
Line of best fit	a straight line on a scatter diagram showing the relationship between two variables
Frequency polygon	a diagram showing frequencies across different classes/groups

Additional Resources	
Vatch: 65b . 128a . 129 . 153	

MathsW

Corbett Maths: Video 155, 156, 163, 164, 165, 166, 167, 168; Worksheet 155/6, 163, 164, 165/6/7/8

Careers Focus – Where could this take you?

It is important to be able to represent data accurately and persuasively for many careers such as advertising and market research analysis



Curriculum Links - Coherence

Required Knowledge:

- 7.02 Multiplying and dividing
- 7.18 Ratio
- 7.20 Measuring and drawing angles
- 8.21 Scatter diagrams

Applied to:

10H.20 Cumulative frequency diagrams

Links across school:

- Africa, weather hazards (Geography)
- Cells and cell transport (Science)
- Energy (Science)
- Rise and fall of the Berlin wall (History)

Pie chart

Key Concepts

A pie chart is a visual representation of all items of data within a data set.

The sectors (or slices) of a pie chart are proportional to the different items in the data set; the larger the sector (slice size), the higher the frequency of data in that category.

Data labels (or a key) should be used to make the pie chart easy to understand.

Sector



 $A = \frac{F}{T} \times 360$

 A represents the angle of a sector, • F represents the category frequency,

• T represents the total frequency.

category must equal 360

Frequency Polygons

A frequency polygon is a type of frequency diagram.

To construct a frequency polygon we use grouped data. We use the midpoints of the class intervals to plot points with the frequencies and then join up the points with straight lines.







The line of best fit must:

- Be a straight line,
- Go through as many points as possible.
- Have the same number of points on each side of the line
- · Drawn within the range of the horizontal data values.

A scatter graph showing the height and weight of ten students





2

B

steps:

- 1. Work out the total number of pupils: 7 + 11 + 6 + 4 + 2 = 30
- 2. To calculate the angle of each segment, work out the fraction of the total that got each grade. Start with A grades: $\frac{7}{20}$
- multiply the fraction by $360: rac{7}{30} imes 360 = 84^\circ$
- 4. Check that the angles are correct by seeing if they add to 360° .
- Once you have calculated the angles of the segments, 5. construct the pie chart.



Top Tip: The sum of the angles for each

Constructing pie charts using a table

Example

where

The table below shows the grades achieved by 30 pupils in their end-of-year exam:



To present this information on a pie chart, use the following

3. There are 360° in a full turn. So to work out the angle,

- Repeat this process to find the angles for the other segments.



Useful Formulae and Hints

9H.06 Representing Data

GCSE Questions

The learning outcomes for this topic are:

- Draw a pie chart
- Describe the correlation of a scatter diagram
 - Read information from a line graph

- Draw a frequency polygon
- Use a scatter diagram
- Compare pie charts

A pie chart works as a ratio frequency : degrees The easiest ratio to find at the beginning is usually total frequency : total degrees or total frequency : 360. We can use this to find the number of degrees per person.

Scatter diagrams have three types of correlation: *positive* (as one variable increases, so does the other), *negative* (as one variable increases, the other decreases) or *no correlation* (there is no link between the two variables).

Lines of best fit should be *straight* and *follow the pattern* of the points. They *do not* need to pass through the origin.

Frequency polygons should be plotted on the *midpoints* of the classes.

Remember to check the 0 on your protractor for whether you read the inside or outside numbers.

3 The scatter graph shows information about the marks a group of students got in a Science test and in a Maths test.
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20

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Using the scatter graph, find an estimate for Jamie's mark in the Maths test.

10

20

Science test mark

×

(Total for Question 3 is 2 marks)

50

3 The table shows information about the heights of 80 plants.

60

Height (h cm)	Frequency
$10 < h \leqslant 20$	7
$20 < h \leq 30$	13
$30 < h \leq 40$	14
$40 < h \leq 50$	12
$50 < h \leqslant 60$	16
$60 < h \leqslant 70$	18



(b) On the grid, draw a frequency polygon for the information in the table.

holiday.

sport |

groups of students go on a water a student chooses one activity.

wo

Students in **Group A** choose from Diving, Sw Their choices are to be shown in a pie chart.





9H.07 Statistical Measures

- Find the mode, median and range for a set of data Calculate the mean of a set of data
- - Find the median and mode of a grouped frequency table

- Estimate the mean of a grouped frequency table
 - Solve reverse mean problems
 - Find a set of values based on their averages

Key Word	Definition	Key Concepts						
Mode	the most common value in a set of data					Concept – what it is	Non-Concept – what it isn't	
Median	the middle value in an ordered set of data; the overall value	The mean, median and mode in maths are averages. Mean:						
Mean	the total of a set of data divided by the number of items in the list; the overall value	Find the total of the values and divide the total by the number of values. $mean = \frac{total}{rum her e families}$				In a class of 30 students (14 boys and 16 girls) the boys score an average of 15		
Range	the difference between the largest and the smallest values in a set of data; shows how consistent	Median: Arrange the values in numerical order, from the smallest value to the highest value				marks on their Maths test. The girls score an average of 18 on their	We can't just find the mean/middle of the two different means because each is from a	
Average	the name of the four averages: median, mean, mode and range	and find the middle value.				tests. What is the average score over the whole	different sized group. Instead, we should work backwards to find all the totals, and	
Modal class	the most common class/group	Find the most free	quently occurring	item in the data se	et.	class?	jind the mean from there.	
Consistency	how spread out a set of data is; less spread out – more consistent, more spread out – less consistent	The mean from a frequency table is when we find the mean average from a data				Boys: 14 x 15 = 210 Girls: 16 x 18 = 288	Mean = $\frac{15+18}{2}$ = 16.5	
Additional Resources		To calculate the m	ean we find the t	Dtal Number of peop	ple Frequency Number × Frequency	Total = 210 + 288 = 498	2	
MathsWatch: <u>62</u> , <u>130a</u> , <u>130b</u>		of the values and the number of val	<mark>divide the total b</mark> ues. The number	y <u>1</u> of <u>2</u>	$5 1 \times 5 = 5$ $6 2 \times 6 = 12$ $3 2 \times 3 = 9$	Mean = 498 ÷ 30 = 16.6		
Corbett Maths: Video <u>50</u> , <u>51</u> , <u>52</u> , <u>53</u> , <u>53a</u> , <u>54</u> , <u>55</u> , <u>56</u> , <u>56a</u> , <u>57</u> , <u>57a</u> ; Worksheet <u>50/53/56/57</u> , <u>51</u> , <u>52</u> , <u>54</u> , <u>55</u>		values is the total to be abbreviated to total	frequency. This c n. _{total}	total $(1 \times 5) + (1 \times 5)$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$			
		$mean = \frac{1}{number of value}$	$\frac{1}{es} = \frac{1}{n}$ me	$an = \frac{10001}{n} = \frac{(1 \times 0)^{1}}{1000}$	$\frac{(2\times 6)^{+}(6\times 6)^{+}(1\times 2)}{16} = \frac{61}{16} = 2.125$	Standard Examples	Non-Standard Examples	
Ca	reers Focus – Where could this take you?	E.g. The frequenc	y table above sho	ows the number of	people.			
It is the job of a st and then use stati	atistician to collect data through surveys and questionnaires stical measures such as averages to analyse the data	When the data h table we can find	as been grouped an estimate for	l together and put the mean using th	t into a grouped frequency ne midpoints of each group.	Find the median 3 , 6 , 8 , 11 , 14 , 18 , 19	Find the median 3 , 6 , 8 , 11 , 14 , 18	
	Curriculum Links - Coherence	E.g. The frequenc	y table shows th	ne marks scored ir	n a test by 20 students	Median = 11	Median = $\frac{8+11}{2}$ = 9.5	
- 7.01 Adding a	dge: nd subtracting	Marks scored	Frequency	Mid-point	Frequency × Mid-point	Find the mode	Find the mode	
 7.02 Multiplyi 7.06 Ordering 	ng and dividing	0 - 9	3	$\frac{0+9}{2} = 4.5$	3 × 4.5 = 13.5	3,4,4,5,6,6,7	4,4,5,5,6,6,7,7	
 7.19 Comparin 8.22 Grouped 	ng averages frequency mean	10 - 19	5	$\frac{10+19}{2} = 14.5$	5 × 14.5 = 72.5	Mode = 4 and 6	Mode = no mode	
- 8.22 Grouped nequency mean		20 - 29	8	$\frac{20+29}{2} = 24.5$	8 × 24.5 = 196			
- 9H.24 Area of	a trapezium	30 - 39	4	$\frac{30+39}{2} = 34.5$	4 × 34.5 = 138	In a class of 15 boys, they score a total of 120	In a class of 12 boys the average score on a test	
- 10H.20 Box Plots			n = 20		Total = 420	marks on a test. What is the mean score?	boys?	
 Bioenergetics Practical Repe Comparing da 	<u>y:</u> (Science) tats (Science) ta (Geography)		Estimated mea	$n = {{ m total}\over n} = {{ m 420}\over { m 20}}$	= 21	120 ÷ 15 = 8	14 x 12 = 168	



9H.07 Statistical Measures

- Find the mode, median and range for a set of data
 Calculate the mean of a set of data
- Find the median and mode of a grouped frequency table

- Estimate the mean of a grouped frequency table
 - Solve reverse mean problems
 - Find a set of values based on their averages

Useful Formulae and Hints	GCSE Questions	
<i>Mode = most common</i> If all the numbers appear the same amount of times, there is no mode. If more than one number appears the most often, then there is more than one mode.	18 Jenny played four games of golf. For these games her modal score was 76 and her mean score was 75. Her range of scores was 10. What were her scores for the four games?	 10 Mr and Mrs Wilde have five children who are all different ages. The mean age is 6.4. The range is 9. The median is 6. The oldest child is 12. Work out the ages of the children. Write their ages from youngest to oldest.
<i>Median = middle number.</i> Make sure the numbers are in order before finding the middle. If there are two 'middle' numbers, then the median is halfway between them.	 7 There is a total of 45 boys and girls in a choir. The mean age of the 18 boys is 16.2 years. The mean age of the 27 girls is 16.7 years. Calculate the mean age of all 45 boys and girls. 	youngest oldest [4] 4 These are the heights, in metres, of the players in a netball team. 1.30 1.13 1.20 1.23 1.24 1.15
Range = largest subtract the smallest	(Total for Question 7 is 3 marks)	 (a) (i) Find the median height of the 7 players. (a)(i) m [2] (ii) Work out the range of the heights of the 7 players.
The range tells you about the consistency of the data. The smaller the range is, the closer together all the numbers are and the more consistent the data is.	 6 4 red bricks have a mean weight of 5kg. 5 blue bricks have a mean weight of 9kg. 1 green brick has a weight of 6kg. Donna says, 	 (ii)
<i>Mean = total ÷ frequency</i> For the reverse mean (when the mean is known but not the total)	Is Donna correct? You must show how you get your answer.	 (b) The tallest player is replaced by a substitute. The median height of the players is unchanged. The mean height of the players becomes smaller. Write down a possible height for the substitute.
Total = mean x frequency	(Total for Question 6 is 3 marks)	(b) m [2]



9H.08 Patterns in Number

The learning outcomes for this topic are:

- Continue a sequence of numbers
- Continue a drawn pattern
- Find missing values in a sequence

- Generate a sequence from a rule

- Calculate with complex patterns
- Use the Fibonacci sequence





9H.08 Patterns in Number

- Continue a sequence of numbers
- Continue a drawn pattern
- Find missing values in a sequence

- Generate a sequence from a rule
- Calculate with complex patterns
 Use the Fibonacci sequence





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- Find the nth term rule of an increasing sequence Find the nth term rule for a sequence of diagrams
- Find the nth term rule of a decreasing sequence

- Generate a sequence from the nth term rule
 - Find a specific term of a sequence
- Check whether a value is in a sequence

Key Word Definition		Key Concepts			
Arithmetic	a sequence with a common difference; the term-to-term rule is adding or subtracting	Nth Term	Concept – what it is	Non-Concept – what it isn't	
Increasing	a sequence where the terms get larger	The nth term of a sequence is a formula that enables us to find any term in a	Linear sequences are Arithmetic	3 , 6 , 12 , 24 , 48 ,	
Decreasing a sequence where the terms get smaller		sequence. We can make a sequence using the nth term by substituting different	sequences.		
Geometric	a sequence with a common ratio; the term-to-term rule is multiplying or dividing	E.g. If the nth term = $2n + 1$	They should increase or decrease by the same amount between each pair of terms	x2 , x2 , x2 , x2 , If the sequence multiplies or divides then it is a Geometric sequence and has a different	
Term	a number in a sequence	To find the first term we substitue n =1into the nth term. 1st term = 2(1) + 1 = 3	(nave a constant first difference).		
Position	how far along the sequence a given term is	To find the second term we substitue $n=2$ into the nth term. 2nd term - 2(2) + 1 = 5	19 , 16 , 13 , 10 , 7 ,	nth term rule	
Generate	work out the number in a sequence	To find the tenth term we substitute $= 10$ into the orth term	-3 , -3 , -3 , -3 ,	What is the nth term rule of the sequence	
Nth term rule	the formula to work out a term from its position	10 find the term we substitute $n=10$ into the <i>num</i> term. 10th term = 2(10) + 1 = 21		4 , 9 , 14 , 19 ,	
Additional Resources		Nth Term	What is the nth term rule of the sequence	-1n + 5	
MathsWatch: 37, 102, 103 Corbett Maths: Video 286, 288, 289; Worksheet 286, 288/289		In order to find the nth term of an arithmetic sequence:	4, 9, 14, 19, 5n – 1	The second difference is the coefficient of n (number in front of n)	
Careers Focus – Where could this take you?		1 Find the common difference for the sequence.			
Chemical engineers apply science and		2 Multiply the values for $n = 1, 2, 3,$ by the common difference.	Standard Examples	Non-Standard Examples	
reactions to alter raw materials. Reactions will follow a carefully monitored sequence to give the desired result.		3 Add or subtract a number to obtain the sequence given in the question. The nth term will be in the form an+b where a and b are values that we will have calculated.	Find the n th term for the sequence 3, 1, -1, -3, -5, Find the common difference for the sequence. 3, 1, -1, -3, -5, 3, 3, -1, -3, -5, 3, 4, -1, -3, -5, 3, 4, -1, -3, -5, 3, 5, -1, -1, -3, -5, 3, 5, -1, -1, -3, -5, 3, 5, -1, -1, -3, -5, 3, 5, -1, -1, -3, -5, 3, 5, -1, -1, -3, -5, 3, 5, -1, -1, -3, -5, 3, 5, -1, -1, -3, -5, 3, 5, -1, -1, -3, -5, 3, 5, -1, -1, -3, -5, 3, 5, -1, -1, -3, -5, 3, 5, -1, -1, -3, -5, 3, 5, -1, -1, -3, -5, 3, 5, -1, -1, -3, -5, 3, 5, -1, -1, -3, -5, 3, 5, -1, -1, -1, -3, -5, 3, 5, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1	Find the n th term for the sequence -9.1, -8.3, -7.5, -6.7, -5.9,	
	Curriculum Links - Coherence		Here, 1 – 3 = -2	Here, -8.3 – (-9.1) = -8.3 + 9.1 = 0.8	
Required Knowledge: - 7.01 Adding and subtracting - 7.02 Multiplying and dividing - 7.09 Graphs of linear equations - 7.14 Substitution and using formulae - 8.15 Solving linear equations - 9H.09 Nth term of a linear sequence - 9H.10 Nth term of a quadratic sequence - 10H.01 Drawing straight-line graphs - 10H.02 Finding the equation of a straight-line graph		Is the number 14 in the sequence $4n + 2$? To work out whether 14 is in this sequence, put the <i>n</i> th term equal to the number and <u>solve the equation</u> . 4n + 2 = 14 -2 = -2	The common difference $d = -2$. 2 Multiply the values for $n = 1, 2, 3,$ by the common difference. $\int \frac{-2n}{2} \left \frac{-2 - 4 - 6 - 8 - 10}{2} \right $	The common difference $d = 0.8$. 2 Multiply the values for $n = 1, 2, 3,$ by the common difference. $\int_{1}^{1} \frac{0.8 n}{100} = 0.8 \frac{1.6 2.4 3.2 4}{100}$	
		4n = 12 $\div 4 \div 4$ n = 3 This means that 14 is in the sequence and it is the third term.	Here, we generate the sequence $-2n = -2$, -4, -6, -8, -10, (the multiples of -2). Add or subtract a number to obtain the sequence given in the question. $\frac{1}{2}6 \left(\frac{-2}{2}n \right) -2 - 4 - 6 - 8 - 10$	Here, we generate the sequence $0.8n = 0.8$, 1.6 , 2.4 , 3.2 , 4 , (the multiples of 0.8). 3 Add or subtract a number to obtain the sequence given in the question. $= 0.9 \left(\begin{array}{ccc} 0.8 & n \\ 0.8 & 1.6 & 2.4 & 3.2 & 4 \end{array} \right)$	
Links across school: - Natural forms (Art)		If the value of n is not an $\operatorname{\underline{integer}}$, then the number is not in the sequence.	The n^{th} term of this sequence is $-2n + 5$ (or $5 - 2n$).	The n^{th} term of this sequence is 0.8 n – 9.9 .	



- Find the nth term rule of an increasing sequence Find the nth term rule for a sequence of diagrams
- Find the nth term rule of a decreasing sequence

- Generate a sequence from the nth term rule
 - Find a specific term of a sequence
 - Check whether a value is in a sequence

Useful Formulae and Hints	GCSE Questions	<u> </u>
 To find the nth term rule: 1) Find the difference between the terms of the sequence (it should be the same each time for a linear sequence) 	 1 The first five terms of an arithmetic sequence are 1 4 7 10 13 Write down an expression, in terms of n, for the nth term of this sequence. 	 14 Here are the first four terms of a sequence. 6 10 14 18 (a) Write down the next term.
 2) The difference between terms is your coefficient of n 3) Find the term before the 	(Total for Question 1 is 2 marks) 26 Here are the first four terms of a sequence.	(a)[1] (b) Write an expression for the <i>n</i> th term.
sequence started (or subtract the common difference from the first term) to find the constant part	28 23 18 13 Find the <i>n</i> th term of the sequence.	(b)[2] (c) Explain why 511 is not a term in the sequence.
When checking if a number is in the sequence, set up and solve a linear equation. A whole number for n means the term is in the sequence (the value is the position in the sequence) but a decimal means it is not in the sequence.	(b) Write an expression for the <i>n</i> th term of the sequence below. 15 12 9 6	(d) Find the term in the sequence that is nearest to 511.
To find a specific term in the sequence, <i>substitute</i> the <i>position for n</i> (e.g. to find the 20 th term, use n = 20)	(b)[2]	(d)[3]



Ö.

