Year 9 – HT2

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.

Year 9 3D Shapes

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The learning outcomes for this topic are:
- Be able to name 2D and 3D shapes.
- Be able to recognise and sketch nets.
- Be able to draw plans and elevations.
- Be able recognise prisms and find the surface area of cubes, cuboids and prisms.

What do I need to be able to do?

By the end of this unit you should be able to:
- Name 2D & 3D shapes
- Recognise Prisms
- Sketch and recognise nets
- Draw plans and elevations
- Find areas of 2D shapes
- Find Surface area for cubes, cuboids, triangular prisms and cylinders
- Find the volume of 3D shapes

Keywords

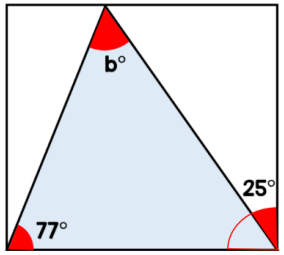
2D: two dimensions to the shape e.g length and width
3D: three dimensions to the shape e.g length, width and height
Vertex: a point where two or more line segments meet
Edge a line on the boundary joining two vertex
Face: a flat surface on a solid object
Cross-section: a view inside a solid shape made by cutting through it
Plan: a drawing of something when drawn from above (sometimes birds eye view)
Perspective: a way to give illustration of a 3D shape when drawn on a flat surface.

Career Focus - Where could this take you?

My job as an architect requires me to have a good understanding of 2D and 3D shapes as well as how to construct angles and other lines using loci.

Challenge Activities

Find the size of angle b.



Retrieval Practice

1) Write an expression that represents 5 more than a

2) Show that $\frac{3}{4}$ of 80 is equal to 120% of 50

3) Solve $4x - 9 = 23$

4) Share 720 g in the ratio 7 : 2

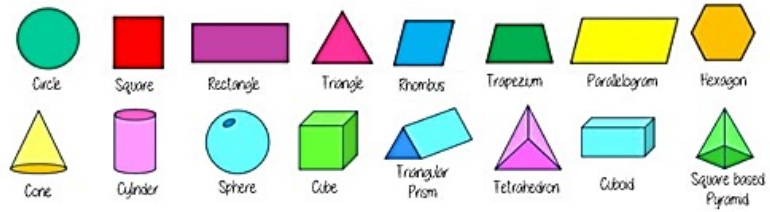
Topic Links

This topic links to:
- 2D shapes and Area

Additional Resources

To further practice and develop your knowledge see:
https://corbettmaths.com/contents/
Number: 3-5

Name 2D & 3D shapes



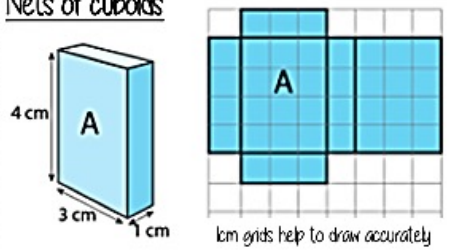
Recognise prisms

A solid object with two identical ends and flat sides

The cross section will also be identical to the end faces

A cylinder although with very similar properties does not have flat faces so is not categorised as a prism

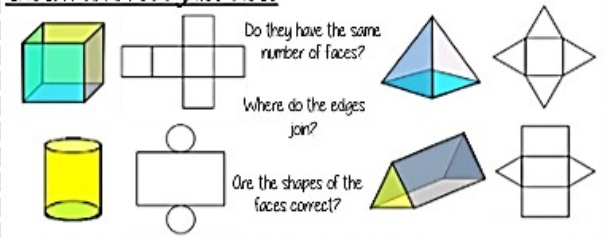
Nets of cuboids



1cm grids help to draw accurately

Visualise the folding of the net. Will it make the cuboid with all sides touching

Sketch and recognise nets

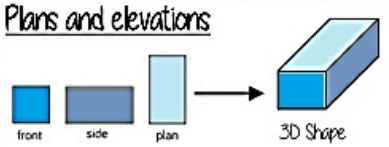


Do they have the same number of faces?

Where do the edges join?

Are the shapes of the faces correct?

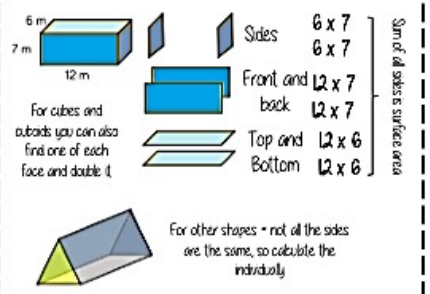
Plans and elevations



The direction you are considering the shape from determines the front and side views

Surface area

Sketching nets first helps you visualise all the sides that will form the overall surface area



For cubes and cuboids you can also find one of each face and double it

For other shapes - not all the sides are the same, so calculate the individually

Area of 2D shapes

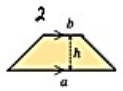
R

Rectangle
Base x Height

Triangle
½ x Base x Perpendicular height

Parallelogram/ Rhombus
Base x Perpendicular height

Area of a trapezium
½ (a + b) x h



Area of a circle
π x radius²

Surface area - cylinders

The area of the circle
π x radius²

Circumference

The width of this face is the same as the circumference
π x diameter x height

2 x π x radius² + π x diameter x height

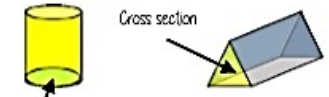
Volumes

Volume is the 3D space it takes up – also known as capacity if using liquids to fill the space

Counting cubes
Some 3D shape volumes can be calculated by counting the number of cubes that fit inside the shape.

Cubes/ Cuboids - base x width x height

Remember multiplication is commutative



Prisms and cylinders - area cross section x height

Height can also be described as depth

Areas – square units
Volumes – cube units

Areas and volumes can be left in terms of pi π

Year 9 Constructions and Congruency

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The learning outcomes for this topic are:
- Be able to identify and use congruence..
- Be able to accurately use mathematical equipment to draw and measure angles, draw to scale and represent locii.

What do I need to be able to do?

By the end of this unit you should be able to:
- Draw and measure angles
- Construct scale drawings
- Find locus of distance from points, lines, two lines
- Construct perpendiculars from points, lines, angles
- Identify congruence
- Identify congruent triangles

Keywords

Protractor: piece of equipment used to measure and draw angles
Locus: set of points with a common property
Equidistant: the same distance
Discorectangle: (a stadium) – a rectangle with semi circles at either end
Perpendicular: lines that meet at 90°
Arc: part of a curve
Bisector: a line that divides something into two equal parts
Congruent: the same shape and size

Career Focus - Where could this take you?

My job as an architect requires me to have a good understanding of 2D and 3D shapes as well as how to construct angles and other lines using loci.

Challenge Activities

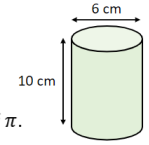
Marbles are put into bags of 10

- **67 bags of marbles are packed.**
- **3 more marbles are added to each bag.**

How many marbles are there in total now?

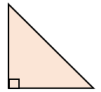
Retrieval Practice

1) Find the volume of the cylinder in terms of π.



2) Find the surface area of the cylinder in terms of π.

3) What is the mathematical name for this shape?



4) Calculate $\frac{2}{3} \times \frac{1}{9}$

Topic Links

This topic links to:
- Angles, perpendicular lines and using mathematical equipment.

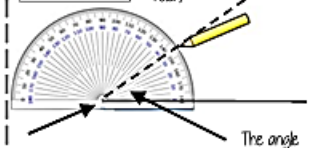
Additional Resources

To further practice and develop your knowledge see:
https://corbettmaths.com/contents/
Number: 66-67

Draw and measure angles (R)

Draw a 35° angle

Make a mark at 35° with a pencil and join to the angle point (use a ruler)



Make sure the cross is at the end of the line (where you want the angle)

Scale drawings (R)

A picture of a car is drawn with a scale of 1:30

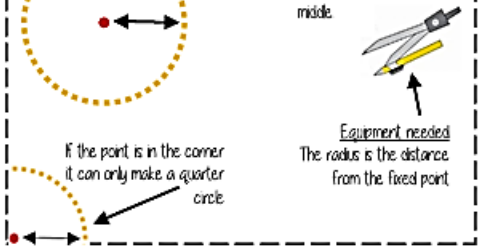
For every 1cm on my image is 30cm in real life

The car image is 10cm

Image : Real life
1cm : 30cm
10cm : 300cm

Locus of a distance from a point

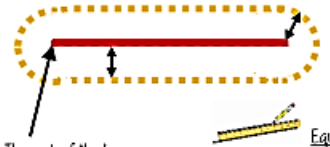
All points are equidistant (the same distance) from the fixed point in the middle



Equipment needed
The radius is the distance from the fixed point

If the point is in the corner it can only make a quarter circle

Locus of a distance from a straight line

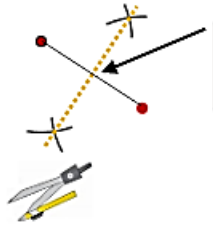


All points are equidistant (the same distance) from line

The ends of the line are fixed points

Equipment needed
The line is straight so a ruler is used for the straight lines parallel to your original line

Locus equidistant from two points

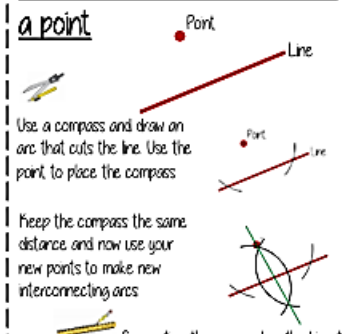


Also a perpendicular bisector
Because if the points are joined, this new line intersects it at a 90°

Keep the compass the same size and draw two arcs from each point

Join the intersections with a ruler.
All points on this line are equidistant from both points

Construct a perpendicular from a point



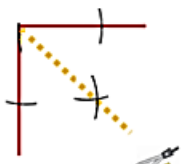
Use a compass and draw an arc that cuts the line. Use the point to place the compass

Keep the compass the same distance and now use your new points to make new interconnecting arcs

Connecting the arcs makes the bisector

If P is a point on the line the steps are the same

Locus of a distance from two lines



Also an angle bisector
This cuts the angle in half

From the angle vertex draw two arcs that cut the lines forming the angle

Keep the compass the same size and use the new arcs as centres to draw intersecting arcs in the middle

Join the vertex to the intersection

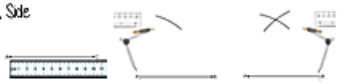
Constructing Triangles (R)

Link to steps

Side, Angle, Angle

Side, Angle, Side

Side, Side, Side



Congruent figures

Congruent figures are identical in size and shape – they can be reflections or rotations of each other

Congruent shapes are identical – all corresponding sides and angles are the same size

$A\hat{C}B = K\hat{M}L$

Because all the angles are the same and AC=KM BC=LM triangles ABC and KLM are congruent

Congruent triangles

Side-side-side
All three sides on the triangle are the same size

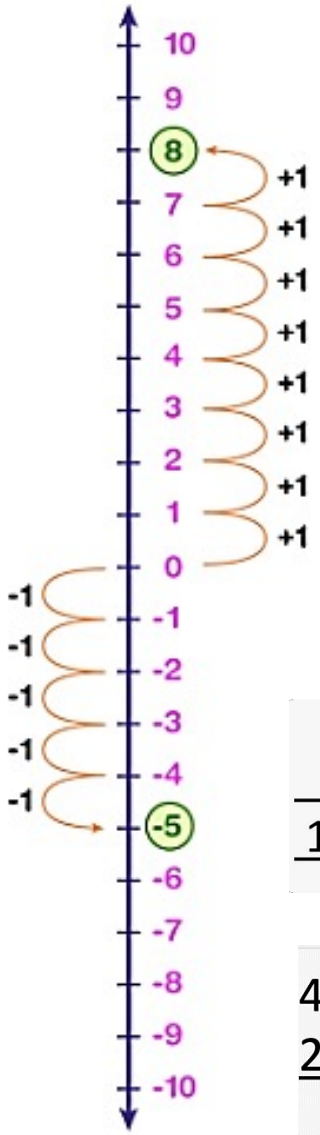
Angle-side-angle
Two angles and the side connecting them are equal in two triangles

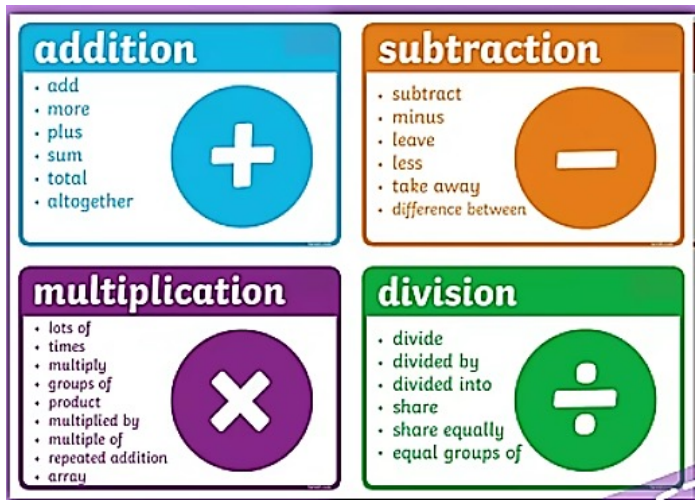
Side-angle-side
Two sides and the angle in-between them are equal in two triangles (it will also mean the third side is the same size on both shapes)

Right angle-hypotenuse-side
The triangles both have a right angle, the hypotenuse and one side are the same

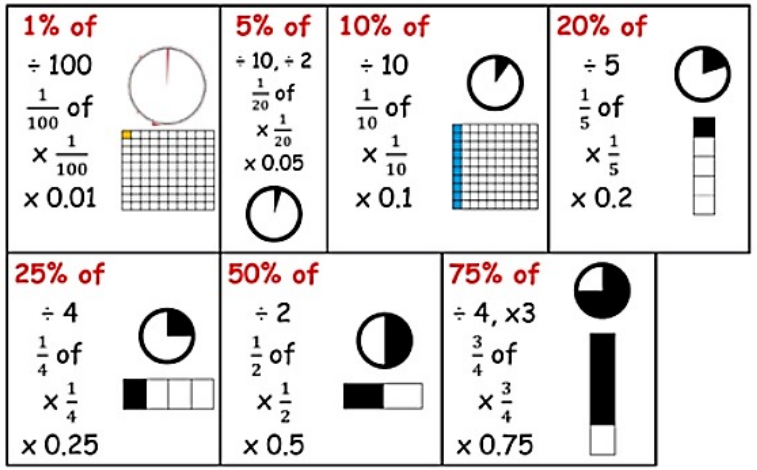
Maths: Quick Reference: Number Skills

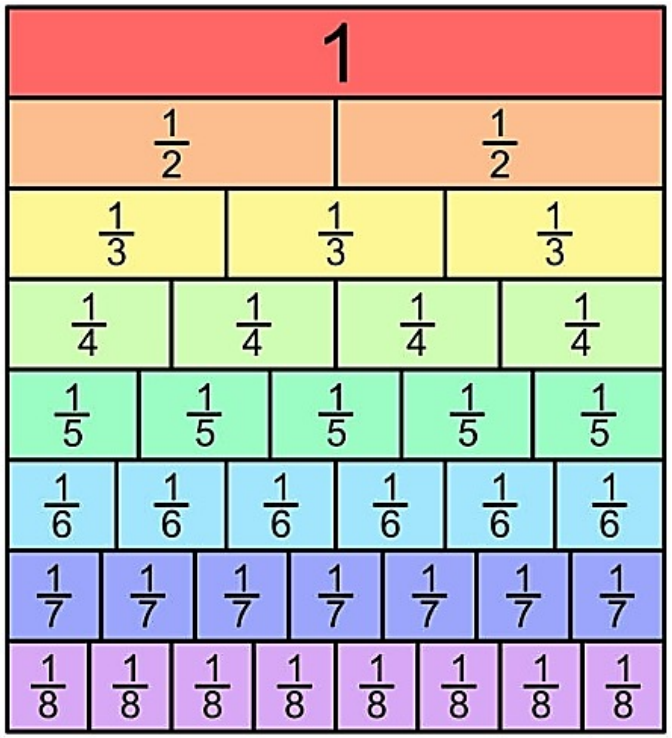
100	10	1	·	$\frac{1}{10}$	$\frac{1}{100}$
Hundreds	Tens	Units	·	Tenths	Hundredths
3	5	2	·	7	1

