Year 8 – HT5

Newsome Academy
Everyone Exceptional Everyday

Knowledge Organisers

Name:

Team:

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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.

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8.18: Rearranging formulae

The learning outcomes for this topic are:

- Rearrange 1 step formulae
- Rearrange 2 step formulae
- Rearrange formulae involving brackets
- Rearrange formulae involving indices
- Rearrange formulae involving fractions
- Change the subject of a formula where the subject occurs more than once

Key Word	Definition
Subject	A variable which has been isolated by algebraic manipulation
Rearrange	Changing the form of an equation to isolate other variables
Operation	A mathematical process, common ones being +,-,x and ÷
Inverse	An operation undoing what was done by another operation
Formula	An equation which shows the relationship between quantities
Term	The smallest part of a mathematical expression
Equation	A formula stating that two expressions are equal
Expression	A set of terms combined using the operations +, -, x or ÷
Variable	A symbol for a number we do not yet know
Unknown	A number we do not yet know
Index	A small floating number which tells you how many times a number has been multiplied by itself
Indices	More than one index

Careers Focus – Where could this take you?

As an **actuary** I am responsible for financial risk assessment. My common job duties include rearranging formulae to establish risk potential, creating reports for stakeholders and offering advice on financial decisions based on research.

Additional Resources

MathsWatch: A13a, A13b

CorbettMaths: Videos 7, 8 Worksheets 7, 8

Curriculum Links - Coherence

Required Knowledge:
8:17 Linear Equations with Brackets and Fractions

Applied to:
9F:17 Quadratic Expansion/Factorisation, Changing the subject of a Formula
9H:22 Changing the Subject

Links across school:
Used in Science when working with the SUVAT equations.

Key Concepts

The main concept of this chapter is to isolate the variable that you are asked to make the subject of the formula.
To do this, you can use any of the 4 operations, and maybe squares and square roots, and sometimes you will need to factorise.
The method is very similar to solving equations, but instead of manipulating numbers, you are doing it with variables.

Eg

Make w the subject of the formula

$a(g - w) = 5w - 3$

Multiply out the brackets

$ag - aw = 5w - 3$

Put all terms involving 'w' onto the same side and put everything else on the other side.

$ag + 3 = 5w + aw$

Factorise the right hand side to begin to isolate 'w'

$ag + 3 = w(5 + a)$

Divide both sides by 5+a to leave w on its own.

$$\frac{ag + 3}{5 + a} = w$$

Concept – what it is

The simplest examples involve just using inverse operations.

Eg

$5t = s$, so $t = \frac{s}{5}$

$\frac{c}{4} = x$, so $c = 4x$

$p + 2 = q$, so $p = q - 2$

$v - 4 = w$, so $v = w + 4$

Non-Concept – what it isn't

You are not expected to find a number answer or solve an equation with this type of question, your answer will always be given in terms of the other variables from the question.
Make sure you always do the same to both sides and when multiplying or dividing both sides, make sure you multiply and divide all parts of both sides.
If you have more than one term containing the variable that you are isolating, you will not be able to solve the problem without factorising.

Standard Examples

Rearrange $v^2 = u^2 + 2as$ to make s the subject.

The first step would be to subtract u^2 from both sides.

$v^2 - u^2 = 2as$

Divide both sides by 2a

$$\frac{(v^2 - u^2)}{2a} = s$$

Once you have s on it's own, the question is finished. It doesn't matter which side of the formula 's' is on.

Non-Standard Examples

Rearrange $w = \sqrt[3]{5y - 8}$ to make y the subject.

The first step would be to cube both sides.

$w^3 = 5y - 8$

Add 8 to both sides

$w^3 + 8 = 5y$

Divide both sides by 5

$(w^3 + 8)/5 = y$

8.18: Rearranging formulae

The learning outcomes for this topic are:

- Rearrange 1 step formulae
- Rearrange 2 step formulae
- Rearrange formulae involving brackets
- Rearrange formulae involving indices
- Rearrange formulae involving fractions
- Change the subject of a formula where the subject occurs more than once

Useful Formulae and Hints

The key to rearranging formulae is to ensure you do the same to both sides of the formula.

Try to work out what has happened to the variable that you want to make the subject to form the expression and then unpick it in reverse using your inverse operations.

Know your inverse operations
Add : Subtract
Multiply : Divide

To remove an add 5, subtract 5 from both sides.
To remove a multiply by 4, then divide both sides by 4, which usually means writing the 4 as a denominator on the other side.
To remove a divide by 2 then multiply both sides by 2, which usually means putting the other side in brackets and placing a 2 outside.
To remove a power then root both sides.
To remove a root, then raise both sides to the power taken from the root.

GCSE Questions

Make d the subject of

$$e = d + 5$$

d = ...

(1)

Rearrange $t = \frac{w}{2}$ to make w the subject.

w = ...

(1)

Rearrange this formula to make c the subject

$$a = c - w$$

Circle your answer.

$c = a - w$ $\quad$ $c = w - a$ $\quad$ $c = aw$ $\quad$ $c = a + w$

Make d the subject of the formula $c = 4d + 5$

Make g the subject of the formula:

$$a = \sqrt{g}$$

Make y the subject of the formula:

$$k = y^3 + a$$

Make w the subject of $a = \frac{w - 2}{6}$

Make x the subject of the formula $a = \frac{x + 4}{x + 2}$

8.19: Interior and exterior angles

The learning outcomes for this topic are:

- Recall the relationship between interior and exterior angles
- Find the exterior angle given the number of sides
- Find the interior angle given the number of sides
- Find the interior angle given the number of sides
- Given the interior angle find the number of sides the shape has
- Find missing angles in polygons using the sum of the interior angles

Key Word	Definition
Angle	The amount of turn between 2 lines about their common point
Interior	An object on the inside of another shape
Exterior	An object on the outside of another shape
Polygon	A closed shape made from 3 or more straight lines
Edges	A straight line joining vertices of 2D shapes
Vertex	The mathematical term for a corner
Vertices	The mathematical term for more than one corner
Sum	The total by addition of a set of values

Careers Focus – Where could this take you?

I am an **architect** who builds design plans for offices, buildings and homes. My key responsibilities include using the client's preferences, needs and ideas to create well-designed structures, providing clients with cost estimates, designing construction plans using specifications and scaled drawings.

Additional Resources

MathsWatch: G11, G19

CorbettMaths: Videos 32 Worksheets 32

Curriculum Links - Coherence

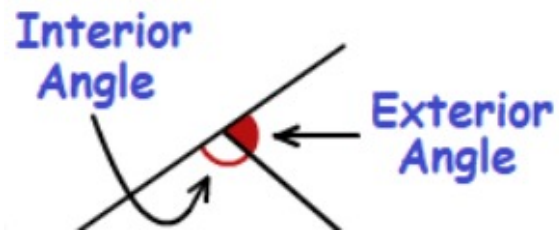
Required Knowledge:
7:20 Angles in a Triangle or Quadrilateral and Properties of
7:21 Angles on Parallel Lines

Applied to:
9F:07 Naming Polygons, Rotational and Line Symmetry, angles in a Polygon, Regular Polygons
9H15 Angles in a Polygon, Regular Polygons

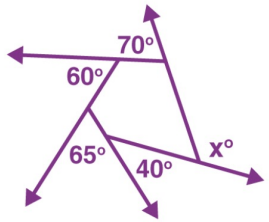
Links across school:
Knowledge of interior and exterior angles may be used in Art where regular polygons need to be drawn accurately.

Key Concepts

Interior and exterior angles of a polygon always add to 180°

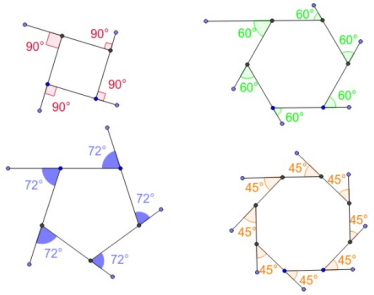


The sum of the exterior angle of any polygon is always 360°. So you can find a missing exterior angle by subtracting the sum of the other angles from 360°.



x = 360 – (70+60+65+40)
x = 125°

This means that the exterior angle of any polygon will have size 360/number of sides



The sum of the interior angles for any polygon is given by the formula
a = 180(n - 2)

Concept – what it is

The main concept is to be able to make a connection between the number of sides of a polygon and the angles in that polygon. In a regular polygon, you have the additional fact that the angles will all be equal.

Eg
Find the size of the interior angles of a nonagon.

A Nonagon has 9 sides, so 360/9 = 40° is the exterior angle

To find the interior angle take 40° from 180° = 140°

Non-Concept – what it isn't

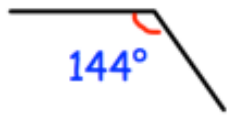
Exterior angle of a shape is not the full reflex angle outside the shape. It is just the angle between one line on the exterior of the shape to the continuation of the next line.

Be careful that questions don't try to confuse you by giving a mixture of interior and exterior angles. Work with one or the other.

Make sure you are clear whether a question is asking you to find an interior or an exterior angle as an answer.

Standard Examples

Calculate the number of sides a polygon has if this is one of it's vertices.



Interior angle = 144°

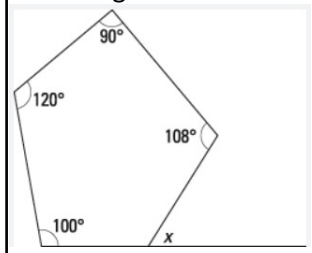
So Exterior angle = 36°

Number of sides = $\frac{360}{36}$

=10 sides

Non-Standard Examples

Find angle x



This question is asking about an exterior angle, so after finding the missing interior angle, find the exterior.
180 x (5-2) = 540
540 – (100 + 120 + 90 + 108) = 122°
Interior angle = 122°
Exterior angle = 58°

8.19: Interior and exterior angles

The learning outcomes for this topic are:

- Recall the relationship between interior and exterior angles
- Find the exterior angle given the number of sides
- Find the interior angle given the number of sides
- Find the interior angle given the number of sides
- Given the interior angle find the number of sides the shape has
- Find missing angles in polygons using the sum of the interior angles

Useful Formulae and Hints

Exterior angles of a polygon always add to 360.

The interior angle and the exterior angle sum to 180 degrees.

In a regular polygon, all exterior angles are equal, so the exterior angle is always 360 divided by the number of sides.

Finding the number of sides from an exterior angle involves seeing how many times you can turn through that exterior angle before you reach 360 degrees, so can be found from 360 divided by the exterior angle.

Finding the number of sides from an interior angle involves subtracting the interior angle from 180 to find the exterior angle and then repeating the process for the exterior angle given directly above.

GCSE Questions

1. Each exterior angle of a regular polygon is 30°.

Work out the number of sides of the polygon.

.....

(2 marks)

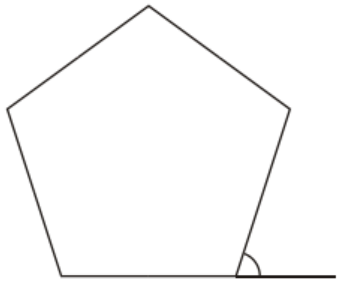


Diagram **NOT** accurately drawn

Work out the size of an exterior angle of a regular pentagon.

.....°

(2 marks)

5. The size of each interior angle of a regular polygon is 156°.
Work out the number of sides of the polygon.

.....

(3 marks)

7.

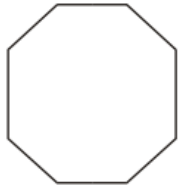


Diagram **NOT** accurately drawn

(a) Work out the size of each interior angle of a regular octagon.

.....

(3)

Diagram **NOT** accurately drawn

The diagram shows part of a **regular** 10-sided polygon.

Work out the size of the angle marked x.

8.20: Mutually exclusive outcomes and sample space diagrams

The learning outcomes for this topic are:

- Find simple probabilities for mutually exclusive events
- Draw a sample space diagram for a simple event
- Use 'not' and 'or' rules for mutually exclusive outcomes
- Find relative frequency from a set of trials
- Use a sample space diagram to calculate probabilities
- Describe how using more trials improves accuracy of relative frequency

Key Word	Definition
Mutually exclusive	Outcomes which can't occur at the same time
Exhaustive	When a set of outcomes covers all possibilities
Trial	A single event of mathematical experimentation
Outcome	The result of a trial
Sample space	A table designed to list all possible outcomes
Event	An outcome or series of outcomes from an experiment
Sample	A selection chosen from a larger group
Relative frequency	How often something happens divided by the total number of outcomes
Experimental probability	An estimate for a probability derived from an experiment
Probability	A numerical estimate for how likely something is to happen

Careers Focus – Where could this take you?

Biostatisticians like me employ their mathematical skills and data knowledge in the biology sector. We gather, analyse and evaluate data regarding living organisms and use our medical research studies to draw conclusions.

Additional Resources

MathsWatch: P3, P7

CorbettMaths: Videos 246, 248 Worksheets 246, 248

Curriculum Links - Coherence

Required Knowledge:
7:22 Probability Scales and Mixed Events

Applied to:
10F:23 Combined Events, 2-way Tables, Venn Diagrams, Tree Diagrams
10H:21 Addition Rule for Outcomes, Combined Events, Tree Diagrams.....

Links across school:
Probability may be used in Chemistry to determine how likely reactions are to happen.

Key Concepts

A sample space diagram is a tool to help you to list all possible outcomes so you can determine how likely different possibilities are.

For example, if you were spinning a 4 sided spinner, and tossing a coin, you could expect the following outcomes:- H1, H2, H3, H4, T1, T2, T3, T4. The sample space diagram is a quick way of listing these possibilities.

Coin \ Spinner	1	2	3	4
Heads				
Tails				

The probability of each outcome is the same, so the chance of getting a Head and a 1 is the same as getting a Tail and a 3 at 1/8.

To determine whether outcomes are mutually exclusive, you need to check whether outcomes can happen at the same time.

For example, the outcomes it is raining and not raining would be mutually exclusive as they can't happen at the same time, but the outcome it is raining, and it is sunny can happen at the same time, as proven by the appearance rainbows.

In a classroom you might be asked are the outcomes 'even numbers' and 'prime numbers' mutually exclusive? The answer would be 'no' as the number 2 falls into both categories so 1 throw of a dice could produce both outcomes.

Concept – what it is

There are only pink, yellow, green and blue counters in a bag.
The table shows the probability that a counter taken at random from the bag will be pink, green or blue.

Colour	Pink	Yellow	Green	Blue
Probability	0.5		0.1	0.2

(a) Work out the probability that the counter taken is yellow

The total of all of the probabilities must be 1, so the probability of yellow, must be 0.2.

There are 40 counters in the bag.

(b) Work out the number of blue counters in the bag.

Multiply the total number of counters in the bag by the probability of Blue.
40 x 0.2 = 8 blue counters

Non-Concept – what it isn't

Be clear that to be mutually exclusive, there must be no overlap between the outcomes. It must be impossible for them to happen at the same time.

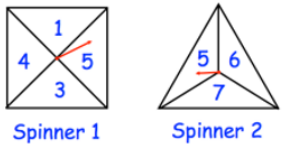
When filling in a sample space, make sure you know what you are expected to put in. is it the total, the sum, or just a list of the 2 items?

Judge each question before you jump into drawing a sample space, as in a problem with only a few outcome, it might be quicker to just list the outcomes.

Standard Examples

Two fair spinners are spun.

Spinner 1 has four equal sections labelled 1, 3, 4 and 5.
Spinner 2 has three equal sections labelled 5, 6 and 7.



Spinner 1 Spinner 2

Each spinner is spun once.
The numbers are added together to get a score.

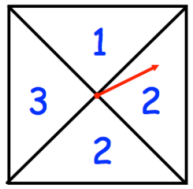
(a) Complete the table to show all possible scores.

Spinner 1

Spinner 2 \	1	3	4	5
5	6	8	9	10
6	7	9	10	11
7	8	10	11	12

Non-Standard Examples

A fair spinner has four sections.



The spinner is spun three times.
The three numbers are added together to give a score.

Find the probability the score is even.

The possible outcomes are ooo,ooe,oeo,oee,eoo,eoe,eeo,eee
Outcomes with even numbers of or no odd number will be even, so the soulution is 4/8 or ½.

8.20: Mutually exclusive outcomes and sample space diagrams

The learning outcomes for this topic are:

- Find simple probabilities for mutually exclusive events
- Draw a sample space diagram for a simple event
- Use 'not' and 'or' rules for mutually exclusive outcomes
- Find relative frequency from a set of trials
- Use a sample space diagram to calculate probabilities
- Describe how using more trials improves accuracy of relative frequency

Useful Formulae and Hints

For possible outcomes to be mutually exclusive, it must be impossible for them to happen at the same time.
It can't be both Monday and Tuesday at the same time, so these outcomes are mutually exclusive.
It can be both Monday and raining at the same time, so these outcomes are not mutually exclusive.

A sample space is a quick way to find all possibilities of a trial. Be careful to check whether you are expected to add or multiply the numbers together or just list them when completing.