- Describe what a quadratic sequence is
- Find the nth term rule of a simple quadratic sequence
- Generate a quadratic sequence from its nth term rule

- Find a specific term in the sequence
- Find the nth term rule of more complex quadratic sequence
- Find the nth term rule of quadratic sequence with a fractional coefficient

Key Word	Definition	Key Concepts		
Quadratic	an expression or equation with the greatest power of x being two	Calculate the nth term for the following sequence: 4, 16, 36, 64, 100	Concept – what it is	Non-Concept – what it isn't
Coefficient	the number in front of a variable	1 Calculate the second difference.	A quadratic sequence should have a constant second difference	A quadratic sequence should have a constant second difference
Second Difference	the gap/difference between the first differences between the terms of a sequence	$\begin{array}{cccccccccccccccccccccccccccccccccccc$		5 7 9 11 12
Term	a number in a sequence	The second difference is +8. By halving the second difference, the sequence is based on $4\pi^2$	2,5,8,11,	2,2,2,2,
Position	how far along the sequence a given term is	2 Subtract an^2 from the original sequence.	3,3,3,	Arithmetic sequences have a constant first
	Additional Resources	Term in original 4 1 3 6 10 sequence	40 , 35 , 31 , 28 , 26 ,	difference
MathsWatch: 213		$4n^2$ 4 1 3 6 10 0	-5 , -4 , -3 , -2 ,	
Corbett Maths: Video	388a, 388b, 388c ; Worksheet <u>388</u>	$\boxed{Term - 4n^2} \qquad 0 \qquad 0 \qquad 0 \qquad 0$	1,1,1,	3,5,8,13,21, 2,3,5,8,
Careers Focus – Where could this take you?		3 Find the nth term of the arithmetic sequence. As the remainder is 0 for each term, there is no arithmetic sequence to find the nth term of and so the nth term of the sequence 4, 16, 36, 64, 100 is: $4n^2$.	9 , 7 , 7 , 9 , 13 , -2 , 0 , 2 , 4 , 2 , 2 , 2 ,	Fibonacci sequences have a difference that is equal to the previous term
that astronauts need t	to use	Calculate the nth term for the following sequence: $1, -5, -15, -29, -47$	Standard Examples	Non-Standard Examples
quadratic sequences when planning flight paths of rockets.		1 Calculate the second difference.	Calculate the nth term for the following sequence: 7, 14, 23, 34, 47 Calculate the second difference.	Calculate the nth term for the following sequence: -5 , -1 , 9, 25, 47 Calculate the second difference. -5, -1 , 9, 25, 47 -5, -1 , 9, 25, 47 +10 +10 +10 +22
Curriculum Links - Coherence		The second difference is -4 . By halving the second difference, the sequence is based on $-2n^2$.	The second difference is +2. By halving the second difference, the sequence is based on n^2 .	The second difference is +3. By halving the second difference, the sequence is based on $3n^2$.
Required Knowledge: - 7.01 Adding and subtracting - 7.02 Multiplying and dividing - 7.09 Graphs of linear equations - 7.14 Substitution and using formulae - 8.15 Solving linear equations - 8.15 Solving linear equations Applied to: - - 9H.09 Nth term of a linear sequence - 9H.10 Nth term of a quadratic sequence - 10H.01 Drawing straight-line graphs - 10H.02 Finding the equation of a straight-line graph Links across school: - - Natural forms (Art)		2 Subtract an^2 from the original sequence. Term in original 1 $\frac{1}{5}$ $\frac{-1}{5}$ $\frac{-2}{9}$ $\frac{-4}{7}$ $-2n^2$ $\frac{1}{2}$ $\frac{1}{8}$ $\frac{-1}{8}$ $\frac{-3}{2}$ $\frac{-5}{0}$ $Term - 2n^2$ 3 3 3 3 3	2 Subtract an^2 from the original sequence. Term in original 7 1 2 3 4 7 n^2 1 4 9 1 5 5	2 Subtract an^2 from the original sequence. Term in original $\frac{1}{5}$ -1 9 25 47 $3n^2$ 3 12 27 48 75 $7erm - 3n^2$ $\frac{1}{6}$ -1 -1 -2 -2 8 3 8 3 8
		The remainder is a constant and so there is no arithmetic sequence to calculate the nth term of. We just add 3 to the value of $-2n^2$.	Term $-n^2$ 6 0 4 8 2 The remainder is an arithmetic sequence 6,10, 14, 18, 22.	The remainder is an arithmetic sequence -8 , -13 , -18 , -23 , -28
		3 Find the nth term of the arithmetic sequence. The nth term of the sequence $1, -5, -15, -29, -47$ is: $-2n^2 + 3$.	3 Find the nth term of the arithmetic sequence. The nth term of the arithmetic sequence is $4n + 2$. This means that the nth term of our quadratic sequence is: $n^2 + 4n + 2$.	The nth term of the arithmetic sequence -8 , -13 , -18 , -23 , -28 is $-5n-3$ so the nth term of our quadratic sequence is: $3n^2-5n-3$.



The learning outcomes for this topic are:

- Describe what a quadratic sequence is Find the nth term rule of a simple quadratic sequence
- Generate a quadratic sequence from its nth term rule

- Find a specific term in the sequence
- Find the nth term rule of more complex quadratic sequence
- Find the nth term rule of quadratic sequence with a fractional coefficient

Useful Formulae and Hints	GCSE Questions		
Finding the nth term rule of a quadratic sequence	Here are the first five terms of a different quadratic sequence.0261220		
1) Find the first difference	(b) Find an expression, in terms of <i>n</i> , for the <i>n</i> th term of this sequence.	s 3 marks	s 2 marks
2) Find the second difference	(2)	tion 16 i	tion 20 i
 Half the second difference to find the coefficient of n² 	(Total for Question 16 is 6 marks)	69 Jence. al for Quesi	15 uence.
4) Write the square numbers	22 Here are the first five terms of a sequence. 4 11 22 37 56 Find an expression in terms of a factor with term of this converse.	nce. 29 47 rm of this sequ	3 8 srm of this seq (Tot
 Multiply the square numbers if there is a coefficient of n² that isn't 1 		uadratic seque 5 15 , for the <i>m</i> th te	sequence. 0 t, for the <i>n</i> th to
6) Subtract the squares from	(Total for Question 22 is 3 marks)	as of a q -1 must of <i>n</i>	tms of a -1 stms of <i>i</i>
the original sequence to create a new, linear sequence	16 Here are the first five terms of a quadratic sequence. 10 21 38 61 90	first six tern ession, in ter	e first five ter ression, in te
 Find the nth term rule of the new sequence 	Find an expression, in terms of n , for the n th term of this sequence.	Here are the Find an expr	Here are the Find an exp
8) Put the n ² and linear parts together	(Total for Question 16 is 3 marks)	16 _	20



9H.11 Ratio and Proportion

The learning outcomes for this topic are:

- Simplify a ratio
- Share an amount into a ratio
- Find an equivalent ratio given one value

Solve best value problems

- Find an equivalent ratio given a difference
- Find missing values using direct proportion



Additional Resources

MathsWatch: <u>38</u>, <u>39</u>, <u>41</u>, <u>42</u>, <u>106</u>, <u>165a</u>, <u>165b</u>, <u>165c</u>, <u>200a</u>, <u>200b</u>, <u>200c</u>

Corbett Maths: Video 210, 255a, 269, 269a, 269b, 269c, 269d, 270, 271, 271a; Worksheet 210, 255a, 269, 269a, 270, 271, 271a

Careers Focus – Where could this take you?

Hydrologists are responsible for solve water related problems across the whole of society. They will study the proportion of chemicals and minerals in water to ensure it is carefully controlled.

Curriculum Links - Coherence

Required Knowledge:

- 7.18 Simplifying ratios
- 8.03 Equivalent fractions
- 8.12 Unit cost and best buys
- 8.27 Direct proportion

Applied to:

- 9H.12 Compound measures
- 10H.04 Trigonometry
- 10H.05 Similarity
- 11H.02 Direct and inverse proportion
- 11H.10 Vector geometry

Links across school:

- Practical repeats (Science)
- Population (Geography)
- Practical kitchen skills (Food Technology)

Key Concepts

Dividing Ratios

Dividing ratios is a way of sharing a quantity in given parts of a ratio.

E.g. A bag contains 24 sweets. Three friends share the sweets in the ratio of 1:2:3. How many sweets does each person get?

If person A gets 1 share, person B gets 2 shares and person C gets 3 shares, each time the parts are shared. we are using 1+2+3=6 parts.

Each share is therefore worth 246=4. If A gets 1 share, B gets 2 shapes and C gets 3 shares, we have



Ratio to Fractions

A ratio compares how much of one thing there is compared to another. It can be written using a '.', the word 'to' or as a fraction.

In order to convert ratios to fractions when we have the ratio a:b, where both values are parts of the total. we can say that for the ratio :

 $\frac{a}{a+b}$ and $\frac{b}{a+b}$

2

E.g. In the diagram below is a bar model that represents the ratio of blue:red as 3:2 (3 to 2). There are 3 blue blocks, 2 red blocks which means there are 5 blocks in total

The fraction for blue is $\frac{3}{2+3} = \frac{3}{2}$

The fraction for red is $\frac{2}{2+2} = \frac{2}{5}$

Proportion

Proportion is a type of relationship between two variables linked by a constant.

There are two types of proportion; direct proportion and inverse proportion. They can also be referred to as direct variation and inverse variation.

Direct proportion

If there is a directly proportional relationship between two variables then as one variable increases, so does the other E.g. As the number of apples increases, the cost also increases.

Inverse proportion

If there is an inversely proportional relationship between two variables then as one variable increases, the other variable decreases. E.g. As the number of workers increases, the time it takes to complete the work decreases

Simplifying Ratios

Simplifying ratios is a way of cancelling down common factors, to reduce a ratio to the smallest quantities, with the constant of proportionality staying the same.

E.g. Here are 12 red counters and 16 blue counters.

Each of the four rows contains 3 red counters and 4 blue counters. This allows us to simplify the ratio 12:16 into its simplest form 3:4 as they are proportionally the same.

Ratio Problem Solving

A ratio is a relationship between two or more quantities. They are usually written in the form a:b where a and b are two quantities. When **problem solving** with a ratio, the key facts that you need to know are:

- What is the ratio involved?
- What order are the quantities in the ratio?
- What is the total amount / what is the part of the total amount known?
- What are you trying to calculate?

As with all problem solving, there is **not one unique method** to solve a problem but we can use some techniques to help us solve problems with ratios.

n:1 form

You may be asked to express a ratio in the form "n:1" or "1:n". This would involve scaling the ratio so that one of the parts is 1.

For example.

Express the ratio 12:4 is the ratio of n:1This would mean we have to scale the four so that it becomes 1. We can do this by dividing both parts of the ratio by 4 to become 3:1, with n= 3.







The learning outcomes for this topic are:

- Simplify a ratio Share an amount into a ratio
- Find an equivalent ratio given one value

Solve best value problems

- Find an equivalent ratio given a difference
- Find missing values using direct proportion

Useful Formulae and Hints	GCSE Questions			
Always read ratio questions carefully:	2 There are 60 people in a choir.	4 There are only blue pens, green pens and red pens in a box.		
Are you sharing an amount	The number of women in the choir is 3 times the number of men in the choir. The rest of the people in the choir are children. the number of children in the choir \therefore the number of men in the choir $= n \div 1$	The ratio of the number of green pens to the number of green pens is 2 : 5 The ratio of the number of green pens to the number of red pens is 4 : 1 There are less than 100 pens in the box. What is the greatest possible number of red pens in the box?		
Do you know one part or a	Work out the value of <i>n</i> . You must show how you get your answer.			
difference and are looking for	<i>n</i> =	(Total for Question 4 is 3 marks)		
an equivalent ratio?				
	(Total for Question 2 is 4 marks)	5 Rosie, Matilda and Ibrahim collect stickers.		
Are you writing in the form 1:n	14 A group of people went to a restaurant. Each person chose one starter and one main course.	number of stickers Rosie has : number of stickers : number of stickers Matilda has : Ibrahim has = 4:7:15		
or n:1?	starter main course	Ibrahim has 24 more stickers than Matilda.		
	soup lasagne	Ibrahim has more stickers than Rosie.		
Are you combining two ratio	prawns curry	How many more?		
by giving the shared part the	the number of people who chose soup : the number of people who chose prawns = $2:3$	(Total for Question 5 is 3 marks)		
Sume value :	Of those who chose soup, the number of people who chose lasagne : the number of people who chose curry $= 5:3$			
Are you simplifying a ratio	Of those who chose prawns, the number of people who chose lasagne : the number of people who chose $curry = 1 : 5$	12 The points A , B , C and D lie in order on a straight line.		
decimals in a simplified ratio)?	What fraction of the people chose curry? You must show how you get your answer.	AB:BD = 1:5 $AC:CD = 7:11$		
		Work out <i>AB</i> : <i>BC</i> : <i>CD</i>		
Remember that a ratio	(10tal for Question 14 is 4 marks)	(Total for Question 12 is 3 marks)		
represents a proportion. It	2 In a village	()		
compares two parts of a	the number of houses and the number of flats are in the ratio 7 : 4			
whole. They work just like	the number of flats and the number of bungalows are in the ratio 8 : 5	8 The perimeter of a right-angled triangle is 72 cm.		
fractions, if one part is	There are 50 bungalows in the village.	The lengths of its sides are in the ratio $3:4:5$		
<i>multiplied or divided,</i> then the other side must change in the	How many houses are there in the village?	Work out the area of the triangle.		
same way to maintain the		cm ²		
proportions.	(Total for Question 2 is 3 marks)	(Total for Question 8 is 4 marks)		





Our students will:

- > read easily, fluently and with good understanding
- develop the habit of reading widely and often, for both pleasure and information
- acquire a wide vocabulary, an understanding of grammar and knowledge of linguistic conventions for reading, writing and spoken language
- > appreciate our rich and varied literary heritage
- > write clearly, accurately and coherently, adapting their language and style in and for a
- range of contexts, purposes and audiences
- use discussion in order to learn; they should be able to elaborate and explain clearly their understanding and ideas
- are competent in the arts of speaking and listening, making formal presentations, demonstrating to others and participating in debate.

Year 9 - A Christmas Carol

Newsome Academy Everyone Exceptional Everyday

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The aims of the sequence of learning are to ensure that all students: AO1 -complete an in-depth study of a novel – show understanding of plot, characterization and themes. AO2 –Analyse language and structure and effectiveness of meaning AO3 – show understanding of context of novel – when and where it was written/set

Keyword	Definition	Key Concepts			
Foreshadowing	An indication that an event will occur later in the narrative. [Fan says that her father is much "kinder" than before which Scrooge's change].	 <u>Context:</u> Dickens wrote 'A Christmas Carol' in 1843 focusing on how many of society's ills can be blamed on greed. Dickens' early life gave him first-hand experience of poverty. 			
Dramatic Irony	When the audience knows information which the character does not know	 1832 – The Great Reform Bill gave many middle-class property owners the right to vote for the first time. Large sections of the middle classes, the working classes and women still didn't have the right to vote. 1834 – Poor Law Amendment Act – Led to a cut in aid given to the poor. 			
Moral imperative	An instruction on what is right and wrong, the Ghosts provide this.	 Workhouses were created which poor people would have to live and work in, if they were unable to pay for their own housing. In 1843, Dickens read a government report on child labour in England. 			
Pathetic Fallacy	A kind of personification in which human emotions are projected onto nature, especially weather, often to create a mood.	 Dickens wanted to use his popularity to bring the problem of child poverty to the attention of a wider public. Victorian London was a place of great wealth and great poverty. 			
Personification	Attributing human qualities to nonhuman things, whether animate or inanimate	 Greed Avarice (an excessive desire for wealth – one of the 7 deadly sins) 	<u>Stave 1</u> : Scrooge is introduced; he refuses to make a charity donation; refuses to eat Christmas dinner with Fred; sees Marley's ghost who warns him he will		
Stave	In musical notation, a 'stave' is a set of five horizontal lines where music is written and each often represents a different musical pitch	 one of the 7 deadly sins) Ignorance & Want (lack of knowledge/education & need/poverty) Redemption (being saved from sin or evil) Predestination Free Will Poverty Class Isolation Transformation Transformation The passage of time Family Guilt Generosity Social Responsibility Justice 	be visited by three spirits to make him change his miserly ways. <u>Stave 2</u> : The Ghost of Christmas Past takes Scrooge back in time to show him: his village; him alone at school; his sister collecting him from school; a party at <u>Consisting</u> off their engagement and Balla collecting Christman		
Symbolism	Using one object or character to represent a wider concept running throughout the novel.		with her family. Stave 3: The Ghost of Christmas Present shows Scrooge: Christmas morning in		
Superlative	An adjective describing the highest degree of what it is.		London; The Cratchit family celebrating Christmas; various celebrations around the country; Fred's Christmas party; Ignorance and Want.		
Juxtaposition	Comparing two concepts, characters, or clauses, in close proximity in a passage for the effect of contrast.		Stave 4 : The Ghost of Christmas yet to Come shows Scrooge: a group of businessmen discussing a dead man; a pawn shop where people are selling the possessions of a dead man; a couple expressing relief that the man they owe		
Moral imperative	An instruction on what is right and wrong,		name Ebenezer Scrooge written on it.		
Foreboding	- Apprehension that a bad event will occur.		Stave 5: Scrooge is transformed! He sends a turkey to the Cratchit family,		
Antithesis.	Rhetorical device where contrasting concepts are placed together in a text, typically a sentence, to highlight how opposite they are	 The supernatural Christmas Death 	gives Bob a raise and becomes a second father to Tiny Tim who does not die.		



Year 9 - A Christmas Carol

The aims of the sequence of learning are to ensure that all students: will complete an in depth author study depending on the text chosen by the class teacher. The pupils will be guided on how to read a more challenging texts and how to approach a Literature style exam question using the novel as a source initially and then as a whole to study character / themes / ideas.