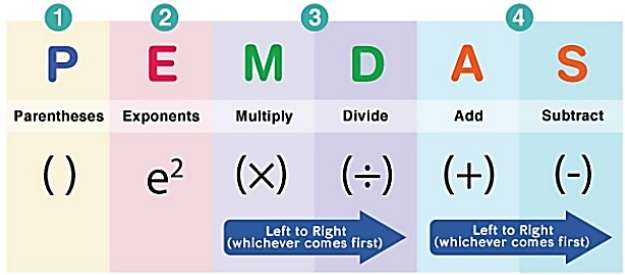




X	1	2	3	4	5	6	7	8	9	10	11	12
1	1	2	3	4	5	6	7	8	9	10	11	12
2	2	4	6	8	10	12	14	16	18	20	22	24
3	3	6	9	12	15	18	21	24	27	30	33	36
4	4	8	12	16	20	24	28	32	36	40	44	48
5	5	10	15	20	25	30	35	40	45	50	55	60
6	6	12	18	24	30	36	42	48	54	60	66	72
7	7	14	21	28	35	42	49	56	63	70	77	84
8	8	16	24	32	40	48	56	64	72	80	88	96
9	9	18	27	36	45	54	63	72	81	90	99	108
10	10	20	30	40	50	60	70	80	90	100	110	120
11	11	22	33	44	55	66	77	88	99	110	121	132
12	12	24	36	48	60	72	84	96	108	120	132	144







$$\begin{array}{r} 476 + \\ 874 \\ \hline 1350 \\ 1\ 1 \end{array}$$

$$\begin{array}{r} 586 \\ \times\ \ 7 \\ \hline 42 \\ 560 \\ 3500 \\ \hline \end{array}$$

$$8\overline{)3640} = 045$$

$$\begin{array}{r} {}^{7} \\ 4,783 - \\ 2,349 \\ \hline 4 \end{array}$$

156000. = 1.56×10^5

Move decimal point 5 places left, exponent goes up by 5

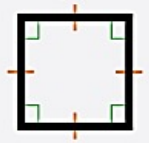
0.0000053 = 5.3×10^{-6}

Move decimal point 6 places right, exponent goes down by 6

Maths: Quick Reference: Geometry & Measures

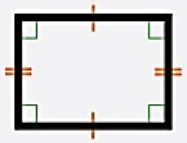
Quadrilaterals

Square



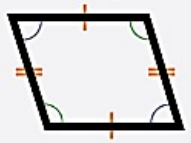
Four sides of equal length, four internal right angles.

Rectangle



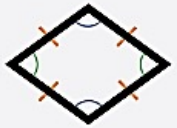
Four internal right angles, opposite sides of equal length.

Parallelogram



Opposite sides are parallel and equal in length, opposite angles are equal.

Rhombus

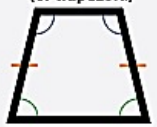


All four sides are the same length, like a square that has been squashed sideways.

Trapezium (or trapezoid)

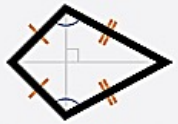
Two sides are parallel. Side lengths and angles are not equal.

Isosceles Trapezium (or trapezoid)



Two sides are parallel and base angles are equal, non-parallel sides are equal length.

Kite

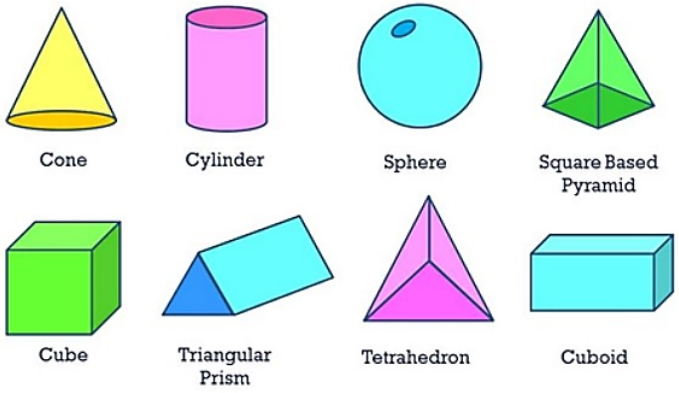


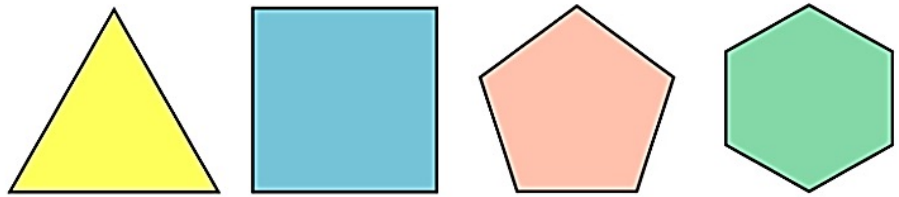
Two pairs of adjacent sides are of equal length; the shape has an axis of symmetry.

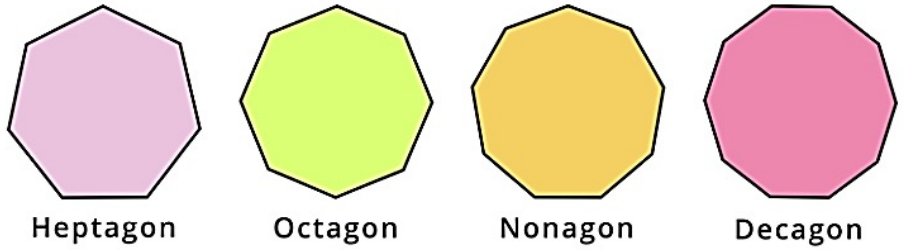
Irregular Quadrilateral

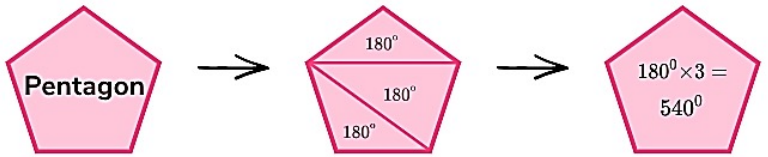
No sides are equal in length and no internal angles are the same.

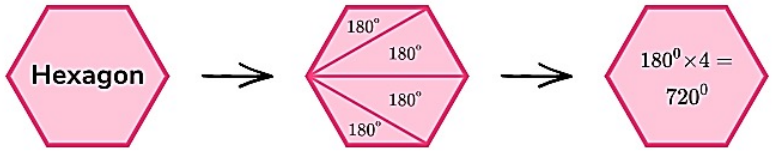
3D shapes

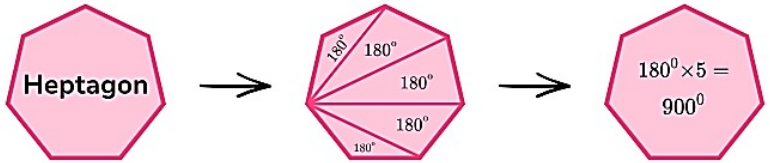


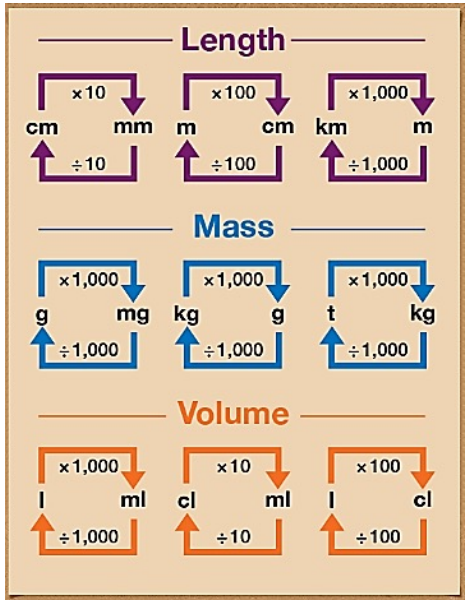






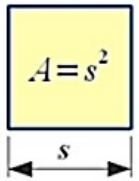




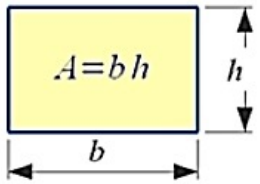


Maths: Quick Reference: Geometry (Areas & Volumes)

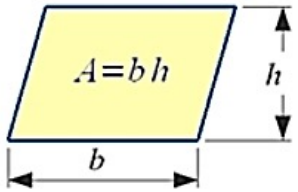
Square



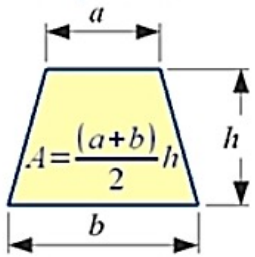
Rectangle



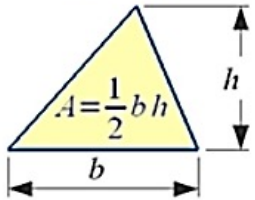
Parallelogram



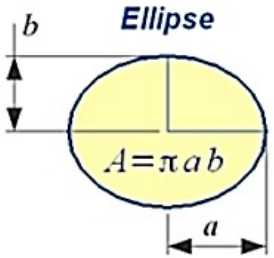
Trapezoid



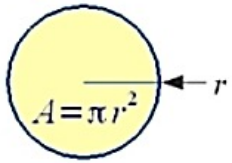
Triangle



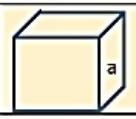
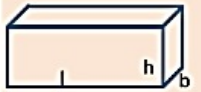
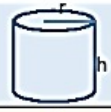
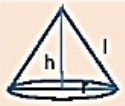
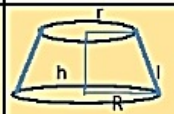
Ellipse



Circle

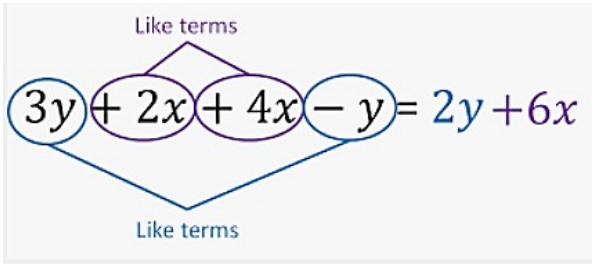


Area and volume of 3d figures

S.No	Name	Figure		Curved Surface Area	Total Surface Area	Volume
1)	Cube		a = side	$4a^2$	$6a^2$	a^3
2)	Cuboid		l= length b = breadth h= height	2h(l + b)	2(lb+ bh+ lh)	l x b x h
3)	Sphere		r = radius	$4\pi r^2$	$4\pi r^2$	$\frac{4}{3}\pi r^3$
4)	Solid Hemisphere		r = radius	$2\pi r^2$	$3\pi r^2$	$\frac{2}{3}\pi r^3$
5)	Right circular cylinder		r = radius h = height	$2\pi rh$	$2\pi r(h+r)$	$\pi r^2 h$
6)	Right circular cone		r = radius h = height l= slant height	πrl	$\pi r(l+r)$	$\frac{1}{3}\pi r^2 h$
7)	Frustum of a cone		r = top radius R = base radius h = height l= slant height	$\pi l(R + r)$	$\pi l(R+r) + \pi r^2 + \pi R^2$	$\frac{1}{3}\pi h(R^2+r^2+Rr)$

Maths: Quick Reference: Algebra Skills

Simplifying Expressions

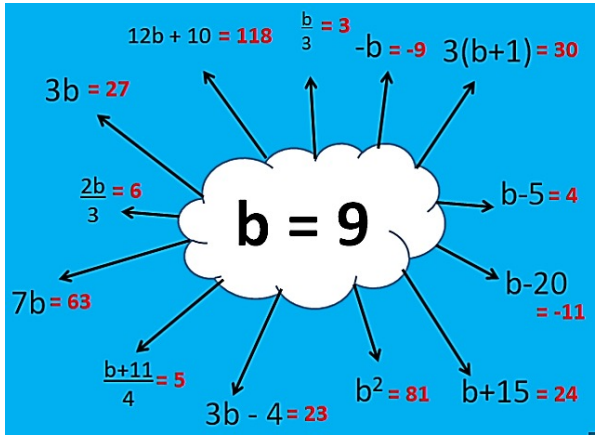


$C \times C \times C \times C = C^4$

$C + C + C + C = 4C$

An Expression	An Equation
$4a + 7b$	$4a + 12 = 60$
A Formula	**An Identity**
$A = \pi r^2$	$(a+b)^2 = a^2 + 2ab + b^2$

Substitution



Expanding Brackets

multiply

$7(x+2)$

$7x+14$

multiply

$5a(b-4)$

$5ab-20a$

FOIL Method

F O I L

$(2x+3)(5x-8)$

First: $(2x)(5x) = 10x^2$

Outer: $(2x)(-8) = -16x$

Inner: $(3)(5x) = 15x$

Last: $(3)(-8) = -24$

$(2x+3)(5x-8)$
$= 10x^2 - 16x + 15x - 24$
$= 10x^2 - x - 24$

Grid Method

$(2x+3)(5x-8)$

	$2x$	$+3$
$5x$	$10x^2$	$+15x$
-8	$-16x$	-24

$10x^2 + 15x - 16x - 24$
$= 10x^2 - x - 24$

Factorising Brackets

$7x+14$

Common factor?

$7(x+2)$

$5ab-20a$

Common factor?

$5a(b-4)$

Expand & Simplify...