To find a probability from a sample space, divide the number of possible successful outcomes by the total number of outcomes.

Relative frequency is the number of successful outcomes divided by the number of trials. The more trials, the better the results.

GCSE Questions

In a bag of marbles, there are 20 orange and 30 blue marbles. Vanessa picks out 2 marbles at a time.

a) Are the events of picking out an orange marble and blue marble mutually exclusive?

Louis picks out letters at random from the word LIGHTHOUSE.

a) Are the events of picking a vowel and picking a letter in the first half of the word mutually exclusive?

Two fair six-sided dice are rolled.
The score is **difference** between the numbers on each dice.

(a) Complete the table to show all possible scores.

Dice 2 \ Dice 1	1	2	3	4	5	6
1	0	1				
2	1					
3	2					
4						
5						
6						

(b) Find the probability of scoring a 2

David and Becky want to estimate how many yellow jelly beans are in a tub of 500 jelly beans.
A trial consists of taking a jelly bean at random, noting the colour and replacing the jelly bean in the tub.

	Number of trials	Number of yellow jelly beans chosen
David	20	3
Becky	100	11

(a) Write down the relative frequency of David taking a yellow jelly bean.

.....

(1)

(b) Write down the relative frequency of Becky taking a yellow jelly bean.

.....

(1)

(c) Whose experiment gives the more reliable estimate of the number of yellow jelly beans in the tub?
Give a reason for your answer.

.....

.....

.....

(1)

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8.21 Scatter Diagrams and Correlation

The learning outcomes for this topic are:

- Describe the Correlation of a Scatter Graph
- Draw a Line of Best Fit onto a Scatter Graph
- Use a Line of Best Fit To Calculate Missing Values
- Draw a Scatter Diagram from a Table of Values
- Explain Why an Anomaly may have Occurred in a Set of Data
- Infer Information from a Scatter Graph in Context

Key Word	Definition
Scatter diagram	a type of graph which relates two criteria
Correlation	when two criteria are related in some way
Positive	a number which is greater than zero
Negative	a number which is less than zero
None	having zero of an item
Extrapolate	using data that you know to infer other values
Interpolate	using data that you know to create extra data points
Best fit	a line which best splits the data and minimises the distances the points are from the line
Pattern	where a data set has a repeating element or noticeable structure
Outlier	an element of the data which doesn't fit the typical pattern
Anomaly	a number of elements of data which don't fit the typical pattern

Careers Focus – Where could this take you?

A Medical Researcher might use scatter diagrams to show how data is correlated or how one set of date depends on another. In medical research, scatter plots can be useful to see whether data may have a relationship.

Additional Resources

MathsWatch: S8, 129

CorbettMaths Videos 166, 167, 168 Worksheets 166, 167, 168

Curriculum Links - Coherence

Required Knowledge:
7:09 Graphs of Linear Equations

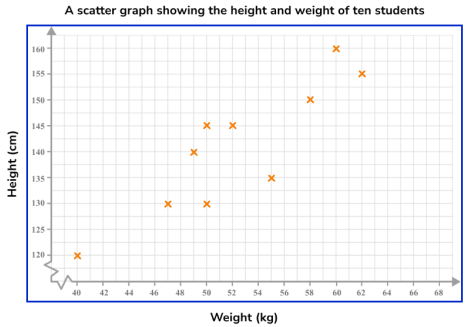
Applied to:
10F13 Sampling, Pie Charts, Scatter Diagrams

Links across school:
Scatter Diagrams might be used in Geography to analyse life expectancy against other criteria such as average income for different countries.

Key Concepts

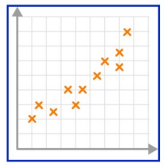
A Scatter Diagram is a type of graph which is used to find if there is a relationship between two variables.
For example the height and weight of pupils.

Student	A	B	C	D	E	F	G	H	I	J
Height (cm)	120	145	130	155	160	135	150	145	130	140
Weight (kg)	40	50	47	62	60	55	58	52	50	49



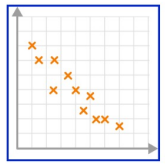
The data may be correlated in different ways.

Positive correlation



If one variable increases as the other increases, then we describe this as a positive correlation. On a scatter graph you can spot this by looking for an upward trend in the plots.

Negative correlation



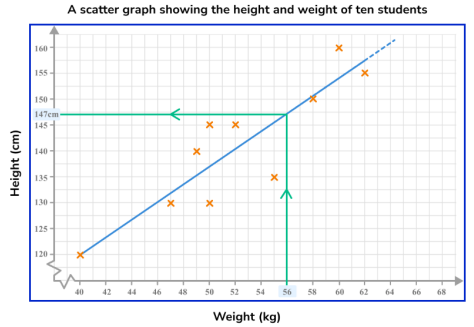
If one variable increases as the other decreases, then we describe this as a negative correlation. On a scatter graph you can spot this by looking for a downward trend in the plots.

Or there may be no correlation at all.

Concept – what it is

You often have to draw a line of best fit on the diagram to estimate values for one variable given the other one.

Here, the line of best fit has been used to estimate the height of a student given that their weight is $56kg$.

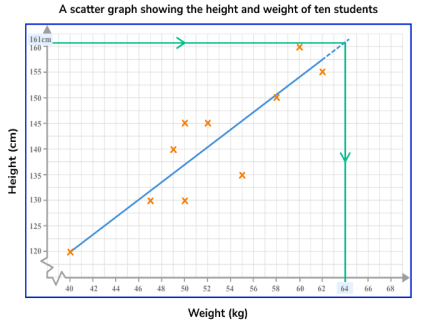


Non-Concept – what it isn't

You shouldn't use a scatter diagram to make predictions for value of data which fall outside the range of data given and exam questions often ask about this.

Students often drop marks by not drawing a line of best fit and just drawing a line into the middle of the data points and out again to the other axis.

Standard Examples

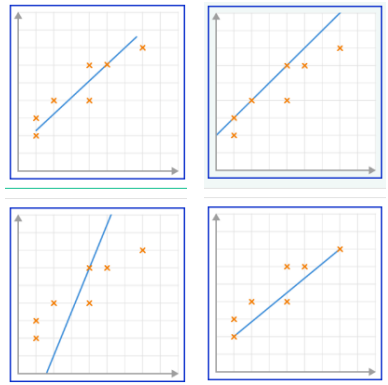


This line of best fit estimates that someone who is $161cm$ tall will weigh approximately $64kg$. This is extrapolation and therefore this estimate comes with potential problems.

It is unknown whether the data will continue with the same trend beyond the recorded values. Therefore, extrapolated values should be treated with caution and are generally viewed as unreliable estimates.

Non-Standard Examples

Which scatter diagram has the best estimated line of best fit?



8.21 Scatter Diagrams and Correlation

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- Draw a Line of Best Fit onto a Scatter Graph
- Use a Line of Best Fit To Calculate Missing Values
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- Infer Information from a Scatter Graph in Context

Useful Formulae and Hints

Data is positively correlated when one item increases as the other one increases. – The data points generally go from bottom left to top right.

Data is negatively correlated when one item decreases as the other one increases. – The data points generally go from bottom right to top left.

Data has no correlation if the data points are scattered randomly on the graph.

A point is an outlier if it doesn't fit the patterns of positive and negative correlation above.

When using one variable value to estimate another, always begin by drawing a line of best fit.

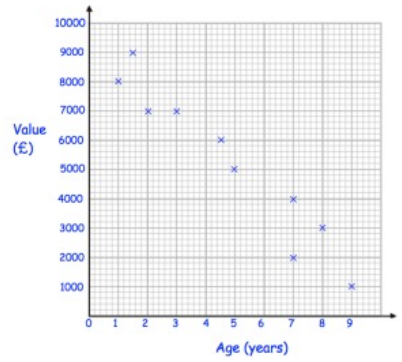
A line of best fit should have a similar number of points above and below the line, and follow the direction of the correlated data points.

To estimate a value of a variable, draw a line vertical or horizontal to the line of best fit and then draw a line to other axis and read off the value.

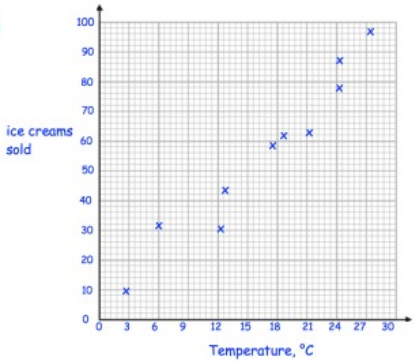
GCSE Questions

Question 2: What type of correlation does each scatter graph show below

(a)



(b)



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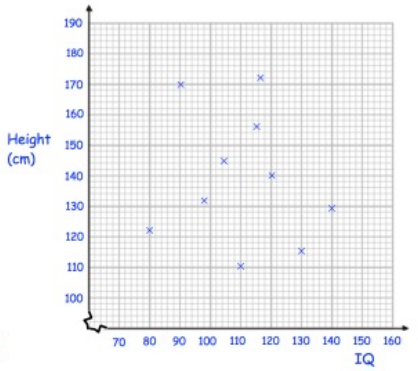
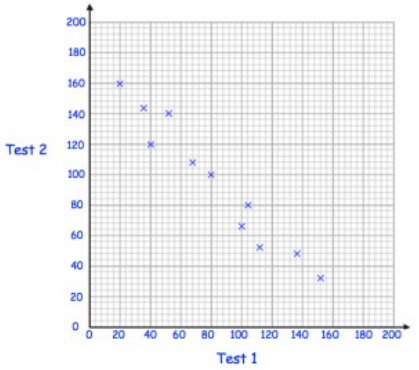
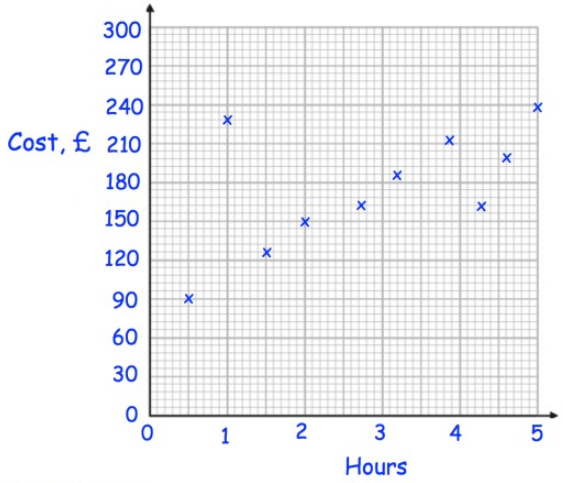


(d)



Question 4: Mr Hughes is a plumber.
The scatter graph shows the cost and the length of his last 10 jobs.



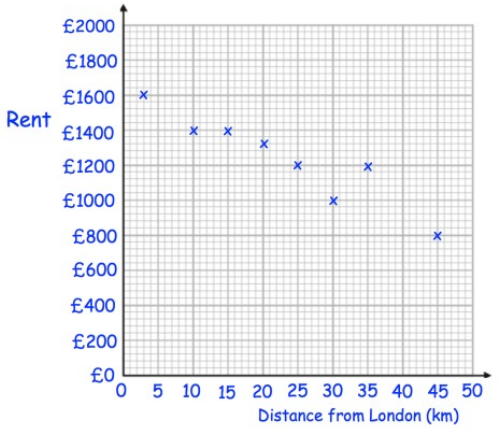
(a) Draw a line of best fit

(b) For one job Mr Hughes needed to replace an expensive part that he fitted quickly. How long did that job last?

(c) Estimate the cost of a job lasting 3.5 hours.

(d) A job costs £120, estimate the length of the job.

Question 2: The scatter graph shows information about the cost of renting apartments and their distance from London.



(a) Describe the relationship shown in the scatter graph.

(b) Draw a line of best fit on the diagram.

(c) Estimate the cost of renting an apartment 40km from London.

(d) Victor has £1100 to spend on rent. Estimate how close he could live to London.

(e) Explain why it might not be sensible to use the scatter graph to estimate the price of rent for a property that is 250km from London.

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8.22 Two Way Tables and Mean from Grouped Frequencies

The learning outcomes for this topic are:

- Complete a Two Way Table with Values already Given
- Design and Complete a Two Way Table
- Use a Two Way Table to Calculate Probabilities
- Find the Modal Class for a Grouped Frequency Table
- Find an Estimate for the Mean for a Grouped Frequency Table
- Find the Class Containing the Median for a Grouped Frequency Table

Key Word	Definition
Two way table	a way to display data sorted into two categories
Total	the sum of a set of data
Mean	the average calculated by totaling the data and dividing by the number of data points
Frequency	how often something happens
Midpoint	the point exactly between two other points
Class	a group of values used to sort data
Range	the difference between the largest and smallest values
Median	the data point exactly in the middle after the data has been ordered
Mode	the most commonly occurring item or value
Modal Class	the group of data containing the most data points
Grouped frequency	data which has been sorted into it's different classes

Careers Focus – Where could this take you?

Jobs in banking and finance need the ability to analyse grouped frequency tables in order to determine how a business is performing against it's competitors and whether a bank might want to invest in it.

Additional Resources

MathsWatch: P4, P5, 61, S4

CorbettMaths Videos 319, 55, 52 Worksheets 319, 55, 52

Curriculum Links - Coherence

Required Knowledge:
7:19 Averages and Comparing

Applied to:
9F:05 Statistical Averages, Grouped Data and Averages

Links across school:
In science it may be necessary to analyse large class sets of results for experiments given as frequency tables or grouped frequency tables.

Key Concepts

A two way table is a way of analysing data based of two characteristics. In the example below, the top separates pupils into which day they visited the library, the side according to which year they are in.

	Monday	Tuesday	Wednesday	Total
Year 7			13	38
Year 8	14			
Total		33	26	80

To complete the table, you pick a row or column with only 1 space and every time you fill one in, more rows and columns will be left with only one space and can be filled.

When finding a mean from grouped data, the first step is to find the midpoints as in the example to the right. Multiplying the midpoint by the frequency gives us an estimated total length of fish in each class. Totalling these gives an estimate for the total length of all fish in all classes and dividing this by the frequency (the total number of fish) gives and estimate for the mean length.

Concept – what it is

Two way tables are a useful way to analyse data under two different criteria. Once the tables are complete, they can be used to give percentages to further analyse the data. Mean from grouped frequency, is a way to a mean when data is given as frequencies according to which class they are in. The answer is only an estimate.

Non-Concept – what it isn't

The mean you get from a grouped frequency table is only ever an estimate as we used the midpoint as an estimate for all values in a class rather than the actual values.

In a two way table, only fill spaces in rows or columns where only one value is missing.

Standard Examples

1. The table below shows the length of 100 fish from a local river.

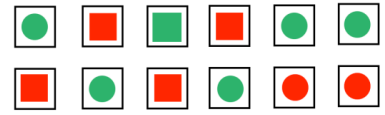
Length, L cm	Frequency	Midpoint	fx
$0 < L \leq 10$	21	× 5 =	105
$10 < L \leq 20$	11	× 15 =	165
$20 < L \leq 30$	31	× 25 =	775
$30 < L \leq 40$	12	× 35 =	420
$40 < L \leq 50$	25	× 45 =	1125
	100		2590

Calculate an estimate of the mean length of the fish.

$2590 \div 100 = 25.9$

Non-Standard Examples

Below are 12 cards from a game.



(a) Complete this two-way table.

	Red	Green
Square		
Circle		

(2)

(b) One card is picked at random.
What is the probability it is a green circle?

.....

(1)

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The learning outcomes for this topic are:

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Useful Formulae and Hints

You can only find a missing value in a row or column where there is only one value missing. There should always be one of these as you work your way through the problem.

When creating your own 2-way table, make sure you have all of one type of category along the top and all of the other type of category down the side.

Ensure you include the grand total which may be hidden in the information given.

When filling on your table to find a mean from group frequency, your midpoints are the values exactly between the highest and lowest value in the class. If you are not sure, take the mean of the two numbers.

The final value you get is only an estimated mean because you didn't know all of the individual values for the data and assigned them all the value of the midpoints.

The modal class is the class with the highest frequency.

The median class is the class which contains the median person from the data – (the number of people + 1) divided by 2 person.

GCSE Questions

5. Aminah runs a market stall.
The table below shows information about what items she has in stock.

	T-shirts	Jumpers	Coats	Total
Small	2	36	28	
Medium		0	1	10
Large		51		
Total			44	200

Complete the two-way table.

150 students in Years 10 and 11 visit a school canteen.

Some students have packed lunches.
Some students have a cooked lunch.

56 out of the 89 students who have packed lunch are in Year 10.
There are 72 Year 11 students.

Work out how many Year 10 students have a cooked lunch.

1. The table below shows the length of 100 fish from a local river.

Length, L cm	Frequency	Midpoint	
$0 < L \leq 10$	21		
$10 < L \leq 20$	11		
$20 < L \leq 30$	31		
$30 < L \leq 40$	12		
$40 < L \leq 50$	25		

Calculate an estimate of the mean length of the fish.

The table below shows information about the ages of employees for a company.