Retrieval Practice

Questions	Answers
Who's the author of A Christmas Carol?	Charles Dickens
What is a "Stave"?	A verse or stanza of a poem or song
Why does the narrator make such a point of Marley's being dead?	So that the reader can understand that when they talk about him furthermore in the book he is a ghost and not a live human being.
Which of the spirits does not speak to Scrooge?	The Ghost of Christmas Yet to Come
What is Jacob Marley forced to drag about as a result of his sinful life?	Heavy chains forged from ledgers and lockboxes
Why does Scrooge like darkness?	It's cheap!
In what year was ACC written?	1843
Why does Belle end her engagement to Scrooge?	Because Scrooge is consumed by greed
Explain the effect of the following quote Oh! But he was a tight-fisted hand at the grindstone, Scrooge! A squeezing, wrenching, grasping, scraping, clutching, covetous, old sinner! Hard and sharp as flint, from which no steel had struck out generous fire	The narrator describes Ebenezer Scrooge using imagery of a grindstone sharpening a tool. In his single-minded focus on acquiring wealth, Scrooge represents the opposite of generous in every way imaginable. In his business dealings, he constantly tries to squeeze money out of people, grasps and scrapes for more benefits for himself, and covets what he does not yet have. In his personal life, he has a completely self-contained and solitary lifestyle— he neither needs nor wants companionship.

Career Focus - Where could this take you?





As a writer, you'll be involved in the creation and development of works of fiction and non-fiction. This covers various forms of writing, including: • children's stories

- life writing
- magazine and newspaper articles
- non-fiction
- non-neuo
- novels
 poetry
- pooliy
- screen and radio scripts for theatre
- short stories

Challenge Activities

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Timed essay – 1 hour Choose one of the following essay titles. Read, plan, prepare. You will be asked to write this essay in class in exam conditions. You will need to cover AO1, 2 and 3 in your essay.

- > How does Dickens present Scrooge as an outsider to society?
- > How does Dickens present ideas about social responsibility?
- > How does Dickens present the theme of guilt?
- > How does Dickens present ideas about actions and consequences?
- > How does Dickens present the theme of loneliness and isolation?
- > How does Dickens present happiness and joy in the novel?

Topic Links	Additional Resources
 This topic links to: RE –Ethics and Human beliefs Dance – Heroes and Villains MFL - using adjectives to describe people 	 To further practise and develop your knowledge see: Century Tech BBC Teach - <u>https://www.bbc.co.uk/teach/school-radio/english-ks2-a-christmas-carol-index/zbp9bdm</u> BBC Bitesize - <u>https://www.bbc.co.uk/bitesize/topics/zwhkxsg</u>



Year 9 Jekyll and Hyde

The aims of the sequence of learning are to ensure that all students: AO1 -complete an in-depth study of a novel – show understanding of plot, characterization and themes. AO2 –Analyse language and structure and effectiveness of meaning <u>AO3 – show understanding</u> of context of novel – when and where it was written/set

Keyword	Definition	Key Concepts			
Foreshadowing	An indication that an event will occur later in the narrative. [Fan says that her father is much "kinder" than before which Scrooge's change].	Chapter 1: Story of the Door	Utterson is taking his Sunday walk with friend Enfield. In a well-kept street they stumble upon a derelict doorway, which prompts Enfield to tell a story linked to the doorway. Late at night he had seen a man run into and trample a small girl. A crowd gathered who demanded £100 from him as compensation to the girls' family. The man went into the battered doorway and produced a	Chapter 6: Remarkable incident of Dr Lan-	Hyde has disappeared. For two months Jekyll returns to his old self and is friendly and sociable. J suddenly refuses to see Utterson again which alarms Utterson. U then visits Lanyon and finds him very physically changed and disturbed. L refuses to talk about J, saying he views him as dead. U is puzzled and writes to J, asking why he won't see his friends. J's reply is mysterious. Lanyon dies
Dramatic Irony	When the audience knows information which the character does not know	Chapter 2: Search U rea for Mr Hyde Hyde. Jekyli	cheque signed by a respectable man (whom Enfield does not name). Enfield tells Utterson there was something very disturbing about the man who trampled the girl. He gives his name as Hyde.	Chapter 7- Incident	two weeks later. U gets letter from Lanyon, not to be opened unless J disappears. U tries to visit J but is turned away. Poole tells him J spends most of his time in the lab.
Moral imperative	An instruction on what is right and wrong, the Ghosts provide this.		Hyde. Disturbed, Utterson visits Dr Lanyon, who says he no longer speaks to Jekyll. After troubled dreams, U decides to meet Hyde for himself. He finds him repellent. He goes to Jekyll's house but Jekyll isn't in. The servant Poole reveals the staff has instructions to obey Hyde.	at the window	has since found out that the doorway is the rear entrance to J's laboratory. The pair come to the courtyard near the door and step in. they see J sitting at an upstairs window and call to him. They invite him to walk with them and he refuses. A look of horror passes across J's face and he disap- oears. Appalled by the look they saw in J's face. E and U walk away.
Pathetic Fallacy	A kind of personification in which human emotions are projected onto nature, especially weather, often to	Chapter 3: Dr Jekyl was quite at ease	Utterson goes to a dinner party at Jekyll's house. He stays behind to talk to Jekyll. He asks about Mr Hyde. Jekyll refuses to talk about Hyde, but tells Utterson he can be "rid of him whenever he chooses". He asks Utterson to insist to obey the instructions in the will. U agrees.	Chapter 8: The Last Night	Poole visits U as he fears something is wrong with J. At J's lab, a voice refuses to let them in. P says he fears J was murdered 8 days previously as he heard him cry out. He worries the murderer is still inside. U and P arm themselves and break in. They find the body of Hyde, in clothes too big for him, twitching on the floor. They can't find J. They find an envelope addressed to Utterson. It contains a new will (in Utterson's favour) a note telling U to read the letter he has form Lanyon and a long letters from J. They lock the cabinet with Hyde's body inside and U goes home to read the documents.
Personification	create a mood. Attributing human qualities to nonhuman things, whether animate or inanimate	Chapter 4: The Carew Murder Case	A year later. The murder of barriers careers told through the story of a maid who witnessed it. Half a broken cane and a letter to Uttersion were found near the body. Uttersion and Newcomen (the police officer) search Hyde's rooms. They find burned papers, the other part of the cane and a burned cheque book. At the bank they find Hyde has several thousand pounds.	đ	
Symbolism	Using one object or character to represent a wider concept running throughout the novel.	Chapter 5: Utterson goes to see Jekyll and fins him pale with shock and illness in his 'cabinet' (room above the laboratory). Jekyll says he's heard people outside shouting about the murder of Carew. J tells Incident of the letter Uhe will have no more to do with Hyde and is confident Hyde will disappear. J shows U a letter signed Edward Hyde that was hand delivered. It thanks J for his generosity and says he can escape safely. U is relieved. U takes the letter and shows it to his head clerk Mr Guest. Guest is a hand-writing espert. A servant comes in with a note from Jekyll. Guest notices the handwriting is similar. Utterson now thinks Jekyll forged the letters from Hyde, writing it himself.		Chapter 9: Dr Lanyon's narrative	The contents of Lanyon's letter tells of how he received a letter from J asking him to collect chemi- cals, a vial and a notebook form J's lab and give it a man who would arrive at midnight. A gro- tesque man arrives and drinks the potion which turns him into Jekyll, causing Lanyon to fall ill.
Superlative	An adjective describing the highest degree of what it is.			Chapter 10: Henry Jekyll's full state- ment of the case	Jekyil tells the story of how he turned into Hyde. It began as a scientific experiment into the duali- ty of human nature and an attempt to rid himself of his 'darker side'. Eventually he became ad- dicted to being Hyde, who took over and destroyed him.
Juxtaposition	Comparing two concepts, characters, or clauses, in close proximity in a passage for the effect of contrast.	Context key idea	Why is this significant?		
Moral imperative	An instruction on what is right and wrong,	Robert Louis Stevenson an his backgroun	Robert Louis Stevenson was born in Edinburgh in Scotland in 1850 and came from a family of scientists, engineers, religious figures and even a professor of philosophy. Because of this, it is possible to explain why Stevenson was so interested in the relationship between science and nature in his novella. As a child, Stevenson was often very ill – including suffering from lung problems – who would often distract himself from his illness by reading about travel and adventures. This later inspired him to		
Foreboding	- Apprehension that a bad event will occur.		illness meant he would often suffer from nightmares and this influenced his writing in Jekyll and Hyde. Think about how Hyde generally only appears at night and ho Utterson has a dream involving both Jekyll and Hyde. The darkness of the city at night provided the perfect backdrop for an evil and notorious character like Hyde to		e. Think about how Hyde generally only appears at night and how erfect backdrop for an evil and notorious character like Hyde to
Antithesis.	Rhetorical device where contrasting concepts are placed together in a text, typically a sentence, to highlight how opposite they are	Charles Darw and 'On The Origin of	In 1859 Charles Darwin published his famous On the Origin of Species, which explained Darwin's Theory of Evolution. This introduced the idea of animals changing in response to their environments through mutations at birth, or evolving. This theory questioned accepted Christian beliefs that the world was created in seven days.		ory of Evolution. This introduced the idea of animals changing in pted Christian beliefs that the world was created in seven days.
Duality	an instance of opposition or contrast between two concepts or two aspects of something; a dualism	Species	that inspired Stevenson to write Jekyll and Hyde. It's no coincidence that Hyde is historic person who lived in caves, so essentially alluding to the evolution of mar	referred to as a 'trop	glodyte' by Utterson in Chapter Two; a 'troglodyte' refers to a pre-
Gothic Fiction	18/19 th Century fiction that usually includes terrifying,	mal h	Science and religion are two very important themes in the novella, and at this tim believe in one meant you could not believe in the other. Characters like Dr Lanyc as well. Jekyll, by experimenting on himself, seems to 'play God' and as such lose	ne many felt science on and Mr Utterson h is his life. Was this St	and religion were increasingly at odds with each other – to have scientific minds but seem to be very religious in their beliefs tevenson suggesting only God should have this power?
	violent and supernatural events. Gothic settings are dark and mysterious—just like London in this novella.	Jack The Ripp and the duali	Jekyll and Hyde was published in 1886 and only two years later the Jack the Ripp place on prostitutes across the city with five being killed by the mysterious Rippe killer could be middle or upper class, challenging the idea that those birth up in s	er murders were cau r – whose true ident	ising chaos and panic in London. A series of violent attacks took tity was never discovered. Rumours were spreading that the serial u good and morally strong



Year 9 Dr Jekyll and Mr Hyde

The aims of the sequence of learning are to ensure that all students: will complete an in depth author study depending on the text chosen by the class teacher. The pupils will be guided on how to read a more challenging texts and how to approach a Literature style exam question using the novel as a source initially and then as a whole to study character / themes / ideas.

Retrieval Practice

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Questions	Answers
What is Utterson's profession?	Lawyer
With whom does Utterson take a weekly walk?	Mr Richard Enfield
What did Enfield see Hyde do late one night?	Trample a girl in the street
Why has Lanyon and Jekyll's friendship cooled?	They had a dispute over Jekyll's scientific inquiries
Whom does Jekyll's will initially specify as his heir in his will?	Mr Edward Hyde
How does Utterson first meet Hyde?	Utterson stakes out the door to Jekyll's laboratory, where Hyde has been known to come
How do the characters in the novel describe Hyde?	They say he is ugly and deformed but cannot say exactly why
What does a servant girl witness from a window?	Hyde murdering Sir Danvers Carew
What is Poole's position?	Jekyll's butler
What happens to Jekyll after the Carew murder?	He becomes more sociable and devotes himself to good work
What does Lanyon give Utterson before he dies?	A letter, not to be opened until Jekyll's death or disappearance
How does Jekyll deal with Hyde in the end?	Involuntarily, he becomes Hyde permanently, and then Hyde kills himself

Career Focus - Where could this take you?





As a writer, you'll be involved in the creation and development of works of fiction and non-fiction. This covers various forms of writing, including:

- children's stories
- life writing
- magazine and newspaper articles
- non-fiction
- novels
- poetry
- screen and radio
- scripts for theatre
- short stories

Challenge Activities

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You need to analyse more than one quote looking at how it links to the question, the effect on the reader and explore Stevenson's message to Victorian society as well as linking to the context of the novella.

- 1. How does Stevenson build up sympathy for Jekyll and, to a lesser extent, Hyde?
- 2. .How does Stevenson build up a sense of drama and horror in Chapter 10?
- 3. Why do you think Stevenson wrote Chapter 10 of the novel when the reader already knows the answer to the mystery?
- 4. Why is Chapter 9 written in the first person with Dr Lanyon narrating?
- 5. How does Stevenson create a sense of drama and impending doom in Chapter 7?
- 6. 6. How successful is Stevenson in making Hyde seem genuinely evil?

self to	Topic Links	Additional Resources
n or	 This topic links to: RE –Ethics and Human beliefs Dance – Heroes and Villains 	To further practise and develop your knowledge see: • BBC Bitesize -
r, and then	 MFL - using adjectives to describe people 	 <u>https://www.bbc.co.uk/bitesize/topics/z8642p</u> <u>3</u> Century Tech - Literature



Year 9 Frankenstein

The aims of the sequence of learning are to ensure that all students: AO1 -complete an in-depth study of a novel – show understanding of plot, characterization and themes. AO2 –Analyse language and structure and effectiveness of meaning AO3 – show understanding of context of novel – when and where it was written/set

Keyword	Definition	Key Conc	epts		
Foreshadowing	An indication that an event will occur later in the		Chapter-by-Chapter Summary – Alongside key quo	tations from each scene.	Context – Frankenstein was written by Mary Shelley in 1817, and was published in 1818.
	narrative. [Fan says that her father is much "kinder" than before which Scrooge's change].	Letters 1-4	The novel begins with a series of letters from Walton to his sister. He is captain of a ship on a daring uoyage to the North Pole. Walton and his men spot a huge creature pulling a sledge, and later an emaciated man (Victor Frankenstein) with another sledge. They rescue him, and he spends with another sledge. They rescue him, and he spends with another sledge. They rescue him, and he spends with a state of the s	"Why not still proceed over the untamed yet obedient element? What can stop the determined heart and resolved will of man?"	Mary Shelley – Mary Shelley (1797-1851) was an English novelist, best known for writing Frankenstein. Her husband was the famous romantic poet and philosopher Percy Bysshe Shelley. In 1816, the couple famously spent a
Dramatic Irony	When the audience knows information which the character does not know	Chapters 1-2	Victor begins his narrotion. He tells of his childhood, growing up in Geneva, and of his father (Alphonse) and his mother (Caroline). He also shares that Elizabeth Lavenza was adopted into his family. As a teenager, Victor becomes fascinated by the mysteries of science.	The innocent and helpless creature bestowed on them by heaven, whom to bring up to good	summer with Lord Byron, John William Polidori, and Claire Clairmont near <u>Geneva</u> , Switzerland, where they wrote ghost stores - this is where Mary conceived the idea for <i>Frankenstein!</i> Health- Throughout Europe over the preceding hundreds funger theme both base multiple parademize of hybridges in the stores of the provide were wary of its capabilities. Major Events - The world was a much more unstable funger the tig In the late to the tot 500 cm more unstable for the store in the store of the store
Moral imperative	An instruction on what is right and wrong, the Ghosts provide this.	Chapters 3-5	Victor's mother dies. Victor leaves to attend university in Ingolstadt. He becomes obsessed with his study of anatomy, and decides to build an animate creature. When he brings it to life he is horified by its appearance. It leaves Victor's apartment and Victor falls ill.	' watery eyes, that seemed almost of the same colour as the dun-white sockets in which they were set, his shrivelled complexion and straight black lips.'	biggue, bliefe hub been <u>manage partnemns</u> of the European population. <u>Healthcare was much more limited</u> , and medical knowledge developing, but still extremely basic in relation to today. <u>Even minor discuss could be fotal</u> . Life expectancy in must have seemed to Shelley that humans were devoid of
Pathetic Fallacy	A kind of personification in which human emotions are projected onto nature, especially weather, often to create a mood	Chapters 6-8	Victor is nursed back to health by his friend Clerval. He receives a letter from his father – his younger brother William has been murdered. Returning to Geneva, Victor sees the monster, and knows it is culpable. Instead, Justine, the Frankenstein servant, is tried and executed.	'she quickly recovered herself, and a look of sorrowful affection seemed to attest her utter guiltlessness.'	much of Europe was no higher than 30. This is why some characters die of either unknown or fairly minor illnesses in <i>Frankenstein</i> , humans are shown in this light, readily attacking and fleeing the monster. Religion and the Supernatural - Parts of Europe such as England (where Mary Shelley was from) were <u>far more</u> religious than the present day. Therefore occurrences that
Personification	Attributing human qualities to nonhuman things,	Chapters 9-10	Victor contemplates suicide, but a trip away to Belrive, planned by his father, helps him to cheer up slightly. When his negative feelings return, however, Victor opts to climb Montanvert, to clear his head. There he sees the monster, who takes him to its ice cave, and tells his story.	"When I reflected on his crimes and malice, my hatred and revenge burst all bounds of moderation."	could not be explained were viewed as an <u>act of God</u> or <u>here 4 children died young</u> , and she dealt with the grief of from some other <u>supernatural fore</u> . Science was beginning to break down those boundaries, which some people felt was dangerous. <i>Frankenstein</i> deals with the theme of dangerous knowledge.
Symbolism	Using one object or character to represent a wider concept running throughout the novel.	Chapters 11-12	The monster describes the confusion in its first moments of life. He then describes people fleeing whenever he tried to approach them. He decided to try to stoy away from people. He learnt how to use fire, and found a hovel by an old cottage. There, a young man and woman and old man live. He realises that they are unhappy in poverby. He grows affectionate towards his hosts, scarcetty helping them, and learning their language.	'It is with considerable difficulty that I remember the original era of my being; all the events of that period appear confused and indistinct.'	Thernes – A theme is an idea or message that runs throughout a text. Dangerous Knowledge – Frankenstein gives a warning about the dangers of relentlessly pursuing knowledge. Walton, for example, is embarking on a dangerous mission across the arctic through lands unknown, whilst Victor aims to break beyond human limits and create
Superlative	An adjective describing the highest degree of what it is.	Chapters 13-14	The winter turns into Spring, and the monster has now learnt language exceptionally well. He notes that the people of the cottage seem particularly unhappy, until a girl named Safie arrives. He learns that the people of the cottage are called Felix (young man), Agatha (young woman) and their father (De Laccy) and used to be affluent.	'her features of a regular proportion, and her complexion wondrously fair, each cheek tinged with a lovely pink.'	Ife. Ultimately, Walton is able to learn from Victor's downfall, as he sees how destructive the thirst for knowledge can be. Appearances – Frankenstein also shows the damaging effect of judging others based on their appearances. The monster is intelligent, sensitive and caring, and yet humans flee or attack him, horrified by the way that he looks. Even, Victor is so appalled that he flees his creation. The monster's longing of acceptance thus leads to devastating consequences.
Juxtaposition	Comparing two concepts, characters, or clauses, in close proximity in a passage for the effect of contrast.	Chapters 15-17	The monster finds books and learns to read. He also learns how he was created. He hopes to befriend the cottage dwellers, starting with the blind (so unprejudiced) De Lacey. However, Felix returns and drives him away. He then tells of how he came across William, and realizing who he was, strangled him, framing Justine. He implores Victor to make him a mate.	Cursed, cursed creator! Why did I live? Why, in that instant, did I not extinguish the spark of existence which you had so wantonly	Compassion and Forgiveness – Many of the characters in Frankenstein fail to show compassion for others at all. The monster alone shows compassion, yet this trait is soon corrupted by the cruel world around him. The monster, like Victor, then demonstrates an unwillingness to forgive. Both spend the remainder of their lives seeking revenge for the cruelty of the other, and so neither is happy until their deaths.
Moral imperative	An instruction on what is right and wrong,	Chapters 18-20	The monster is persuasive, so Victor reluctantly agrees. Victor visits England with Gerval. He leaves Clerval in Scotland so that he can complete his monster project alone on the remote Orkney Islands. He starts his work but then destroys it, knowing how horrific it will be. He throws the remains out to sea as he returns to Scotland. When he lands he	'Had I right, for my own benefit, to inflict this curse upon everlasting generations? I had before been moved by the sobhisms of the being I had created'	Secrecy – Victor looks upon science as a mystery that should be probed, whilst its secrets should be jealously guarded. He idolises Krempe at university, who is imbued in the secrets of his science. Although Victor cares deeply for characters like Elizabeth, Clerval, and Alphonse, he tells none of them of his secret, (he believes to protect them) and yet each of them ends up dead.
Foreboding	- Apprehension that a bad event will occur.		is greeted rudely by townspeople, who say he is suspected of murder. Victor is taken to the body, which is Clerval. He collapses in shock, and is ill for 2 months. When he runders, the is found inscored of the murder. Flare	the whole truth rushed into my mind,	
Antithesis.	Rhetorical device where contrasting concepts are placed together in a text, typically a sentence, to	Chapters 21-23	are made for Victor to marry Elizabeth. He remembers that the monster says he will be with him on his wedding day, and plans to battle him. On the night of the wedding, Elizabeth retires for the night, but the monster breaks in and murders her. Days later his father dies of shock. Victor vous to spend the rest of his life searching for, and destroying, the monster.	my arms dropped, the motion of every muscle and fiber was suspended. I could feel the blood trickling in my veins and tingling in the extremities of my limbs.'	
Duality	an instance of opposition or contrast between two concepts or two aspects of something; a dualism	Chapter 24 and Walton (continuation)	Victor reletitessy tracks the monter, intrough te and show. He is found there by Walton, to whom he tells his story. Just before the ship turns back for England, Victor dies. Days later, Walton hears a noise that he chooses to investigate. It is the monster, who is weeping over his creator's body. He is tormerted that he has become a symbol of evil, and states that with his master now dead, he himself is ready to die. He leaves into the darkness.	¹ , the miserable and the abandoned, am an abortion, to be spurned at, and kicked, and trampled on.'	
Gothic Fiction	18/19 th Century fiction that usually includes terrifying, violent and supernatural events. Gothic settings are dark and mysterious—just like London in this novella.				