$5(x+3) + 6(x-4)$

$5x + 15 + 6x - 24$

$11x - 9$

Solving Equations

$6x - 5 = 7$

$+5 \quad +5$

$6x = 12$

$\div 6 \quad \div 6$

$x = 2$

Maths: Quick Reference: Statistics

Mode
most common

Mean
$\frac{\text{sum of values}}{\text{number of values}}$

Median
middle value

Range
largest value – smallest value

Mean

7, 3, 4, 1, 7, 6

Sum of numbers divided by the total numbers

Mean = (7+3+4+1+7+6)/6
= 28/6 = 4.66

Median

7, 3, 4, 1, 7, 6

Arrange in order and pick the middle value

1, 3, 4, 6, 7, 7

Median = (4+6)/2 = 5

Mode

7, 3, 4, 1, 7, 6

Most common number

7, 3, 4, 1, 7, 6

Mode = 7

Range

7, 3, 4, 1, 7, 6

Difference between highest and lowest

Range = 7 – 1 = 6

Mean from the Frequency Table

Discrete Data Frequency Table

$$\text{Mean} = \frac{\text{Sum of (value} \times \text{frequency)}}{\text{Total frequency}}$$

Grouped Data Frequency Table

$$\text{Mean of grouped data} = \frac{\text{Sum of (interval midpoint} \times \text{frequency)}}{\text{Total frequency}}$$

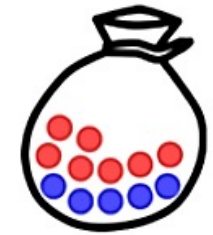
Length (x cm)	Frequency	Midpoint	Midpoint × frequency
$0 < x \leq 10$	4	× 5	= 20
$10 < x \leq 20$	10	× 15	= 150
$20 < x \leq 30$	7	× 25	= 175
$30 < x \leq 40$	4	× 35	= 140
	25		**485**

estimated mean = 485 ÷ 25 = **19·4 cm**

Maths: Quick Reference: Probability

Simple Probability

$$\text{Probabilty} = \frac{\text{Favorable outcomes}}{\text{Total outcomes}}$$



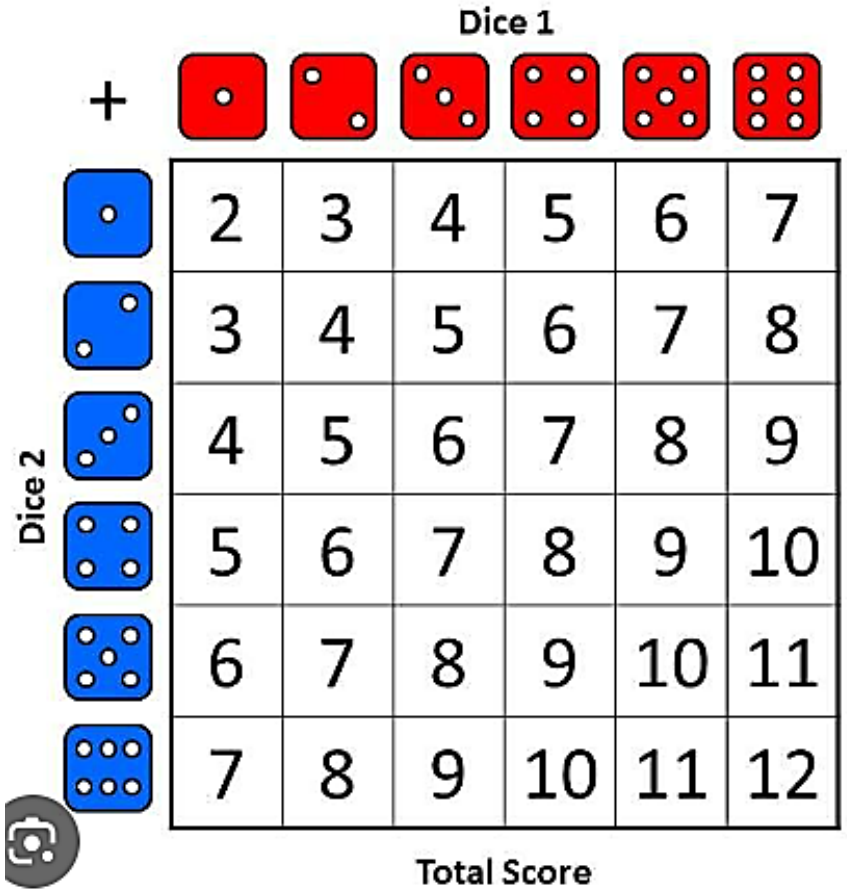
Example:

$P(red) = \frac{7}{12}$ ← Number of red marbles / Total number of marbles (sample space)

$P(blue) = \frac{5}{12}$ ← Number of blue marbles / Total number of marbles (sample space)

In words:	Impossible	Very unlikely	Unlikely	Even chances	Likely	Very likely	Certain
As decimal fractions:	0	0,2	0,4	0,5	0,6	0,8	1
As fractions:	0	$\frac{1}{5}$	$\frac{2}{5}$	$\frac{1}{2}$	$\frac{3}{5}$	$\frac{4}{5}$	1
As percentages:	0%	20%	40%	50%	60%	80%	100%

Sample Space Diagrams



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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.

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Year 9 - Boys Don't Cry

The aims of the sequence of learning are to ensure that all learn the following assessment skills:
- Explore issues aligned with the school's values of Respect, Integrity, Teamwork and Aspiration.
- Explore sub0plots, characterisation, narrative viewpoints and settings.
- Explore writer's craft.

Keyword	Definition
The Welfare State	A system whereby the state provides financial and community support to its citizens
Protagonist	The main character of a narrative
Toxic masculinity	A set of attitudes and ways of behaving stereotypically associated with or expected of men, regarded as having a negative impact on men and society as a whole
Analysis	To examine something methodically and in detail, typically in order to explain and interpret it
Stereotype	A widely held but fixed and oversimplified image or idea of a particular type of person or thing
Prejudice	A preconceived notion that is not based on reason or actual experience
Empathy	The ability to understand and share the feelings of another

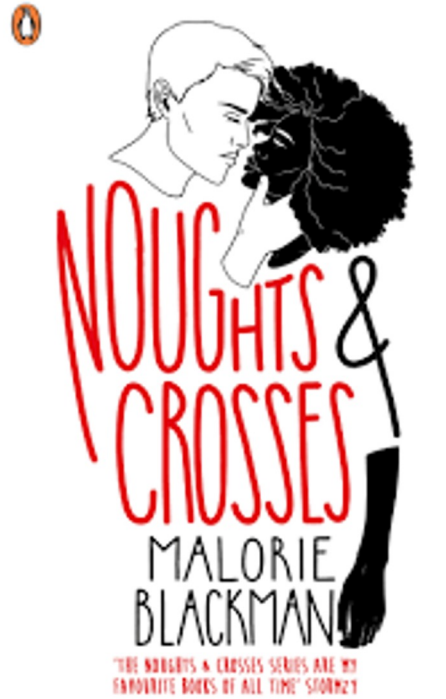
Key Concepts

Sexuality- there has been a notable increase in the acceptance of homosexuality in the UK in recent years and the LGBTQ movement now holds regular Gay Pride events across the country. Legislation during the latter part of the 20th and the early part of the 21st century made discrimination on the basis of sexuality illegal and in 2014 legislation was passed to allow same sex marriage.

Single parents- Unlike the early part of the 20th century, single parent families are far more commonly accepted in the 21st century. Making up nearly a quarter of families with dependent children in the UK. 90% of single parents are women Dante's father-led single family is a modern representation of a family unit, and the unusual nature of it is reflected in the initial incredulity with which his friends meet Dante's decision to look after Emma on his own.

Race- In the 1970s and 1980s, black people in Britain were the victims of racist violence perpetrated by far-right groups such as the National Front. Racism in Britain in general, including against black people, is considered to have declined over time and laws banning discrimination on the basis of race has been enshrined in law since 1976.

Family- Through the Bridgeman family, Blackman explores many aspects of the modern family; emotional issues such as loss of a parent, conflict over sexuality and the financial difficulties faced by single parents. However, despite the unconventional nature of the Bridgeman family, the concept of family is shown throughout to be important. At the start, Melanie's abandonment of Emma because she is unable to cope, highlights the importance of a strong family unit, and it is only through the support of his father and young brother that Dante is able to rise to the same challenge himself.



READING IS AN EXERCISE IN EMPATHY
AN EXERCISE IN WALKING
IN SOMEONE ELSE'S SHOES
FOR A WHILE.
-MALORIE BLACKMAN

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Year 9 - Boys Don't Cry

The aims of the sequence of learning are to ensure that all learn the following assessment skills:
- Explore issues aligned with the school's values of Respect, Integrity, Teamwork and Aspiration.
- Explore sub0plots, characterisation, narrative viewpoints and settings.
- Explore writer's craft.

Retrieval Practice

Questions	Answers
What are some of the main themes of 'Boys Don't Cry'?	Toxic masculinity, the welfare state, sexuality, race, single parent families, the nuclear family.
What are Dante's hopes for the future at the beginning of the novel?	At the beginning of the novel Dante reflects the meritocratic ideal that everybody can succeed; he is black and from a single- parent family but gains excellent A Level results and a place at University. He hopes to study and have a career, but instead finds himself caring for his daughter.
What do we learn about Dante's home and his family?	Dante lives with his younger brother, Adam, and his father, Tyler. His mother passed away before the events of the novel. Tyler has high expectations of behaviour and achievement from his children and can appear callous, until later in the novel.
What does Melanie represent in the novel?	Melanie represents many of the emotional and financial challenges faced by single mothers, particularly teenage mothers. Dante's attitude towards her abandonment of her daughter reflect society's strong condemnation of mothers who leave their children.

Career Focus - Where could this take you?

I am a content creator. As a content creator, you can create and manage content for websites, social media platforms, or digital marketing campaigns. This job requires strong writing skills and an ability to engage and attract an audience.

Challenge Activities

- Explore how the idea of toxic masculinity is addressed and challenged through the characters of Adam and Josh
- Explore how modern attitudes to the welfare state and social workers generally are explored through the character of Collette's sister
- Read the 'Noughts and Crosses' series, which made Malorie Blackman famous.

Topic Links

This topic links to:

RSHE : contraception, teenage pregnancy, careers, sexuality

Additional Resources

To further practise and develop your knowledge see:

- Reading support: https://www.myon.co.uk/login/
- Accelerated Reader: https://ukhosted13.renlearn.co.uk/2250186/default.aspx

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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.

Year 9 Inheritance & Evolution

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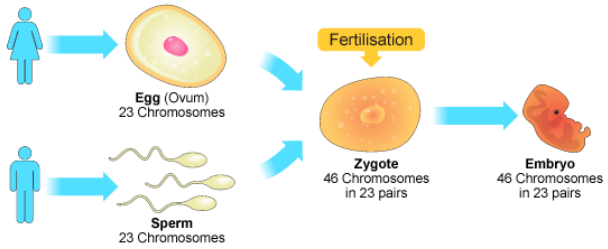
The aims of the sequence of learning are to ensure that all students:
- **Describe the process of natural selection and how this can lead to extinction**
- **Explain how biodiversity can be maintained**

Keyword	Definition
Biodiversity	The variety of different species in a habitat.
Natural selection	The process that drives evolution; some species are better adapted to environment and pass on genes.
Evolution	The process by which organisms change over a long period of time.
Extinction	The dying out of a species.
Fossil record	The record of organisms that existed over time using fossils as evidence
DNA	The genetic information found inside the nucleus
Chromosome	Highly coiled strands of DNA that occurs in pairs
Gene	A section of DNA that codes for a protein
Inherited characteristics	Features that are passed from parents to offspring.
Allele	The form of a gene (e.g. an allele for the hair colour gene might be blonde, or brown etc).
Dominant	The allele that <u>will</u> show up. (Written as a CAPITAL letter eg B for brown)
Recessive	The allele that <u>does not</u> show up if there's a dominant allele too. (Written as a lowercase letter eg b for blonde)
Genotype	Genetic makeup of an individual for a particular characteristic eg Dd

Key Concepts

Inheritance

Characteristics are passed along from parents to their offspring
Half of the genetic information comes from each parent; this is passed on through the sex cells in the process of fertilization.

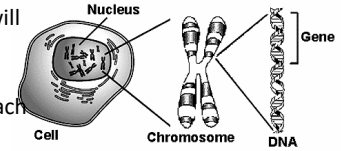


Humans get 23 chromosomes from their Father (sperm) and 23 chromosomes from their Mother (egg), which combine to make an embryo with 23 pairs of chromosomes.

Genetics

Our genetic information is stored inside the nucleus of all cells.
DNA consists of two long strands wound together in a double helix structure.

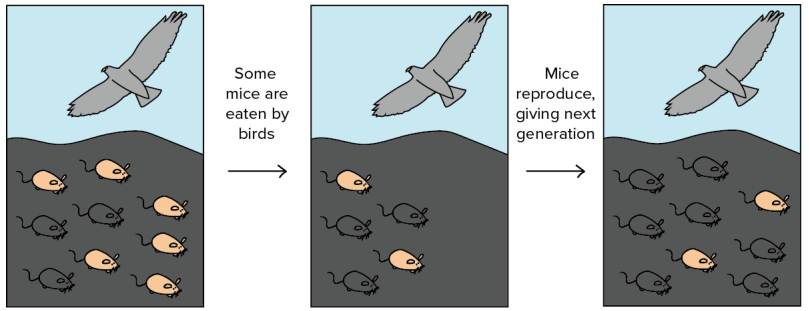
For every characteristic an organism will have two alleles, this is two different genes which can code for the same characteristic, one is inherited from each parent



- Dominant alleles will cause the characteristic to be displayed even if they are with another allele, this is represented by a capital letter
- Recessive alleles will not be displayed as characteristics unless there are two of the same allele, they are the characteristic least likely to be shown, this is represented by a small letter.

Natural Selection

Scientists believe that the organisms which we see on Earth today have gradually developed over millions of years, this is known as evolution
Charles Darwin came up with the concept of natural selection, he said that only the best adapted animals will survive to pass on their genes, weaker animals will die out.



A population of mice has moved into a new area where the rocks are very dark. Due to natural genetic variation, some mice are black, while others are tan.

Tan mice are more visible to predatory birds than black mice. Thus, tan mice are eaten at higher frequency than black mice. Only the surviving mice reach reproductive age and leave offspring.

Because black mice had a higher chance of leaving offspring than tan mice, the next generation contains a higher fraction of black mice than the previous generation.

Extinction

A species will become extinct when all of a species die out. The fossil record shows us that animals have existed in the past which have now become extinct.
Extinction can be caused by: Changes to the environment, Destruction of habitat, New diseases, Introduction of new predators and Increased competition
When a species becomes extinct, the variety of species within an ecosystem is reduced, this is also known as a reduction in biodiversity.
The more diverse a population is, the more likely they are to survive environmental changes.

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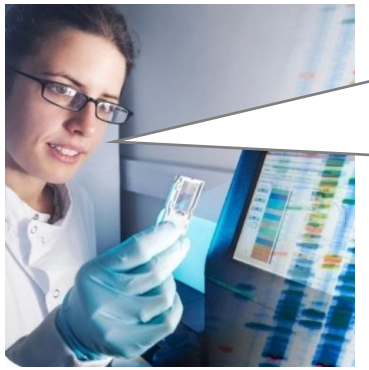
Year 9 Inheritance & Evolution

The aims of the sequence of learning are to ensure that all students:
- **Describe the process of natural selection and how this can lead to extinction**
- **Explain how biodiversity can be maintained**

Retrieval Practice

Questions	Answers
What is genetic information?	This is the DNA that is passed to us from our parents.
How are characteristics inherited?	Half the DNA is passed on from the father in the nucleus of the sperm and half the DNA is passed on from the mother in the nucleus of the egg.
How many chromosomes does a person have?	46 chromosomes in pairs of 23.
What is a gene?	A section of DNA that codes for a protein
What is an allele?	A gene that codes for a particular characteristic e.g. blue or brown eyes
What is the difference between a dominant and recessive allele?	Dominant alleles always show in our phenotype, recessive alleles only show in our phenotype if both are present.
What is the difference between phenotype and genotype?	Phenotype = our chararcteristics Genotype = our genetic makeup
What is natural selection?	The process by which organisms that are better adapted to their environment survive and pass on their genes to their offspring.
What is evolution?	The process by which species slowly change, generation after generation due to natural selection.
What are the fossil records?	The records of organisms that existed in the past based on fossils.
What is biodiversity?	The number and diversity of different species living in a habitat.
Why can low biodiversity lead to extinction?	Makes organisms more vulnerable if changes in the environment occur.
How can biodiversity be improved?	Ban hunting animals, prevent plants from being removed and trees cut down, protect areas with high levels of biodiversity, plant more species.