Ages, x years	Frequency
$20 < x \leq 30$	y
$30 < x \leq 35$	40
$35 < x \leq 40$	24
$40 < x \leq 50$	28
$50 < x \leq 80$	10

Miss Rashid calculated the estimated mean from the information in the table to be 34.75 years

Find the value of y.

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English

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 8 Modern Play

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

- complete an in-depth study of a play – show understanding of plot, characterisation and themes
- analyse language and structure and effectiveness of meaning
- show understanding of play context – when and where it was written/set
- draw on knowledge of literary and rhetorical devices in their writing
- write a critical response use Standard English and formal structure

Keyword	Definition
Dialect	The words used by people who share a region or have lived in a specific place – words like: snicket, alley, jigger.
Standard English	a more formal, standardised use of English that excludes dialect, e.g. Edward instead of Eddie.
Accent	the way people in a given area pronounce their words. In the play Mickey has a Liverpudlian accent.
Phonetics	when words are spelt how they sound to mimic the accent of the speaker.
Pejorative language	use of offensive language usually swear words, religious references, gender specific terms
Narrative	another name for the plot or storyline.
Circular narrative	is where the beginning and the end link together - Mickey and Eddie are shown to die at the beginning of the play and in the end of the play we see their deaths in detail.
Resolution –	this is where the plot puzzle is finally concluded – we see Mickey and Eddie's death in detail.
Open text ending	– here the audience are left with questions about the plot or characters. For example what happens after the boys death?
Foreshadowing	A warning or indication of a future event
Rising Action	clues that are embedded in the plot that lead to the resolution of the puzzle superstition, destiny.
Parallel narratives	plot lines run at the same time and share key similarities – location, events like both moving house to the same area.

Key Concepts

Setting and Context

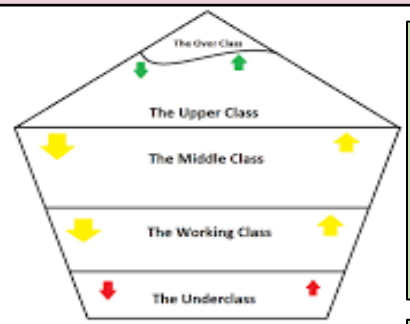
This play is set in Liverpool around 1970. This was a time of great politic and social upheaval. Strikes were common as the working class fought for fairer pay and employment rights.

The city was suffering from economic stress and as a result poor areas grew more derelict with a lack of resources, education, employment and opportunity.

Housing was a need so to address this large multistory flats were built and old communities demolished – shattering the community support structures and making life harder for those in need.

The difference between the classes was growing and social mobility was poor (the ability to move up classes and into higher education and therefore into professional occupations).

This was a time of struggle and opportunity, with rich and poor in opposition and a government struggling to find a solution.



Practice Questions

- How does the author/playwright establish the characters in the beginning of the play?
- How does the writer change/develop (a character) in the middle of the play?
- How does the writer link the beginning to the end of the play?

Writing Your Paragraphs

Remember to plan your content before writing. Use SEIZE to help you:

- Statement
- Evidence
- Inference
- Zoom (language)
- Explain effect

Characters

Mrs Lyons – middle class
Mr Lyons – middle class
Edward Lyons – middle class upbringing
Mrs Johnstone – working class
Mickey Johnstone – working class
Sammy Johnstone – working class
Linda – working class
Narrator

Willy Russell – Playwright

British dramatist and songwriter Willy Russell wrote for the stage, film, and television. His musicals, comedies, and dramas won both critical and popular acclaim.

William Martin Russell was born on August 23, 1947, in Whiston, Lancashire, England.

He left school as a teenager and worked various jobs, including hairdresser and songwriter.

After a few years Russell returned to school, and he eventually became a teacher. During this time he developed an interest in writing plays.

Russell's play *Blood Brothers* was first staged by a small touring company in 1981. Russell not only wrote the story and lyrics but also composed the music.

Blood Brothers won a Laurence Olivier Award for Best New Musical in 1983. It played in London for more than 20 years and on Broadway for two.

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Year 8 Modern Play

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- show understanding of play context – when and where it was written/set
- draw on knowledge of literary and rhetorical devices in their writing
- write a critical response use Standard English and formal structure

Retrieval Practice

Questions	Answers
Exposition – How does the story begin?	The story begins with the death of two young men Mickey Johnstone and Edward Lyons. We meet two households, one is poor (Mrs Johnstone, but very loving) one is affluent (Mrs Lyons, but very 'cold' emotionally). Mrs Lyons can't have children but Mrs Johnstone can – in fact she has too many! Mrs Johnstone has been abandoned by her husband and is in dire poverty. She has discovered she is having twin babies.
Inciting Incident How does the writer add interest to the story?	Mrs Johnstone gives one of her twin babies to Mrs Lyons to bring up. Both women swear to keep the secret – it is suggested that if this is found out, the boys will die as a karmic punishment.
Rising Action – How does the writer increase the tension and link the story lines?	The boys meet by accident or is it destiny? They become 'blood brothers' and firm friends despite their mothers' best efforts. The boys look very alike and in fear of discovery and possible criminal actions, Mrs Lyons moves away to keep her secret safe. Mrs Johnstone finally secures a move away from her poor area and a fresh start. This is her wish come true – a new beginning. Most of her children are now grown with only Mickey at home. As adults Mickey and Edward struggle in their friendships. Their class differences, different opportunities and the love they feel for Linda challenge this friendship.
Climax – How do the story lines reach a crisis point?	Mickey discovers how Edward has helped him along the way and in a fit of jealousy accuses Edward of cheating with his wife Linda. This culminates in a dramatic scene with Linda, the mothers and a gun!
Resolution – How does the story end?	The mothers face their loss as both boys lie dead and Linda is now a widow with a child.

Career Focus - Where could this take you?

I am a playwright. I write stories that are meant to be performed on a stage by actors. I create the words that the actors say and the actions they take, kind of like a director for a movie. It's like writing a book, but instead of people reading it, it's brought to life by actors performing it in front of an audience.

Challenge Activities

Imagine you have a dilemma – moral or ethical. Write a three scene play to show the reactions and consequences.

With a group of friends, stage either
a) a key scene from Blood Brothers
Or
b) Act out your own play.
Film it and upload it for extra reward points.

Other texts to read that share a similar theme:
- 'Educating Rita'
- 'Our Day Out'

Topic Links

This topic links to:

- Literacy
- Higher-order thinking
- Creativity
- Emotional and moral intelligence
- Society

Additional Resources

To further practise and develop your knowledge see:

- BBC bitesize
- https://www.bbc.co.uk/bitesize/guides/z22gp39/revision/1

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Science

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.

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Year 8 Earth Resources

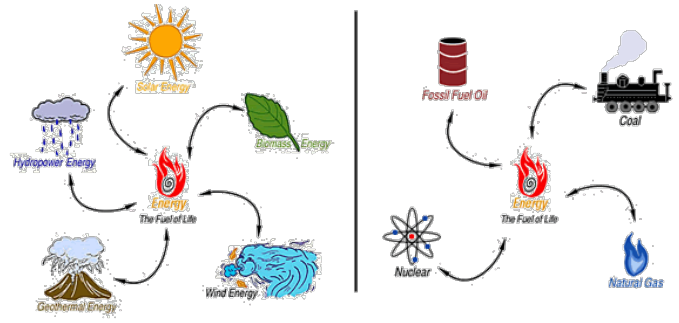
The aims of the sequence of learning are to ensure that all students:
- **Describe how natural resources are obtained and used**
- **Explain ways we can reduce the demand for raw materials**

Keyword	Definition
Finite	Resources which will run out soon. There is a limited supply.
Renewable	Resources which will not run out in the foreseeable future.
Resource	A resource is a physical material that humans need and value such as land, air, and water.
Sustainable	Sustainability is the idea that humans must interact with the environment in a way that ensures there will be enough resources left for future generations.
Potable Water	Water that is safe for humans to drink.
Impurity	A substance made from more than one element or one compound is impure, meaning it is a mixture .
Filtration	Filtration is a method of separating insoluble substances from liquids or solutions.
Sterilising	Processes used to kill any microbes found in the water.
Displacement	A more reactive element can displace a less reactive element out of its compound during a chemical reaction.
Electrolysis	Electrolysis is a process which uses electrical energy to break a compound and collect pure metals.
Reduce	Producing less waste.
Reuse	Using items as much as you can before replacing them.
Recycle	A continuous spectrum of waves with different wavelengths, frequencies and uses.

Key Concepts

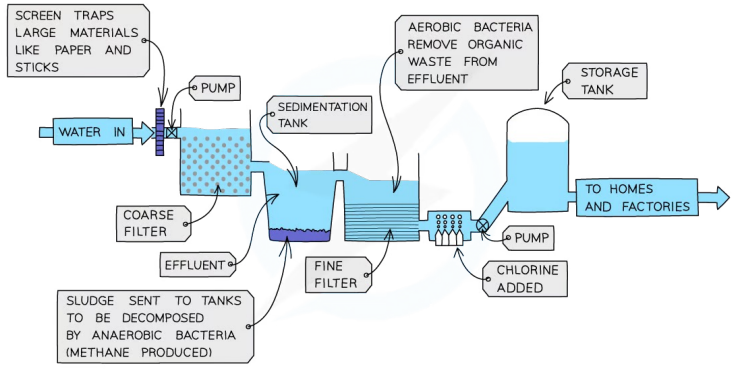
Finite and Renewable Resources

Many of the Earth's resources are finite. Chemists have a role in estimating the amount of reserves remaining and ensuring that the use of resources is sustainable.



Potable Water

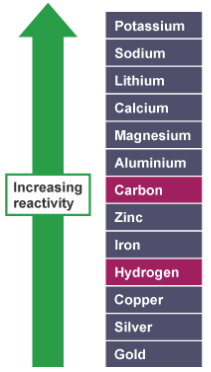
Water is essential for life. Water that is safe for humans to drink is called **potable water**. Potable water is not pure water because it almost always contains **dissolved** impurities.



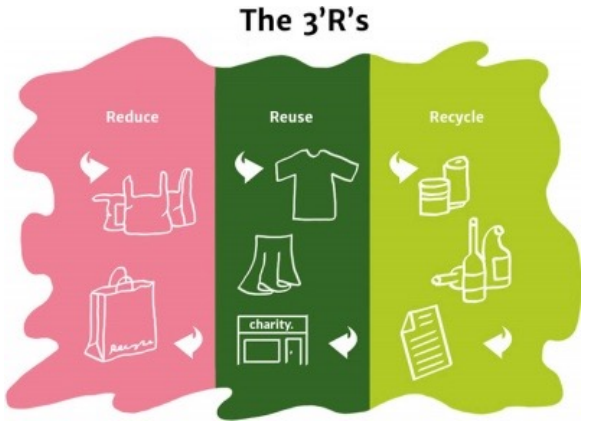
Extracting metals

Metals mostly occur as compounds in rocks and minerals and must be extracted before they can be used.
The method used to extract the pure metal depends on its position in the reactivity series.

The most **unreactive** metals, silver and gold, are found as **elements** in the rocks. They are not **chemically bonded** to other elements in compounds.
Most of the metals found in rocks are combined with other elements in **compounds**. These compounds are called **minerals**.
Metals below carbon can be extracted using a displacement reaction but those above carbon must be extracted using electrolysis.



Reduce Reuse and Recycle



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Year 8 Earth Resources

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- **Explain ways we can reduce the demand for raw materials**

Retrieval Practice

Questions	Answers
What name is given to resources which may run out one day if not managed carefully?	Finite resource such as crude oil.
What are the 4 main non-renewable energy sources?	Coal, Oil, Natural gas and Uranium.
What is a renewable resource?	A resource that will not run out for the foreseeable future.
Name some renewable resources.	Wind, Solar, Geothermal, Wood, Hydro (water) and Cotton.
Why can't all metals be extracted using carbon?	They are more reactive than carbon so cannot be displaced.
Which metals can be extracted using carbon?	Zinc, iron and copper.
What process is used to extract reactive metals?	Electrolysis
What is potable water?	Water that is suitable for drinking.
How is water treated in the UK?	1. Pass the water through filter beds to remove **insoluble particles** 2. Sterilising the water to kill microbes
Why do we need to sterilise water before we can drink it?	To kill microbes that could make us ill.
Name the three R's	Reduce, Reuse and Recycle.
Why is it important to reduce, reuse and recycle?	So that resources do not run out and so that less waste goes to landfill or for incineration.

Career Focus - Where could this take you?

I am a dental technician. I work with a variety of materials such as polymers and ceramics to help improve or replace lost teeth.
I work with the information that dentists provide me to make things like dentures, veneers, bridges, crowns and braces.
I need a good understanding of the science of dental materials to ensure the correct material is chosen for the particular job it needs to do.
I work mainly in the laboratory with a range of specialised equipment, so my day is very varied and never boring.
My qualifications include a BTEC national diploma in dental technology.

Challenge Activities

1. Make flashcards for the definitions and retrieval practice questions.
2. Make a mind map for this topic. Remember to include keywords and the links between information.
3. Research the career dental technician and find out more about what they do. How much is their salary and what routes are there to become one?
4. Produce a fact file on renewable resources. What technology is being developed now to help with the energy crisis?
5. Research how countries without fresh water produce potable water using desalination.

Topic Links

This topic links to:
- Energy
- Chemical Reactions
- Interdependence

We will also be practising how to
- Evaluate data
- Design a leaflet to promote the 3 R's

Additional Resources

To further practise and develop your knowledge see:

Educake - https://www.educake.co.uk/
BBC Bitesize - https://www.bbc.co.uk/bitesize/guides/zgqhcj6/revision/2
YouTube Cognito - https://www.youtube.com/watch?v=PDeiRlQvWnM

Year 8 Life Diversity

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The aims of the sequence of learning are to ensure that all students:
- **Describe how natural variation within species occurs**
- **Explain ways variation has occurred due to human interference**

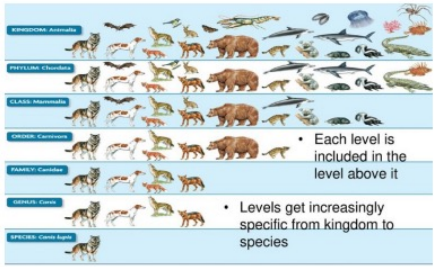
Keyword	Definition
Species	A **species** is a group of organisms that interbreed to produce fertile offspring.
Continuous variation	Where differences between living things can have any numerical value.
Discontinuous variation	Where differences between living things can only be grouped into categories.
Adaptation	a change in structure or function that improves the chance of survival for an animal or plant within a given environment
Extinction	A reaction in which a substance combines with oxygen.
Evolution	A process of change that takes place over many generations,.
Inheritance	A starting substance in a chemical reaction.
Classification	The arrangement of organisms into orderly groups based on similarities.
Classification key	A system which divides things into groups or types
Selective breeding	When humans deliberately breed organisms, so their offspring have desirable characteristics.
Desirable characteristic	A particular feature of a living organism that is useful for humans.
Genetic engineering	Modifying the DNA/genes of an organism.
Gene	A section of DNA that code for a characteristic e.g. eye colour
Plasmid	A small ring od DNA found in bacteria

Key Concepts

Classification

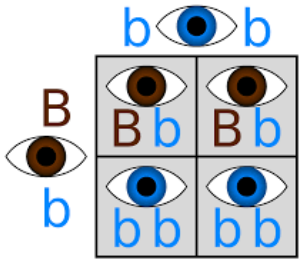
Living things can be grouped according to different criteria (where they live, what type of organism they are, what features they have). A classification key is a tool that is used to group living things to help us identify them using recognisable characteristics

The Linnaean system, named after Carl Linnaeus, has different levels where the number of living things in each group gets smaller and smaller, until there will just be one type of animal in the species group.



Inheritance

Characteristics like eye colour and genetic diseases are **inherited**.
A Punnett square can be used to work out the probability of offspring inheriting some characteristics.



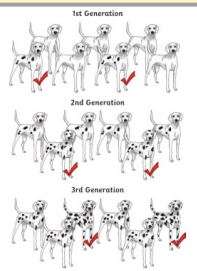
A Punnett square is a graphical representation of the possible genotypes of an offspring arising from a particular cross or breeding event.

Variation

There is variation between individuals of the same species. Some variation is inherited, some is caused by the environment and some is a combination. Variation between individuals is important for the survival of a species, helping it to avoid extinction in an always changing environment.

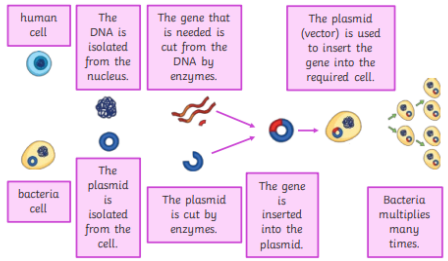
Selective Breeding

Selective breeding is when organisms are deliberately bred so their offspring have the desirable characteristics.



These are the steps taken to select a particular feature in an organism:
- Choose individuals with the desired feature.
- Let only these individuals reproduce.
- Choose the offspring that have the desired feature.
- Let only these individuals reproduce.
- Repeat steps 3 and 4 until you have produced a variety in which all the individuals show the desired feature.