Year 9 Frankenstein

The aims of the sequence of learning are to ensure that all students: will complete an in depth author study depending on the text chosen by the class teacher. The pupils will be guided on how to read a more challenging texts and how to approach a Literature style exam question using the novel as a source initially and then as a whole to study character / themes / ideas.

Re

compare himself?

Retrieval Practice	
Questions	Answers
Who is convicted of the murder of Victor's younger brother, William?	Justine Moritz
Who is accused of the murder of Henry Clerval?	Victor Frankenstein
To whom is Victor taken after Henry is murdered?	Mr Kirwin
What is the name of the professor at Ingolstadt	Waldman
With what is Walton obsessed?	Reaching the North Pole
Where does Victor first have conversation with the monster?	In a hut on a glacier near Montanvert
What does the monster want Victor to do to heal his loneliness?	Create a female monster to be his companion
How does Walton meet Victor?	Walton finds Victor on the northern ice and nurses him back to health
How does Victor's mother die?	She catches scarlet fever from Elizabeth
Who takes care of Victor when he falls ill after creating the monster?	Henry
How does the monster learn to speak?	By listening to Felix teach Safie his language
To which character in Paradise Lost does the monster	Adam and Satan

Career Focus - Where could this take you?





As a writer, you'll be involved in the creation and development of works of fiction and non-fiction. This covers various forms of writing, including:

- children's stories
- life writing
- magazine and newspaper articles
- non-fiction
- novels
- poetry
- screen and radio
- scripts for theatre
- short stories

Challenge Activities



- 1. How does Shelley build up sympathy for the monster?
- .How does Stevenson build up a sense of drama and horror in Chapters 21-23? 2.
- Why do you think Shelley wrote the novel? Consider moral messages. 3.
- Why is the text written with multiple narrators? 4.
- How does Shelley create a sense of drama and impending doom in Chapter 23? 5.
- 6. 6. How successful is Shelley in making the monster someone we can sympathise with?

Topic Links	Additional Resources
This topic links to: RE –Ethics and Human beliefs Dance – Heroes and Villains MFL - using adjectives to describe people	To further practise and develop your knowledge, see: • BBC Bitesize - https://www.bbc.co.uk/bitesize/guides/z8w7mp3/r evision/1





Our students will:

- develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics
- develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them
- are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future.

	Newsome		The aims of the sequence of learning are to ensure that all students:	•	Explain CHD, the lifestyle factors that influence it
	Academy Voor 0	Organication	Recall the levels of organisation		and possible treatments
69	Everyone Exceptional Everyday	Organisation	 Describe the digestive system and how enzymes work 	•	Describe the parts of a leaf and how substances are
			Describe the heart, blood vessels and blood.		transported around plants

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Keyword	Definition	Key Concepts							
Cell	Basic unit of life.	Principles of Organisation							
Tissue	A group of cells with a similar structure and function.	Cells are the basic building blocks of all living organisms. A tissue is a group of cells with a similar					3		A-A
Organ	A group of tissues carrying out a particular function.	structure and function. Organs are aggregations of tissues performing specific functions.					A		5
Organ System	Organs working together as a system.	systems, which work together to form organisms	cell	+ tissue	•	organ	organ syste	m 🗭	organism
Organism	Organ systems all working together to form a living organism.	The Digestive System		Enzymes					
Digestive system	A system that breaks down large molecules into smaller molecules and absorbs them into the bloodstream.	tions is increased by enzymes.	lands	An enzyme is a biological catalyst; enzymes speed up chemical reactions without being used up. This happens because it lowers the activation energy required for the reaction to occur.					
Enzyme	A biological catalyst that speeds up reactions in the body.	mouth globular shape.							
Circulatory system	A system that transports substances around the body in the blood.	liver						thout being used up. ion to occur. . They have an c and will only	
Heart	The organ that pumps blood around the body.	gall bladder pancreas catalyse small intestine large intestine Enzyme anus rectum amyla The purpose of the digestive system is to break down large molecules into smaller soluble molecules that can then be proteat	catalyse one spo Enzymes only w	ecific reaction. vork optimally a	fic reaction. k optimally at specific temperatures and pHs.		, ,		
CHD	A condition where the arteries supplying the heart become narrowed or blocked.		ectum	Enzyme	Reactant	Product	In th	extremes of e enzyme wi	temperature and pH ill denature. This
Breathing system	Network of organs and tissues that help you		amylase	starch	sugars (glucose)	3E	eans that the shape of th	e bonds that hold the le enzyme together	
	breathe including airways, lungs and blood vessels.		protease	protein	amino acids	br de	eak and the form. The su	active site will ubstrate will no	
Gas exchange	The exchange of gases (oxygen and carbon dioxide) in the lungs. Occurs in the alveoli.	absorbed into the bloodstream. The rate of these is increased by enzymes.	e reactions	lipase	lipid	glycerol and fatty	acids en	nger fit in the zyme will no	e active site and the ot work.

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- The aims of the sequence of learning are to ensure that all students:
- Recall the levels of organisation
- Describe the digestive system and how enzymes work
- Describe the heart, blood vessels and blood.

- Explain CHD, the lifestyle factors that influence it and possible treatments
- Describe the parts of a leaf and how substances are transported around plants

The Heart and Blood Vessels

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The heart is an organ that pumps blood around the body in a double circulatory system. The right ventricle pumps blood to the lungs where gas exchange takes place. The left ventricle pumps blood around the rest of the body.

The natural resting heart rate is controlled by a group of cells located in the right atrium that act as a pacemaker. Artificial pacemakers are electrical devices used to correct irregularities in the heart rate.



The three types of blood vessels are each adapted to carry out their specific function.

Capillaries are		Artery	Vein		
narrow vessels that form networks	direction of blood flow	away from the heart	towards the heart		
between arteries and veins. They allow	oxygenated or deoxygenated blood?	oxygenated (except the pulmonary artery)	deoxygenated (except the pulmonary vein)		
exchanged with the	pressure	high	low (negative)		
blood and cells/tissues. They are only 1 cell thick to allow a short	wall structure	thick, elastic, muscular, connective tissue for strength	thin, less muscular, less connective tissue		
diffusion pathway.	lumen (channel inside the vessel)	narrow	wide (with valves)		

The Blood



CHD



Each of the blood components has a specific function. Plasma transports red blood cells, carbon dioxide, nutrients, hormones and urea. Red blood cells transport oxygen. They do not contain a nucleus so they can contain more haemoglobin. White blood cells are part of the immune system. Platelets are important blood clotting factors.

Blood is a tissue consisting of plasma, in which the red blood cells,

white blood cells and platelets are suspended.

In coronary heart disease layers of fatty material build up inside the coronary arteries, narrowing them. This reduces the flow of blood through the coronary arteries, resulting in a lack of oxygen for the heart muscle.

Lifestyles factors can increase the risk of someone developing coronary heart disease. These include high fat diets, smoking and stress.

waxy cuticle	palisade layer
upper epidermis	xylem
spongy mesophyll	lower epidermis
guard cells	stomata

Plant Tissues, Organs and Systems

Ху	Xylem and Phloem						
Water an mineral One-way		Water and food Two-way					
Thick cell wa made of lignin		Thin cell wall made of cellulose					
Cells havin no end wall between ther		Cells with end walls and perforations					
Science Facts at	Xylem	Phloem					

Treatment	Description	Advantages	Disadvantages
statins	Drugs used to lower cholesterol levels in the blood, by reducing the amount produced in the liver.	Can be used to prevent heart disease developing.Improved quality of life.	Long-term treatment.Possible negative side-effects.
stents	Mechanical device which is used to stretch narrow or blocked arteries, restoring blood flow.	 Used for patients where drugs are less effective. Offers long-term benefits. Made from metal alloys so will not be rejected by the patients body. Improved quality of life. 	 Requires surgery under general anaesthetic, which carries risk of infection.
heart transplant	The entire organ is replaced with one from an organ donor (a person who has died and previously expressed a wish for their organs to be used in this way).	 Can treat complete heart failure in a person. extended life Improved quality of life. Artificial plastic hearts can be used temporarily until a donor is found. 	 Requires major surgery under general anaesthetic, which carries risks. Lack of donors available. Risk of infection or transplant rejection. Long recovery times.
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- Recall the levels of organisation
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- Describe the heart, blood vessels and blood.

- Explain CHD, the lifestyle factors that influence it and possible treatments
- Describe the parts of a leaf and how substances are transported around plants

Retrieval Practice

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	Sector and the
Questions	Answers
What is an organ?	A group of tissues that work together to perform a function.
What is an organ system?	A group of organs working together to perform a function.
Name the parts of digestive system	Mouth, oesophagus, stomach, small intestine, liver, pancreas, gall bladder, large intestine, rectum and anus.
What is the function of the small intestine?	To breakdown food and absorb nutrients.
Enzymes are biological catalysts. What does this mean?	A protein molecule that speeds up chemical reactions inside the cells.
Where is amylase produced and what does it do?	Amylase is produced in the salivary glands and breaks down starch.
Describe the path the blood takes through the heart.	Vena Cava, Right Atrium, Right Ventricle, Pulmonary Artery, Pulmonary Vein, Left Atrium, Left Ventricle, Aorta.
Describe the structure and function of an artery.	Thick muscular elastic walls with small lumen. Transports oxygenated blood under high pressure from the heart to body.
What is coronary heart disease?	The build up of fatty plaques in the coronary arteries supplying the heart. Can result in heart attack.
How is CHD treated?	Statins, stents or heart transplant.
What is the blood made up of?	Plasma, red blood cells, lymphocytes and platelets.
What is the structure and function of xylem?	Thick ligin walls with no separation between cells. Transports water and minerals up the plant via transpiration.
What is the structure and function of phloem?	Thin cell walls with sieves between cells. Transports sugars around the plants via translocation.





I am a veterinary assistant. I work in a veterinary practice assisting in the care and treatment of animals. This can be a physically and emotionally demanding job where I have a variety of day-to-day tasks such as preparing animals for treatments, giving injections and medicines, taking x-rays, keeping the practice and equipment clean and assisting pet owners. The skills I need for this job include knowledge of animal health, customer service, keeping calm in stressful situations and excellent communication skills.

Challenge Activities

leaflet.

1.

2.

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Topic Links	Additional Resources
This topic links to: • Cells	To further practise and develop you knowledge see:
 Infectious Disease Chemical reactions (catalysts) 	Educake - <u>https://www.educake.co.uk/</u> BBC Bitesize -
We will also be practising how to • Calculate blood rate	<u>https://www.bbc.co.uk/bitesize/topics/zwtcng8</u> YouTube Cognito -
• Write an evaluation to compare treatment	https://www.youtube.com/watch?v=6jz9WvfKDVc https://www.youtube.com/watch?v=UN5BIPfMUkg



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The aims of the sequence of learning are to ensure that all students:

- to understand how energy is stored and transferred
- to be able to calculate energy efficiency

- to understand the different types of energy resources
 to be able to identify the different between renewable and nonrenewable energy sources

Keyword	Definition	Key Concepts	
Energy store	Type of energy. Energy is measured in Joules (J).	Energy transfers	Energy resources
Kinetic energy	Anything moving has energy in its kinetic store (faster = more energy).	Example 1: Battery powered train Energy in chemical store Energy in	FOSSIL FUELS (NON-RENEWABLE) Coal, oil and gas are all fossil fuels.
Gravitational potential energy	Anything that has mass and is in a gravitational field (higher up = more energy).	Example 2: Person moving a book to a high shelf	They are formed from dead remains over millions of years. They are burnt which produces
Chemical energy	Anything that can release energy by a chemical reaction (examples include food and fuels).	START Energy in chemical store in musche	thermal energy used to turn a generator and make electricity. + Reliable - Releases carbon dioxide
Elastic potential energy	Anything that can be stretched or compressed.	Law of Conservation of Energy	+ Releases energy quickly + Can be used in vehicles as fuel
Thermal energy	Every object has thermal energy (higher temperature = more energy).	The law of conservation of energy states that energy cannot be created or	SOLAR PANELS (RENEWABLE)
Energy transfer	When energy moves from one store to another.	destroyed, it can only be transferred from one store to another.	They use the sunlight to
Heat transfer	Energy transfer between hot and cold objects.	When energy is transferred, it can be dissipated . This is where energy is 'wasted' by being transferred to the surroundings . Energy becomes stored	produce an electrical current.+ No pollution- Unreliable- Expensive to set up
Electrical transfer	Energy transfer when a charge (current) moves.	In less useful ways, e.g. as thermal energy.	+ No fuel costs - Can only be used in + Can be used in remote daytime locations - Can only be used in
Radiation transfer	Energy transfer through light/sound.	Energy efficiency	WIND TURBINES
Mechanical transfer	Energy transfer when an object moves due to a force.	How good a device is at transferring energy input to useful energy output is called efficiency . The more efficient a device is, the less energy it will	(RENEWABLE) Wind turns the blades which
Renewable	Naturally replenished (will not run out), for example solar panels and wind turbines.	waste. USEFUL POWER OUTPUT	turns a generator, this produces electricity Unreliable
Non-renewable	Not naturally replenished (will run out), for example fossil fuels.	$EFFICIENCY = \frac{OSLIPT FOTAL POWER INPUT}{TOTAL POWER INPUT} \times 100$	+ No fuel costs + Minimal running costs + Minimal running costs + Minimal running costs + Minimal running costs

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The aims of the sequence of learning are to ensure that all students:

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- to be able to calculate energy efficiency

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- to understand the different types of energy resources
- to be able to identify the different between renewable and nonrenewable energy sources

Specific Heat Capacity

Investigating Specific Heat Capacity

independent variable - material

dependent variable - specific heat capacity

control variables - insulating layer, initial temperature, time taken

 $\Delta E = m \times c \times \Delta \Theta$



Method:

- 1. Using the balance, measure and record the mass of the copper block in kg.
- 2. Wrap the insulation around the block.
- 3. Put the heater into the large hole in the block and the block onto the heatproof mat.
- 4. Connect the power pack and ammeter in series and the voltmeter across the power pack.
- 5. Using the pipette, put a drop of water into the small hole.
- 6. Put the thermometer into the small hole and measure the temperature.
- 7. Switch the power pack to 12V and turn it on.
- 8. Read and record the voltmeter and ammeter readings during the experiment, they shouldn't change.
- 9. Turn on the stop clock and record the temperature every minute for 10 minutes.
- 10. Record the results in the table.
- 11. Calculate work done and plot a line graph of work done against temperature.