Career Focus - Where could this take you?



I am a geneticist. I work mainly in a lab to look at how genes affect how cells and organisms behave. I prepare and analyse samples of genetic tissue, use data and statistics to produce computer models, write reports and publish my findings in scientific journals.
I have to wear protective equipment when I work in the lab.
The skills I need for this job include a good knowledge of biology, excellent communication skills, math skills, good attention to detail, thinking and reasoning skills and the ability to use scientific equipment.

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 how biodiversity has decreased around the planet and the things that have been done to try and stop biodiversity reducing.
4. Find out more about geneticists and what they do. What qualifications would you need for this career? What current research is being done? What is the salary?
5. Construct a fact file about a famous historical scientist that helped us to understand more about evolution.

Topic Links

This topic links to:
- Cells
- Ecosystems

We will also be practising how to
- Draw punnet squares and calculate probability
- Evaluate claims based on fossil records

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/zpffr82
YouTube Cognito – https://www.youtube.com/watch?v=T6_wKPAbf2k
https://www.youtube.com/watch?v=zNEtVaNQ0s8

Year 9 Machines

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The aims of the sequence of learning are to ensure that all students:
- **Describe how forces move and distort objects (inc hookes law)**
- **Explain how moments and levers work**

Keyword	Definition
Force	A push or pull that acts on an object due to interaction with another object.
Newton	A unit of force. How forces are measured. Symbol = N
Simple machine	Devices that alter the direction or force of an object.
Pulley	A wheel with a cord that can be used to lift objects.
Axle	A rod that goes through the centre of a wheel
Screw	A rotating helix that moves straight.
Lever	A ridged bar that rotates around a pivot point.
Inclined plane	A sloping surface used for lifting heavy objects.
Moments	The turning effect of a force.
Pivot	The point around which an object rotates or turns.
Work done	The amount of energy transferred when a force acts over distance.
Hookes Law	The extension of a spring is directionally proportional to the force applied.
Extension	When an object is stretched (made longer).
Directionally proportional	As one variable doubles in size (e.g. weight of mass) the other variable also doubles in size (e.g. length of spring)

Key Concepts

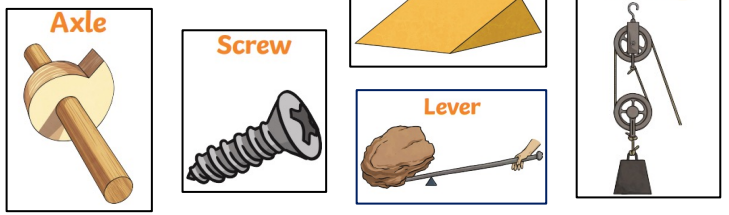
Simple machines

Simple machines are devices which alter the direction or force of a certain object, making it easier to move. A simple machine makes it easier and reduces the time it takes to complete a job.

Simple machines have made life easier for humans in loads of different ways, and it's hard to imagine we'd have developed this far without them. Many of the complex designs and tools we use today stemmed from simple machines of the past - they're a key stepping stone towards complex machinery.

Simple machines can work in a variety of ways. They can transfer a force from one place to another, change the direction of a force, increase a force's magnitude, or increase the distance or speed of a force.

Examples of simple machines:



Work Done

When a force causes an object to move, **work** is being done. Work is a measure of the energy transferred when a force acts over a distance. This is often when a force moves an object, but work is also done when a force compresses or extends a spring or other flexible object.
This means that:

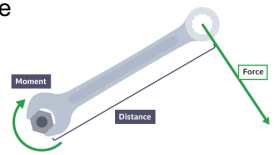
energy transferred = work

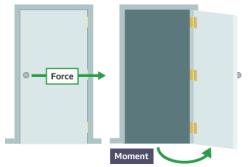
Work and energy are both measured in joules (J).
The following equation can be used to calculate work:
Work done in joules (J) = force in newtons (N) x distance moved in the direction of the force in metres (m)

Moments and Levers

A moment is the turning effect of a force. Forces that create a moment act around a point called the pivot. The pivot is the point around which the object can rotate or turn.

On a seesaw the pivot is the point in the middle
It makes calculations easier to try to measure the perpendicular distance between the line of action of the force and the pivot.
For example, if you apply a force to a spanner it rotates. The pivot is at the bolt.

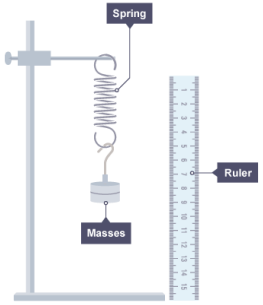




When you push open a door, you apply a force to the edge of the door furthest from the hinges. This force has a turning effect on the door - a moment which causes the door to rotate around the hinges - the - and the door opens.

Hookes Law

When a force is applied to an object it can change its size and shape. The force will either stretch or compress the object. Some objects, like springs, obey **Hooke's law**.
This law describes the relationship between the force applied and the spring's extension or compression.



To investigate , you can add masses to a spring and measure the length of the spring when the of the masses is increased.
This experiment investigates Hooke's law.

The results from this experiment should show that the extension of a spring is directionally proportional to the force applied to the spring.

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Year 9 Machines

The aims of the sequence of learning are to ensure that all students:
- **Describe how forces move and distort objects (inc hookes law)**
- **Explain how moments and levers work**

Retrieval Practice

Questions	Answers
What is a simple machine?	A device that can alter the direction or the force of an object.
What is a pulley?	A device that consists of a wheel and a cord that can be used to lift objects.
How do pulleys work?	An object is attached to one end of a cord that is placed around the wheel. The opposite end of the cord is pulled to lift the object.
What is an inclined plane?	A sloping surface that allows heavy objects to be lifted.
How do inclined planes work?	The inclined plane (ramp) allows objects to be lifted up or down with less force.
What is a moment?	The turning effect of a force.
How do levers work?	They act as force multipliers; one end of the leaver is rotated around a pivot point and the opposite end of the leaver moves up or down.
What is work done?	The amount of energy needed to move an object s certain distance with a certain amount of force.
How do we calculate work done?	Work done = Force X Distance
What is work done measured in?	Joules (J) or Newtons per meter (Nm)
What is Hookes Law?	The extension of a spring is directionally proportional to the force applied.
How do we investigate Hookes Law?	We add masses (100g) to a spring and measure the extension of the spring (how much it stretched)
What does directly proportional mean?	As one variable increases so does the other variable in the same proportions e.g. as one doubles so does the other.

Career Focus - Where could this take you?

I am a machine learning engineer. My job is to work in a special branch of artificial intelligence that enables machines to learn without further programming. My role is to be responsible for creating programs and algorithms that allow machines to take actions without being directed.

To become a machine learning engineer, I needed a degree and a masters in a relevant discipline. The skills they were looking for when employing me included understanding computer science, excellent math skills, use data modeling, being able to work with other data analysists and be able to analyse complex data sets. I usually do into the office, but it is becoming more common to work from home.

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 uses of moments and levers in different machines. What are their functions? How do levers and moments act as force multipliers.
4. Produce a poster about Hookes Law and the famous scientists work.
5. Find out more about machine learning engineers and what they do. What qualifications would you need for this career? What is the salary?
6. Construct a fact file about a famous historical scientist that helped us to understand more about moments and levers.

Topic Links

This topic links to:
- Forces
- Energy

We will also be practising how to
- Calculate moments
- Collect data and interpret graphs

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/z96g3j6
YouTube Cognito – https://www.youtube.com/watch?v=p7QS4cz-Avs

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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

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Year 9 Floods & River Management

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

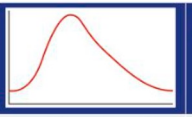
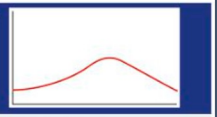
- **Describe the human and physical causes of flooding**
- **Analyse and interpret hydrographs**
- **Evaluate hard and soft engineering strategies to reduce flood risk**

Keyword	Definition
Flood	when a river bursts its banks and the water spills onto the floodplain
Precipitation	Moisture falling from the atmosphere - rain, sleet or snow
Geology	Studying the earth and rocks
Urbanisation	When an increasing number of people live in cities and towns
Deforestation	The cutting down and removal of forest
Hydrograph	A graph which shows the discharge of a river related to rainfall over time
Lag time	The difference between the peak rainfall and peak river discharge
Hard Engineering	Using artificial structures to defend against natural processes
Channel Straightening	Removing meanders from a river to make it straighter
Soft Engineering	Managing erosion by working with nature to reduce the flood risk
Floodplain Zoning	Identifying and planning how a floodplain can be developed
Afforestation	Planting trees in areas that haven't recently had any tree cover, in order to create a forest

Key Concepts

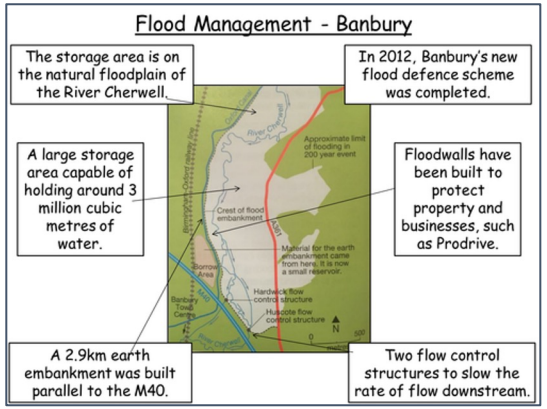
Flooding is where land that is not normally underwater becomes inundated.

A ***hydrograph*** shows the rivers discharge after a storm. Their shape can be affected by several factors, shown in the table. The lag time is key - the shorter the lag time the greater the flood risk.

Drainage basin and precipitation characteristics	'Flashy' hydrograph with a short lag time and high peak 	Low, flat hydrograph with a low peak 
Basin size	Small basins often lead to a rapid water transfer.	Large basins result in a relatively slow water transfer.
Drainage density	A high density speeds up water transfer.	A low density leads to a slower transfer.
Rock type	Impermeable rocks encourage rapid overland flow.	Permeable rocks encourage a slow transfer by groundwater flow.
Land use	Urbanisation encourages rapid water transfer.	Forests slow down water transfer, because of interception.
Relief	Steep slopes lead to rapid water transfer.	Gentle slopes slow down water transfer.
Soil moisture	Saturated soil results in rapid overland flow.	Dry soil soaks up water and slows down its transfer.
Rainfall intensity	Heavy rain may exceed the infiltration capacity of vegetation, and lead to rapid overland flow.	Light rain will transfer slowly and most will soak into the soil.

Flood management can be done in two ways ***Hard Engineering*** or ***Soft Engineering***.

Hard Engineering		Soft Engineering	
Dam/Reservoir 	Regulate river flow Water can be stored tp drink or for HEP. Expensive & flood large areas of land	**Afforestation** 	Cheap and trees can obstruct the flow of water through, leaves and roots.
Channel Straightening 	Speeds up water flow to reduce flood risk but can pass on the risk to other areas downstream. Can damage wildlife habitats	**Floodplain Zoning** 	Restricts different land uses to certain zones on the floodplain. Can reduce the cost of damage but can be difficult to implement



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Year 9 Floods & River Management

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Retrieval Practice

Questions	Answers
What is a human cause of flooding?	Urbanisation - building on floodplains creates impermeable surfaces
What is a physical cause of flooding?	Geology - impermeable rocks do not let water pass through them
How is lag time calculated on a hydrograph?	The difference between the peak rainfall and peak river discharge
What is meant by a flashy hydrograph?	A short lar time and a high peak discharge
Give 2 factors which can create a flashy hydrograph?	Steep slopes and urbanisation
What is meant by a hard river engineering scheme?	One that uses artificial structures to defend against natural processes
Name a hard engineering scheme and give 1 positive and 1 negative impact of it	Building a dam - it controls the amount of water in a river channel, but they cost a lot of money and people need to be displaced to build them
Name a soft engineering scheme and give 1 positive and 1 negative impact of it	Flood plain zoning allows more expensive land use to be built further from the river, but this is hard to set up if the land is already used
Give 2 flood management schemes in Banbury	2.9km flood embankment and they raised the (A361) main road

Career Focus - Where could this take you?

Hydrologist

I study rainfall, rivers and waterways to support the development of sustainable ways to manage water resources. We measure river flows and the amount of water above and below ground investigate the causes and impact of flooding and droughts. We also improve flood forecasting and risk management.

Challenge Activities

- **Create a ten-question quiz, with the answers based on this terms Rivers topic which can be used in lesson**
- **Research the flood defences in a UK city (like York) - create a presentation or booklet with details and images about them**
- **Produce a piece of artwork or a 3D model to demonstrate your understanding of flood risk and management**

Topic Links

This topic links to

- **River features and processes - Year 9**
- **Coastal Management - Year 10**

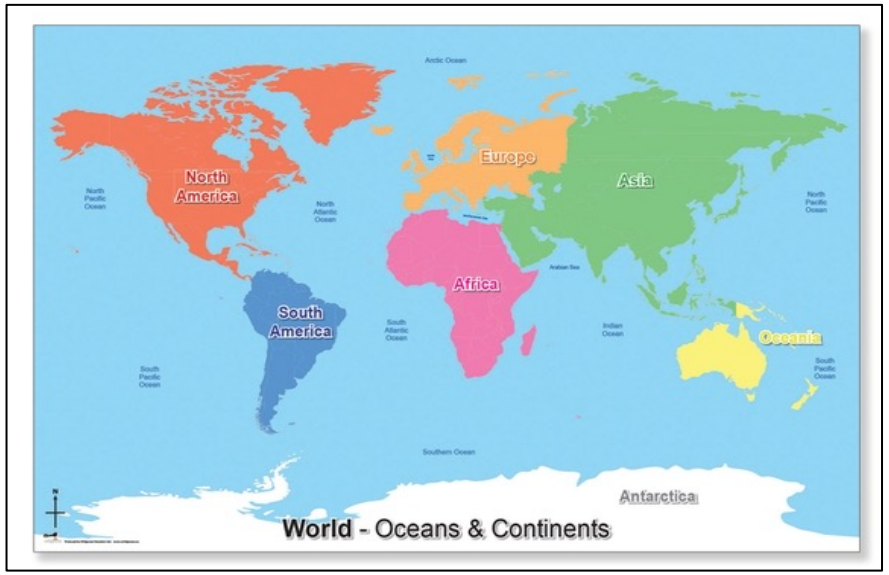
Additional Resources

To further practise and develop your knowledge see:

- BBC Bitesize - River Management
- S-cool -

Key Concepts:

World – Countries and Oceans



Year 9: World War One

The aims of this sequence are:

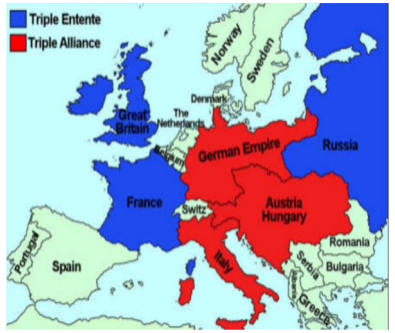
- **Describe the causes of World War I**
- **Describe the stalemate on the Western Front**
- **Explain why Germany was defeated**

Keyword	Definition
Causes	Something or someone that brings about a result or effect.
Nationalism	The belief that your country is better than anyone else's.
Alliances	Two or more countries who agree to support each other when needed.
Empires	A group of territories / colonies controlled by another country and one ruler
Imperialism	The desire to take over and conquer other countries
Arms Race	A competition between two or more countries to have the best armed forces. This normally involves recruiting and training more soldiers and developing new, better weapons.
Assassination	The act of murdering a usually important person by a surprise or secret attack.
Mobilise	Prepare and organise troops or soldiers and weapons.
Military	Anything relating to the army and armed forces.
Trenches	Long, deep ditches dug as protective defenses in war
Conditions	Environment, circumstances or factors affecting the way in which people live or work and their well-being.
Strategy	A plan of action aimed to achieve a long term goal.
Bloody	Describing a situation or event as bloody means it was violent and many people were killed.
Useful	A judgement about how relevant or helpful a particular source is in providing information about the topic being studied.
Provenance	A term used for a source's 'background'; nature, origin and purpose.