Genetic Engineering



Year 8 Life Diversity

The aims of the sequence of learning are to ensure that all students:
- **Describe how natural variation within species occurs**
- **Explain ways variation has occurred due to human interference**

Retrieval Practice

Questions	Answers
How are species classified?	Kingdom, Phylum, Class, Order, Family, Genus, Species
What is a classification key?	A tool to help group organisms based on their characteristics.
What causes variation?	Variation can be caused by either genetic or the environment, or both.
What is the difference between continuous and discontinuous variation?	Continuous variation is data that when collected can be a range of values. Discontinuous variation is data when collected can be put into groups/categories.
How are characteristics inherited?	Half the DNA is given from the mother and half from the father. Each parent passes on a copy of each gene.
What is a punnet square?	A genetic diagram that shows the probability of a characteristic being present in the offspring of two parents.
What are the stages of selective breeding	A reaction that gives out heat so the surroundings become warmer.
What are the advantages of selective breeding?	1. Choose individuals with desirable characteristic 2. Only let these breed 3. Select offspring with desirable characteristic 4. Only let these breed 5. Repeat over many generations
What are the disadvantages of selective breeding?	Less variation can lead to species becoming extinct. Rare diseases can become more common. Some animals might have physical problems.
What are the stages of genetic engineering?	1. Take plasmid from bacteria 2. Cut open using enzymes 3. Add desirable gene from animal/plant to plasmid 4. Put plasmid back into bacteria. 5. Bacteria divide and produce protein from gene.
Why are some people against genetic engineering?	Unknown health effects, DNA spreading to other species, could produce new toxins.

Career Focus - Where could this take you?

I am a crop plant breeder. The aim of my job is to improve the quantity and quality of the food produced by crops. I use selective breeding to help give plants desirable characteristics that farmers need when growing crops. I work mainly outside (in the field) although some work in carried out in a lab.
As this takes time to happen, so I need to be very patient when waiting to see the results of my work.
My responsibilities include carrying out research methods and techniques, cross pollinating plants, making observations and analysing results, keeping detailed records and presenting findings to farmers and other scientists.

Challenge Activities

1. Make flashcards for the definitions and retrieval practice questions.
2. Make a mind map for this topic. Remember to include keywords and links between information.
3. Produce a fact file or a poster about the different ways variation in a species can occur. Include some researched examples of animals and plants that have been produced this way.
4. Construct a story board to explain how selective breeding or genetic modification works.
5. Find out about a famous scientist that changed our understanding about life diversity and how species evolve over time.
6. Research about other careers linked to life diversity – forensic scientist, DNA analysts, Genetic counsellors.

Topic Links

This topic links to:
- Cells
- Energy
- Photosynthesis and Respiration

We will also be practising how to
- Draw punnet squares
- Calculate probability

Additional Resources

To further practise and develop your knowledge see:

Educake - https://www.educake.co.uk/
BBC Bitesize - https://www.bbc.co.uk/bitesize/topics/zxhhvcw/articles/zdj3vwx
YouTube Cognito - https://www.youtube.com/watch?v=VjlE5Qzl1S0

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Year 8 Movement

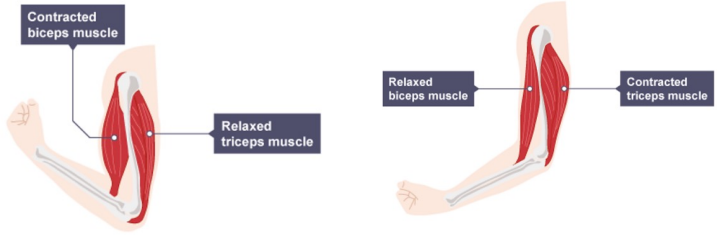
The aims of the sequence of learning are to ensure that all students:
- **Describe the factors that affect movement**
- **Calculate speed**

Keyword	Definition
Skeleton	The internal framework of bones that support and protect the body.
Antagonistic muscles	A pair of muscles working together (contracting and relaxing) to move a joint backwards and forwards.
Joint	Places where bones can move in different directions.
Tendon	Strong cord-like tissues that attach the bones in the joint to the muscles.
Ligament	Strong, cord-like tissues attached to the ends of bones either side of joints.
Speed	How fast an object is moving. Calculated by dividing distance over time.
Distance	How far an object has travelled.
Time	How long it took to get there.
Distance-Time Graphs	A graph that represents a journey.
Accelerating	The object is getting faster.
Decelerating	The object is slowing down.
Stationary	The object is not moving.
Streamlining	Reducing the effects of air resistance (drag) on an object so that it can travel faster.
Drag	A force which acts against the movement of an object.

Key Concepts

The Human Skeleton and Muscles

Muscles can only contract and relax, so they always work in pairs called antagonistic muscles.
Skeletal muscle is joined to bones. Its cells contract to make bones move and joints bend.

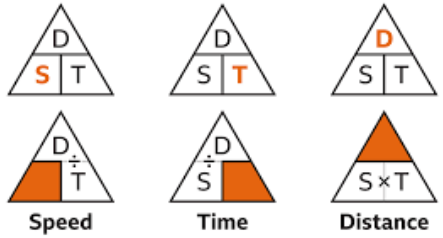


Speed

Speed is a measure of how fast an object is moving.
To work out an object's speed you need to know the distance it has travelled and the time time taken.

Calculate speed using the equation:

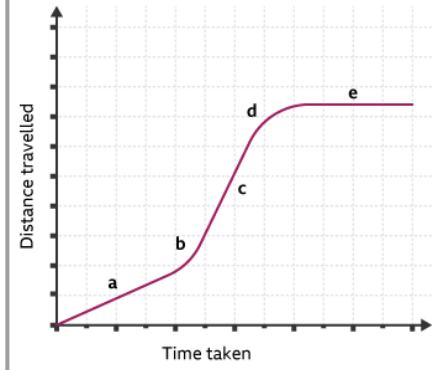
Speed = Distance/Time



Distance-Time Graphs

A **distance-time graph** is a useful way to represent the motion of an object. It shows how the distance moved from a starting point changes over time.
Time in seconds is on the x-axis. Distance in metres is on the y-axis.

At **a**, the object is travelling at a **constant speed**, so it is shown with a straight diagonal line, where the **gradient** of the line tells you the speed.



At **b**, the object is **accelerating** so it is shown with a curved line which gets steeper.
At **c**, the object is travelling at a constant speed again, but this time it is faster, so the straight line is steeper - it has a larger gradient.
At **d**, the object is **decelerating**, so line is curved and gets less steep.

At **e**, the object is **stationary**, so its distance does not change as the time taken increases.

Streamlining

Drag is the force which acts against the movement on an object when it moves through a fluid (a liquid or gas). The faster the object moves the more drag it experiences. When the fluid is air, drag is usually described as **air resistance**.
The effects of air resistance can be reduced by **streamlining** the object, which will allow the moving object to go faster for the same **thrust** force.

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Year 8 Movement

The aims of the sequence of learning are to ensure that all students:
- **Describe the factors that affect movement**
- **Calculate speed**

Retrieval Practice

Questions	Answers
What is the function of the skeleton?	Support. movement, protection, and production of blood cells.
What attaches muscles to bones?	Tendons
How do antagonistic muscles move joints?	One muscle will contract, and the other muscle will relax
What is speed?	How fast an object is moving
How do we calculate speed?	Speed = Distance ÷ Time
What forces slow objects down?	Friction and Air/Water resistance
What is streamlining?	When objects are designed to reduce drag so that they can move faster with the same amount of thrust.
What types of shapes are streamlined?	Curved, smooth shapes.
What is a distance-time graph?	A way to show the motion of an object, usually a journey.
On a distance-time graph, a straight line pointing upwards indicates:	An object is moving away at a steady speed.
On a distance-time graph, a horizontal straight line indicates:	The object is stationary.
On a distance-time graph, a straight line pointing downwards indicates:	An object is moving back towards the start at a steady speed.
On a distance-time graph, a curved line indicates:	That an object is either speeding up (accelerating) or slowing down. (decelerating).

Career Focus - Where could this take you?

I am an air traffic controller. This job is challenging but extremely rewarding and exciting. I have to work under pressure making quick and accurate decisions to keep aircraft safely separate from one another.
I have undergone lots of training, but I need to be good at understanding distances and speeds. I also need to be good at communicating with my team as well as giving clear instructions to pilots.
There are 3 types of controllers; area controllers , approach controllers and aerodrome controllers . The day to day tasks you carry out will depend on which type of controller you are.

Challenge Activities

1. Make flashcards for the definitions and retrieval practice questions.
2. Make a mind map for this topic. Remember to include keywords and the links between information.
3. Construct a poster about how antagonistic muscles work. Give at least three examples of these working together in the human body.
4. Research air traffic controller in more detail. Find out about what the three different types of controllers do and how to become an air traffic controller.
5. Produce a leaflet about how speed cameras work.
6. Find out about a famous scientist that changed our understanding about speed and the forces involved in movement.

Topic Links

This topic links to:
- Forces
- Organisation
- Respiration

We will also be practising how to
- Calculate speed
- Interpreting distance-time graphs
- Analyse results

Additional Resources

To further practise and develop your knowledge see:

Educake - https://www.educake.co.uk/
BBC Bitesize - https://www.bbc.co.uk/bitesize/topics/z4brd2p/articles/zw9qwnb
YouTube Cognito - https://www.youtube.com/watch?v=RM02SnuJ0MY

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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 8 Our Warming Planet

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

- Describe the greenhouse effect
- Explain the causes of the enhanced greenhouse effect
- Describe the impacts of climate change on the planet
- Explain how the impacts of climate change can be reduced

Keyword	Definition
Adaptation	Actions taken to adjust to natural events such as climate change, to reduce potential damage, limit the impacts, take advantage of opportunities, or cope with the consequences.
Enhanced Greenhouse effect	The warming of the Earth's atmosphere due to human activity increasing the layer of greenhouse gases.
Greenhouse effect	A natural process that traps heat in the atmosphere
Greenhouse Gases	Gases in the earth's atmosphere that trap heat
Long-wave radiation	Energy that is radiated outward by the Earth (land and sea)

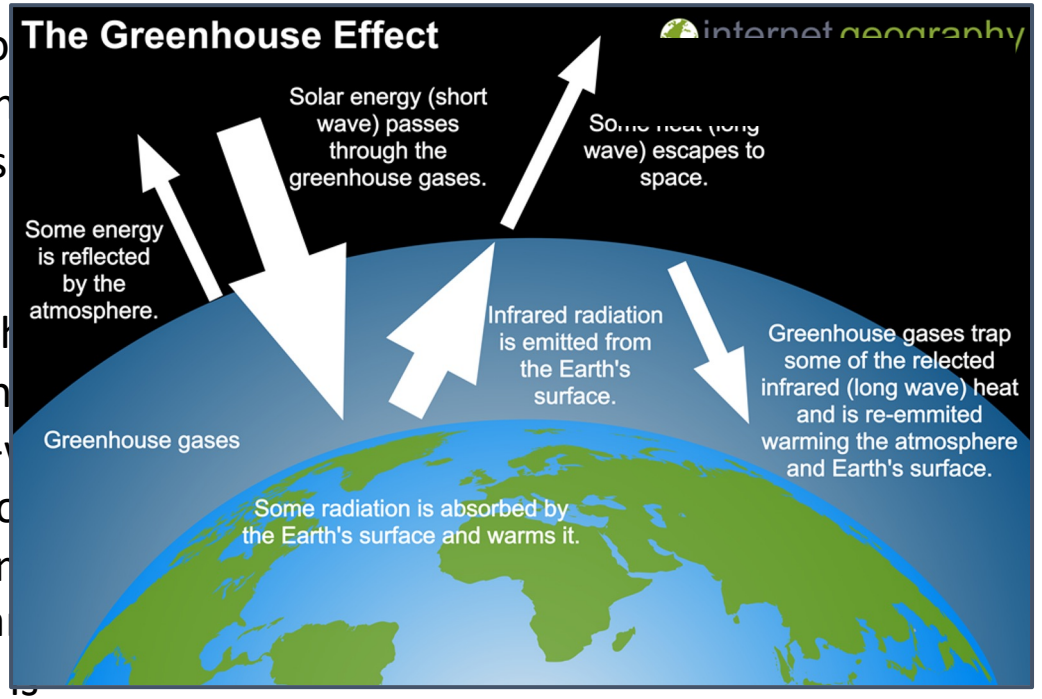
Key Concepts

The Greenhouse effect

The Greenhouse effect is a naturally occurring phenomenon that keeps the Earth warm enough for life to exist. It is estimated that the Earth would be 33° colder without the greenhouse effect.

Like a greenhouse, the atmo
through it to warm the Earth
as glass does in a greenhous

The Sun's short-wave solar
radiation enters the atmosph
The heat is reflected from th
surface of the Earth as long-
radiation. The natural layer o
greenhouse gases allows sor
to be reflected out of the Ea
atmosphere, but some heat i
trapped by CO2 and methane,
keeping temperatures warm



Year 8 Our Warming Planet

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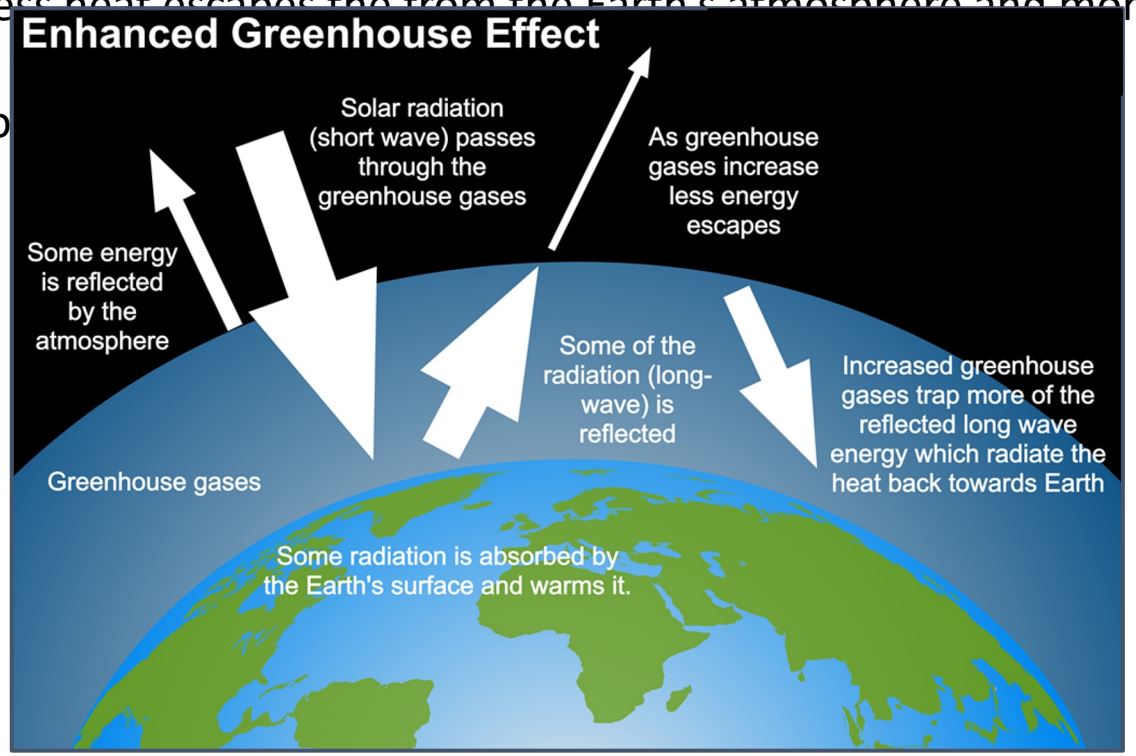
Key Concepts

The Enhanced Greenhouse effect

The enhanced greenhouse effect involves human activity increasing the layer of greenhouse gases which naturally exists. Activities that generate greenhouse gases include burning fossil fuels, transport, agriculture and deforestation. Less heat escapes the from the Earth's atmosphere and more is to



Human Causes of climate change

Human activities increase the volume of greenhouse gasses in the atmosphere leading to the enhanced greenhouse effect because increased greenhouse gases trap more of the infrared heat reflected by the surface of the Earth. Average global temperature increases due to sing climate change. These include:

- Burning fossil fuels - When coal, oil and burned, carbon dioxide is released into atmosphere
- Agriculture - Increased pastoral (animal leads to more methane being released atmosphere
- Deforestation – Trees absorb carbon dioxide during photosynthesis. When trees are cut down, less carbon dioxide will be absorbed, leading to increased concentrations in the atmosphere.

Evidence for climate change

Tree Rings – Each year a tree grows, it forms a new ring. The thicker the ring, the warmer and wetter the climate for that year - showing how climate changes over time.

Ice Cores – Taken from ice caps by drilling into the ice. They can go back over 800,000 years. Trapped air bubbles tell us the temperature it was in each year.