Kinetic Energy	Work Done				
The kinetic energy of a moving object can be calculated using the equation: Kinetic energy = $1/2 \times mass \times (speed)^2$ Kinetic energy = $1/2 \text{ mv}^2$ Movement Energy kinetic energy = $\frac{1}{2} \times mass \times speed^2$ $E_k = \frac{1}{2} \frac{1}{m} \frac{\text{mv}^2}{(s)^{(m/s)}}$	 When a force causes a body to move, work is being done on the object by the force. Work is the measure of energy transfer when a force (F) moves an object through a distance (d). So when work is done, energy has been transferred from one energy store to another, and so: energy transferred = work done Energy transferred and work done are both measured in joules (J). Calculating work done The amount of work done when a force acts on a body depends on two things: the size of the force acting on the object the distance through which the force causes the body to move in the direction of the force The equation used to calculate the work done is: 				
Gravitational Potential Energy	work done = force × distance W = F x d				
Any object lifted above the ground has gravitational potential energy (Ep or GPE). The amount of gravitational potential energy an object has on Earth depends on its: • mass;	 This is when: work done (W) is measured in joules (J) force (F) is measured in newtons (N) distance (d) is in the same direction as the force and is measured in metres (m) 				
 height above the ground. The gravitational potential energy of an object raised above the Earth's surface can be calculated using the equation: 	Power				
Gravitational potential energy=mass x gravitational field strength x vertical height raised	When work is done on an object, energy is transferred. The rate at which this energy is transferred is called power . So the more powerful a device is, the more energy it will transfer each second.				
E, = mgh () Protostava memory - 0 man ng Objerned memory - 0 memory - 0	Calculating power The equation used to calculate power is: power=work done/time power=W/t P (W) = W (D) + t (s)				
Elastic Potential Energy elastic potential energy = $\frac{1}{2}$ × spring constant × extension ² $E_{e} = \frac{1}{2}ke^{2}$	 This is when: power (P) is measured in watts (W) work done (W) is measured in joules (J) time (t) is measured in seconds (s) One watt is equal to one joule per second (J/s). This means that for every extra joule that is transferred per second, the power increases by one watt. 				

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The aims of the sequence of learning are to ensure that all students:

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- to understand how energy is stored and transferred
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Retrieval Practice Questions Answers What is kinetic energy? Anything moving has energy in its kinetic store (faster = more energy). W W W W

What is thermal energy?	Every object has thermal energy (higher temperature = more energy).
What is elastic potential energy?	Anything that can be stretched or compressed.
What is gravitational potential energy?	Anything that has mass and is in a gravitational field (higher up = more energy).
What is chemical energy?	Anything that can release energy by a chemical reaction (examples include food and fuels).
What are the 4 methods of energy transfer?	Heat, electrical, radiation, mechanical.
What is unit of measurement for energy?	Joules (J).
What is the law of conservation of energy?	Energy cannot be created or destroyed; it can only be transferred from one store to another.
What does the efficiency tell you about a device?	How much of the input energy is transferred usefully and how much is wasted.
What does renewable mean?	It is naturally replenished (will not run out).
What does non-renewable mean?	It is not naturally replenished (will run out).
What are the disadvantages of using fossil fuels?	It is non-renewable so will run out, it releases carbon dioxide and extraction can ruin landscapes.
What are the advantages of solar panels?	It is renewable so will not run out, there is no pollution or fuel costs and has minimal running costs.

Career Focus - Where could this take you?



I am a welder. My job is to use high heat to fuse materials, creating strong, durable bonds between them. I must decide the best techniques to use on different materials to quickly create strong and safe joins. Welders are required in most sectors so my workplace could be in a workshop, in a factory, on a construction site, on a demolition site or even on an oil rig. Welding combines the mental satisfaction of exacting technical standards with the physical rewards of precise handcrafting.

https://www.youtube.com/watch?v=JGwcDCeYRYo&list=P

LidggIGKox7UVC-8WC9djoeBzwxPeXph7

Challenge Activities





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The aims of the sequence of learning are to ensure that all students: • Describe the structure of an atom

- The learning outcomes for this topic are:
- Describe the difference between compounds and mixtures
- Calculate number of protons, neutrons and electrons
- Describe the arrangement of the periodic table

Keyword	Definition	Key Concepts	
Physical changes	When a substance changes state. It does not make any new chemical substances forming.	The Reactivity Series	Conservation of Mass
Chemical changes	When a chemical reaction occurs leading to the formation of new elements or compounds.	The reactivity series is a league table for metals. The more reactive are near the top of the table with the least reactive near the bottom. In chemical reactions the more reactive metal will displace a less reactive metal.	The law of conservation of mass states that no atoms are lost or during a chemical reaction so the mass of the products equals the
State of Matter	The three states of matter; solid, liquid or gas.	purple (potassium) slime (sodium)	Proving the conservation of mass:
Chemical Bonds	When atoms join together chemically, they share or transfer electrons. These bonds are difficult to break.	can (calcium) calcium make (magnesium) magnesium a (aluminium) aluminium	CaCl ₂
Reactivity	How much a substance reacts when it is mixed with another substance.	careless (carbon) carbon zebra (zinc) insane (iron)	solution Na ₂ SO ₄
Reactivity Series	In a reactivity series, the most reactive element is placed at the top and the least reactive element at the bottom.	try (tin) learning (lead) how (hydrogen) tin lead copper	300.23 g
Displacement	A more reactive element can displace a less reactive element out of its compound during a chemical reaction.	camels (copper) silver surprise (silver) gold gorillas (gold) platinum	Displacement Reactions A chemical is described as being reactive if it takes part easily and
Conservation of mass	No atoms are lost during a chemical reaction.	Exothermic and Endothermic Reactions	quickly in chemical reactions. Some metals are more reactive than others. Metals can be arranged in order of their reactivity. This is called a reactivity series.
Reactants	The substance(s) that undergoes change in a chemical reaction.	Activation energy	Displacement reactions involve a metal and the compound of a different metal. Blue copper sufface solution Cotourtess magnesium sufface solution
Products	The substance(s) that are made during a chemical reaction.	Reactants Products	
Exothermic	Energy is transferred to the surroundings.	energy Products a Reactants	When the magnesium powder and copper sulfate are stirred, they change into magnesium sulfate and copper powder
Endothermic	Energy is taken in from the surroundings.	Reaction Progress Reaction Progress	
L	1	reaction reaction	Magnesium Copper

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- The aims of the sequence of learning are to ensure that all students:
- The learning outcomes for this topic are:

<u>ze</u>

- Describe the difference between compounds and mixtures
- Describe the structure of an atom
- Calculate number of protons, neutrons and electrons
- Describe the arrangement of the periodic table

Retrieval Practice

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	Size and the second
Questions	Answers
What is the difference between a physical and chemical change?	A physical change only changes state (solid, liquid or gas). A chemical changes produces a new substance.
State the law of conservation of mass.	No atoms are gained or lost during a reaction.
How can you prove the law of conservation of mass.	Record the mass of the reactants and products in a closed system. They will be the same.
Describe the metals at the top of the reactivity series.	Highly reactive.
Describe the metals at the bottom of the reactivity series.	React very slowly or not at all.
What is displacement?	When a more reactive metal removes a less reactive metal from its compound.
Using the series, name a metal that would displace aluminum.	Potassium, sodium, calcium or Magnesium
Using the series, name a metal that would not displace copper.	Gold, Silver or Platinum.
What happens to the metal that is displaced during a reaction.	It becomes an element – solid metal.
What happens to the metal that displaces the metal from its compound?	It goes into solution and becomes a salt.
How will you know a reaction is exothermic?	The temperature of the reaction increases.
How will you know a reaction is endothermic?	The temperature of the reaction decreases.

Career Focus - Where could this take you?



I am a chemical engineer. I develop and design chemical manufacturing processes. Chemical engineers apply the principles of chemistry, biology, physics, and math to solve problems that involve the production or use of chemicals, fuel, drugs, food, and many other products. I will mostly be working in laboratories and offices.

The skills I use in this career are problem solving, good verbal and written communication, strong IT skills, understanding of engineering and working as part of a team. I have a degree in chemistry.

Challenge Activities







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- The aims of the sequence of learning are to ensure that all students:
- Describe forces and how they are measured
- Draw force diagrams

- Calculate resultant force
- Interpret distance-time graphs

Keyword	Definition	Key Concepts					
Force	A push, pull or twist. Measured in newtons (N).	Contact Forces	Distance-Time Graphs				
Contact Forces	Contact forces that act on objects that are physically touching.	Contact forces are forces that act between two objects that are physically touching each other.	70				
Friction	This occurs when two objects move past each other. Friction slows objects down.	 Reaction force - An object at rest on a surface experiences reaction force. For example, a book on a table Tension - An object that is being stretched experiences a tension force. For example, a 	60 Steeper = Faster ξ 50 Gradient = Speed				
Air Resistance	This force is also known as drag. It is the force that acts on objects as they move through the air.	 cable holding a ceiling lamp. Friction - Two objects sliding past each other experience friction forces. For example, a box sliding down a slope. Air resistance - An object moving through the air experiences air resistance. For 	× 00 0000000000000000000000000000000000				
Upthrust	The upward force exerted by a fluid by an object floating on it.	example, a skydiver falling through the air.	Flat = Stopped				
Newton	Unit of force, symbol N.	Non-contact Forces	09:00 10:00 11:00 12:00 13:00 14:00 Time				
Non-contact Forces	Non-contact forces that act between objects without them physically touching.	Non-contact forces are forces that act between two objects that are not physically touching each other. Examples of non-contact forces include: • Magnetic force	Resultant Forces				
Gravitational Force	The force acting on an object due to gravity.	A magnetic force is experienced by any magnetic material in a magnetic field. Electrostatic force An electrostatic force is experienced by any charged particle in an electric field. Gravitational force	Multiple forces act on an object at the same time. The size and direction of these forces determines the				
Magnetic Force	A force exerted by a magnetic field on a magnetic material.	A gravitational force is experienced by any mass in a gravitational field.	A resultant force is the overall force that acts on the object. When you calculate the resultant force you need to also say the direction it is acting in				
Electrostatic Force	The force that acts between two charged objects.	The upwards arrow represents the reaction force. This is the force of the table supporting	→ 60N				
Resultant Force	The overall force acting on the object that determines the movement of the object.	the box.	= 90N to the right				
Distance-Time Graphs	A graph that describes the motion of an object.	, The downwards arrow represents the gravitational force acting on the box, also	10N← → 30N				
Streamlining	When an object is designed to reduce the resistance of air or water.	known as weight . This is the force of the Earth acting on the box.	= 20N to the right				

Newsome Academy Everyone Exceptional Everyday Vear 9 Forces & Motion

The aims of the sequence of learning are to ensure that all students:

Describe forces and how they are measured
Draw force diagrams

<u>ze</u>

Calculate resultant force

• Interpret distance-time graphs

Retrieval Practice

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Questions	Answers
Give an example of a contact force.	Tension, Friction, Upthrust, Air resistance, Thrust and Normal reaction force.
Give an example of a non-contact force.	A force that acts between objects that are not physically touching.
What is friction?	The force that slows an object down because it works in the opposite direction to the movement of the object.
What is air resistance?	A type of friction between air and an object. The air makes it more difficult for the object to move.
What is gravity?	The force that pulls you downward.
How are forces represented?	Using arrows.
What are forces measured in?	Newtons (N)
How do you calculate resultant force?	Add together all the forces that are going in the same direction. The forces going in opposite directions will produce a resultant force that is calculated by taking the smaller magnitude away from the larger one.
What will happen if resultant forces on a stationary object are not zero?	It will move.
What will happen if the resultant forces on a moving object are zero?	It will stay at a constant speed.
What does the gradient on a distance- time graph represent?	The speed of the moving object.
What does a horizontal line on a distance- time graph show?	The object has stopped moving.

Career Focus - Where could this take you?



I am a video game developer. I am a software developer that specializes in video game development. I work with a team to create and produce games for computers, game consoles, arcade and apps. I use computer models that make sure objects and people in video games adhere to the real-world laws of motion and make the games realistic. The skills I use in this career are creativity, passion for gaming and a good understanding of programming. I have a degree in computer science but there are opportunities to enter the company at an apprentice level.

Challenge Activities

- 1. Make flashcards for the definitions and retrieval practice questions.
- 2. Make a mindmap for this topic. Remember to include keywords and the links between information.
- 3. Research how forces are used to make car designs safe or how cars are streamlined to make formula 1 cars go faster.
- 4. Research Newtons 3 laws of motion.
- 5. Find out more about pathologists and what they do. What qualifications would you need for this career? What current research is being done? What is the salary?
- 6. Construct a fact file about a famous historical scientist that helped us to understand more about forces.

Topic Links	Additional Resources
This topic links to: • Organisation	To further practise and develop you knowledge see:
Chemical Reactions	Educake - <u>https://www.educake.co.uk/</u>
• Space	BBC Bitesize -
We will also be practising how to Calculate resultant force	https://www.bbc.co.uk/bitesize/topics/z4brd2p/articles/z s3896f
Describe graphs	YouTube Cognito -
	https://www.youtube.com/watch?v=WCPTKRaScgE





Our students will:

- understand and respond to spoken and written language from a variety of authentic sources
- speak with increasing confidence, fluency and spontaneity, finding ways of communicating what they want to say, including through discussion and asking questions, and continually improving the accuracy of their pronunciation and intonation
- can write at varying length, for different purposes and audiences, using the variety of grammatical structures that they have learnt
- > discover and develop an appreciation of a range of writing in the language studied.



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Year 9 - Mon monde à moi

The aims of the sequence of learning are to ensure that all students:

- Can say what they like to do in their spare time.
 - Can use adjectives accurately to describe people.
 Can use aimer + infinitive to say what they like to do.
- Can use the present tense of avoir and être:
- Can use the past tense with Je.
- Can use aller + infinitive to talk about future plans.

Key structures	Translation.	Key Concepts							
_		Qu'est-ce que	<mark>: tu aimes fa</mark>	ire le weekend ?	Ton ami(e) est comment? What's your friend like?				
Samedi dernier,	Last Saturday, 😽 🐳	What do you like to do at the weekend ?			Mon ami(e) s'appelle My friend is called				
j'ai fêté le jour de mes treize ans.	I celebrated my 13 th birthday.	Quand je suis seul(e) j'aime 	lire des BD faire des pro nager	reading comics menades going for walks swimmina	<u>avoir - to have</u> j'ai - I have		les yeux	bleus blue gris grey verts	
Normalement pour mon anniversaire	Normally for my birthday	When I'm alone I like	prendre des selfies faire du vélo aller à la pêche going cycling aller en ville écouter de la musique tchatter / poster posting biotiming chatter / poster chatting (online) /		tu as - You have il / elle a he/she has nous avons - We have vous avez - you have		eyes	green marron chestnut	
je vais au restaurant avec mon ami, Marc.	I to a restaurant with my friend Marc.						2	blonds blonde bruns	courts short longs long mi-longs
Il est toujours très rigolo	He is always very funny		faire de la cu faire du foot	ı <mark>cuisine</mark> cooking. poting jogging	lis/elles ont they hav	ie I	les cheveux hair	brown noirs	medium-length raides straight
et nous jouons au foot ensemble depuis 5 ans.	and we have been playing football together for 5 years.		faire des ran jouer au rugb	données going hiking y playing rugby				black roux red	bouclés /frisés curly
Cependant, cette année	However, this year,	Comment as-tu fêté ton anniversaire? How did you celebrate your birthday?			des taches de rousseur <i>freckles</i> un bon sens de l'humour <i>a good sense of humo</i>			kles od sense of humour	
j'ai invité mes amis chez moi	I invited my friends to my house	j'ai fêté mon anniversaire le		I celebrated my birthday on	<u>être - to be</u> j e suis - I am		assez grand(e) quite tall. très petit(e) very short. de taille moyenne medium height		
et j'ai reçu beacoup de tee-shirts	and I got lots of tee-shirts as	j'ai invité mes ami(e)s		I invited my friends					
comme cadeaux.	presents.	j'ai ouvert mes c	adeaux	I opened my presents	tues - You are				
Tout le monde a dansé, c'était	Everyone danced, it was great.	j'ai reçu un tee-s	shirt	I received a tee-shirt	il / elle est - he/she	e is sympa nice			
génial.	,	j'ai lu mes messa	ges	I read my messages	nous sommes - We are				
C'est l'anniversaire de Marc ce	It's Marc's birthday this	j'ai mangé du gât	eau	I ate some cake	vous êtes - you are	impatient(e) impatient			
samedi,	Saturday, '	j'ai bu du coca I drank some cola		ils/elles sont - they	, bête <i>stupid</i> arrogant(e) <i>arrogant</i>				
il va avoir une fête chez lui aussi	he's going to have a party in his	nous avons fait du bowling		we did bowling	are				
		nous avons dansé		we danced		Jen	n'entends bien avec lu	<mark>i/elle</mark> . I get alor	g well with him/her.
je pense que je vais porter un tee- shirt!	I think I'm going to wear a t-shirt	nous avons pris des selfies		we took selfies		Je me dispute avec lui/elle. I argue with him/her.			
** *	¥ 2	je suis allé(e) en ville		I went to town		Je me tache contre lui/elle. I get angry with him/her.			

Newsome Academy Everyone Exceptional Everycay

Year 9 - Mon monde à moi

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Career Focus - Where could this take you?

- Can use the present tense of avoir and être:
- Can use the past tense with Je.
- Can use aller + infinitive to talk about future plans.

Retrieval Practice

Questions	Answers
Qu'est-ce que tu aimes faire le weekend ? - what do you like to do at the weekend.	D'habitude j'aime jouer au foot avec <u>mes copains</u> . Je trouve ça <u>chouette</u> . Quelquefois j'aime <u>aller en ville</u> mais je n'aime pas <u>faire du vélo</u> . À mon avis, c'est <u>nul.</u>
Qu'est-ce que tu fais comme activités extrascolaires? - What extra curricular activities do you do?	Après le college le mardi, je vais au club de <u>danse</u> Le lundi, j <u>e chante dans la chorale</u> . J'adore <u>chanter</u> !
Tu es comment? – what are you like?	Je suis <u>assez grand et mince</u> . J'ai les cheveux <u>blonds et longs</u> et les yeux <u>verts.</u> Je suis <u>tres intelligent</u> et je ne suis pas <u>arrogant.</u>
Ton ami(e) est comment? What' s your friend like?	Mon ami s'appelle <u>Fred</u> . Il est t <u>res timide</u> . <u>Il</u> as les cheveux <u>noirs</u> et <u>courts</u> et <u>il</u> porte des lunettes. Je m'entends bien avec l <u>ui</u> car il est <u>sympa.</u>
Comment as-tu fêté ton anniversaire? How did you celebrate your birthday?	L'annee derniere j'ai invité mes copains chex moi et nous avons pris des selfies. Apres j'ai ouvert mes cadeaux et j'ai mangé du gateau. Miamm Miamm.
C'etait comment? - what was it like?	A mon avis c'était fantastique.
Qu'est-ce que tu vas porter? What are you going to wear?	Je vais aller chez mes amis et je vais porter <u>un jean avec un tee-shirt</u> <u>rouge.</u> Je vais aussi porter <u>des baskets noires</u> et <u>un sweat bleu</u> .





I am a vlogger. I use French and German to make videos. Sometimes these are just for fun and sometimes I use them to teach people how to speak French and German. It is a lot of fun and I need to be creative to keep my audience watching my content.