Key Concepts

The M.A.I.N Long Term Causes of World War One:

Militarism	People were proud of their countries and wanted strong armies and navies to show off their strength. To make sure that theirs were the best, countries increased their spending on bigger and better armies and got caught up in an arms race. Many countries had overseas Empires and needed a large army and navy to protect and control their colonies. However, if countries fell out, temptation to use those weapons was always there.
Alliances	Militarism meant that countries were growing very suspicious of each other and wanted to protect themselves from possible attack. A good way to achieve this was to make an alliance with another powerful country that would promise military support in case of war. Europe split into two alliances: Germany, Austro-Hungary and Italy formed the Triple Alliance and Britain, France and Russia formed the Triple Entente.
Imperialism	Britain had conquered lots of land all over the world by 1914 and had a huge Empire. Other nations wanted big Empires too – a desire known as imperialism. The race to gain control of other colonies, particularly in Africa, led to tension and rivalry among European countries. They began to see each other as a threat to their overseas possessions, so thought war was the only way to remove this threat permanently.
Nationalism	From the middle of the 19th century, people started to take great pride in their countries.. Many nations did not have their own countries like Czechs, Hungarians and Slovaks in central Europe or Bosnians and Greeks in the Balkans. They felt it was time for them to become independent and they were willing to fight for it.



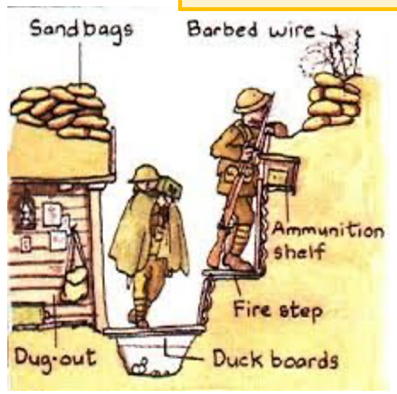
Short Term Cause of World War One – The Spark:

The 'spark' which led to a sequence of events and the breakout of war was the assassination of the heir to the Austro-Hungarian throne; Archduke Franz Ferdinand on 28th June 1914.
Austro-Hungary now wanted revenge…

Life in the Trenches

Trenches could be very wet, muddy and smelly. There were many dead bodies buried nearby and the latrines (toilets) sometimes overflowed into the trenches. It was not just the toilets that were an issue, there were many other problems in the trenches including; Trench foot, lice and rats… We will look at the issues these caused in our lessons.

Trench warfare:



Year 9: World War One

The aims of this sequence are:

- **Describe the causes of World War I**
- **Describe the stalemate on the Western Front**
- **Explain why Germany was defeated**

Retrieval Practice:

Questions:	Answers:
Name the three countries in the Triple Alliance:	Germany, Austria-Hungary and Italy
Name the three countries in the Triple Entente:	Britain, France and Russia
Who was the leader of Germany at the start of World War One?	Kaiser Willhelm II
Tell me **one** long term cause of World War One and explain how it would lead to war:	Militarism this meant that countries were growing very suspicious of each other and wanted to protect themselves from possible attack.
What significant event happened on 28th June 1914?	The assassination of Archduke Franz Ferdinand
Tell me **one** design feature of a trench and what it was used for:	Fire step – to stand on and shoot from
Tell me **two** weapons used by soldiers during World War One:	Rifle and Bayonet
What new weapon was used for the first time during the Battle of the Somme	Tanks
Tell me **two** ways conditions in the trenches were poor for soldiers:	Rats spread diseases, such as Cholera and Trench foot from the cold and damp
What was signed to end World War One and on what date?	The Armistice on 11th November 1918

Career Focus - Where could this take you?

I am a Barrister: My job is to represent clients and argue their cases in Court. To prepare for court cases I need to conduct legal research, gather evidence from my client and their solicitor, then put together an argument to ensure the outcome of proceedings goes in Favour of my client. I am a very confident speaker as I need to present my client's case with conviction. I am also good at analysing, problem-solving, ensuring attention to detail and managing projects. It is vital I have good written communication skills too.

Challenge Activities

1. Research what happened to your relatives during World War One. There are several ways of doing this – speak to your teacher for extra guidance:
   - Talk to your family members; it's quite possible that someone in your family has already undertaken some family History research and knows what your relatives did during WWI.
   - Use the War Graves website to find out if any of your relatives died in the war and if so, where they are buried, what date they died and what battle they were fighting in.
   - If you can't find anything about a relative, you could research the relatives of celebrities or look for someone who won a medal such as the Victoria Cross.
2. Write a newspaper article about one of the key battles in World War One. Make sure you include key information, interviews with soldiers who survived and pictures.

Topic Links

This topic links to other history topics such as:

- Weimar Germany
- The Roman Empire

We will also be practicing how to

- Create a balanced argument
- Hold a class debate *(Voice 21)*

Additional Resources

Commonwealth War Graves website:

Battles of WWI:

Key Concepts

TIMELINE 0–2000 AD

A timeline is a way to record important events and track when they happened.

43 AD – Romans invade Britain.

71 AD – Romans conquer Northern England.

140 AD – Romans conquer Scotland.

400–410 AD – The Romans withdraw from Britain.

516 AD – British defeat Anglo-Saxons at the Battle of Mount Badon.

867 AD – Vikings capture Northumbria.

926 AD – Anglo-Saxons conquer Eastern England.

ROMAN BRITAIN 43–410 AD

ANGLO-SAXON & VIKING BRITAIN 410–1066 AD

0 | 100 AD | 200 AD | 300 AD | 400 AD | 500 AD | 600 AD | 700 AD | 800 AD | 900 AD | 1000 AD

78 AD – Romans conquer Wales.

122 AD – Emperor Hadrian orders his soldiers to build a wall across Northern Britain. It became known as Hadrian's Wall.

449 AD – Anglo-Saxons invade Britain.

789 AD – The Vikings first invade England in Dorset.

874 AD – The Vikings conquer the Kingdom of Mercia.

1066 AD – William of Normandy defeats King Harold at the Battle of Hastings and becomes King of England.

1348 AD – The Black Death arrives in England and kills almost half of the population.

1534 AD – Henry VIII forms the Church of England and makes himself Head of the Church.

1707 AD – The Act of Union joins England and Scotland into one country.

1800 AD – The Acts of Union join Ireland with England and Scotland.

1939–1945 AD – The Second World War occurs.

MEDIEVAL BRITAIN 1066–1485 AD

TUDOR BRITAIN 1485–1603 AD

STUART BRITAIN 1603–1714 AD

GEORGIAN BRITAIN 1714–1837 AD

VICTORIAN BRITAIN 1837–1901 AD

20TH CENTURY BRITAIN 1901–2000 AD

1000 AD | 1100 AD | 1200 AD | 1300 AD | 1400 AD | 1500 AD | 1600 AD | 1700 AD | 1800 AD | 1900 AD | 2000 AD

1453 AD – The Hundred Years War ends.

1588 AD – The English defeat the Spanish Armada.

1776 AD – The American colonies declare independence from Britain during the War of Independence.

1914–1918 AD – The First World War occurs.

1086 AD – The Domesday Book is compiled to record what people in Britain owned and calculate how much tax they owed.

1337 AD – King Edward III invades France and the Hundred Years War begins.

1845 AD – The Great Irish Potato Famine begins. Millions of people die or migrate to other countries.

Y9 Ethics & Humanism

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

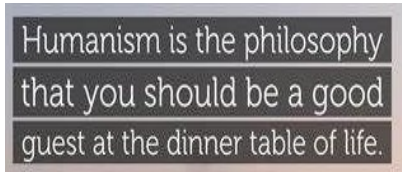
- Enquire into Humanist beliefs
- Evaluate beliefs about the origins of the universe
- Explain & interpret Humanist understanding that human beings evolved alongside animals
- Enquire into the Humanist belief about death as tend of personal experience & the absence of anything immaterial, such as the soul
- Evaluate the belief that humans are material & mortal
- Explore what is meant by Atheism & Agnosticism
- Investigate the concept of miracles

Keyword	Definition
Humanist	A follower of the principles of Humanism.
Origin	The point or place where something begins or starts.
Atheist	Someone who doesn't believe in God.
Agnostic	Someone who believes you can never know for sure whether God exists or not.
Democratic	In some circumstances unimportant, something which is irrelevant.
Humane	Having or showing compassion or benevolence. Being kind, understanding and civilised.
Immaterial	Relating to or supporting democracy or its principles.
Secular	Not connected with religious or spiritual matters.
Philosophy	A theory or attitude that acts as a guiding principle for behaviour.
Reason	The power of the mind to think, understand and form judgments logically.
Theist	Someone who believes that there is a creator, God.
Empathy	To understand and share the feelings of others.
Worldview	Ideas about life and the world.

Key Concepts

How do you know what is true?

At the heart of humanism is the belief that reason, and evidence are very important. They therefore believe that science should be used to know what is true and what is false.
They do not believe in God as Humanists are atheist, believing there is no scientific evidence or proof that God exists.
All truth is discovered by looking at the scientific evidence.
Humanism is a world-view that only uses science, evidence, reason and empathy to make sense of the world and to inform how they should act and care for others.



How do you tell right from wrong?

Humanists do not believe in God or other supernatural beings and so do not believe that our knowledge of right and wrong comes from religious rules such as those found in scriptures like the Bible.
They believe in the GOLDEN RULE which is to treat others as you yourself want to be treated. They think that you should always consider your actions will affect other people and you should think about how you would feel in someone else's situation. Imagining how others feel is called empathy.
Humanists believe that we should use our human nature to work out how to live and that we should use reason and empathy when deciding what is right and wrong.
Humanists therefore try to live a full and a happy life and help others do the same and believe we should use our own human nature as a guide to a good living.
Humanists do not have an absolute morality as they do not have a strict set of rules (like the 10 commandments) that they must always follow.

What are Ethics?

Ethics are the rules that direct your conduct and moral judgment.

- **Doing Right and Wrong**: Ethics is about figuring out what's the right thing to do and what's the wrong thing to do in different situations.
- **Being Fair**: It's about treating people fairly and being kind, even when no one is watching.
- **Thinking First:** Ethics reminds us to think before we act and consider how our actions might affect others.
- **Making Good Choices:** It helps us make good choices that make us proud and help us get along with others.

Y9 Ethics & Humanism

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Everyone Exceptional Everyday

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- Enquire into the Humanist belief about death as tend of personal experience & the absence of anything immaterial, such as the soul
- Evaluate the belief that humans are material & mortal
- Explore what is meant by Atheism & Agnosticism
- Investigate the concept of miracles

Key Concepts

Overview

- Humanism puts human beings and their interests at the centre of things.
- Rather than focusing on religion, divine or supernatural matters, humanists believe that fulfilment is achieved through human inventiveness and collective effort.
- Humanism Is a broad philosophy and there are many different types of humanist. Most do not believe in a God or deity.
- Humanists believe that people should think freely for themselves, be rational and work together in order to achieve human happiness.

The British Humanist Association

The BHA is recognised as the voice for Humanism in the UK.
The BHA emphasises that Humanism is a positive life-stance' rather than a negative attitude to religion.' The BHA realises that they do not speak for all humanists, as there are many different types.

The Happy Human

The BHA held a competition in the 1960s, to decide on a logo for Humanism.
The winning entry was the 'Happy Human'

- It shows a human figure reaching to achieve its full potential.
- It symbolises the idea that we only have one life and that we should try to make it happy for all.

BRITISH HUMANIST ASSOCIATION

Humanist beliefs

It is important to remember that there are many kinds of humanists, who all believe in different ideas. Below are some of the common beliefs.

- Humanism is not a religion and most humanists do not believe in God or life after death.
- Humanists believe in a 'Golden rule', which is 'treat other people as you would like them to trat you.' Humanism is all about doing good and making people happy:
- Humanism is all about finding and giving love, making others happy and making the best of the one life that we have together here on earth.
- Humanists are rational. They believe that science and human though are powerful tools for bettering life and creating a happy existence for all. They believe that science provides the best explanation for our existence for all. They believe that science provides the best explanation for our existence – they do not believe that God created the EARTH.
- Humanists are ethical- they value all human beings, treating everyone equally. They believe in 'common humanity'- even though we have difference, we are all human

Main Beliefs of Humanism

Non-Existence of Gods
Most Humanists are atheists. They rely on science and have found no evidence that a God exists or ever existed.

Meaning of Life
Humanists give their lives meaning by living good lives. They make good choices and take an interest in the world around them.

Science
Scientific investigations gather evidence to find the truth. Humanists also use evidence to see what is true.

No Purpose to the Universe They believe that the universe was created by chance, so there is no purpose to the universe.

Reason
Humanists believe decisions should not be made on emotions, but on reason, rationality and logic.

Ethical Decisions
To live good lives, decisions must be weighed up for their positive and negative consequences for all. Humanists believe there are no perfect decisions.

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Y9 Ethics & Humanism

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Retrieval Practice

Questions	Answers
What is Humanism?	A rational outlook or system of thought, attaching prime importance to human rather than divine or supernatural matters.
What does the BHA emphasise?	The BHA emphasise that Humanism is a 'positive life-stance'
What is the 'Happy Human'?	Happy Human is the logo which is used to represent Humanism. It shows a human figure reaching to achieve its full potential.
Why do Humanists not believe in God?	Humanists believe that science can back everything up.
Define the word 'ethics'.	Ethics are moral principles that govern a person's behaviour. It is a set of values that is always present in everyday life.
What is the difference between ethics and Humanism?	Ethics focuses on deciding what's right or wrong and guides our behavior using moral principles. Humanism is a philosophy valuing human worth, reason, and kindness, without relying on religion. While ethics is about moral choices, humanism is about valuing humans and their potential.
What is the 'Golden Rule' in Humanism?	The Golden Rule is applied within Humanism as this helps them decide what to do. 'Treat other people as you'd want to be treated in their situation.'
What do Humanists believe about the origin of the Universe?	Humanists believe that the universe was created by chance, so there is no purpose to the universe.
Name some advantages of living an ethical life.	Some advantages include, but are not limited to, helps translate your values into appropriate and effective behaviours in your day-to-day life and determine how you talk to someone.