Year 8 Our Warming Planet

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

- Describe the greenhouse effect
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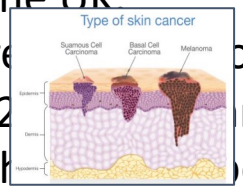
- Explain how the impacts of climate change can be reduced

Key Concepts

Effects of Climate Change

Social effects:

- Increased risk of disease such as skin cancers
- Crop yields affected – maize will decrease by up to 12% in South America.
- Drought reduces food and water supplies in sub-Saharan Africa. Water scarcity in the south and southeast of the UK



ncre of As d risk of
g. 2 n flo
ath ecor nse, e.g. tropical storms

effe
- Increased drought and risk of forest fires.

Mitigation - reducing the causes of climate change by reducing greenhouse gases in the atmosphere

- Alternative Energy Production - Developing renewable energy solutions such as wind, solar and tid reduces our reliance on fossil fuel burning p stations. This helps reduce carbon dioxide e being released into the atmosphere
- Planting trees helps reduce the amount of carbon dioxide in the atmosphere as trees absorb it as part of photosynthesis
- International agreements encourage countries to take responsibility for reducing CO2 emissions. Targets are more likely to be met if legally binding e.g., Paris 2015

Adaptation - these strategies do not aim to reduce the impact of climate change but respond to it by reducing its negative effects

- Managing Water Supply - There may be a greater need for developing water transfer schemes. This involves moving water from areas of surplus (more water than

Year 8 Our Warming Planet

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

- Describe the greenhouse effect
- Explain the causes of the enhanced greenhouse effect
- Describe the impacts of climate change on the planet
- Explain how the impacts of climate change can be reduced

Retrieval Practice

Questions	Answers
What is the greenhouse effect?	A naturally occurring phenomenon that keeps the Earth warm enough for life to exist
What is the enhanced greenhouse effect?	The warming of the Earth's atmosphere due to human activity increasing the layer of greenhouse gases.
Name 2 human causes of climate change	Deforestation and Burning fossil fuels
How do tree rings show evidence of climate change?	The thicker the ring, the warmer and wetter the climate for that year
How does deforestation contribute to climate change?	When trees are cut down, less carbon dioxide will be absorbed,
Give 2 social effects of climate change	More extreme weather and droughts across the world
Give 2 environmental effects of climate change	Coral bleaching and sea level rise
Describe 1 way to mitigate climate change	Developing renewable energy solutions such as wind and solar power to reduce carbon dioxide emissions
How can water transfers help areas adapt to climate change?	It moves water from areas of surplus (more water than is used) to areas of water deficit (not enough water)

Career Focus - Wind Turbine Engineer

I am a **wind turbine engineer.**
It is my job to install wind turbine towers on land or at sea fit electrical and fit/check the mechanical and hydraulic equipment. Often, I must carry out maintenance, find faults and fix them as well as running safety checks on electrical substations and cables. I often work in remote rural areas or at sea, sometimes this may be at height and outdoors in all weathers.

Challenge Activities

- Create a poster or information leaflet about the causes and impacts of global warming
- Produce a passionate speech for to influence the Government which gets them to develop more strategies to reduce global warming
- Create a shoebox model which covers global warming - causes/effects/responses

Topic Links

This topic links to themes in:
Science
GCSE Geography
French/German - environment

Additional Resources

Climate Change

Global Warming

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Year 8: Civil Rights Movement

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

- Explore what life was like in America after slavery was abolished.
- Explain how African-Americans were segregated in America and discriminated against.
- Evaluate the roles of different people and events in the Civil Rights Movement which helped achieve the Civil Rights Act of 1964.
- Consider the difference between the roles of Martin Luther King and Malcolm X in the Civil Rights Movement.

Keyword	Definition
Racism	The belief that people of different races or ethnic groups have different value in society and using this against them.
Prejudice	A preconceived opinion that is not based on reason or actual experience.
Discrimination	Treating one group or person more unfairly than another.
Segregation	The separation of groups of people like black and white people in society.
Integration	Opposite of segregation - the action of bringing together and uniting things fairly.
Jim Crow Laws	A series of laws passed in the southern states to stop equality and enforce segregation in all aspects of life.
NAACP	The National Association of the Advancement of Coloured People.
Political Movement	A collective attempt by a group of people to change government policy or society.
Activism	A type of campaign which uses actions and resources to bring about change.
Boycott	Not using a service or purchasing goods from a company in the hope that the company will change a policy or practice.
Sit-ins	A protest where people sit down and refuse to leave a place.
Supremacy	The belief that a particular group, especially one determined by race, religion, or sex, is superior and should therefore dominate society.
Lynching	The mob killing of a person outside of the law. This was used by the KKK.
Desegregation	A legal process of ending the separation and isolation of different racial and ethnic groups.
Civil Rights	The rights of citizens to equality.

Key Concepts

Jim Crow Laws:
Although slavery had been abolished in 1865, laws in many Southern American states preserved the idea of segregation between black and white people. This was through a set of laws called the 'Jim Crow Laws' which gained their nickname through the minstrel song and performance 'Jump Jim Crow'.
As part of these laws, public transport and facilities were divided between those suitable for white people and those suitable for black people. Black Americans were supposed to use separate train carriages, drinking fountains, public toilets and schools. The facilities provided for black people were almost always inferior to those for the white people. It was also against the law for black and white people to get married.
These laws only existed in the south but the northern states were still rife with inequality, even if this was not enforced in law.

The Ku Klux Klan (KKK):
A racist, anti-Semitic, Protestant group that carried out intimidation and lynching in the USA. They were formed after the American Civil War in 1865 and believed in the idea of 'white supremacy'. At its height, the KKK had 4 million members across the USA. Their distinctive face masks and practice of burning crosses was designed to intimidate black Americans, Jews, Mexicans, Catholics and any white people who associated with black people.
Some members of the KKK were in senior positions of the police force and government.

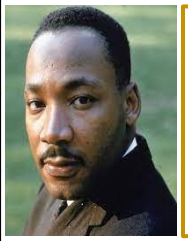
Ku Klux Klan members, 1948

Brown vs Board of Education:
In 1954 the NAACP took the Board of Education in Topeka, Kansas to court to allow an African-American schoolgirl, Linda Brown, to attend a white school as her school was several kilometers away and she had to cross a dangerous railway track to get there. On May 17, 1954, the Court ruled that segregated public schools were unfair and integrated schools should be established across the southern states. The *Brown* case saw the beginning of the civil rights movement, inspiring education reform everywhere and forming the legal means of challenging segregation in all areas of society.

Little Rock Nine:
Despite the NAACP victory in 1954, by 1957 many states had refused to create integrated schools. At the Little Rock school in Arkansas, nine black students were stopped by state troops from entering the school. The official reason for this was that the Governor of Arkansas was concerned for their safety, but a direct order from President Eisenhower stood the troops down, allowing the students to attend their lessons.

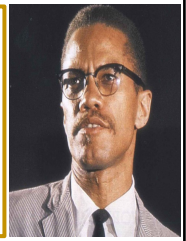
Rosa Parks and the Montgomery Bus Boycott:
On 1st December 1955, Rosa Parks, an African-American woman, decided to take a stand against segregation by refusing to give up her seat to a white man on the bus. Like many of the southern states, Montgomery, Alabama had a segregated bus service with certain seats for white and black people. Rosa's peaceful refusal to follow this system saw her arrested, an act that sparked huge protest. The African-American community in Montgomery formed an action group known as the Montgomery Improvement Association (MIA). This group, led by Martin Luther King Jr. boycotted the bus service for 381 days, which nearly bankrupted the company. This peaceful protest saw the bus company give in, the MIA won a legal battle to have segregation on buses banned throughout the USA.

Freedom Rides:
Many places refused to follow the new integrated bus rules, so peaceful protests by black and white activists began. They rode segregated buses, facing extreme violence - 200 'freedom riders' were jailed! It took pressure from President Kennedy to finally stop segregation on buses.



Martin Luther King Jr:
At an early age, King was inspired by his father's opposition to racial segregation and discrimination. Although he grew up in a system that treated him as inferior, his mother taught him he was "as good as anyone". He is famous for his peaceful protests including; the Montgomery Bus Boycott, his letter from a Birmingham jail, his speeches on Vietnam, his 'I have a dream' speech and his march to protest against voting rights

Malcolm X:
Orphaned at an early age and getting into trouble, Malcolm Little found himself in prison in 1946. During his time in prison, he found Islam and became a member of the Nation of Islam, a political group of Muslims who campaigned for better rights for African-Americans. He believed MLK's soft approach was not working and that African-Americans should use violence if necessary to gain their freedom from white people.



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Year 8: Civil Rights Movement

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

- **Explore what life was like in America after slavery was abolished.**
- **Explain how African-Americans were segregated in America and discriminated against.**
- **Evaluate the roles of different people and events in the Civil Rights Movement which helped achieve the Civil Rights Act of 1964.**
- **Consider the difference between the roles of Martin Luther King and Malcolm X in the Civil Rights Movement.**

Retrieval Practice

Questions	Answers
What date did Slavery end?	Slavery ended in America on 18th December 1865 as part of the 13th Amendment.
What was the Jim Crow Laws?	A set of laws which were introduced in the Southern States of America to enforce racial segregation.
What laws did the Jim Crow Laws consist of?	Public transport and facilities were divided. Black Americans were supposed to use separate train carriages, drinking fountains, public toilets and schools. Interracial marriage was forbidden.
Why did the Brown vs Board of Education trial take place?	Linda Brown was having to walk miles and across dangerous conditions to get to her school when there was a white school much closer.
Who were the 'Little Rock Nine'?	Nine African-American students who tested the new education system by enrolling in the all-white Little Rock Central High School in 1957.
Who were the KKK and what did they do?	A racist, anti-Semitic, Protestant group that carried out intimidation and lynching in the USA against black Americans, Jews, Mexicans, Catholics and white people who associated with black people.
What happened with Rosa Parks and the Montgomery bus boycott?	Rosa Parks was arrested when she refused to give up her seat on the bus to a white person. As a result a boycott of the busses was arranged in Montgomery and took place for 381 days.
What was Martin Luther King's role in the Civil Rights Movement?	He is famous for his peaceful protests including; the Montgomery Bus Boycott, and his speeches like 'I have a dream'.
What was Malcolm X's role in the Civil Rights Movement?	He had a more radical approach to Martin Luther King and campaigned for better rights for African-Americans. He famously stated 'violence should be met with violence'.
When was the Civil Rights Act passed and what did it state?	The Civil Rights Act was passed in 1964 and prohibited discrimination on the basis of race, colour, religion, sex or national origin.

Career Focus - Where could this take you?

I am a Police Officer: My job is to keep law and order, investigate crimes and try and prevent crimes from happening. I need to ensure that people in society are kept safe and that any unrest is dealt with as soon as possible to prevent further problems arising. To do my job I need to have patience, good negotiation and communication skills, investigation and research skills and I need to be strong just in case criminals try and resist arrest. I also need to have the ability to solve problems.

Challenge Activities

1. Research one of the following 'Civil Rights' activists and create a full fact file about them and their lives. You should include pictures too:

- John Lewis - Ella Baker
- Medgar Evers - Fannie Lou Hamer

2. Write a newspaper article on either the Montgomery Bus Boycott or the Brown vs Board of Education trial. You should include what caused the event, what happened and the outcome. You should also include pictures. Do not just copy and paste from the internet.

3. Write a biography of the life of either Martin Luther King or Malcolm X. You should include their early years and upbringing, their role in the Civil Rights Movement and their influence in America before and after their assassination.

Topic Links

This topic links to other Humanities topics such as:

- The Slave Trade
- Industrial Revolution
- World War One and World War Two
- Africa

Additional Resources

To further practise and develop you knowledge see:

https://www.history.com/topics/black-history/civil-rights-movement

https://bestlifeonline.com/civil-rights-leaders/

https://www.history.com/topics/black-history/montgomery-bus-boycott

https://www.britannica.com/biography/Martin-Luther-King-Jr

https://www.britannica.com/biography/Malcolm-X

Year 8 Sikhism - Beliefs

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

- Explain who Guru Nanak is & his role & significance within the Sikhi community & know the term Sangat
- Analyse the significance of the Guru Granth Sahib & Know that the Guru Granth Sahib is the source of spiritual authority for Sikhs
- Re-call the phrase 'wahe-guru' as an expression of devotion & greeting & why this is important in prayer
- Explain the Sikhi symbols & its significance
- Evaluate the Mul Mantar as the opening hymn in the Guru Granth Sahib and explain the Sikhi belief about the nature of God

Keyword	Definition
Sangat	It is the community of people who come together to meet and worship within the Gurudwara in the presence of the Guru Granth Sahib, which is the Sikh holy book.
Guru Granth Sahib	The Guru Granth Sahib is the holy book for Sikhs. This is considered as the last and final Guru with Sikhism.
Spiritual	A feeling or a sense that there is something greater than myself. Something more to being human. Within Sikhism, spirituality is centred around the understanding of God and to eventually becoming one with God.
Mul Mantar	The Mul Mantar is the opening verse of the Guru Granth Sahib. This is important to Sikhs hence being the first words written in the Guru Granth Sahib. This was written by Guru Nanak giving a short description of what God is like (God's nature).
Devotion	When someone has a strong religious feeling. This means of being devoted to something such as showing strong love, affection or dedication.

Key Concepts

Guru Nanak

Guru Nanak – the founder of Sikhism.
Guru Nanak (1469-1539) was one of the greatest religious person who introduced new ideas and changes to the world.

Nanak's religious ideas have been drawn from both Hindu and Islamic thought. Nanak was an original spiritual thinker and expressed his thoughts in writing great poetry that forms the basis of Sikh scripture which is within the holy book, the Guru Granth Sahib.
Little is known about the life of Nanak, but Sikh tradition has a much-loved set of stories or *janam sakhis* which relate various incidents from his life, and include many of his important teachings.
Nanak was born about 40 miles from Lahore (now in Pakistan) in 1469. Sikh traditions teach that his birth and early years were marked with many events that demonstrated that God had marked him out for something special and was keeping an eye on him.
His family were Hindus, but Nanak soon showed an advanced interest in religion and studied Islam and Hinduism in detail. As a child he demonstrated great ability as a poet and philosopher.

Sangat

As he travelled, he started to gather people together to sing hymns, worship and learn about the oneness of humanity and the one true God Waheguru. He referred to these groups as the **sangat**. Guru Nanak believed that being part of a community would help individuals become closer to Waheguru.
Sikhs believe that the community is a vital part of their personal journey towards God.

Sikh Symbol
The Khanda

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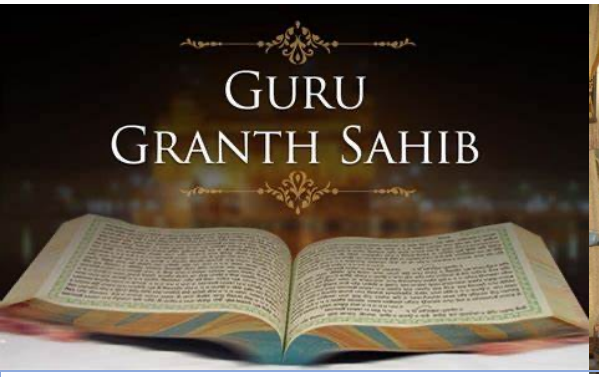
Year 8 Sikhism - Beliefs

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

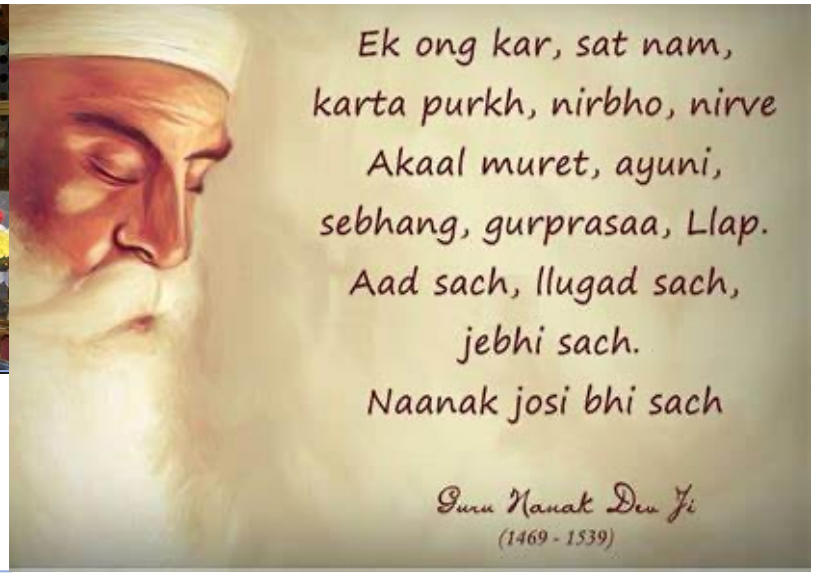
- Explain who Guru Nanak is & his role & significance within the Sikhi community & know the term Sangat
- Analyse the significance of the Guru Granth Sahib & Know that the Guru Granth Sahib is the source of spiritual authority for Sikhs
- Re-call the phrase 'wahe-guru' as an expression of devotion & greeting & why this is important in prayer
- Explain the Sikhi symbols & its significance
- Evaluate the Mul Mantar as the opening hymn in the Guru Granth Sahib and explain the Sikhi belief about the nature of God

Key Concepts



The Guru Granth Sahib is not just the holy scripture of Sikhism. It is also considered as the living Guru. Before Guru Gobind Singh died, he declared that there would be no more human Gurus and that the Guru Granth Sahib would be the Eternal Guru.