Challenge Activities

Describe how you get on with some of your friends using the vocabulary below.

Je m'entends bien avec lui/elle.	I get along well with him/her.
Je me dispute avec lui/elle.	I argue with him/her.
Je me fâche contre lui/elle.	I get angry with him/her.
Il/Elle se fâche contre moi.	He/She gets angry with me.

Topic Links	∂	Additional Resources
This topic links to:		To further practise and develop you knowledge see: • Active learn tasks set.
 Greetings and introductions. The present tense of key verbs. The perfect tense. (Holidays) The near future tense. (Holidays) Future plans (Jobs) 		 Language nut <u>https://classroom.thenational.academy/lessons/expressing-future-intentions-part-14-65h64d?utm_campaign=sharing-button&utm_source=copy-link&utm_medium=copy&schoolUrn=147888</u>





Humanities

Our students will:

- know and understand the history of these islands as a coherent, chronological narrative, from the earliest times to the present day: how people's lives have shaped this nation and how Britain has influenced and been influenced by the wider world
- understand historical concepts such as continuity and change, cause and consequence, similarity, difference and significance, and use them to make connections, draw contrasts, analyse trends, frame historically-valid questions and create their own structured accounts, including written narratives and analyses
- understand the methods of historical enquiry, including how evidence is used rigorously to make historical claims, and discern how and why contrasting arguments and interpretations of the past have been constructed
- develop contextual knowledge of the location of globally significant places both terrestrial and marine – including their defining physical and human characteristics and how these provide a geographical context for understanding the actions of processes
- understand the processes that give rise to key physical and human geographical features of the world, how these are interdependent and how they bring about spatial variation and change over time



Year 9 Floods & River Management

The aims of the sequence of learning are to ensure that all students:

- Explain how physical and human factors affect the flood risk
- interpret and explain hydrographs to show the relationship between precipitation and discharge
- Evaluate the costs and benefits of hard and soft management strategies:
- Describe a named example of a flood management scheme in the UK

Keyword	Definition	Key Concepts						1000 A
Flood	when a river bursts its banks and the water spills onto the floodplain	Flooding is w	here land tha	t is not	ainage sin and ecipitation	'Flashy' hydrograph with a short lag time and high peak	\wedge	Low, flat hydrograph with a low peak
Precipitation	Moisture falling from the atmosphere - rain, sleet or snow	normally und	erwater beco	mes inunc	sin size	Small basins often lead to a r	rapid water transfer.	Large basins result in a relatively slow water transfer.
Geology	Studying the earth and rocks	A hydrograph	shows the ri	vers disch	ck type	A high density speeds up was Impermeable rocks encourage flow.	ge rapid overland	A low density leads to a slower transfer. Permeable rocks encourage a slow transfer by groundwater flow.
Urbanisation	When an increasing number of people live in cities and towns	after a storm.	Their shape	can be aff	ief	Steep slopes lead to rapid w	ater transfer.	Forests slow down water transfer, because of interception. Gentle slopes slow down water transfer.
Deforestation	The cutting down and removal of forest	by several fac	tors, shown ii / - the shorte	n the table source the lag ti	il moisture infall intensity	Saturated soil results in rapid Heavy rain may exceed the in vegetation, and lead to rapid	l overland flow. nfiltration capacity of overland flow.	Dry soil soaks up water and slows down its transfer. Light rain will transfer slowly and most will soak into the soil.
Hydrograph	A graph which shows the discharge of a river related to rainfall over time	the greater th	e flood risk.			. 1		
Lag time	The difference between the peak rainfall and peak river discharge	Hard Engi	ement can be	Soft E	ngineer	s Hard Fna	ir	Flood Management - Ranbury
Hard Engineering	Using artificial structures to defend against natural processes	Engineering.	Regulate river flow Water can be stored tp drink or for HEP.	Afforestation	ca flc	n obstruct the ow of water	The storage are the natural flood the River Cher	a is of plain of well. In 2012, Banbury's new flood defence scheme was completed.
Channel Straightening	Removing meanders from a river to make it straighter		Expensive & flood large areas of land	ania dia 16 mar	th an	rough, leaves Id roots.	A large storage area capable of holding around 3	Floodwalls have been built to protect
Soft Engineering	Managing erosion by working with nature to reduce the flood risk	Channel	Speeds up water	Floodplain Zoning	Re	estricts different	million cubic metres of water.	Control from Under the method businesses, such as Prodrive.
Floodplain Zoning	Identifying and planning how a floodplain can be developed	Straightening	flow to reduce flood risk but can pass on		lar ce	nd uses to ertain zones on	A 2.9km ear	th Two flow control
Afforestation	Planting trees in areas that haven't recently had any tree cover, in order to create a forest		the risk to other areas downstream. Can damage wildlife habitats	Parties and Parties and Another many Another and Another and Another Another and Another and	th re da dif	e floodplain. Can duce the cost of amage but can be fficult to	embankment wa parallel to the	s built structures to slow the rate of flow downstream.
					im	plement		



Year 9 Floods & River Management

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Retrieval Practice Career Focus - Where could this take you? Questions Answers Hydrologist What is a human cause of flooding? Urbanisation - building on floodplains creates impermeable surfaces I study rainfall, rivers and waterways to support the development of sustainable ways to manage water resources.We measure river flows and the amount of What is a physical cause of flooding? Geology - impermeable rocks do not let water pass through them water above and below ground investigate the causes and impact of flooding and droughts. We also improve flood forecasting and risk management. The difference between the peak rainfall and peak river discharge How is lag time calculated on a hydrograph? A short lar time and a high peak discharge **Challenge Activities** What is meant by a flashy hydrograph? Create a ten guestion guiz, with the answers based on this terms Rivers topic which can be used in lesson Steep slopes and urbanisation Give 2 factors which can create a Research the flood defences in a UK city (like York) - create a presentation or booklet with details flashy hydrograph? and images about them Produce a piece of artwork or a 3D model to demonstrate your understanding of flood risk and • One that uses artificial structures to defend against natural processes What is meant by a hard river management engineering scheme? Building a dam - it controls the amount of water in a river channel but they Name a hard engineering scheme and ∂ **Additional Resources Topic Links** cost a lot of money and people need to be displaced to build them give 1 positive and 1 negative impact of it To further practise and develop your knowledge see: This topic links to BBC Bitesize - River Management • River features and processes - Year 9 Name a soft engineering scheme and Flood plain zoning allows more expensive land use to be built further from https://www.bbc.co.uk/bitesize/topics/zs92tfr/articles Coastal Management - Year 10 the river but this is hard to set up if the land is already used give 1 positive and 1 negative impact /zmvcr2p of it S-cool - https://www.scool.co.uk/gcse/geography/rivers/revise-it/hydrology 2.9km flood embankment and they raised the (A361) main road Give 2 flood management schemes in Banbury



Newsome Academy Everyone Exceptional Everyday Germany, 1918-1939 Germany, 1918-1939

The aims of the sequence of learning are to ensure that all students:

- Explain why Hitler and the Nazis rose to power.
- Identify whether Germany was treated fairly after World War One.
 Investigate how life changed in Germany under Nazi rule.
 - Evaluate how the Nazis controlled peoples' lives.

Keyword	Definition	Key Concepts		
Kaiser	The ruler (king) of the German Empire.	The Main Terms of the Treaty of Versailles	Germany lost all her colonies. North Schleswig given to Denmark. Danzig - a free city run by MEMEL the League of Nations.	Hitler's Rise to Power:
Abdication	Resignation as the ruling monarch.	Blame Article 231 War Guilt Clause.	Eupen and Malmedy given to Belgium. GERMANY Berlin Poland was given a 'corridor'	Adolf Hitler is born in Austria
Armistice	The Allies and Germany signed a truce to end WWI on 11 th November 1918.	Land Lost Alsace Lorraine, Saar	HOLLAND Demilitarised zone. BELGIUM BELGIUM BELGIUM BELGIUM	Hitler joins the German Army and
Treaty	A treaty is a formal, legally binding agreement between one or more countries.	coalfields, Danzig, Rhineland demilitarised. (See map).	Paris	1918: fights in WWI World War One ends Image: Comparison of the second
Democracy	The people say how they wish the country to be run (votes).	Army 100,000 men in army, no air force, no submarines, 6	To France which had lost this land to Germany was forbidden to unite with Austria.	WAR IS OVER! ARMISTIC SIGNO Workers' Party
Dictatorship	Government where absolute power is held by a single person or small group of people.	battleships.	Territory lost by Germany to the League AUSTRIA	(DAP).
Elections	Process of voting to choose a political leader or representative in government	£6.6 billion reparations.	The Great Depression – Hitler's Big Chance! In 1929, the Wall Street stock market in America crashed and sparked an international economic	Hitler becomes leader of the party, which is ronamed
Reichstag	The German parliament and elected politicians.	Lost all empire to control of League of Nations.	crisis with countries tied to US loans. One consequence of the Wall Street Crash was that global economies collarsed and led to mass	National Socialist 'Putsch' to German Workers' overthrow the
Chancellor	Person in charge of day-to-day running of government.		unemployment. By 1932, Germany had 6 million people	and is sent to prison. He serves only 9 months
President	Head of the government and chooses the Chancellor.		of this, promising people a solution.	1925: Hitler re-launches
Fuhrer	Fuhrer means 'leader' who is unconstrained by law.		Life in Nazi Germany: The Nazis wanted to completely change all aspects of life in Germany when they came to power. Some people benefitted from Nazi rule and others did	the NSDAP and publishes his book 'Mein Kampf' The NSDAP becomes the second largest
Censorship	A method to stop people seeing or hearing anything different / challenging to the Nazis.	EIN REICH EIN FUHRER	not! You will learn more about this in your lessons, looking at life for all Germans; including the young, women, businessmen and farmers. Whether benefitting or not, life for the German people, became all about control	party in Germany.
Propaganda	Spreading of information; facts, rumours, half-truths, or lies to influence public opinion.		How did the Nazis control people? Many Germans supported the Nazis and even admired Hitler. They were happy with his leadership and how he had tackled unemployment and	
Police / Terror State	A country controlled by the government with the help of a strong police force.	An illustration showing some of the ways	regained land lost under the Treaty of Versailles. However, many other Germans disliked Hitler and were opposed to the Nazi regime. The Nazis did not want any opposition in their Reich so dealt with this in a	Chancellor and introduces the Enabling Act (be can
Gestapo	'Secret Police' that interrogated / imprisoned people without trial.	the Nazis tried to control people (not all at the same time).	number of ways TERROR, PROPAGANDA & CENSORSHIP!	pass any law for 4 years) roles of Chancellor and President Der Fuhrer!

Newsome Academy Veryone Exceptional Everyday Veryone Exceptional Everyday	anis	 The aims of the sequence of learning a Enquire into Humanist beliefs Evaluate beliefs about the origins o Explain & interpret Humanist unde animals Evaluate the belief that humans ar Explore what is meant by Atheism 	are to ensure that all students: of the universe rstanding that human beings evolved alongsiv e material & mortal & Agnosticism	 Investigate the concept of miracles Enquire into the Humanist belief about death as tend of personal experience & the absence of anything immaterial, such as the soul 	
 Overview Humanism puts human beings and their interests at the centre of things. Rather than focusing on religion, divine or supernatural matters, humanists believe that fulfilment is achieved through human inventiveness and collective effort. Humaniam Ia a broad philosophy and there are many 	The The to re diffe	<u>The Br</u> BHA is recognised as the voic BHA emphasises that Human eligion.' the BHA realises that the erent types.	itish Humanist Association te for Humanism in the UK. ism is a positive life-stance' rat ney do not speak for all human	her than a negative attitude ists, as there are many	
 Humanism is a broad philosophy and there are many different types of humanist. Most do not believe in a God or deity. Humanists believe that people should think freely for themselves, be rational and work together in order to achieve human happiness. 	 The Happy Human The BHA held a competition in the 1960s, to decide on a logo for Humanism. The winning entry was the 'Happy Human' It shows a human figure reaching to achieve its full potential. It symbolises the idea that we only have one life and that we should try to make it happy for all. 				
 <u>Humanist beliefs</u> It is important to remember that there are many different kinds of humanists, who all believe in different ideas. Below are some of the common beliefs. Humanism is not a religion and most humanists do not believe in God or life after death. Humanists believe in a 'Golden rule', which is 'treat other people as you would like them to trat you.' Humanism is all about doing good and making people happy: Humanism is all about finding and giving love, making others happy and 		Main Beliefs of Humanism <u>Non-Existence of Gods</u> Most Humanists are atheists. They rely on science and have found no evidence that a God exists or ever existed.	<u>Meaning of Life</u> Humanists give their lives meaning by living good lives. They make good choices and take an interest in the world around them.	Science Scientific investigations gather evidence to find the truth. Humanists also use evidence to see what is true.	
 Humanists are rational. They believe that science and human though powerful tools for bettering life and creating a happy existence for all. believe that science provides the best explanation for our existence for They believe that science provides the best explanation for our existence they do not believe that God created the EARTH. Humanists are ethical- they value all human beings, treating everyone equally. They believe in 'common humanity'- even though we have difference, we are all human. 	n are . They for all. ence –	No Purpose to the Universe They believe that the universe was created by chance, so there is no purpose to the universe.	<u>Reason</u> Humanists believe decisions should not be made on emotions, but on reason, rationality and logic.	Ethical Decisions To live good lives, decisions must be weighed up for their positive and negative consequences for all. Humanists believe there are no perfect decisions.	

Newsome Academy Everyone Exceptional Everyday Veryone Exceptional Everyday

- The aims of the sequence of learning are to ensure that all students:
- Evaluate beliefs about the origins of the universe
- Explain & interpret Humanist understanding that human beings evolved alongside animals
- Evaluate the belief that humans are material & mortal
- Explore what is meant by Atheism & Agnosticism

- Investigate the concept of miracles
- Enquire into the Humanist belief about death as tend of personal experience & the absence of anything immaterial, such as the soul

Keyword	Definition	Key Concepts		1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 -			
Humanist	A follower of the principles of Humanism.	How do you know what is	How do you	tell right from wrong?			
Origin	The point or place where something begins or starts.	true? At the heart of humanism is the belief that reason and	Humanists do not believe in God or other knowledge of right and wrong comes fro	m supernatural beings and so do not believe that our m religious rules such as those found in scriptures			
Atheist	Someone who doesn't believe in God.	 evidence are very important. They therefore believe that science should be used to know what is true and what is false. They do no believe in God as Humanists are atheist, 	ence are very important. They believe in the GOLDEN RULE which is to treat others as you yourself want treated. They think that you should always consider your actions will affect other people				
Agnostic	Someone who believes you can never know for sure whether God exists or not.		science should be used to know what is true and what is false. They do no believe in God as Humanists are atheist,	el in someone else's situation. Imagining how others			
Immaterial	In some circumstances unimportant, something which is irrelevant.			ciding what is right and wrong. happy life and help others do the same and believe			
Humane	Having or showing compassion or benevolence. Being kind, understanding and civilised.	believing there is no scientific evidence or proof that God exists. All truth is	we should use our own human nature as a Humanists do not have an absolute mora	a guide to a good living. lity as they do not have a strict set of rules (like the			
Democratic	Relating to, or supporting democracy or its principles.	discovered by looking at the scientific evidence.		What is Ethics?			
Secular	Not connected with religious or spiritual matters.	Humanism is a secular philosophy because it seeks	RONCO	Ethics are the rules that direct your conduct and moral judgment			
Philosophy	A theory or attitude that acts as a guiding principle for behaviour.	questions about the world and the purpose of human		Holp translate your values inte			
Reason	The power of the mind to think, understand and form judgments logically.	life without any reference to God or the supernatural.	Humanism is the philosophy	appropriate and effective			
Theist	Someone who believes that there is a creator, God.	that only uses science, evidence, reason and	that you should be a good	 Determine how you talk to 			
Empathy	To understand and share the feelings of others.	empathy to make sense of the world and to inform how	guest at the dinner table of life.	 Ethical issues can become cloudy. 			
Worldview	Ideas about life and the world.	they should act and care for others.	AC Graying	 Where will you draw the line between right and wrong? 			