Career Focus - Where could this take you?

I am a Lawyer. Having the ability to understanding different religions and faiths, makes me realise why people do what they do. Understanding the choices and decisions of others makes me a better lawyer.

Challenge Activities

- Design a poster on Humanism.
- Create a leaflet, explain to someone what Humanism is.
- Research the 'Human Light' and write down notes on your find.
- How can you live an ethical life if you're not religious? Explain your answer in detail.
- Design your own Humanist logo and write a brief explanation of why you want it to be the next H umanist design.
- 'Morals are always with us, it's what we choose to do with it, that's what counts.' Explain this s tatement in detail.

Topic Links

This topic links to:

- Ethical dilemmas across other religions.
- The golden rule of Islam, Christianity and Judaism.
- Humanism within the contemporary world.

Additional Resources

To further practise and develop your knowledge see:

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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.

Newsome Academy
Everyone Exceptional Everyday

Year 9 La musique

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

- Give justified opinions about music.
- Use aller + infinitive to talk about future.
- Describe a concert in the past.
- Ask and answer questions in French.
- Review a French film

Keyword	Definition
Tu aimes la chanson?	Do you like the song?
Pourquoi? Pourquoi pas?	Why? Why not?
Qu'est-ce que tu aimes comme musique?	**What** do you do?
Qu'est-ce que tu n'aimes pas écouter?	What do you not like to listen to?
Le jazz est plus relaxant que **la techno.**	**Jazz** is more relaxing than **techno.**
Le hip hop est meilleur que **le rap.**	**Hip hop** is better than **rap**
Est-ce que tu écoutes souvent de la musique?	Do you often listen to music?
Je n'écoute jamais de.....	*I never listen to.....*
Qui est ton chanteur préféré?	Who is your favourite singer?
Qu'est-ce que tu vas faire à l'avenir?	**What** are you going to do in the future?
Je vais + infinitive	I'm going to .....
Ce sera + opinion.	That will be.....
Tu es allé à un concert?	Have you been to a concert?
Qu'est-ce que tu as fait?	**What** did you do?
C'était **comment**?	What was it like?

Key Concepts

Est-ce que tu aimes la musique?

J'adore / J'aime la chanson …	*I love / I like the song …*
Je n'aime pas / Je déteste la chanson …	*I don't like / I hate the song …*
parce que …	*because …*
le chanteur est …	*the singer (male) is …*
la chanteuse est …	*the singer (female) is …*
le rythme est …	*the rhythm is …*
la mélodie est …	*the tune/melody is …*
la chanson est …	*the song is …*
amusant(e). / démodé(e).	*fun / old-fashioned.*
intéressant(e).	*interesting.*
bon(ne) / nul(le).	*good / rubbish.*
ennuyeux/ennuyeuse.	*boring.*

Qu'est-ce que tu vas faire à l'avenir?

Je vais...

faire une tournée avec la chorale.	**chanter toutes sortes de chansons**
to do a tour with the choir	*to sing all sorts of songs*
visiter les États-Unis.	**prendre beaucoup de photos**
to visit the USA	*to take loads of photos*
voyager en avion	**être musicien(ne) professionnel(le)**
to travel by plane	*to be a professional musician*

Use expressions of frequency to say how often you do things.

tout le temps	all the time
souvent	often
parfois	sometimes
de temps en temps	occasionally, from time to time
ne ... jamais	never

Phonics and Vocabulary

tion

La natation 	L'équitation 	addition 

Est-ce que tu es allé à un concert?

Je suis allé(e) à un concert samedi dernier	***I went to a concert last Saturday***
J'ai acheté un billet en ligne	***I bought a ticket online***
J'ai acheté une casquette	***I bought a cap***
J'ai retrouvé mes amis au stade	***I met my friends at the stadium***
J'ai chanté et j'ai dansé	***I sang and I danced***
J'ai pris beaucoup de photos	***I took lots of photos***
J'ai mangé un hamburger	***I ate a burger***
J'ai bu un coca	***I drank a cola***
Je n'ai pas mangé de pizza	***I didn't eat pizza***
J'ai vu mon groupe préféré	***I saw my favourite group***
C'était fantastique!	***It was fantastic!***

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Retrieval Practice

Questions	Answers
Est-ce que tu aimes la chanson ?	Oui, j'aime la chanson parce que le rhythme est cool. 👍 Non, je n'aime pas la chanson car le chanteur est ridicule.👎
Qu'est-ce que tu aimes comme musique?	Je préfère **le rap.** À mon avis c'est plus **interessant** que **le jazz.**
Qu'est-ce que tu n'aimes pas écouter?	Je n'aime pas vraiment **la techno.** Je trouve **la mélodie monotone.**
Est-ce que tu écoutes souvent de la musique?	**Normalament j'**écoute la musique **tous les jours.**(quand je fais mes devoirs)
Qui est ton chanteur préféré? Quel est ton groupe préféré?	Personnellement, j'adore "The Arctic Monkeys" parce que à mon avis le chanteur est talentueux.
Qu'est-ce que tu vas faire à l'avenir?	Je veux visiter **le Canada** et je veux voyager **en avion.** Je voudrais aller à un concert de **Stromae.** Ce serait **chouette.**
Tu es allé à un concert?	**Oui, l'année dernière, je suis allé à un concert de Green Day. Je pense que c'était inoubliable**
Qu'est-ce que tu as fait?	Je suis allé **au stade** avec **mes amis. J'ai chanté et j'ai dansé** Après, **j'ai mangé une pizza.**

Career Focus - Where could this take you?

I work in music marketing and promotion. I have the chance to work all over Europe and even worldwide promoting new music from around the world. It helps me that I can speak another language and understand the customs in that country.

Challenge Activities

1) Research some French musicians and groups. Send any recommendations to Mrs Fox and we can listen to them in class.
2) Create a fact file of a French speaking artist. Include as much detail as you can.
3) Complete the activities on www.sentencebuilders.com

Topic Links

This topic links to:

- Hobbies
- The past tense.
- My future plans.
- All about me.

Additional Resources

To further practise and develop your knowledge see:

- Language nut
- Sentencebuilders.
- Active learn.

Year 9 – Meine Familie

The aims of the sequence of learning are to ensure that all students can:
- Say how many brothers and sisters they have.
- Describe their pets.
- Say what they like and dislike using cognates
- Describe their personality.
- Pronounce key phonics sounds
- Conjugate key verbs in 1st/2nd/3rd person singular, e.g. haben and sein.
- Understand a traditional celebration in Germany – Weihnachten.

Keyword	Definition
Wie heißt du?	What is your name?
Wie schreibt man das?	How do you spell it?
Wie alt bist du?	How old are you?
Wann hast du Geburtstag?	When is your birthday?
Wo wohnst du?	Where do you live?
Hast du Geschwister?	Do you have any brothers and sisters?
Hast du ein Haustier?	Do you have a pet?
Wie bist du?	What are you like?
Wie siehst du aus?	What do you look like?

Wie?	*How?*
Was?	*What?*
Wo?	*Where?*
Woher?	*Where … from?*
Wer?	*Who?*

Most verbs end in ***-en***, e.g. ***wohnen*** (to live). For the present tense you replace the ***-en*** ending like this:

*ich wohn**e***	I live
*du wohn**st***	you live
*er/sie/es wohn**t***	he/she/it lives

Key Concepts:

Phonics

sch	sh	ű	oo
u	uh	j	y
u	oo	w	v

Hast du ein Haustier? – Ich habe / Ich möchte…..

eine Katze	ein Kaninchen	einen Papagei	eine Maus
einen Hund	einen Fisch	Ein Meerschweinchen	eine Schildkröte
eine Schlange	einen Hamster	eine Spinne	einen Vögel

Hast du Geschwister? – Do you have any brothers or sisters?

Ich habe einen Bruder
Ich habe zwei Brűder

Ich habe eineSchwester
Ich habe zwei Schwestern

❌ Ich bin Einzelkind / Ich habe keine Geschwister ❌

Ich habe…… Augen

blau(e)	grűn (e)	gelb (e) blonde
rot (e)	schwarz(e)	grau (e)
rosa	weiß(e)	braun(e)

…….

sein (to be) is an important verb, which you need to learn.

*ich **bin***	I am
*du **bist***	you are
*er/sie/es **ist***	he/she/it is

haben (to have) is another important verb, which you need to learn.

*ich **habe***	I have
*du **hast***	you have
*er/sie/es **hat***	he/she/it has

Numbers 20-100

zwanzig	*twenty*
dreißig	*thirty*
vierzig	*forty*
fünfzig	*fifty*
sechzig	*sixty*
siebzig	*seventy*
achtzig	*eighty*
neunzig	*ninety*
hundert	*hundred*
einundzwanzig	*twenty-one*
zweiundzwanzig	*twenty-two*

Personality – Wie bist du?
Ich bin …….

freundlich	friendly	sportlich	sporty
launisch	moody	laut	loud
kreativ	creative	faul	lazy
intelligent	clever	lustig	funny

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- Understand a traditional celebration in Germany – Weihnachten.

Retrieval Practice

Questions	Answers
Wie heißt du?	Ich heiße **Clara.**
Wie schreibt man das?	**tseh- el-ah-air-ah**
Wie alt bist du?	Ich bin **zwölf** Jahre alt.
Wann hast du Geburtstag?	Mein Geburtstag ist am **neunten November**.
Wo wohnst du?	Ich wohne in **Huddersfield.**
Hast du Geschwister?	Ich habe **einen Bruder** 👱 Ich habe zwei Schwestern 👧👧 Ich bin Einzelkind ❌
Hast du ein Haustier?	Ja, ich habe **ein Kaninchen. Er ist grau.** 🐰 **Er heißt Peter.** Nein, Ich habe **kein Haustier.** ❌
Wie bist du?	Ich bin **kreativ** und **musikalisch**.
Wie siehst du aus?	Ich habe lange braune Haare. Ich habe blaue Augen.

Career Focus - Where could this take you?

I am a charity worker. I work abroad to help animals, that are mistreated or abandoned in many towns and cities. It helps that I can speak a language, because I can communicate with local people, tourists and other charity workers. I find that speaking another language has really helped me to settle into life in a foreign country and helped me to make lots of new friends.

Challenge Activities

1. Make flashcards for the questions and answers.
2. Use Sentence builders to practise describing yourself and other people.
3. Make a fact file about yourself in German. Include lots of information, including your favourite things.
4. Design your ideal zoo. Say what you have in the crazy zoo and then describe each animal. Eg Ich habe eine Katze. Sie ist blau und rosa. Sie heißt Fifi.

Topic Links

This topic links to other German topics such as

- Introducing yourself and family.

This topic also links to :

- Maths
- Geography
- Literacy,

Additional Resources

Languagenut - Use your username and password.
www.sentencebuilders.com

Active Learn - You will be given your username and password by your teacher..

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CVT

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 9 Surrealism

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

- Develop knowledge of the characteristics of the surrealism movement.
- Demonstrate accurate drawing skills.
- Experiment with collage showcasing understanding of surrealism.
- Produce a personal response showcasing understanding of surrealism.

Keyword	Definition
Surrealism	A movement in art and literature. Surrealism aimed at expressing imaginative dreams and visions.
Movement	An art movement is generally defined when a group of artists during a specific time adapt a particular style with a common goal.
Collage	Collage describes both the technique and the resulting work of art in which pieces of paper, photographs and fabric are arranged and stuck down onto a surface.
Observational Drawing	To create a drawing of what you see in front of you as realistically and as true to life as possible.
Juxtaposition	Juxtaposition is when you place two concepts or objects next to or near each other, thereby highlighting their differences and similarities.

Key Concepts

During this project you will:

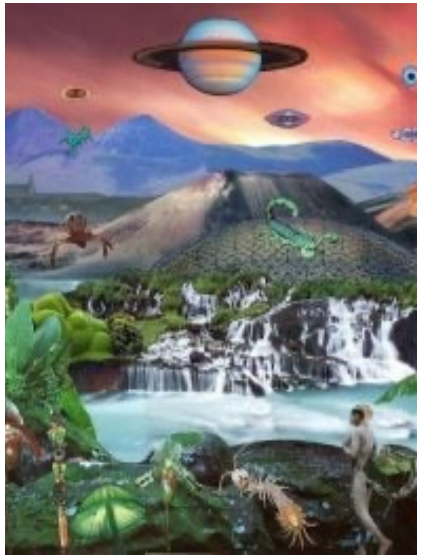
- Explore the Surrealist art movement
- Experiment with collage techniques
- Develop observational drawing skills.
- Create your own surreal artwork showcasing an understanding of the movement style.

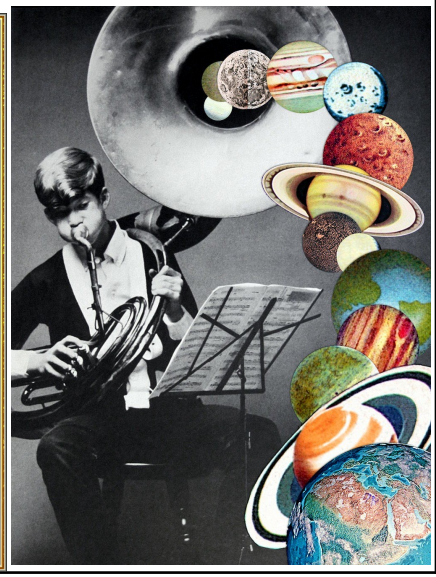
sur·re·al·ism

/səˈrēəˌlizəm/

noun

1. a 20th-century avant-garde movement in art and literature which sought to release the creative potential of the unconscious mind, for example by the irrational juxtaposition of images.





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Year 9 Surrealism

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- Produce a personal response showcasing understanding of surrealism.
- Demonstrate accurate drawing skills.
- Experiment with collage showcasing understanding of surrealism.

Retrieval Practice

Questions	Answers
What is a movement in art?	An art movement is generally defined when a group of artists during a specific time adapt a particular style with a common goal.
What does the word surreal mean?	Strange, not seeming real, dreamlike.
When did the Surrealism movement start?	1920. After the first world war.
What are some of the key features of Surrealist Art?	Key features of surreal painting: Wrong Place, wrong Scale, juxtaposition of imagery, merging of objects, playful, strange, bizarre placement/arrangement/juxtaposition of objects/imagery.
What is a collage?	Collage describes both the technique and the resulting work of art in which pieces of paper, photographs, fabric are arranged and stuck down onto a surface.
What is an observational drawing?	An observational drawing means to create a drawing of what you see in front of you as realistically and as true to life as possible.

Career Focus - Where could this take you?

I am a Wedding Photographer. My Job includes liaising with clients, promoting my business, capturing the happiest moments of a couple's day on camera, editing and retouching images.

Challenge Activities

SCAN ME

Scan the QR code to watch Peter Capaldi explain the surrealism movement.

SCAN ME

Scan the QR code to go to the Tate Gallery website to learn more about Surrealism.

Topic Links

History – understanding of historical events that have influenced art.

English - Understanding terminology.