- It contains the words spoken by the Gurus. This is known as Gurbani, which means 'from the Guru's mouth'.
- It is believed to be the word of God and is therefore has no mistakes.
- It is written in Gurmukhi. This is the script the Punjabi language is written in.
- It is placed in the prayer hall within the gurdwara. Any building that has a copy of the Guru Granth Sahib is considered a gurdwara.
- It is considered as the Living Guru, because the Gurmukhi scripture is considered the word of God and therefore treated with respect as a human might be.



The Mool Mantar is the Sikh statement of belief. It is the basis of the whole of Sikhism and contains the key beliefs about Waheguru. It is taught to all young Sikh children. The Mool Mantar is the most important text in Sikhism, which is reflected in the fact that it is the opening text of the Guru Granth Sahib.

The first line of the Mool Mantar is "Ik Onkar", which means "There is only one God". This symbolises the importance of the belief in the oneness of God and the oneness of humanity (the belief that everyone is equal).

The Ik Onkar symbol is seen in many gurdwaras and Sikh homes to help focus Sikhs when praying and meditating.

The Mul Mantar

There is only one God	Ik onkar
Eternal truth is his name	Sat Nam
He is the creator	Kurtah Purakh
Without fear	Nir Bhau
Without hate	Nir Vair
Immortal without form	Akaal Moorat
Beyond birth and death	Ajooni
Self-existent	Saibhang
By the Guru's grace	Gurprasaad

Year 8 Sikhism - Beliefs

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

- Explain who Guru Nanak is & his role & significance within the Sikhi community & know the term Sangat
- Analyse the significance of the Guru Granth Sahib & Know that the Guru Granth Sahib is the source of spiritual authority for Sikhs
- Re-call the phrase 'wahe-guru' as an expression of devotion & greeting & why this is important in prayer
- Explain the Sikhi symbols & its significanceEvaluate the Mul Mantar as the opening hymn in the Guru Granth Sahib and explain the Sikhi belief about the nature of God

Retrieval Practice

Questions	Answers
What are the group of people called who follow the religion of Sikhism?	The people who follow the religion of Sikhism are called Sikhs.
Who was the founder of Sikhism?	The founder of the religion of Sikhism is called Guru Nanak.
Where did Sikhism begin?	Sikhism began in the Punjab region in the late 15th century, which now falls into the present day states of India and Pakistan.
What is the opening word of the Guru Granth Sahib?	The opening of the Guru Granth Sahib begins with the word 'Ek Onkar'.
What is the Guru Granth Sahib?	The Guru Granth Sahib is the holy book within Sikhism. This book is considered as the final living Guru on earth.
Name the symbol of Sikhism.	The symbol of Sikhism is called the Khanda.
What language is the Guru Granth Sahib written in?	The language written within the Guru Granth Sahib is called Gurmukhi.
Define the word Gurudwara.	The Gurudwara is the Sikh place of worship where the holy book , the Guru Granth Sahib is placed.

Career Focus - Where could this take you?

I work with The Royal Bank of Scotland. At RBS, we're given three work days a year to do voluntary work on local community projects Such as teaching asylum seekers and refugees about how to write a CV and giving them the confidence to make a presentation and have a successful job interview. I work with a lot of people with different ethnicities.

Challenge Activities

- Explain in detail why the Guru Granth Sahib is important to Sikhs?
- Create a poster on the gurudwara and label the key points – explain each in detail – why is it important?
- Create a short story on the life of Guru Nanak.
- Create a leaflet for someone to explain the key beliefs of Sikhism.
- Research the history of the Sikhs.
- Draw the Sikh symbol (the khanda) and explain the importance and the beliefs behind it.

Topic Links

This topic links to other topics such as:

- Sikhi Practices
- Buddhism
- Hinduism

We will also be practising how to

- Argue a point and practise our Voice 21
- Participate in debates
- Write PEE sentences/how to answer exam questions

Additional Resources

To further practise and develop your knowledge see:
https://www.bbc.co.uk/bitesize/topics/zsjpyrd/articles/zkjpkmn

https://www.bbc.co.uk/bitesize/topics/zg63cdm/articles/znn792p

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MFL

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 8 Le Sport.

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

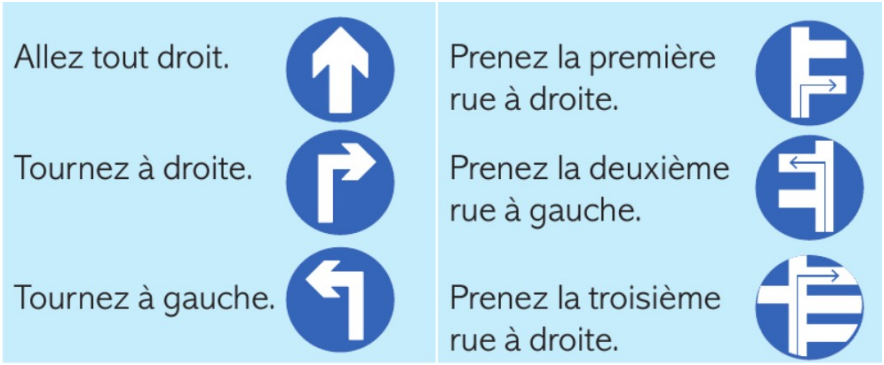
- say what sports people play.
- say what activities people do.
- Compare 2 or more things
- give and ask for directions.
- recognise parts of the body.
- talk about injury and illness.

Key concepts

Talking about what sport and activities you can do.

Je joue *I play* Dans mon village, on peut jouer *In my village, you can play* Dans ma ville, on peut jouer *In my town, you can play*	au	basket. *basketball.* billard. *snooker.* foot(ball). *football.* handball. *handball.* rugby. *rugby.* tennis. *tennis.* tennis de table. *table tennis.* volleyball. *volleyball.*
Je fais *I go/do* Dans mon village, on peut faire *In my village, you can go/do* Dans ma ville, on peut faire *In my town, you can go/do*	du	footing. *jogging.* judo. *judo.* ski. *skiing.* vélo. *cycling.*
	de la	gymnastique. *gymnastics.* musculation. *weight training.* natation. *swimming.* voile. *sailing.*
	de l'	athlétisme. *athletics.* équitation. *horse riding.*

Pour aller ……? Asking for directions



Plus ou moins? Comparing things.

plus…… que	**more ….than**	**moins…. que**	**Less ……than…**

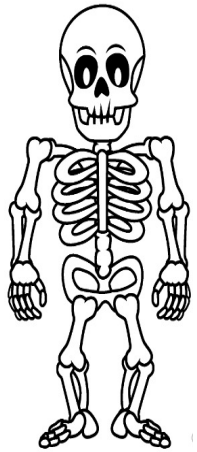
Je trouve le tennis/ la gymnastisque I find tennis / gymnastics	amsuant(e) - fun compliqué complicated divertissant(e) entertaining fatigant(e) - tiring intéressant(e) interesting passionnant(e) exciting	relaxant(e) relaxing violent(e) - violent ennuyeux/euse boring difficile - difficult facile - easy
A mon avis/Pour moi, le footing est plus facile que la natation In my opinion/For me, jogging is easier than swimming		

Giving advice for healthy living

Il faut You must	travailler dur - work hard manger équilibré - eat healthily boire beaucoup d'eau - drink lots of wáter avoir de l'assurance - be confident être motivé(e) et déterminé(e) be motivated and determined aller à la salle de fitness - go to the gym dormir huit heures par nuit - sleep for 8 hours a night faire d'autres activités aussi - also do other activities
Il ne faut pas You mustn't	fumer de cigarettes - smoke cigarettes consommer de drogue - take drugs

Ça va?– discussing illness and injury.

Ça va? J'ai mal I have a sore je me suis blessé(e) I've hurt my	au	bras - arm jambe - leg dos - back genou - knee nez - nose pied - feet
	à la	bouche - mouth gorge - throat tête - head
	à l'	épaule - shoulder oeil - eye oreille - ear
	aux	yeux - eyes
j'ai - I have	de la fièvre - fever la grippe - flu un rhume - a cold	



Key sounds

eu		ou	
bleu	**deux**	**genou**	**bouche**
	2		

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Year 8 Le Sport.

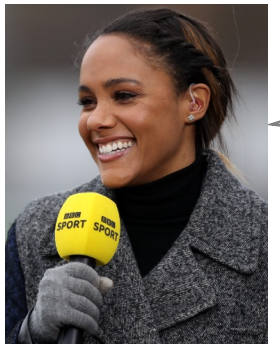
The aims of the sequence of learning are to ensure that all students can:

- say what sports people play.
- say what activities people do.
- Compare 2 or more things
- give and ask for directions.
- recognise parts of the body.
- talk about injury and illness.

Retrieval Practice

Questions	Answers
Qu'est-ce qu'on peut faire?	Dans ma ville, on peut faire **du judo. C'est cool.**
Qu'est-ce qu'on peut jouer?	Dans ma ville, on peut jouer au **foot** ou **au volley.**
Qu'est-ce que tu fais?	Je fais **de l'équitation** parce que c'est **formidable.**
Quel est ton opinion de **golf**?	À mon avis, **le golf** est **moins intéressant** que le **rugby**
Pour aller **au stade** s'il vous plait?	**Tournez à gauche et prenez la deuxième rue a gauche.**
Qu'est-ce qu'il faut faire pour être en forme?	✓Il faut **être motivé** et **bien manger**
Qu'est-ce qu'il ne faut pas faire pour être en forme?	✗Il ne faut pas **fumer**.✗
Vous allez bien?	Non, j'ai mal **au bras** et j'ai **une rhume.**

Career Focus - Where could this take you?



I am a sports journalist.
Speaking a foreign language allows me to be given assignments abroad.
I have travelled all over the world and I have reported on many international sporting events.

Challenge Activities

1. Create a poster in French for a local sports centre. Say what sports and activities you can do there. Don't forget opening hours and prices.
2. Research what the most popular hobbies are in France for young people your age. How is this different or is this the same?
3. Complete the Languagenut activities.

Topic Links

This topic links to:

- Expressing likes and dislikes.
- My hobbies.
- Healthy Lifestyles.

Additional Resources

To further practise and develop your knowledge see:

- Language nut.
- Oak academy.

Your teacher can remind you of your login.

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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

Year 8 - 8.2: Kodu

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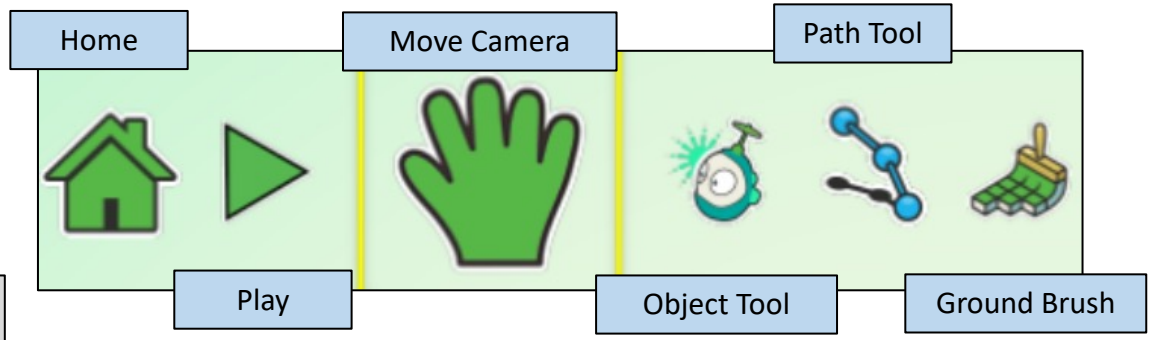
The aims of the sequence of learning are to ensure that all students:

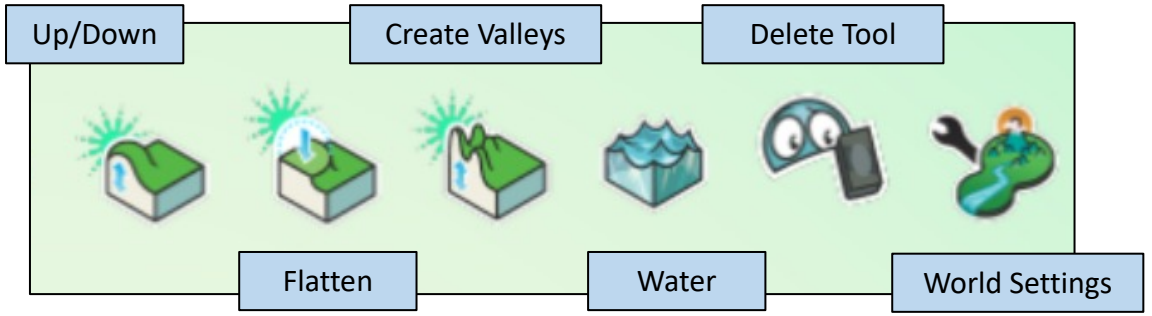
- Describe the Kodu tool bar
- Describe the appropriate use of tiles, rules, scripts and settings in Kodu
- Evaluate the use of tiles, rules, scripts and settings used to create a range of games in Kodu
- Describe the definitions of some keywords in Kodu

Keyword	Definition
Script	The set of instructions used to program in Kodu, usually presented as a collection of tiles that connect with one another using “rules”.
Rule	Each line of a Kodu program is called a rule. Every rule has a WHEN part and a DO part.
Action	The first tile in the DO part of a rule is the action. Examples include "move" and "eat“.
Object	A 3D graphic that can be programmed in the Kodu world.
Tile	Each rectangle that appears in a rule is called a tile. A tile contains a picture and an associated word or phrase.
Sequencing	The specific order in which instructions are performed in a program. If the sequence is incorrect, it may cause errors in a program.
Variable	A variable represents a location in memory. It is used to hold a value which you assign to it. This can change as you play your game, e.g. ‘Points’ = 10
Creatable	Characters that do not exist when you start the game. Instead, they are programmed and spawned by other characters as needed.
Iteration (Loop)	The repetition of a sequence of instructions, e.g. use of ‘Always’ tile in ‘WHEN’ part of a rule.
Condition	The first tile in the WHEN part of a rule is the condition. Examples include "see" and "bump". Conditions can either be true or false, depending on the state of the world.

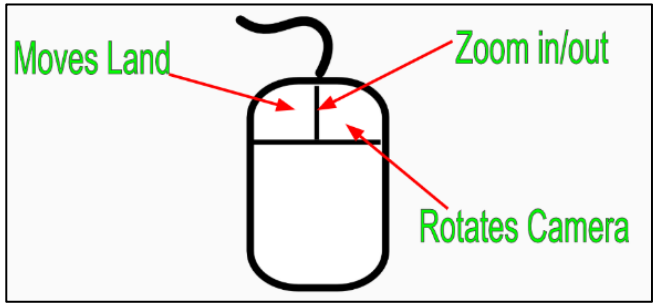
Key Concepts

Kodu Toolbar





Mouse Controls



Object Wheels

Year 8 - 8.2: Kodu

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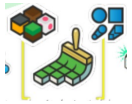
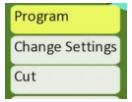
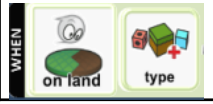
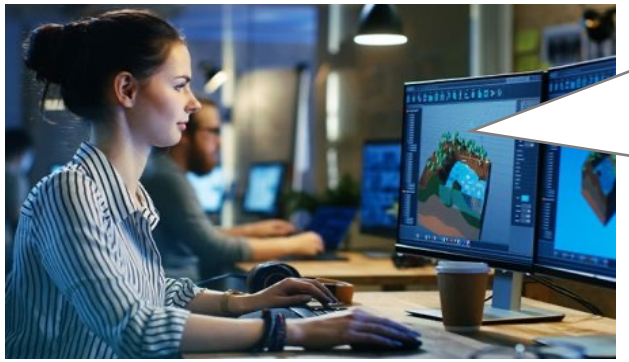
The aims of the sequence of learning are to ensure that all students:

- Describe the Kodu tool bar
- Describe the appropriate use of tiles, rules, scripts and settings in Kodu
- Evaluate the use of tiles, rules, scripts and settings used to create a range of games in Kodu
- Describe the definitions of some keywords in Kodu

Retrieval Practice

Questions	Answers
Describe how to add more land (terrain) on the Kodu world	 Find the tool bar at the bottom of the screen and click on the 'Ground Brush' tool. Select the land type and then left-click to add land.
Describe how to add objects on to your terrain	 Find the tool bar at the bottom of the screen and click on the 'Object Tool'. Click on terrain where you would like to add the object before selecting the object.
Describe how to program an object in Kodu	 Make sure you have clicked on the 'Object Tool' before right-clicking on the object that you would like to program. The press the 'esc' key on the keyboard to return back to the Kodu world
Describe how to play the game that has been created in Kodu	 Find the tool bar at the bottom of the screen and click on the 'Play' tool.
Describe what the 'Path tool' can be used for on Kodu	The path tool can be used to create different types of paths on the Kodu terrain or alternatively an invisible path that moving objects can be programmed to follow
Describe what is meant by the term 'iteration' and how to add iteration (loops) in a Rule.	 When programming an object click on the '+' button on the 'WHEN' section of a Rule (programming line). Select the 'Always' tile to create a loop.
Describe how to program what happens when objects touch a specific type of land on the Kodu world	 When programming an object click on the '+' button on the 'WHEN' section of a Rule. Select the 'On Land' tile and land type before adding tiles to the 'DO' section of a Rule.