The aims of the sequence of learning are to ensure that all students:

- Enquire into Humanist beliefs
- Evaluate beliefs about the origins of the universe
- Explain & interpret Humanist understanding that human beings evolved alongside animals
- Evaluate the belief that humans are material & mortal
- Explore what is meant by Atheism & Agnosticism

• Investigate the concept of miracles

• Enquire into the Humanist belief about death as tend of personal experience & the absence of anything immaterial, such as the soul

Retrieval Practice	्राष्ट्र	Career Focus - Where could this take you?	(
Questions	Answers	l use	e my knowledge of faith, culture and		
What is Humanism?	A rational outlook or system of thought, attaching prime importance to human rather than divine or supernatural matters.	t, attaching prime importance to Iral matters. beliefs me to e			
What does the BHA emphasise?	The BHA emphasise that Humanism is a 'positive life-stance'	me a better understanding motivates and drives per			
What is the 'Happy Human?'	Happy Human is the logo which is used to represent Humanism. It shows a human figure reaching to achieve its full potential.	Challenge Activities	Don't forget!		
Why do Humanists not believe in God?	Humanists believe that science can back everything up.	 Design a poster on Humanism. Create a leaflet, explain to someone what Humanism is. Research the 'Human Light' and write down notes on your find. How can you live an ethical life if your not religious? Explain your answer in detail 		lote)	
Define the word 'ethics'	Ethics are moral principles that govern a person's behaviour. It is a set of values that is always present in everyday life.	 Design your own Humanist logo and write a brief explanation of why you want it to be the next H design. Morals are always with us, it's what we choose to do with it, that's what counts. 			
What is the difference between ethics and a Humanism?	Ethics are values within someone who choose between right and wrong and Humanism is a way of life, having an absent God.				
What is the 'Golden Rule' in Humanism?	The Golden Rule is applied within Humanism as this helps them decide what to do. 'Treat other people as you'd want to be treated in their situation.'	Topic Links	Additional Resources)]	
What do Humanists believe about the origin of the Universe?	Humanists believe that the universe was created by chance, so there is no purpose to the universe.	 This topic links to: Ethical dilemmas across other religions. The golden rule of Islam, Christianity and Judaism. Humanism with the contemporary world. 	To further practise and develop your knowledge see: <u>https://www.bbc.co.uk/bitesize/topics/z</u> <u>nk647h/articles/zmqpkmn</u>	∎	
Name some advantages of living an ethical life	Some advantages include but are not limited, include; Help translate your values into appropriate and effective behaviours in your day to day life. Determine how you talk to someone and whom. Etc			Z TATACI	



Computing

Our students will:

- can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation
- can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems
- can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems
- are responsible, competent, confident and creative users of information and communication technology



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Newsome Academy Everyone Exceptional Everyday Year 9:9.1: Newsome Music Festival

- The aims of the sequence of learning are to ensure that all students: Evaluate the use of financial modelling for the music festival
- Evaluate the use of a site plan for planning the music festival
- Evaluate the suitability and professionalism of the promotional material created for the music festival
- Evidence and present the music festival, including the promotional material created for the music festival

Keyword	Definition	Key Concepts				
Target Audience	The primary group of people that something is aimed at appealing to	Students will be expected to plan a by industry experts.	brand new music festival by followi	ng project pla	nning and market	ing strategies inspired
Income	The amount of money received for providing goods or services	The tasks include developing a site advertise the music festival.	plan for the festival, managing the f	inances and c	reating a range of	social media posts to
Expenditure	The amount of money spent to purchase goods or services	Start a New Graphic Select the blue plus button at the top of the	Styles Tabs The Style Tabs on the right hand side of the Post Editor allow you to change the look and feel	© Discover	5 8	Image: Share Image: Share
Profit	The remaining balance after subtracting the total expenditure from the total income	Working with Images	of your entire graphic project. These tabs are broken up into; the "Design" Tab, the "Colors" Tab, the "Layout" Tab, and the "Resize" Tab.	Contraction of the second seco	NEWSOME	Design × Sharination
Site Plan	A detailed Plan showing the proposed placement of structures, parking areas and open space	Image/Photo- Images can be added by clicking the 'Photo" button. Upload from your device, or use the Search option within Spark for copyright free images. Click 'Icons' to search for simple black & white clip art.	DESIGN Edit the entire visual style of your graphic all at once. Once you select a style all the visual and typographical elements will be based on the template style chosen.	Shapes Design assets	BEATZ MUSIC FESTIVAL	Variations
Digital Project	Products that are both developed and delivered digitally using a computer	To change an image, select it and click Replace To crop an image to a Shape, select it and click Shape Crop	LAYOUT The "Layout" Tab allows you to change the layout of every picture box within a graphic design all at once. This is also where you go to add more picture boxes to your design if needed.	Backgrounds D Logos Libraries	USICAL FESTIVAL IN THE UR	
Theme	The elements used that create a consistent look and feel for a product	Save your Graphic	Allows you to change the size of your canvas at anytime during the design process.		Q Q 57% ^ O	
Promotional Material	Graphical products created to promote and increase the awareness of an event or business	export it two different ways. You can download your graphic to your computer as an image file or pdf. Download PNG	Add Content You can add text, photos, icons, etcto build your graphic by clicking the 'Add' button T+ ★ ● × Text Photo Logo Add		NE BI	wsome EATZ
Professional Design	A design that aims to replicate the design of something that has been created by a professional	JPG PDF esta Start download	Text- You can start from a template, or from scratch. Set the font, color, style, shape and effect.			AND BEST MUSIC FESTIVAL IN THE UK



- The aims of the sequence of learning are to ensure that all students: • Evaluate the use of financial modelling for the music festival
- Evaluate the use of a site plan for planning the music festival

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- Evaluate the suitability and professionalism of the promotional material created for the music festival
- Evidence and present the music festival, including the promotional material created for the music festival

In my role as a project

Retrieval Practice

Questions	Answers
Why is it important to calculate your expected income and costs before beginning a project?	Without this information it becomes difficult to calculate how much profit your project is likely to make.
What is the purpose of developing a site plan for this musical festival?	Every event has to plan how their site will be setup. It is important to understand how much space you have and where things can be placed before you do it in real life.
Why is it important to make sure that you understand who the target audience is for the music festival?	You need to know who you are aiming the music festival at e.g. age group, gender, musical interests etc Everything you do should be based on meeting the requirements and expectations of your target audience. Different categories of people tend to prefer things to done in a particular way that is most suited to their preferences.
Why do you think companies spend so much money on advertising or promoting their events and products?	Companies need to create an awareness, hype and buzz about something to make people to want to attend or purchase something. An increase in sales usually means an increase in profits.
Why do you think it is important to make sure that you create professional looking and eye-catching digital content to advertise and promote the music festival?	The first impression counts for a lot. If your digital content does not look eye catching and professional then people may choose not to click on it, develop a negative view of the company or just not take things seriously enough.
	The time and money spent on creating and promoting the digital content would have been a complete waste of time, and may actually have the opposite effect.
Why do you think it would help to promote your music festival on a lot of different social media platforms?	People use a range of social media platforms. Posting your digital content to promote or advertise on multiple platforms will increase the likelihood of somebody within your target audience seeing it. With the use of cookies and other tracking tools, your content could follow a user on each linked platform that they use.



manager I ensure my team
 work to deliver any project
 on time and to a high
 standard. I need to lead my
 team, plan the project, deal
 with any issues that arise and

report regularly to my clients.

Challenge Activities

- 1. Create a logo and slogan for the musical festival. Explain the reasons behind the design decisions you have made.
- Design an app for your music festival include a launch screen, menu screen and at least three other pages. Explain the design, the reasons you have designed the app the way that you have and how you would expect to benefit from creating the app.
- 3. Do some research on the internet to find out what other things a real music festival would need to plan/do before it can go ahead. Rank each task/activity from most important to least important. Explain your rankings.

Topic Links	Additional Resources
This topic links to: <u>Computing Curriculum:</u> • Undertake creative projects that involve combining multiple	 To further practise and develop your knowledge see: Adobe Express Tutorial: <u>youtu.be/24rM8v2hAAo</u>
 Create and re-purpose digital artefacts for a given audience, with attention to trustworthiness and usability 	 MS PowerPoint Tutorial: <u>youtu.be/TZfcVbKJs1E</u>
Art and design (creating advertisements and images)English (planning thoroughly)	





Our students will:

- > produce creative work, exploring their ideas and recording their experiences
- > become proficient in drawing, painting, sculpture and other art, craft and design techniques
- > evaluate and analyse creative works using the language of art, craft and design
- > know about great artists, craft makers and designers, and understand the historical and
- cultural development of their art forms.
- develop competence to excel in a broad range of physical activities are physically active for sustained periods of time engage in competitive sports and activities
- lead healthy, active lives.



Year 9 Street Art

The aims of the sequence of learning are to ensure that all students: • Describe the difference between graffiti and street art
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- Create your own stencil and printmaking materials
- Explain how street art is inspired by social/contextual and current affairs

Keyword	Definition 🔹	Key Concepts	्राज्य के प्रति के प् इस्तु
Graffiti	writing or drawings scribbled, scratched, or sprayed illicitly on a wall or other surface in a public place.	Scan the QR code to watch the video a brief history on	
Vandalism	action involving deliberate destruction of or damage to public or private property.	graffiti, is graffiti art or vandalism.	
Stencil	a thin sheet of card, plastic, or metal with a pattern or letters cut out of it, used to produce the cut design on the surface below by the application of ink or paint through the holes.	What are your thoughts? Is Graffiti Art or is it vandalism?	SCAN ME
Mural	a painting or other work of art executed directly on a wall.	Scan the QR code to watch a video on the Street Artist Ben Eine.	
Satire	the use of humour, irony, exaggeration, or ridicule to expose and criticize people's stupidity or vices, particularly in the context of contemporary politics and other topical issues.		Scan the QR code on the
Typography	the style and appearance of printed matter.	SCAN ME	I left to take you to some examples of local street art.



Year 9 Street Art

The aims of the sequence of learning are to ensure that all students:

- Describe the difference between graffiti and street art
- Create your own stencil and printmaking materials
- Explain how street art is inspired by social/contextual and current affairs

Retrieval Practice



Career Focus - Where could this take you?





I am a set designer and I work in creating large pieces of art work for sets of television programmes, movies or theatre productions. My work in similar to street art in my use of stencils and large wall canvases.

Challenge Activities



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1. Look through the examples of Street Art you will find in Leeds and explain what pieces you like/dislike and why you have made these choices. Comment on things like colour, pattern and the style of the work.

2. Working in the style of Ben Eine design a mural that could go somewhere in the Academy. Remember the key characteristics of Ben Eine's work when designing your mural.

Topic Links

 ∂ **Additional Resources**

This topic links to:

- English arguing for or against a statement, e.g. whether street art is or is not graffiti
- History culture and social circumstances that would influence street art

To further practise and develop you knowledge see:





Newsome Academy Veryone Exceptional Everyday Vork: Swansong

- The aims of the sequence of learning are to ensure that all students:
- Replicate a set phrase of movement.
- Select and apply a formation to my performance
- Recognise and describe dance elements

• Develop a duet/group using spatial content to communicate a choreographic intention

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- Perform sequences with control, accuracy and fluency.
- Apply choreographic devices to enhance choreographed routines
- Perform basic and more complex lifts.

Keyword	finition	Key Concepts
Swansong	The last act you do before retirement or death	FACT FILE - CHRISTOPHER BRUCE (Choreographer) FACT FILE - SWANSONG • Bruce was born in Leicester in 1945. FACT FILE - SWANSONG
Human Rights	Equality, Individuality, Freedom of speech	 He trained at the Ballet Rambert School, which he later choreographed for. He then became choreographer for English National Ballet, then Houston Ballet. Bruce is now Artistic Director of Rambert. Bruce prefers an audience to keep an open mind about his works, often avoiding programme notes and specific statements. However, he does, recognize that his
Amnesty International	An organisation that look after human rights	 piegeamine notes and opposing statementer intervent, no does notes into a data in data in a data in a data in a data in a data in data in a dat
Prisoner of conscience	Prisoned for your social or political beliefs	 His dances generally develop from a stimulus such as music, painting or literature, but he selects themes which can be conveyed through dance. Bruce chooses a wide range of music, from popular songs, world music, classical, contemporary, to specially commissioned scores in close collaboration with the composers. The dance often responds closely to the music
Physical setting	Scenery, Props, lighting	 Bruce uses a blend of dance techniques, notably ballet and contemporary. His own contemporary training was in Martha Graham technique and strong use of the back and a low centre of gravity are important elements in his choreography. Bruce uses a blend of dance techniques, notably ballet and contemporary. His own contemporary training was in Martha Graham technique and strong use of the back bused of the back and a low centre of gravity are important elements in his choreography.
Theme	An idea that reoccurs	Props - Chair, Cap, Canes, Cigarette Stimulus - The work of Amnesty International, saying goodbye, The
Choreography	The art of making dances	experiences of Victor Jara a Chilean poet and the novel A MAN by Oriana Fallaci. Themes - Human Rights, Prisoner of
Costume	A set of clothes in a style typical of a particular country or historical period	Dance Styles - Contemporary, Physical Contact, Ballet, Jazz, Tap, Folk, Ballroom and Vaudeville. Choreographic style - Episodic, Dramatic,
Prop	a portable object other than furniture or costumes used on the set of a play or film	Thematic.
Stimulus	an interesting and exciting quality.	

Newsome
AcademyYear 9 Dance A Professional
Work: Swansong

Retrieval Practice

The aims of the sequence of learning are to ensure that all students:

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- Replicate a set phrase of movement.
- Select and apply a formation to my performance
- Recognise and describe dance elements

- Develop a duet/group using spatial content to communicate a choreographic intention
- Perform sequences with control, accuracy and fluency.
- Apply choreographic devices to enhance choreographed routines
- Perform basic and more complex lifts.

Career Focus - Where could this take you?





As a **Costume Designer** I use my creative skills to make new and exciting costumes and outfits. It is important that I understand the themes of the piece I am creating for and can communicate them through my designs.

Challenge Activities

Swansong worksheet

Interview with christopher Bruce - the creation of swansong

Swansong clip

Topic Links	Additional Resources
This topic links to:	To further practise and develop you knowledge see:
Drama Performance skills	https://www.scottishballet.co.uk/profile/christopher
	-bruce
PE - Physical skills	 <u>https://www.google.com/url?sa=t&rct=j&q=&esrc=</u>
	s&source=web&cd=&cad=rja&uact=8&ved=2ahU
 English - Understanding terminology and verbs. 	KEwjc6cLpoO75AhW4SkEAHdcAATIQtwJ6BAgL
	EAI&url=https%3A%2F%2Fwww.youtube.com%2
 Maths - Problem solving. 	Fwatch%3Fv%3D038BdfaaVVs&usg=AOvVaw2-
	2GFIU4Hgo9nbivk-7fB8

Questions	Answers
What dance techniques does Bruce use?	Bruce uses a blend of dance techniques, notably ballet and contemporary. His own contemporary training was in Martha Graham technique and strong use of the back and a low centre of gravity are important elements in his choreography
What are some of the stimuli from Swansong?	The work of Amnesty International, saying goodbye, The experiences of Victor Jara a Chilean poet and the novel A MAN by Oriana Fallaci.
What is vaudeville style?	a type of entertainment popular chiefly in the US in the early 20th century, featuring a mixture of speciality acts such as burlesque comedy and song and dance
What is contemporary dance?	Contemporary dance is a style of expressive dance that combines elements of several dance genres including modern, jazz, lyrical and classical ballet. Contemporary dancers strive to connect the mind and the body through fluid dance movements. The term "contemporary" is somewhat misleading: it describes a genre that developed during the mid-20th century and is still very popular today.



Role

Setting

Year 9 Scripting, Staging, Directing & Performing

Keyword		Key Concepts	
Accents	Articulation	Thinking Questions	Techniques:
Blocking	Centre Stage	How am I showing my character?What is my body language?	Status (Looking at who is important in a scene and how to show their importance)
Character	Cold Reading	 How is it different to my normal? What is my sharactor feeling? 	Tension (Creating a feeling of unease)
Duologue	Ensemble	 Do my facial expressions match this? 	effect and show character)
Exposition	Genre	 What is my posture like? How do I walk? What is my gait like? 	Pace (How quickly or slowly you speak to show character and give effect)
Gesture	Interpretation	 How do I react to the other characters? 	Volume (How loudly or quietly you speak to
Performance	Projection	How close do I stand next to others?	give effect and show character

Ι ΠΕ ΟΟΚΙΡΙ

You will be looking at a set script. You will bring a scene to life, using the performance skills learned and developed over the year so far and create a interesting and engaging performance.

PAGE TO STAGE

You will create a piece of documentary theatre. We will be looking at vocal skills, physicalizing a script, and setting a scene

A good scripted performance

Will demonstrate the character and the scene as the director intended and create a clear meaning or message for the audience. It will be interesting to watch and focus on the performance not just the words.

Assessment

You will take part in several peer and self assessment tasks over the project, as well as your teacher assessment. receiving feedback from your teacher.

Your assessment for this Topic will be based on a performance of a set script that the teacher will give you and an evaluation of your performance.



Situation

Staging



Year 9 Scripting, Staging, Directing & Performing



Career Focus - Where could this take you?





I am a stage director. I have to have excellent communication skills as my job includes managing time and organising people and space. attending production meetings with set designers. organising rehearsals. communicating and liaising with all parties involved, including actors, the creative team, the production team and producers.

Challenge Activities



<u>TASK 1</u>

Look at the list of **Drama practitioners** below. You need to <u>pick ONE</u> of these people to **research**. You will be researching a lot of information about them. So make sure it is someone you find interesting! Chris Pratt – Actor (Easy) Jennifer Lawrence – Actor (Easy) Konstantin Stanislavski – Came up with the style of drama we see today on telly and normally on stage (Medium) Bertolt Brecht – Came up with a very different way to perform plays on the stage (Hard)

<u>TASK 2</u>

You need to research key things about them and then write down all the information you found in a fun and engaging way. This could be a poster, a blog post, a fact file, a facebook style page, a vlog, anything you like as long as it has the information.

You need to research – Who they are What they do Their career Their life The work they have done or things they took part in Any books they wrote or work they created You also need to write about *why* you chose that person to research. Please do NOT write, because it was an easy one, or because it was the only one I knew. I would like to see things like – inspiring, different, fun personality, good role model, interesting, etc.

Topic Links	∂	Additional Resources
Music English		If you want to do more and extend yourself in DramaExplore the Arts as a participant
Maths		
Science		Watch to learn more about performing and
Art		staging Macbeth
Dance		
Music		https://youtu.be/vumgtbMObAA



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Newsome Academy Everyone Exceptional Everyday

The aims of the sequence of learning are to ensure that all students:
Describe common cuisines from different regions of the world
Discuss the environmental impact of how we use food

- Explain different types of heating
- Evaluate dishes using the five taste sensations

Keyword	Definition U	Key Concepts
Environment	The air, water and land where people and animals live	Skills and Processes Used In Year 9
Sustainability	Looking after out environment by using less energy, reducing the consumption of water, avoiding waste and recycling as much as possible	Spicy wedges (Mexican), Churros(Mexican) Knife skills. Stir frying. Protein denaturation (chicken). Weighing & measuring deep frying. Checking for readiness (no pink left inside chicken). Creating a sweet dough, piping control, Working with high risk foods (chicken). temperature
Carbon footprint	A measure of the impact your lifestyle has on the environment (including your food choices)	Chill Con Carne (Wexican), Tortilla (Mexican), Knife Skills. High risk foods (raw meat). Protein denaturation. Simmering a reduction sauce. Weighing & measuring Flavouring using spices. Using flour dough (must be kept damp during rise). Dry frying
Landfill	Sites where waste is collected and left to decompose	Mexican Bean Salad (Mexican),). Spicy Mexican wraps(British). Knife skills. Combining different textures, ingredients. Spicy Mexican wraps(British).
Composting	Left over food is collected and piled in the garden to decompose into useable compost (meat, fish and dairy products cannot be composted)	Mexican Salsa and sour cream dip (Mexican) Taste testing (Mexican). Taste testing spices, blending, knife skills to create Julian vegetables Understanding 5 taste sensations, recording findings.
Reuse	Using items again after their initial use; using leftover food to make another dish	Foods and Cuisines from Around The World
Recycle	Taking package and other used items and forming them into something new to be used again	UK Japan j
Staple food	Crops that are grown in particular parts of the world due to their climate and conditions (wheat in Europe, rice in Asia, maize in South America)	Roast dinner. Fish & Chips. Bakewell Tart.
Cuisine	A style of cooking from a particular country or region of the world. Different cuisine has different ingredients, styles and preparation/cooking techniques)	Italy Italy <td< td=""></td<>
Convection	when heat travels through air or water. E.g. in an oven or a pan of boiling water	Lasagne, Risotto, Gelato. Sweet & Sour. Chow Mein. Barrier processed food is, the bigger its foodprint
Conduction	when heat travels by direct contact through solid materials such as food or metal	Mexico Me
Radiation	when heat rays travel towards food, e.g. grilling, toasting, microwaving	Chilli Con Carne, Burritos, Tacos, Salsa, Guacamole Samosas, Curries, Tandoori Chicken, Nan Breads

Newsome Academy Everyone Exceptional Everyday

The aims of the sequence of learning are to ensure that all students:
Describe common cuisines from different regions of the world
Discuss the environmental impact of how we use food

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• Explain different types of heating

• Evaluate dishes using the five taste sensations

Retrieval Practice

Questions	Answers		
What are common features of Mexican cooking?	Mexican food uses a variety of herbs and spices including chillies both fresh and dried as well as paprika. Garlic is also a common spice used along with cumin and the herb oregano. Chipotle is another spice used in Mexican cooking. Maize is the main ingredient of the pancake called the tortilla. This can be served in many ways; When it is fried crisp and golden on both sides it is called a tostada. Tacos are tortillas curled into a shell shape and fired. Tortillas which are rolled up with onion and cheese then covered in sauce are called enchiladas.		
What are the three heat transfer methods?	Convection Conduction	Convection	Conduction Conduction Radiation
	Radiation		000 convection



I am a **Dietician** and am an expert in food and nutrition. I work with individual or population groups to study nutritional requirement and devise eating plans and recipes.