Science – accurate observation skills

Additional Resources

SCAN ME

Scan the QR code to watch an artist use the collaging technique to create a surreal artwork.

Unit 9.1: Plan a Music Festival

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

- Demonstrate knowledge of planning techniques and financial literacy by developing a plan for a music festival and calculating the estimated profit for the event
- Demonstrate knowledge of event planning by developing a logical site-plan for the music festival
- Demonstrate knowledge of using Adobe Express by developing a range of professional looking promotional material for the music festival
- Apply knowledge from this unit to accurately describe some keywords

Keyword	Definition
Target Audience	The primary group of people that something is aimed at appealing to
Income	The amount of money received for providing goods or services
Expenditure	The amount of money spent to purchase goods or services
Profit	The remaining balance after subtracting the total expenditure from the total income
Site Plan	A detailed Plan showing the proposed placement of structures, parking areas and open space
Digital Project	Products that are both developed and delivered digitally using a computer
Theme	The elements used that create a consistent look and feel for a product
Promotional Material	Graphical products created to promote and increase the awareness of an event or business
Professional Design	A design that aims to replicate the design of something that has been created by a professional

Key Concepts

Students will be expected to plan a brand new music festival by following project planning and marketing strategies inspired by industry experts.

The tasks include developing a site plan for the festival, managing the finances and creating a range of social media posts to advertise the music festival.

Start a New Graphic

Select the blue plus button at the top of the screen.

Working with Images

Image/Photo- Images can be added by clicking the 'Photo" button. ***Upload from your device***, or use the ***Search option within Spark*** for copyright free images. Click '***Icons'*** to search for simple black & white clip art.

To change an image, select it and click

Replace

To crop an image to a Shape, select it and click

Shape Crop

Save your Graphic

Once your graphic is finished you can export it two different ways. You can download your graphic to your computer as an image file or pdf.

Download

PNG

JPG

PDF BETA

Start download

Styles Tabs

The Style Tabs on the right hand side of the Post Editor allow you to change the look and feel of your entire graphic project. These tabs are broken up into; the **"Design"** Tab, the **"Colors"** Tab, the **"Layout"** Tab, and the **"Resize"** Tab.

DESIGN Edit the entire visual style of your graphic all at once. Once you select a style all the visual and typographical elements will be based on the template style chosen.

LAYOUT The "Layout" Tab allows you to change the layout of every picture box within a graphic design all at once.This is also where you go to add more picture boxes to your design if needed.

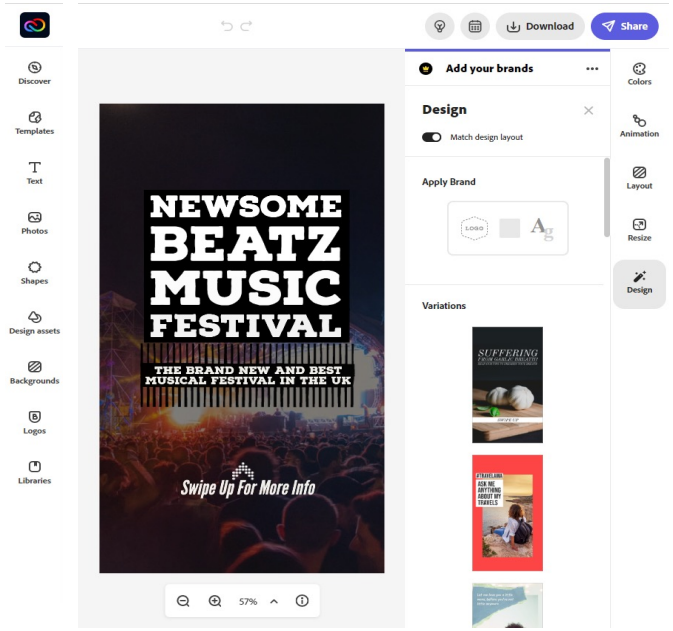
RESIZE Allows you to change the size of your canvas at anytime during the design process.

Add Content

You can add text, photos, icons, etc..to build your graphic by clicking the ***'Add'*** button

Text Photo Icon Logo Add

Text- You can start from a template, or from scratch. Set the font, color, style, shape and effect.



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- Demonstrate knowledge of using Adobe Express by developing a range of professional looking promotional material for the music festival
- Apply knowledge from this unit to accurately describe some keywords

Retrieval Practice

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

Career Focus - Where could this take you?

In my role as a **project manager** I ensure my team work to deliver any project on time and to a high standard. I need to lead my team, plan the project, deal with any issues that arise and report regularly to my clients.

Challenge Activities

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

Topic Links

This topic links to:

Computing Curriculum:

- Undertake creative projects that involve combining multiple applications to achieve challenging goals
- Create and re-purpose digital artefacts for a given audience, with attention to trustworthiness and usability

- Art and design (creating advertisements and images)
- English (planning thoroughly)

Additional Resources

To further practise and develop your knowledge see:

- Adobe Express Tutorial: youtu.be/24rM8v2hAAo
- MS PowerPoint Tutorial: youtu.be/TZfcVbKJs1E

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Year 9 Food Tech

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

- Successfully apply knowledge of food legislation when applied to case studies
- Recall a range of factors that inform food choices
- Demonstrate ability to effectively adapt recipes for a range of food choice factors

Keyword	Definition
Legislation	rules or laws relating to a particular activity that are made by a government
FSA (food standards agency)	responsible for food safety and food hygiene in England, Wales and Northern Ireland.
Food safety act	The Food Safety Act 1990 is a vital part of environmental law and is **an act that all food businesses in the UK must comply with**.
Adaptation	Changing the ingredients or cooking methods of a dish in some way
Shortening	**Shortening** is any fat that is a solid at room temperature and used to make crumbly pastry and other food products.
Aeration	Aeration is the process of adding very tiny pockets of air to something. In the case of fats and oils, this is normally done using mechanical/physical means, such as creaming a mixture together using a wooden spoon or using an electric whisk.
Coagulation	Coagulation is defined as the change in the structure of protein (from a liquid form to solid or a thicker liquid) brought about by heat, mechanical action or acids. Enzymes may also cause protein coagulation e.g. cheese making.
Food choices	Calcium is a mineral your body needs to build and maintain strong bones and to carry out many important functions.
Dietary needs	Carbohydrates provide energy for the body. The body breaks carbohydrates down into glucose, which is the primary energy source for the brain and muscles.
Coeliac	**Coeliac** disease is a condition where your immune system attacks your own tissues when you eat gluten.
Lactose intolerance	**Lactose intolerance** is when you get symptoms, such as tummy pain, after eating food containing lactose, a sugar found in dairy products.
Allergy	An allergy is a reaction the body has to a particular food or substance.
Intolerance	an inability to eat a food or take a drug without adverse effects.
Vegan	Veganism is the practice of abstaining from the use of animal product—particularly in diet—and an associated philosophy that rejects the commodity status of animals.
Ethics/ethical	relating to beliefs about what is morally right and wrong

Key Concepts

The **Food Standards Agency (FSA)** is responsible for food safety and food hygiene in England, Wales and Northern Ireland. It works with local authorities to enforce food safety regulations and its staff work in meat plants to check the standards are being met.

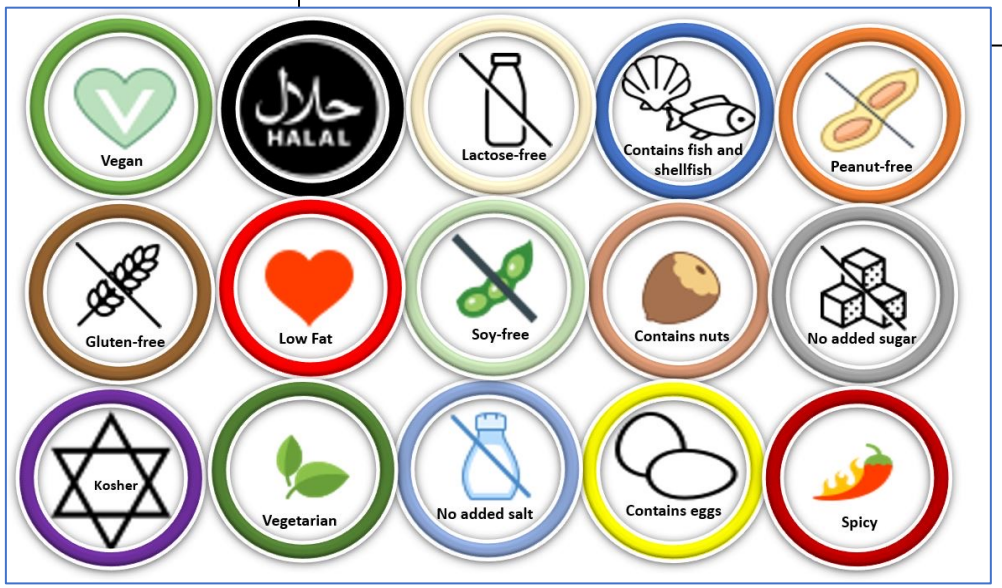
Food Standards Act 1999

The Act was introduced in the House of Commons in 1999.
It sets out our main goal to protect public health in relation to food. It gives us the power to act in the consumer's interest at any stage in the food production and supply chain.

Food Safety Act 1990

The main responsibilities for all food businesses covered by the Act are to ensure that:

- businesses do not include anything in food, remove anything from food or treat food in any way which means it would be damaging to the health of people eating it
- the food businesses serve or sell is of the nature, substance or quality which consumers would expect
- the food is labelled, advertised and presented in a way that is not false or misleading



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Year 9 Food Tech

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

- Use safe and hygienic practices in a working kitchen environment
- Demonstrate sound preparation skills of both equipment and ingredients
- Safely use a range of cooking techniques, appropriate to the task

Vegetable Samosas

Ingredients

1/2 potato
1/2 carrot
1/2 onion
1x15ml spoon fresh coriander
½ red chilli
Spray oil
1x5ml spoon garam masala
½ 5ml spoon turmeric
2-3x15ml spoons water
25g peas (frozen)
1 pack filo pastry
25g butter or soft spread

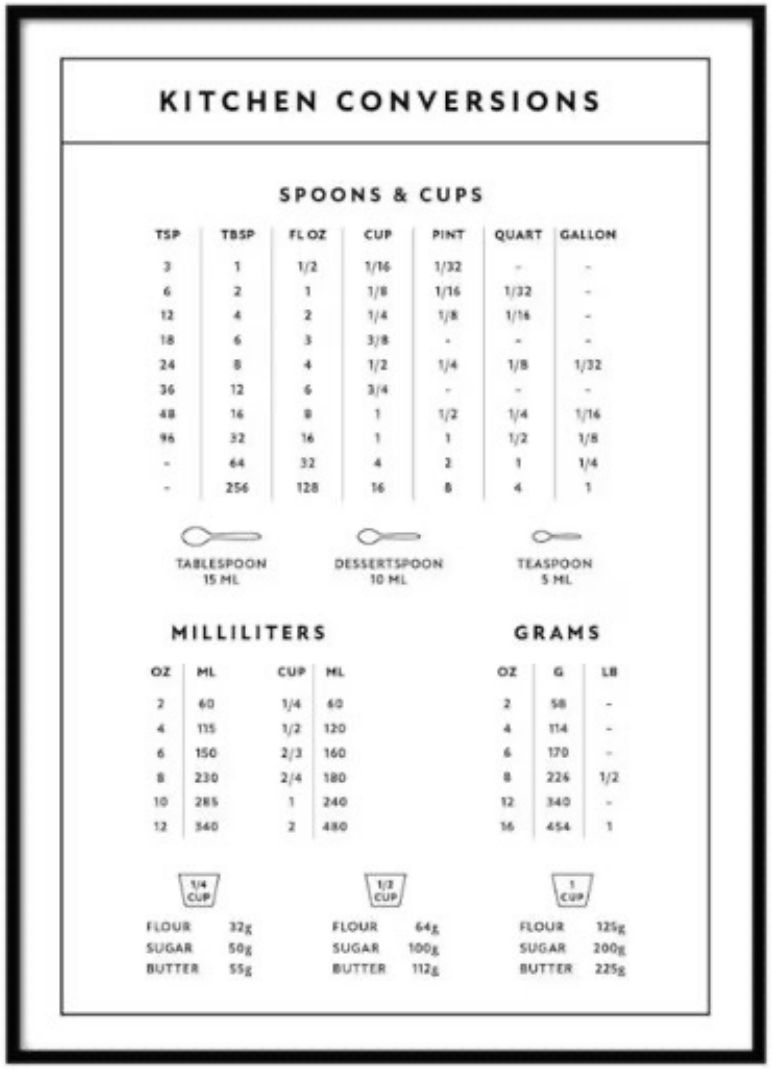
Equipment:

Chopping board
Knife
Vegetable peeler
Saucepan
Frying pan
Colander
Wooden spoon
Small bowl
Pastry brush
Baking tray.

Method:

1. Preheat oven to 200°C or gas mark 6.
2. Prepare the filling:
   - peel and finely dice the potato;
   - peel and finely dice the carrot;
   - peel and finely dice the onion;
   - deseed and finely dice the chilli;
   - chop the coriander.
1. Par-boil the potatoes for 5-8 minutes.
2. Fry the onion in the oil for 4-5 minutes.
3. Add the chilli and spices and cook for a further 1 minute.
4. Drain the potatoes and carrots in a colander.
5. Add the potatoes, carrots and water to the onion mixture, fry gently for 5 minutes.
6. Add the peas and coriander.
7. Remove from the heat and allow to cool.
8. Lay 2-3 sheets of filo pastry on the work surface.
9. Cut into 10 cm wide strips.
10. Place 1x15ml spoon of filling in the bottom left-hand corner. Fold over to make a triangle. Repeat this process.
11. Place on a baking sheet and repeat the process.
12. Lightly spray the samosas with oil, or brush with the fat, and bake for 10 minutes.

Skills:	Meanings
1.	**General Practical Skills:** Weighing ingredients, measuring, preparing ingredients and equipment, correct cooking times, testing for readiness and sensory testing.
2.	**Knife and chopping skills**
3.	**Use of the cooker (and Skills 6: Cooking Methods):** Using the cooker including: the hob, grill and oven.
4.	**Cooking Methods:** Using the cooker including: the hob, grill and oven.
5.	**Preparing, combine and shape:** Techniques to prepare, cook and combine different ingredients.



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Year 9 Food Tech

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

- Use safe and hygienic practices in a working kitchen environment
- Demonstrate sound preparation skills of both equipment and ingredients
- Safely use a range of cooking techniques, appropriate to the task

Mince Pies

Ingredients

120g butter (please put in fridge when you get to school)

175g plain flour

50g caster sugar

280g sweet fruit mincemeat (alternative below)

If you would rather have an apple filling for your pies, please bring in the following mixture, ready-made at home

1. Peel, core and finely chop two apples.
2. Put into a microwave safe bowl, and microwave for 30 seconds
3. Sprinkle apples with 1 x teaspoon sugar and ½ teaspoon Cinnamon
4. Return to the microwave for one more minute and stir.