Career Focus - Where could this take you?



I am a **Gameplay designer** and work in a team that is responsible for the central part of the game experience – how it plays. My job involves defining the game's structure, its rules, characters, and different modes of play, like story mode or multi-player.

Challenge Activities

1. Create a multiplayer game in Kodu that uses all of the tiles, scripts and techniques you have covered in this unit. Also, research the internet and include the use of new tiles and scripts that have not been covered in this unit.
2. Create a poster on MS PowerPoint that includes one or all of the following details: how to use variables, iteration, and conditional statements on Kodu to create games
3. Create a short vlog about the types of careers you could get into within the gaming industry. Explain what you would need to study at college and university to pursue these career paths

Topic Links

This topic links to:

- Computing Curriculum: Understand how instructions are stored and executed within a computer system
- Mathematics: use of logical inference, problem-solving skills and simple algebra

Additional Resources

To further practise and develop your knowledge see:

- https://www.kodugamelab.com/
- https://www.youtube.com/@KoduTeam

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CAPE

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.

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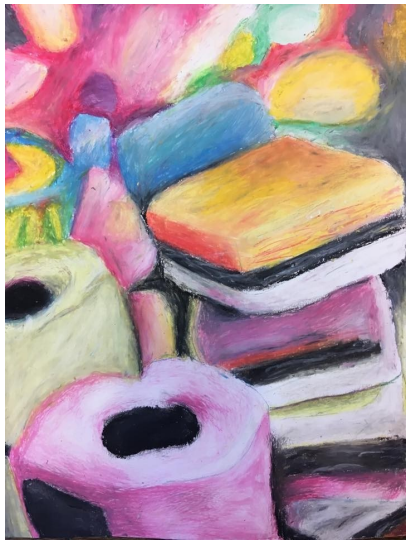
Year 8 Sweet Treats

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

- Develop knowledge of Contemporary artist Sarah Graham.
- Produce observational studies.
- Experiment with a range of media.
- Produce a personal response showcasing an understanding of this style.

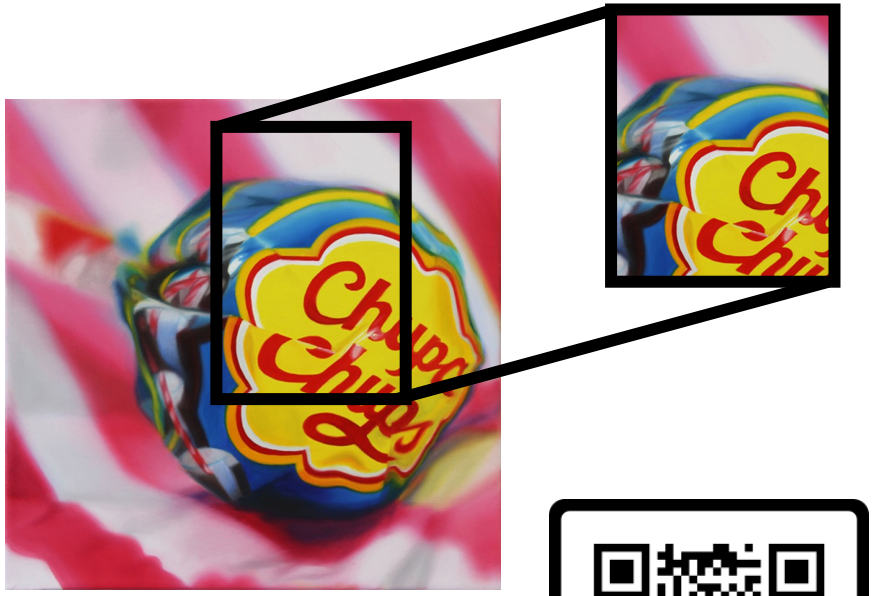
Keyword	Definition
Composition	The arrangement of elements within a work of art.
Realism	Representing a person, location or thing in a way that is accurate and true to life.
Focal Point	The main or principal point of focus.
Contemporary	The term contemporary art is loosely used to refer to art of the present day and of the relatively recent past, of an innovatory or avant-garde nature.
Media	Refers to the materials you use to create your art. Mixed media is artwork in the making of which more than one medium has been employed
View Finder	A viewfinder is a simple square or rectangle cut out of card that you can look through. Using a viewfinder helps you to focus on something and not get distracted by what's around it.

Key Concepts



During this project you will:

- explore the work of contemporary artist Sarah Graham.
- develop observational drawing skills.
- experiment with new media.
- Create your own response to Sarah Graham's work.



SCAN ME

Scan the QR code to watch a timelapse of how Sarah Graham creates her paintings.

SCAN ME

Newsome Academy
Everyone Exceptional Everyday

Year 8 Sweet Treats

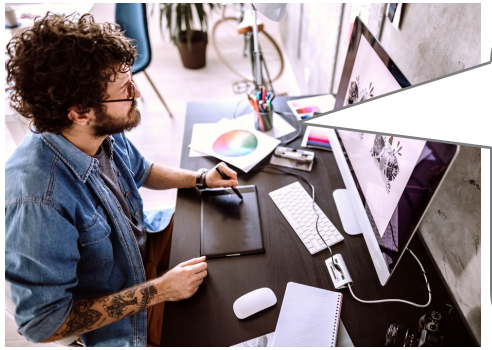
The aims of the sequence of learning are to ensure that all students:

- Develop knowledge of Contemporary artist Sarah Graham.
- Produce observational studies.
- Experiment with a range of media.
- Produce a personal response showcasing an understanding of this style.

Retrieval Practice

Questions	Answers
What is composition?	Composition is the arrangements of elements within a piece of artwork.
What does realism mean in art?	Realism is the Representation of a person, location or thing in a way that is accurate and true to life.
What is a focal point?	A focal point is the main point of focus in an artwork. It is the main part that your eye is drawn to.
What is a contemporary piece of artwork?	The term contemporary art is used to refer to art of the present day and of the relatively recent past.
What is the meant be the term media?	Media refers to the materials you use to create your art. Mixed media is artwork in the making of which more than one medium has been used.
How does using a viewfinder help when creating a piece of artwork?	Using a viewfinder helps you to focus on something and not get distracted by what's around it.

Career Focus - Where could this take you?



I am a **Print Designer** and I create digital patterns for products like fabrics, home goods, packaging and clothing.

Challenge Activities

Look through the examples of Sarah Graham's work 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.

SCAN ME

Topic Links

- English - Understanding terminology
- Science – accurate observation skills

Additional Resources

Scan the QR code to watch an interview with Sarah Graham.

SCAN ME

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Year 8 Food Tech

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

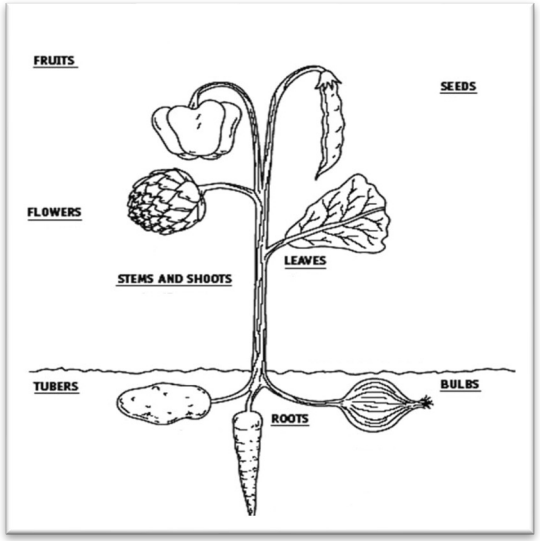
- Learn the basics of health & safety in the kitchen
- Be able to demonstrate a range of cooking skills including mixing, measuring, timing, testing, baking, boiling and frying
- Be able to select and prepare (including chop safely) vegetables and other food types
- Be able to prepare, cook and present a healthy hot meal

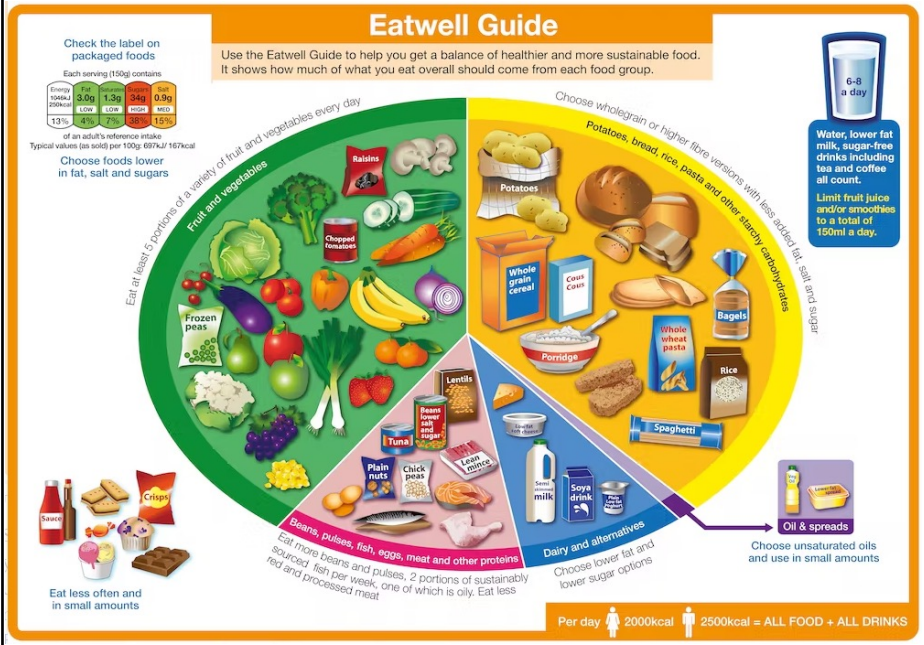
Keyword	Definition
Weighing scales	A tool used to accurately measure the weight/mass of ingredients
Knife	A sharp tool used for cutting food. Different types of knives have different uses, e.g. bread knife, fish knife
Chopping board	Board used for cutting food on to protect work surfaces. Generally made from glass, plastic or wood
Saucepan	A larger pan used for boiling water or making sauces
Frying pan	A frying pan is a flat-bottomed pan used for frying or sautéing food
Grater	A metal tool used for grating food into much smaller pieces
Baking tray	A metal or Pyrex tray used in the oven to cook food on
Cooling rack	A wire rack used to cool food, often baked products
Carbohydrate	Carbohydrates provide energy for the body. The body breaks carbohydrates down into glucose, which is the primary energy source for the brain and muscles.
Protein	Protein is one of the three nutrients found in food that the body needs in large amounts. It is essential for the maintenance and building of body tissues and muscle.
Fibre	Fibre is a type of carbohydrate that the body cannot break down and so it passes through our gut into our large intestine (or colon). It is found naturally in plant foods like wholegrains, beans, nuts, fruit and vegetables and is sometimes added to foods or drinks. Fibre helps to keep our digestive system healthy and helps to prevent constipation.
Fat	The body uses fat as a fuel source, and fat is the major storage form of energy in the body. Fat also has many other important functions in the body, and a moderate amount is needed in the diet for good health. Too much fat or too much of the wrong type of fat can be unhealthy.
Cross-contamination	Cross-contamination is the physical movement or transfer of harmful bacteria from one person, object or place to another.
Nutrient	a substance that provides nourishment essential for the maintenance of life and for growth.
Healthy	In a good physical or mental condition; in good health.

Key Concepts

The 4Cs Concept

By practicing the four Cs of food hygiene **cross-contamination, cleaning, cooking and chilling** those working with food can avoid food poisoning and other illnesses.





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Year 8 Food Tech

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

- **Demonstrate the basics of health & safety in the kitchen**
- **Be able to demonstrate a range of cooking skills including mixing, measuring, timing, testing, baking, boiling and frying**
- **Be able to select and prepare (including chop safely) vegetables and other food types**
- **Be able to prepare, cook and present a healthy hot meal**

Retrieval Practice

Questions	Answers
What are 8 tips for healthy eating?	• Base your meals on higher fibre starchy carbohydrates. • Eat lots of fruit and veg. • Eat more fish, including a portion of oily fish. • Cut down on saturated fat and sugar. • Eat less salt: no more than 6g a day for adults. • Get active and be a healthy weight. • Do not get thirsty. • Do not skip breakfast
Why is weighing and measuring important?	Weighing and Measuring for good results in most recipes, accurate weighing and measuring is essential. When you are baking with flour, sugar and liquids, you must measure accurately or your cooking will be spoiled. If you weigh out too much sugar or too little raising agent, your cakes will not rise or you could spoil the taste and/or texture. Food can be weighed in Grams (g) and there are 1000g in a Kilogram (kg). Liquid is measured in Millilitres (ml) or litres
What are the most important health and safety and personal hygiene rules?	• Be aware of sharp equipment such as knives, peelers and graters- store them carefully and use the bridge hold and claw grip when chopping. • Take care with hot equipment and food/ liquids- turn pan handles in, always use oven gloves and avoid splashes when stirring or draining foods. • Wipe up spills quickly so you do not slip over • Be aware of others in the kitchen • Report any accidents to the teacher • Tie hair back • Wash your hands

Career Focus - Where could this take you?

My job is **food technologist** and I study foods and their nutritional content. I use laboratory skills and techniques to identify nutrients and calorie content of foods.

Challenge Activities

Try some of these recipes at home
Follow the links

[Energy Bar]

[Home made burgers]

[Chapatti recipe]

[For Further 30 minute recipes]

Food skills are acquired, developed and secured over time

.

Bridge hold

Claw grip

Topic Links

This topic links to:

- English - relating explicitly to known vocabulary and understanding it with the help of context
- Mathematics - use standard units of mass, length, time, other measures
- Science: Nutrition and digestion RSE - What constitutes a healthy diet
- Physical health and fitness - The characteristics and mental and physical benefits of an active lifestyle.

Additional Resources

To further practise and develop you knowledge see:

[Eat well guide Quiz]

[Eat well guide]

[Eat well video resource]

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Year 8 Music Technology

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

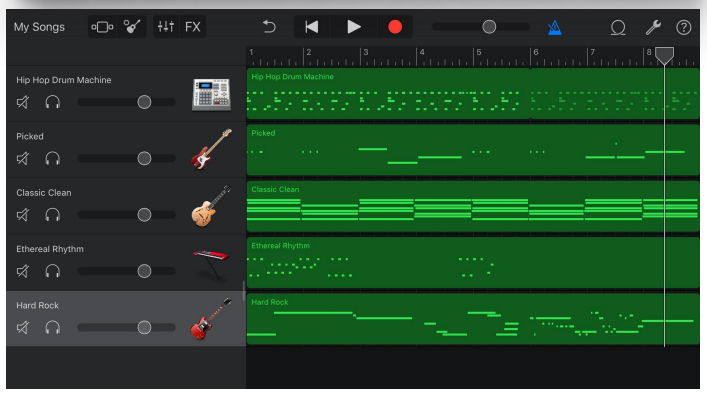
- Learn how to compose a song with a basic structure using audio production software.
- Learn how to record into a Digital Audio Workstation using a midi keyboard.

Keyword	Definition
DAW (Digital Audio Workstation)	Software used for recording, editing and producing audio files.
Loops	Pre-recorded audio files (either audio or MIDI regions) that can shift in pitch or tempo and that are designed to play repeatedly.
Audio	Sound that has been recorded or transferred to an electrical signal.
Track	The horizontal rows in the Tracks area that you use to organise your music
BPM	Abbreviation for *beats per minute*. Bpm is used to indicate the tempo of a piece of music.
Fade-Out	A fade-out is created by gradually lowering the volume of a track or song to silence, typically at the end of the song.
Metronome	A device that marks regular intervals of time, such as musical beats, by making a sound (usually a beep or click).
MIDI (Musical Instrument Digital Interface).	A device (such as a keyboard) that plugs into a computer.
Structure	Song structure means all the parts of a song. For example, a song can have an intro, a verse, a chorus and an outro. A song can have more than one verse and more than one chorus but will usually only have one intro and one outro.
Screen Control	A control you use to change a different aspect of the track's sound. Screen controls are labelled to help you understand which aspect of the sound each one affects.
Texture	How many instruments are playing at the same time. The fewer instruments playing, the thinner the texture, the more instruments are playing, the thicker the texture becomes.