Challenge Activities



For an extra challenge try to use authentic cuisines in your meal.

Topic Links	Additional Resources
This topic links to:	To further practise and develop you knowledge see:
 RE – studying the different eating habits and dietary requirements of persons from different religious or cultural groups 	 <u>https://www.chefspencil.com/most-popular-mexican-foods/</u> <u>https://www.bbc.co.uk/bitesize/guides/zjjnsrd/revision/1</u>



Islam

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Prohibited animal flesh: pork.

The Koran outlines the foods which can be eaten (halal) and those forbidden (haram). Beef, lamb and chicken can only be eaten if the animal has been slaughtered by the halal method. This means that the animal must be killed by slitting its throat. The animal will then have all the blood drained from its body. The method of slaughter in the UK is carried out following strict animal welfare guides, the same as for non halal meat.

Muslims will only eat meat slaughtered by Muslims, Christians or Jews.

Haram are foods which are forbidden. Examples include pork, blood, alcohol and meat sacrificed to idols.

During the month of Ramadan, Muslims need to refrain from eating, drinking and smoking from sunrise to sunset. Ramadan is the ninth month of the Islamic calendar.

Eid

- Eid-ul-Fitr day celebrating end of Ramadan.
- Eid ul-Adha day that celebrates the end of the Hajj.

Eid can be celebrated with special foods shared with friends and family, such as Eid sweets.





Prohibited animal flesh: all, except lamb, chicken and fish. Strict Hindus are vegetarian. The cow is held in high regard and a symbol of abundance, therefore Hindus do not eat beef. Some Hindus may also avoid certain foods, such as domestic fowl, salted pork, milk, ghee, onions, garlic, eggs and coconut. It is particularly important to check food products like bread, biscuits, cheese and jam to ensure that the forbidden ingredients are not present.

Some devout Hindus observe fasting on special occasions, or on certain days of the week or month, as a mark of respect to personal Gods or as part of their penance.

The religious festival **Diwali** marks the end of the Hindu year and the start of a new. Special Diwali sweets are eaten.



Seventh-day Adventist Church

The Seventh-day Adventist Church is a Protestant Christian denomination. (A religious denomination is a subgroup within religion that operates under a common name, tradition, and identity).

Many Adventists are ovo-lacto vegetarians, which means they do not consume animal flesh of any kind, but will consume dairy and egg products.

Some Adventists avoid food and drinks which contain caffeine, therefore they do not Consume tea and coffee. They also avoid alcohol.



Prohibited animal flesh: pork and non-kosher beef, lamb and

The Torah (the law of God as revealed to Moses and recorded in the first five books of the Hebrew scriptures) outlines which foods are allowed for Jews to eat. Permissible foods are called Kosher and forbidden foods are called Trefa.

Kosher animals have a completely split hoof and chew cud, e.g. cows, goat and sheep. Horses and pigs are not Kosher animals.

Kosher fish must have fins and scales, therefore shellfish and eels are excluded. All plant foods are Kosher, unless damaged by rot or insects.

Kosher meat is prepared by using a single knife to cut open the throat to kill the animal, with all the blood drained. The meat should be soaked in water and salted to remove the last traces of blood.

The method of slaughter in the UK is carried out following strict animal welfare guides, the same as for non kosher meat.

Meat and dairy foods must not be prepared or eaten together.

Jews should not prepare food on the Sabbath, which begins at sundown on Friday and ends at sundown on Saturday.

There are other periods of fasting in the Jewish calendar, e.g. Feast of Pesach (Passover).









Sikhism

Prohibited animal flesh: pork, beef, halal and kosher.

Sikhs do not eat halal or kosher meat because they are not meant to take part in religious rituals apart from the Sikh Rehat Maryada (Code of Conduct). They should also refrain from food and drinks which may harm their body, e.g. alcohol.

Some older Sikhs may fast during full moon or specific holidays, but most are discouraged from fasting and going on pilgrimages.

Sikhs believe in sharing food. Every gurdwara (place of worship) has a langar (common kitchen). The congregation eats together here after the service.

Sikhs also celebrate the festival Diwali.







Prohibited animal flesh: all.

Buddhists believe they should not be responsible for the death of any other living organism. Therefore, most, but not all, Buddhists follow a strict vegetarian, if not vegan diet.

They also avoid the consumption of alcohol.

Wesak is a festival celebrating the birth, enlightenment and death of Siddhartha (who some people believe to be Buddha). Foods such as eight treasure rice can be eaten on Wesak (Chinese rice pudding).



Christianity

The general beliefs in Christianity are that there is **no restriction** on kinds of animals that can be eaten, however some Christians may choose to follow a vegetarian or vegan diet. Some Christian denominations follow a meat free diet but only during the holy period of lent.

Christian views on alcohol are varied however, alcohol consumption is found frequently throughout the bible and its stories.

There are a number of occasions in the Church year where special food may be eaten. This includes:

Christmas - a day celebrating the birth of Jesus;

Easter – celebrates Jesus' resurrection from the dead; Simnel cake is often eaten during the Easter period. The cake is topped with eleven marzipan balls to represent the eleven disciples of Jesus Christ (excluding Judas).

Shrove Tuesday – Shrove Tuesday is the Tuesday prior to Lent, where Christians remember the time Jesus fasted in the desert. They often give up certain food during this period. Shrove Tuesday was traditionally the last chance to use up the foods Christians would not be eating during Lent (e.g. eggs,







Rastafari Movement

Prohibited animal flesh: all. Most Rastafarians are vegetarians or vegans.

Foods approved for Rastafarians are called Ital, which should be natural or pure, without the addition of artificial colours, flavourings or preservatives.

Rastafarians avoid alcohol and some also avoid tea, coffee and other caffeinated drinks because these are considered to confuse the soul.



Newsome Academy Everyone Exceptional Everyony Year 9 Lyric Writing and Oracy skills

- Develop listening skills
- Develop ability to express emotions via a creative outlet
- Able to assess and understand deeper meaning of lyrics.



Newsome Academy Everyone Exceptional Everyone Everyone Exceptional Everyone

- The aims of the sequence of learning are to ensure that all students:
- Develop listening skills

Social & Emotional

Listening actively & responding

Working with others

Listening & responding

Confidence in speaking

Self assurance

Audience awareness

Liveliness & flair

- Develop ability to express emotions via a creative outlet
- Able to assess and understand deeper meaning of lyrics.

The Oracy Framework

Use the oracy framework to understand the physical, linguistic, cognitive, and social and emotional skills that enable successful discussion, inspiring speech and effective communication.



Cognitive

Content

- Choice of content to convey meaning & intention
- Building on the views of others

Structure

Structure & organisation of talk

Clarifying & summarising

Seeking information & clarification through questioning Summarising

Self-regulation

Maintaining focus on task
 Time management

Reasoning

 Giving reasons to support views
 Critically examining ideas & views expressed

The second project of this unit will be centred around the Voice 21 oracy framework. It is not only important that you are able to write lyrics, but that you can also confidently perform your songs in front of an audience. This project will focus on building a vast array of skills including: confidence, vocabulary, listening and responding, reasoning, body language and much more.

Additional Resources

A brilliant TED talk on overcoming fear of public speaking: https://www.ted.com/talks/danish_dhamani_how_i_o vercame_my_fear_of_public_speaking

A list of 15 famous musicians who suffer from stage fright:

https://hellomusictheory.com/learn/famousmusicians-with-stage-fright/

Physical

Voice

Ö...

- Pace of speech
- Clarity of pronunciation
- Voice projection

Body language

- Gesture & posture
- Facial expression & eye contact

Linguistic Vocabulary

- Appropriate vocabulary choice

Language

- Register Grammar
- Grammar

Rhetorical techniques

Rhetorical techniques such as metaphor, humour, irony & mimicry

6 Voice 21 2020 developed in partnership with Onicy Cambridge, Voice 21 a language thanty in Englance and Wales. Chanty number 1152872 [Company ep. 08165738



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The learning outcomes for this topic are:

Terminology Learn of range of composing techniques and devices and be able to use them when describing the music you hear

Performing Music - Learn to perform different pieces of film music with fluency, accuracy, confidence and a good technique most of the time.

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Keyword	Definition	Key Concepts
Dynamics	How loud or quiet the music is and how it changes - suddenly or gradually	Film Music is a type of DESCRIPTIVE MUSIC that represents a MOOD, STORY, SCENE or CHARACTER through music, it is designed to SUPPORT THE ACTION
Тетро	How fast or slow the music is and how it changes - suddenly or gradually	AND EMOTIONS OF THE FILM ON SCREEN. Film Music can be used to:
Texture	The layers of sounds/instruments – thick or thin	 Create or enhance a mood (though the ELEMENTS OF MUSIC) Function as a LEITMOTIF To emphasise a gesture (MICKEY-MOUSING – when the music fits precisely with a specific part of the action in a film, e.g. cartoons)
Attack and Decay	How the sounds start and stop – fading in and out or attacking suddenly	 Provide unexpected juxtaposition/irony (using music the listener wouldn't expect to hear giving a sense of uneasiness or humour!)
Pitch	How high or low the music is	Link one scene to another providing continuity
Instrumentation	The instruments that are used	 Influence the pacing of a scene making it appear faster/slower Give added commercial impetus (released as a SOUNDTRACK) – sometimes a song, usually
Ostinato	An idea that repeats again and again	 a pop song is used as a THEME SONG for a film. Illustrate the geographic location (using instruments associated with a particular country) or
Pedal Note	A long, held note	nistorical period (using music for the time).
Discords	A clashing chord – usually sounds quite nasty	$D^{\flat} E^{\flat}$ $G^{\flat} A^{\flat} B^{\flat}$ $D^{\flat} E^{\flat}$ $G^{\flat} A^{\flat} B^{\flat}$ $D^{\flat} E^{\flat}$ $G^{\flat} A^{\flat} B^{\flat}$
Major	A happy and bright sounding chord	C [#] D [#] F [#] G [#] A [#] C [#] D [#] F [#] G [#] A [#] C [#] D [#] F [#] G [#] A [#]
Minor	A sad and sombre sounding chord	
Chromatic Scale	Using the black and white keys	

Newsome Academy Everyone Except onal Everyons

The learning outcomes for this topic are:

- Listening and analysing film music learn to listen carefully to film music and identify some musical devices and explain why they have been used.
- Composing Music create effective film composition that fits with the action appropriately and uses a range of film music devices



Topic Links Crack Additional Res	sources
DramaFoley Artists - thisIT/music technologyfoley artist productMedia StudiesEnglish and literacyMusic makes theNumeracy - timing and accuracyMusic makes the	is is a short insight into how a ices different sounds <u>Movie documentary</u>

Career Focus - what skills are you learning?



I am a film composer. I write music for different film genres and have to change the devices I use to fit the music. I work closely with screenwriters, film producers and musicians.

I use music technology and the piano to compose my work. I have to use time management and know how to effectively work to a brief.

Challenge Activities



Learn the spelling and definition of the key terms above. The words and definitions are listed here:

Film Music Key Terms

SOUNDTRACKSKO.pdf

Here is a knowledge organiser - have a look at some of the famous film composers at the bottom of the sheet. Have a listen on Youtube to some of the music they have composed.

You can create an information sheet based on one of the composers, their films and what you have liked about their music.

Practical Skills!

If you have a keyboard at home, have a go at some of these leitmotifs.

A leitmotif is a theme that is associated with a character.

LEITMOTIFS.pdf
Newsome Academy Everyone Exceptional Everyday Year 9 Invasion Games

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The aims of the sequence of learning are to ensure that all students:

• Can identify at least six core skills required for invasion games and explain how they are used in a game to ensure a successful performance • Demonstrate basic core skills such as a footwork in isolation with accuracy

• Demonstrate core skills in a game situation with competence

Lead a group of peers with confidence in a drill which focusses on multiple skills

Keyword	Definition 🕒	Key Concepts	
Pass	keep possession of the ball by maneuvering it between different players with the objective of advancing it up the playing field	Defending Cover Delay When a defender puts pressure on the attacker — the other defenders cover the space the defender left. If possession is lost quickly—a defender should try to slow the attacker down so other players can get back in position (goal side).	
Catch	to receive the ball from another player and keep possession		
Defend	to resist the attack of the opposing team		
Attack	the action of attacking or engaging an opposing team with the objective of scoring points or goals	You should already know: - The aim of invasion games - The name of at least 3 invasion games - The core principles of invasion games	
Tackle	trying to take the ball from an opponent	 The core skills core to be successful in invasion g Tactics to achieve success in invasion games 	
Intercept	Obstruct someone/something from getting to their desired position/destination	Athletes to research further: Josh Koroma	
Tactics	A strategy planned and implemented to achieve a set goal	Malcolm	

Attacking Depth

You will be assessed on: - Understanding

- Technique in isolation

- Technique in game

- Leadership

- Attitude to learning

Sometimes passes need to go away from the goal to draw the defenders away from the goalcreating space for a future forward pass.

Support

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To give the player in possession as many options as possible team-mates move into different positions to receive the ball. This could be to the side / behind / in front of the ball.



- games
- ames
- vasion games
 - n games









Newsome Academy Everyone Exceptional Everyday Year 9 Invasion Games The aims of the sequence of learning are to ensure that all students:

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Retrieval Practice

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Questions	Answers
What are the core Netball skills?	Chest pass, Bounce pass, Shoulder pass, Overhead pass, Two-footed landing, One-footed landing, Shooting, Pivot, Man Marking, Marking the space, Dodging and Spinning
What are the Netball positions?	Goalkeeper, Goal defence, Wind defence, Centre, Wing attack, Goal attack and Goal shooter
What are the core football skills?	Dribbling close to feet, Dribbling changing direction with speed, Passing side foot (close distance), Passing on laces (long distance), Defending (man to man), Defending (line defending), Offside trap/rule , Attacking (two versus one), Attacking (channels) and Throw ins
What are the core Rugby skills?	Target with hands out, Push pass, Spin pass , Catch and pass, Protecting, Holding, Contact tackling , Side-stepping, Spinning , Attacking (line speed), Attacking (creating an overlap), Defending (line and movement) and Defending (moving 10 yards)





Career Focus - Where could this take you?

I am a **team nutritionist** and it is my role to develop meal and dietary plans to suit athletes' individual goals, performance and body types.

Challenge Activities



2. Answer the following question: What component of fitness is most important to an invasion games player and why?

Topic Links	Additional Resources
 This topic links to: Science – movement of the body and muscles; the physics of sports 	To further practise and develop you knowledge see:
 English – understanding and defining key terminology Mathematics – problem solving, recording figures and analysing performance 	 https://www.theukrules.co.uk/rules/sport/netball/ind
 Voice 21 – coaching peers 	ex.html





Year 9 RE: Judaism

The aims of the sequence of learning are to ensure that all students: • Know who founded Judaism and where in the world the faith began

- Explain the importance of Moses and the 10 Commandments
- Describe Jewish sources of authority and what a code of conduct is
- Know the rights of passage during a Jew's life

- Know what happens in a synagogue and its important parts
 Know what happens during Shabbat and how Jewish people practice religion at home
- Know the significance of Jewish festivals
- Know the importance and meaning of Jewish symbols and objects

Keyword	Definition 🖪	Key Concepts		
Ten Commandments	Ten important life rules given to Moses by God			
The Sabbath	The holy day for Jews	XX		
Synagogue	A place of worship for Jewish people			
Rabbi	A Jewish religious leader and teacher	Star of David	Hamsa	Alle Sh
Torah	The Jewish holy book			AL TANK
Ark	The place where the Torah is kept in a Synagogue			
Hebrew	The traditional language used in Jewish writing	Mezuzah	Kippah	
Bar Mitzvah	A ceremony to show a Jewish boy has become an adult. It happens when a boy is 13.			
Bat Mitzvah	A ceremony to show a Jewish girl has become an adult. It happens when a girl is 12.	Menorah	Tallit	



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- Know the importance and meaning of Jewish symbols and objects

Retrieval Practice

Questions	Answers
Who founded Judaism?	Abraham was the first Jew, the founder of Judaism, the physical and spiritual ancestor of the Jewish people.
Where did Judaism begin?	Judaism began nearly 4,000 years ago in a place called the Middle East . This is a large area on the border of Asia, Africa and Europe.
Why is Moses an important person to Jews?	Moses freed the Jewish people from Egypt and was given the ten commandments by God.
Where do Jews worship?	The synagogue is where Jews worship together but their homes are also very important places of worship.
Do Jews have a special day of the week?	The Shabbat or Sabbath lasts from sundown on the Friday to sundown on the Saturday. They celebrate with a meal, prayers and songs.
Do Jewish people have special times each year?	Hanukkah, Rosh Hashanah and Passover are just some important times in the Jewish calendar.

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Career Focus - Where could this take you?

People that study RE go onto work in the NHS; the civil service; youth and social work, law, politics, business, the creative industries, the charity sector, publishing and journalism, and education.

Challenge Activities

1.

Topic Links	Additional Resources
This topic links to:	To further practise and develop you knowledge see:
• PSHE	https://www.bbc.co.uk/bitesize/topics/znwhfg8
• Geography	https://www.bbc.co.uk/teach/class-clips-
History	video/religious-studies-ks2-What-IS-judalsm/ztbht4j



- 2. Find out about a traditional Jewish food and have a go at making it!
- 3. Find out about what happens in a synagogue.





Usernames and Passwords