Method

1. Preheat oven to 200C
2. In a **large bowl**, rub the butter into the flour, then mix in the caster sugar and a pinch of salt
3. Combine the pastry into a ball and knead it briefly. The dough should be firm.
4. Grease 9 holes of the **baking tray**, and press in a small ball of pastry into each one, to line the hole
5. **Spoon** the mincemeat (or apple and cinnamon mixture) into each one.
6. Take slightly smaller balls of pastry than before and pat in your hands to make a lid, big enough to cover each pie.
7. Tops the pies with their lids, pressing the edges together gently together to seal.
8. **Brush** the tops of the pies with beaten egg and bake for 20 minutes. Leave to cool in the tin for 5 minutes, then remove to a cooling rack.

Skills:	Meanings
1.	**General Practical Skills:** Weighing ingredients, measuring, preparing ingredients and equipment, correct cooking times, testing for readiness and sensory testing.
2.	**Knife and chopping skills**
3.	**Use of the cooker (and Skills 6: Cooking Methods):** Using the cooker including: the hob, grill and oven.
4.	**Cooking Methods:** Using the cooker including: the hob, grill and oven.
5.	**Preparing, combine and shape:** Techniques to prepare, cook and combine different ingredients.

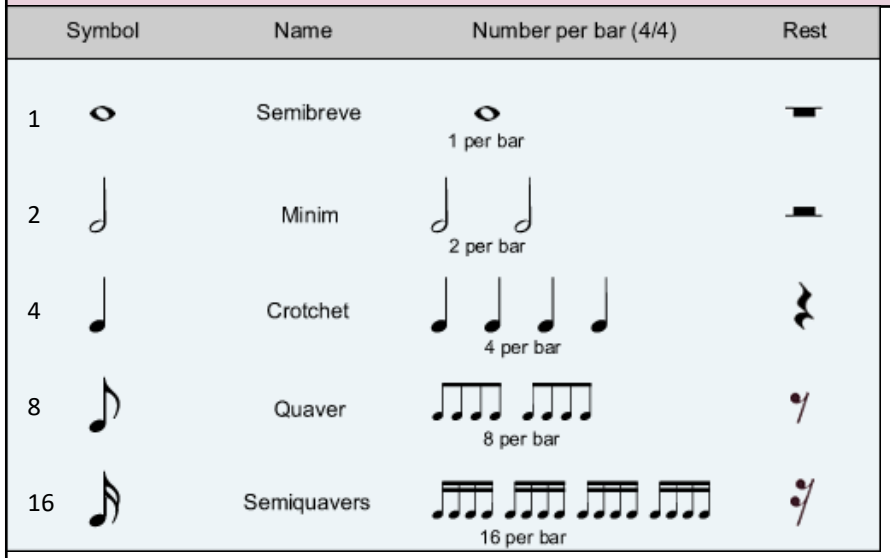
Year 9 Irregular Time Signatures

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

- **Understand the impact irregular time signatures can have on the mood and emotion of a piece of music.**
- **Develop their ability to perform odd time signatures**
- **Are able to use their understanding of odd time signatures to enhance their compositional skills**

Keyword	Definition
Time Signature	Tells a musician how many beats are in a bar as well as the value (or length) of each beat
Irregular time signature (Aka Odd Time Signature)	A time signature is considered irregular when the number of beats in a bar can't be divided into groups of 2 or 3.
Beat	The basic unit of time in music. We divide bars of music into chunks. These chunks are called beats.
Rhythm	A strong, regular repeated pattern of movement or sound
Dynamics	The volume of a note or sound
Duration	The length of a note or sound
Pulse	A steady beat like a ticking clock or your heartbeat. It can be measured in time by counting the number of beats per minute (BPM).
Tempo	The speed of the pulse.
Ostinato	A short, repeating pattern.

Key Concepts



Time Signatures

The top number tells us *how many beats* are in a bar of music.

The bottom number tells us the type of beat (see the chart to the left).

Time signatures are not fractions.

Artist Name	Song Name	Time Signature	Time signature type
Pink Floyd	Money	7/4	Irregular
Ed Sheeran	Perfect	6/8	Compound
Dmitri Shostakovich	Waltz No.2	3/4	Compound
Michael Jackson	Beat It	4/4	Simple or Regular

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Year 9 Irregular Time Signatures

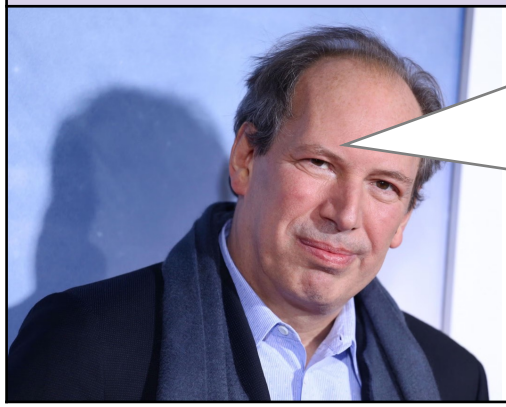
The aims of the sequence of learning are to ensure that all students:

- **Understand the impact irregular time signatures can have on the mood and emotion of a piece of music.**
- **Develop their ability to perform odd time signatures**
- **Are able to use their understanding of odd time signatures to enhance their compositional skills**

Retrieval Practice

Questions	Answers
What does dynamics mean in music?	The volume of a note or sound
What does duration mean in music?	The length of a note or sound
What does the bottom number of a time signature tell us?	The type of beat in a bar
How many crotchets fit into a bar of 4/4?	Four. The bottom number tells us the type of note.
Which of the following is an irregular time signature? 4/4 6/8 3/4 7/4	Answer = 7/4
How many crotchets would there be in a bar of 3/4?	Three. The top number tells us how many beats are in the bar.
What does tempo mean in music?	The speed of the music

Career Focus - Where could this take you?



My name is Hans Zimmer. As a composer, it is important that I understand the importance of beats in each bar of music. Music is personal and every different culture from around the world had a different idea of how many beats should be in a bar of music. As a composer, it is important for me to understand all the different possible time signatures (and their emotional impact) so that I am able to compose music that suits a particular theme, mood or culture within a film.

Challenge Activities

- Listen out for any irregular or compound time signatures on T.V., Spotify, internet ads etc. Make a list of as many examples of songs that use an irregular time signature as you can.
- Here's a rhythm quiz to really test your knowledge: https://www.macprovideo.com/course/musictheory103-rhythm/quiz

Topic Links

This topic links to:
Drama – rehearsing and performing in groups. Good time keeping and sense of rhythm.
Maths – Counting rhythms and dividing bars and beats
Geography – Cultural relevance of world music

Additional Resources

Great article on odd time signatures:

How to read notation

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Year 9 Invasion Games

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

- Can identify at least six core skills required for invasion games and explain how they are used in a game to ensure a successful performance
- Demonstrate basic core skills such as a footwork in isolation with accuracy
- Demonstrate core skills in a game situation with competence
- Lead a group of peers with confidence in a drill which focusses on multiple skills

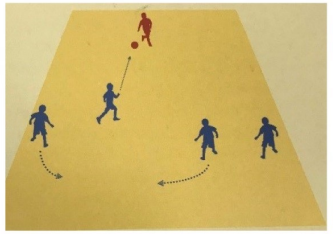
Keyword	Definition
Pass	keep possession of the ball by maneuvering it between different players with the objective of advancing it up the playing field
Catch	to receive the ball from another player and keep possession
Defend	to resist the attack of the opposing team
Attack	the action of attacking or engaging an opposing team with the objective of scoring points or goals
Tackle	trying to take the ball from an opponent
Intercept	Obstruct someone/something from getting to their desired position/destination
Tactics	A strategy planned and implemented to achieve a set goal

Key Concepts

Defending

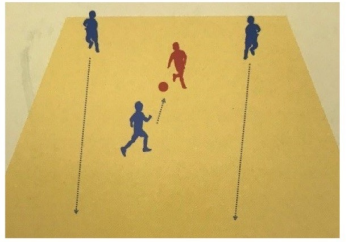
Cover

When a defender puts pressure on the attacker — the other defenders cover the space the defender left.



Delay

If possession is lost quickly—a defender should try to slow the attacker down so other players can get back in position (goal side).



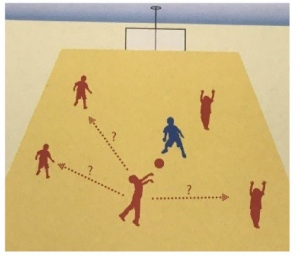
Attacking

Depth

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

Support

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



You should already know:

- The aim of invasion games
- The name of at least 3 invasion games
- The core principles of invasion games
- The core skills core to be successful in invasion games
- Tactics to achieve success in invasion games

You will be assessed on:

- Understanding
- Technique in isolation
- Technique in game
- Leadership
- Attitude to learning

Athletes to research further: Josh Koroma

Laura Malcolm

Maro Itoje

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Year 9 Invasion Games

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

- Can identify at least six core skills required for invasion games and explain how they are used in a game to ensure a successful performance
- Demonstrate basic core skills such as a footwork in isolation with accuracy
- Demonstrate core skills in a game situation with competence
- Lead a group of peers with confidence in a drill which focusses on multiple skills

Retrieval Practice

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

Career Focus - Where could this take you?

As a team nutritionist, my role involves creating personalized meal and dietary plans that match the specific goals, performance needs, and body types of athletes. I work closely with the team to ensure that each player receives the right nutrition to help them perform at their best and stay healthy.

Challenge Activities

1.Create a mind map of the differences between netball, football and rugby components of fitness an invasion games player needs.

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

Topic Links

This topic links to:

- Science – movement of the body and muscles; the physics of sports
- English – understanding and defining key terminology
- Mathematics – problem solving, recording figures and analysing performance
- Voice 21 – coaching peers

Additional Resources

To further practise and develop you knowledge see:

- https://web.uvic.ca/~thopper/WEB/Cahperd/Space_in_InvasionGames.pdf
- https://www.theukrules.co.uk/rules/sport/netball/index.html

Year 9 Textiles

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

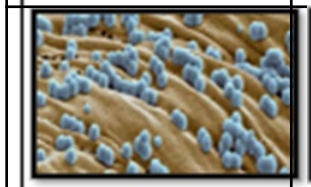
- Demonstrate safe use of tools and equipment.
- Explain a range of Decorative Techniques
- Rank Smart Fibres in order of environmental impact.
- Annotated a range of design ideas which include moral and cultural issues.
- Demonstrate an understanding of smart materials.

Keyword	Definition
Corrugated	Describing a series of parallel ridges and furrows
Fabric	Cloth or other material produced by weaving or knitting fibres:
Synthetic	Made by chemical synthesis, especially to imitate a natural product:
Smart Fibres	Smart fibres and structures can be defined as materials and structures that can sense and react to environmental conditions or stimuli, mechanical, thermal, chemical, electrical, magnetic.
Regenerated	Class of materials manufactured by the conversion of natural cellulose
Textiles	A type of cloth or woven/ knitted fabric.
Aesthetics	A set of principles concerned with the nature and appreciation of beauty
Encapsulated	These microspheres gradually release active agents when rubbed, which rupture the thin-walled membrane.
Design	A plan or drawing produced to show the look and function or workings of a building, garment, or other object before it is built or made
Microfibre	Thinner than human hairs and can be coiled to provide a very warm, soft or absorbent material
Resistant	Offering resistance to something
Conductive	Allow a small electrical current to safely pass through them.
Couching	Yarn or other materials are laid across the surface of the ground fabric and fastened in place with small stitches of the same or a different yarn.
Equipment	Supplying someone or something with items necessary for a particular purpose:
Embroidery	Craft of decorating fabric or other materials using a needle to apply thread or yarn

Key Concepts

Some manufacturers are also working on ways to reduce the environmental impact from the production of their jeans, while others have been developing ways of recycling denim or even jeans that will decompose within a few months when composted.

SMART FIBRES

Antimicrobial Nano Silver	Micro Encapsulated	Thermochromic	Kevlar	Photochromic
				

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Year 9 Skills Cushion Project

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

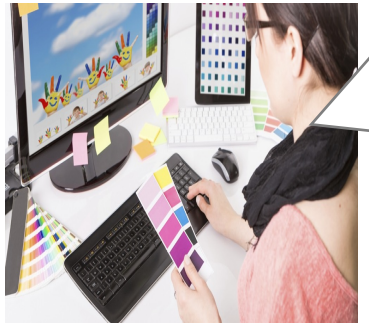
- Demonstrate safe use of tools and equipment.
- Explain a range of Decorative Techniques
- Rank Smart Fibres in order of environmental impact.
- Annotated a range of design ideas which include moral and cultural issues.
- Demonstrate an understanding of smart materials.

Retrieval Practice

Question	A1	A2	A3	A4	A5
A. What is Applique?	A Decorative Technique	A sewing technique	A type of material	A type of Felt	A design technique
B. What is a Material Life Cycle?	The Cycle of Silkworms	The Cycle of Smart Fibres	The cycle of a product	The cycle of fibres	The cycle of a Design process
C. What is a Design Specification?	A list of design solutions	A list of costings	A list of design issues	A list of important points	A detailed list of what the product must be/
D. What are Fibres?	A thin thread of a natural or synthetic substance	A source of material	An origin of cotton	A type of synthetic fibre	A fraying edge
E. What are Smart Materials?	A material which collects water	Intelligent or responsive materials.	A washing process	A type of clever fabric	A fibre which stretches
F. What are Decorative Techniques?	Methods of decorating the walls	Techniques to improve the design	Methods of decorating fabrics.	Decorations to add to a Christmas tree	Techniques to add to shoes

Question	Quick Corrections (bridge learning gaps & misconceptions)

Career Focus - Where could this take you?



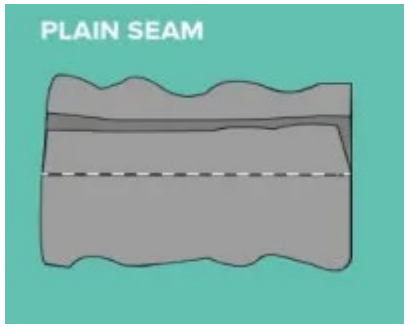
A Graphic Designer creates visual images or layouts for their clients. Graphic designers use digital software to create their unique images. A graphic designer can create visuals for a range of media, including social media posts, websites, company logos and print materials.

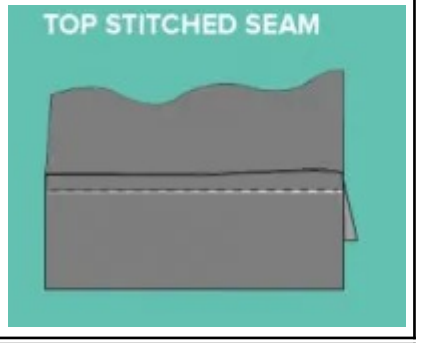
Huddersfield University offer an BA Hons degree in Graphics Design, and you will need 5 GCSE grades 5 and above and a higher-level certificate in the subject.

Salaries usually range from£45,000-£67,000

Challenge Activities

Can you create the seams Opposite? If you have a Sewing machine, it will Make it easy for you. If Not you can sew it by Hand,





Topic Links

This topic links to:

- Science- How smart fibres and created and used in end products.
- English- Subject specific Vocabulary knowledge, understanding and spelling.
- Maths- Calculating our own carbon footprint.

Additional Resources

To further practise and develop your knowledge see:

What is Smart Textiles – YouTube

Technical Textile - Types and Application of Technical Textile – YouTube

Textiles Decorative techniques – YouTube

Heat Transfer Printing | textile art | 열전사염 | Basic Part III - YouTube

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Usernames and Passwords