Key Concepts

A MIDI Keyboard
When you press a key on the keyboard it tells the computer to make a sound.

Tracks
The horizontal rows are Tracks. The green lines and dots are the music that has been recorded using a MIDI Keyboard. Each track is for a different instrument.



Screen Control
A control you use to change a different aspect of the track's sound. They usually look like real-life machines.

The rear of the Mac Computer We need to make sure that the midi keyboard is Plugged into one of the USB ports on the back of the computer.

The USB Ports

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Year 8 Music Technology

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

- Learn how compose a song with a basic structure using audio production software
- Learn how to record into a Digital Audio Workstation using a midi keyboard.

Retrieval Practice

Questions	Answers
In which ways are DAWs more convenient than traditional, analogue methods of recording?	• Portability - People can create music on the move (can be used on laptops, tablets and smart phones). • Cost – many DAWs are available for free. The ones that do cost money are less expensive than all the recording equipment needed to record a song. • Easy to use – For example, loops are a great way for beginners to get started in expressing themselves creatively, without needing to learn how to use complicated technology. • They have lots of features – More advanced users can apply themselves and make some very complicated, creative and interesting music. • You don't have to be able to play a musical instrument to put a song together in a piece of Software!
Why is it important to develop these skills?	• Computer skills are becoming more and more important when it comes to finding a career. • Having transferable skills will also make you much more likely to get a job in the future. • Creating music digitally is another form of creative outlet • Allows you to be musically creative without learning an instrument
What is automation and why is it useful?	• Automation allows you to control effects on an instrument track. • You can control each effect individually (reverb, echo, panning, volume etc.) • You can gradually increase and decrease the effect, remove it completely or make it suddenly increase.

Career Focus - Where could this take you?

My name is Calvin Harris and I'm a DJ and musician. I use music software to write and produce my music. I create the beats, basslines and melodies using music software. I also use it to record other instruments and my vocals. During my live shows I use music software to help add effects to my music, as well as to play backing tracks and other instruments while I sing.

Challenge Activities

- **Add a Drummer to your Garageband Project:**
- https://support.apple.com/en-gb/HT207834

- **Add automation to a Garageband Project:**
- https://producersociety.com/automation-tutorial-ios-garageband/

Topic Links

This topic links to:

- Science – Specifics of sound (such as decibels)
- IT – Use of software and digital interfaces
- Maths – Dividing bars into beats. Measuring songs and sounds using various units.

Additional Resources

To further practise and develop your knowledge see:

- https://support.apple.com/en-gb/guide/garageband/welcome/mac
- https://www.thedomesticmusician.com/how-to-get-your-kids-involved-in-electronic-music-production/

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Year 8 Athletics

The aims of the sequence of learning are to ensure that all students:
Demonstrate the safety elements to track and field events in practice and competitive situations.
Develop prior skills to track and field activities in order to be faster, stronger and throw further.

Record and measure their performance so they can compare themselves to others and give reasons for their strengths and areas to improve upon.

Keyword (Tier 3 subject specific language)	Definition
Power	This is the ability to perform maximum strength and maximum speed of your muscles in order to generate forces to move. Power = strength x speed. This component of fitness is exceptionally important with all throwing events.
Reaction Time	The time taken for a person to respond and movement to a stimulus (the starter or whittle in athletics running events).
Balance	The ability to maintain your centre of mass and control of sports performance when moving. This is very important with throwing activities so you don't fall over the line and get disqualified.
Speed	The rate at which a person moves as fast as possible to cover a distance over a time period. Speed=distance/time.
Muscular strength	This is the maximum force that can be applied from muscles in order to overcome resistance so that movement can take place. This is an extremely important component of fitness for jumping and throwing activities.
Flexibility	This is the range of movement that can be performed around a joint by the muscles, ligaments and tendons without any pain or over stretching.

Key Concepts You should already know: - Some components of fitness and be able to apply them to different athletic events.
You will be assessed on: - Understanding - Technique - Application - Leadership

Athletics Key Concepts- How well am performing?

Personal Challenge

- Set your goals
- Learn the skills
- Practise hard to achieve your goal
- Record your progress
- Reward yourself with a badge and certificate
- Move onto the next stage!

- Develop CONFIDENCE and COMPETENCE, learning the skills of different Running, Jumping and Throwing activities.
- Progress to becoming COMPETITIVE with Confidence and Competence.

INCLUSIVITY
Allows teachers to adjust weights, select distances, hurdle heights and spacings to suit the age and level of performers.

Boys' Award Standards

STAGE PROGRESSIONS	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6	Stage 7	Stage 8	Stage 9
SPRINTS	1 Star	2 Star	3 Star	Bronze	Silver	Gold	Platinum	Elite	Podium
50m Standards	14.8s	12.0s	10.3s	9.6s	8.9s	8.3s	7.8s	7.4s	7.0s
75m Standards	21.0s	17.0s	15.0s	13.5s	12.5s	11.5s	10.7s	10.0s	9.5s
100m Standards	23.0s	18.7s	16.7s	14.6s	14.2s	13.8s	13.4s	13.0s	12.7s
200m Standards	-	-	-	30.3s	29.3s	28.8s	27.6s	27.0s	26.0s
300m Standards	-	-	-	56.5s	54.0s	51.5s	48.5s	45.0s	42.5s
HURDLES	1 Star	2 Star	3 Star	Bronze	Silver	Gold	Platinum	Elite	Podium
60m Standards	25.0s	19.0s	15.5s	13.5s	12.0s	11.0s	10.5s	10.1s	9.7s
70m Standards	24.0s	20.4s	17.3s	15.8s	14.5s	13.6s	13.0s	12.5s	12.2s
75m Standards	23.0s	21.0s	18.0s	16.5s	15.3s	14.5s	13.8s	13.5s	13.2s
80m Standards	-	-	-	-	-	15.2s	14.4s	14.0s	13.4s
ENDURANCE	1 Star	2 Star	3 Star	Bronze	Silver	Gold	Platinum	Elite	Podium
400m Standards	3m 20s	2m 30s	2m 05s	1m 45s	1m 35s	1m 20s	1m 10s	1m 05s	1m 00s
600m Standards	6m 00s	4m 30s	3m 20s	2m 50s	2m 30s	2m 15s	2m 05s	2m 00s	1m 50s
800m Standards	4m 00s	3m 40s	3m 20s	3m 00s	2m 50s	2m 41s	2m 33s	2m 27s	2m 20s
1500m Standards	6m 20s	6m 05s	5m 50s	5m 38s	5m 28s	5m 19s	5m 10s	4m 59s	4m 46s
JUMPS	1 Star	2 Star	3 Star	Bronze	Silver	Gold	Platinum	Elite	Podium
Standing Long Jump	0.35m	0.90m	1.40m	1.60m	1.80m	2.00m	2.30m	2.60m	2.80m
Long Jump	1.00m	1.80m	2.40m	3.00m	3.50m	4.00m	4.40m	4.70m	5.05m
Standing Triple Jump	1.00m	2.40m	4.00m	4.60m	5.10m	5.60m	-	-	-
Triple Jump	-	-	-	-	-	6.40m	8.50m	9.70m	10.60m
High Jump	0.20m	0.50m	0.80m	1.00m	1.10m	1.20m	1.30m	1.40m	1.50m
THROWS	1 Star	2 Star	3 Star	Bronze	Silver	Gold	Platinum	Elite	Podium
Shot Put	1.00m	2.00m	3.25m	4.80m	5.80m	6.80m	8.00m	9.40m	10.15m
Javelin	1.00m	5.00m	10.00m	12.00m	15.00m	19.00m	26.00m	30.00m	33.50m
Discus	1.00m	5.00m	8.00m	10.00m	12.00m	17.00m	22.00m	24.00m	26.00m

Girls' Award Standards

STAGE PROGRESSIONS	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6	Stage 7	Stage 8	Stage 9
SPRINTS	1 Star	2 Star	3 Star	Bronze	Silver	Gold	Platinum	Elite	Podium
50m Standards	14.8s	12.2s	10.6s	9.9s	9.2s	8.6s	8.1s	7.7s	7.3s
75m Standards	21.0s	17.3s	15.3s	13.8s	12.8s	12.1s	11.5s	11.0s	10.5s
100m Standards	23.0s	19.0s	17.0s	15.5s	15.0s	14.6s	14.2s	13.9s	13.7s
200m Standards	-	-	-	31.7s	30.8s	30.5s	29.7s	29.2s	28.5s
300m Standards	-	-	-	55.0s	53.5s	52.0s	50.0s	48.5s	46.0s
HURDLES	1 Star	2 Star	3 Star	Bronze	Silver	Gold	Platinum	Elite	Podium
60m Standards	25.0s	19.3s	16.0s	14.0s	12.5s	11.5s	11.0s	10.5s	10.1s
70m Standards	24.0s	21.0s	18.9s	17.3s	15.9s	14.6s	13.7s	13.1s	12.7s
75m Standards	23.0s	21.0s	18.5s	17.0s	16.0s	15.0s	14.0s	13.7s	13.4s
80m Standards	-	-	-	-	-	15.0s	14.2s	13.9s	13.6s
ENDURANCE	1 Star	2 Star	3 Star	Bronze	Silver	Gold	Platinum	Elite	Podium
400m Standards	3m 20s	2m 30s	2m 10s	1m 55s	1m 40s	1m 25s	1m 15s	1m 10s	1m 05s
600m Standards	6m 00s	4m 30s	3m 30s	3m 00s	2m 40s	2m 30s	2m 20s	2m 10s	2m 00s
800m Standards	5m 00s	4m 45s	4m 30s	4m 10s	3m 45s	3m 20s	2m 55s	2m 45s	2m 35s
1500m Standards	7m 20s	7m 00s	6m 44s	6m 30s	6m 17s	6m 06s	5m 55s	5m 42s	5m 24s
JUMPS	1 Star	2 Star	3 Star	Bronze	Silver	Gold	Platinum	Elite	Podium
Standing Long Jump	0.35m	0.90m	1.35m	1.55m	1.70m	1.90m	2.20m	2.40m	2.60m
Long Jump	1.00m	1.80m	2.30m	2.80m	3.10m	3.40m	3.70m	4.00m	4.30m
Standing Triple Jump	1.00m	2.40m	3.60m	4.40m	4.80m	5.20m	-	-	-
High Jump	0.20m	0.50m	0.75m	0.90m	1.00m	1.10m	1.20m	1.28m	1.36m
THROWS	1 Star	2 Star	3 Star	Bronze	Silver	Gold	Platinum	Elite	Podium
Shot Put	1.00m	2.00m	3.00m	4.25m	5.25m	6.00m	6.50m	7.00m	8.00m
Javelin	1.00m	5.00m	7.00m	9.00m	12.00m	15.00m	18.00m	21.00m	24.00m
Discus	1.00m	3.00m	5.00m	7.00m	9.00m	13.00m	17.00m	19.00m	21.00m

Year 8 Athletics

The aims of the sequence of learning are to ensure that all students:
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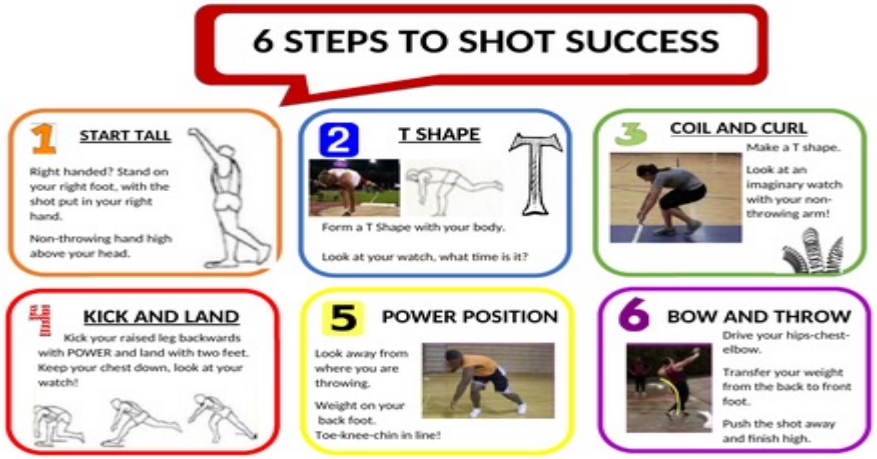
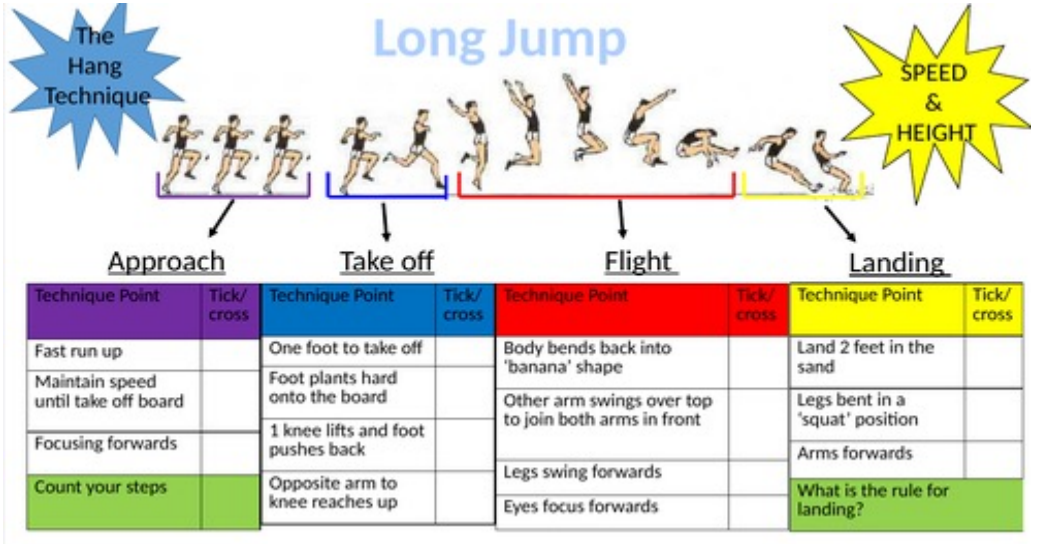
Develop prior skills to track and field activities in order to be faster, stronger and throw further.

Record and measure their performance so they can compare themselves to others and give reasons for their strengths and areas to improve upon.

Retrieval Practice:
Memory recall the following skills for the following field events.

Use the skill cards to help you have a full understanding on how to perform the techniques in your next PE lesson on shot put and long jump.





Technique Point	Tick/ cross
Fast run up	
Maintain speed until take off board	
Focusing forwards	
Count your steps	

Technique Point	Tick/ cross
One foot to take off	
Foot plants hard onto the board	
1 knee lifts and foot pushes back	
Opposite arm to knee reaches up	

Technique Point	Tick/ cross
Body bends back into 'banana' shape	
Other arm swings over top to join both arms in front	
Legs swing forwards	
Eyes focus forwards	

Technique Point	Tick/ cross
Land 2 feet in the sand	
Legs bent in a 'squat' position	
Arms forwards	
What is the rule for landing?	

Career Focus - Where could this take you?

My career is an athletics commentator. I interview the athletes and discuss the events that each person performs in. I am usually involved with live TV coverage and radio. My career takes me all over the world and I especially enjoy the Olympic games. I need to know about world records and data for all the events and need to be able to communicate with professionalism.

Challenge Activities

Design a performance standards table :-
Can you create a table that shows all the performance levels for the events we do in School for both boys and girls. The events are 100m, 200m, 400m, long jump, triple jump, shot put and javelin.

Create a key words poster:-
This can be used by all students in their PE lessons as memory recall revision task. Select between three to five different key words and match them to a correct track and field event.

Topic Links

This topic links to:
- RSHE – Understanding how physical activity can reduce stress and anxiety and promote physical, mental and social wellbeing
- English –understanding and defining key terminology
- Mathematics –problem solving, recording figures and analysing performance. Time keeping and scoring against data.
- Voice 21 –Discussing techniques, acting as race officials.

Additional Resources

To further practise and develop your knowledge see:

https://howard.staffs.sch.uk/news/2021-06-11-english-schools-athletic-association

https://www.britannica.com/story/what-do-the-olympic-rings-and-flame-represent

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Usernames and Passwords

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RESPECT | INTEGRITY | TEAMWORK | ASPIRATION

FAIL EARLY - FAIL FORWARD - FAIL OFTEN | SEIZE EVERY MINUTE | BE BRAVE - BE PRESENT - BE YOU

NON NEGOTIABLE EQUIPMENT

BLACK PEN

PURPLE PEN

PENCIL

BONUS ITEMS

HIGHLIGHTER | RUBBER | GLUE STICK | CALCULATOR

RULER

PLACE YOUR EQUIPMENT ON THE PLACEMAT TO SHOW YOUR TEACHER YOU ARE PREPARED AND READY FOR LEARNING