Year 9 – HT3

Newsome Academy
Everyone Exceptional Everyday

Knowledge Organisers

Name:

Team:

Newsome Academy
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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

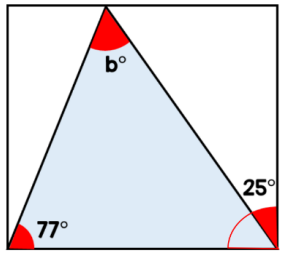
2D: two dimensions to the shape e.g length and width
3D: three dimensions to the shape e.g length, width and height
Vertex: a point where two or more line segments meet
Edge a line on the boundary joining two vertex
Face: a flat surface on a solid object
Cross-section: a view inside a solid shape made 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

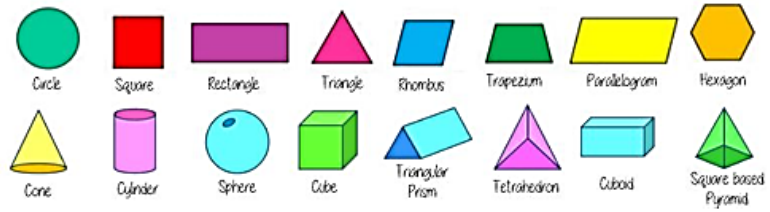
Topic Links

This topic links to:
- 2D shapes and Area

Additional Resources

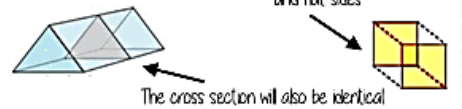
To further practice and develop your knowledge see:
https://corbettmaths.com/contents/
Number: 3-5

Name 2D & 3D shapes



Recognise prisms

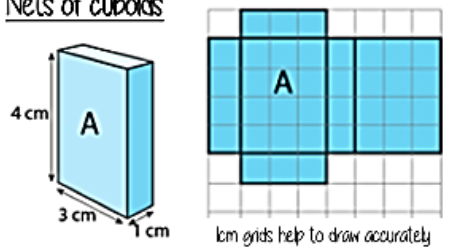
A solid object with two identical ends and flat sides



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

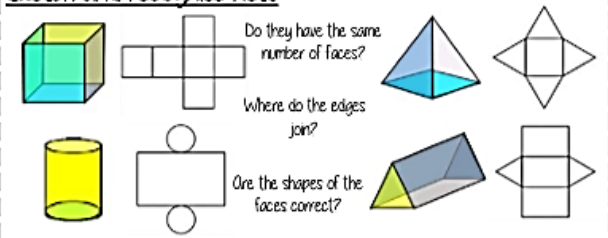
Nets of cuboids



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

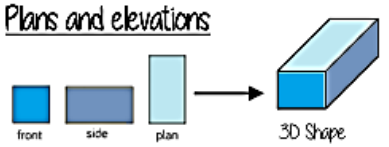


Do they have the same number of faces?

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

Area of 2D shapes

R

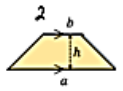
Rectangle
Base x Height

Triangle
½ x Base x Perpendicular height

Parallelogram/ Rhombus
Base x Perpendicular height

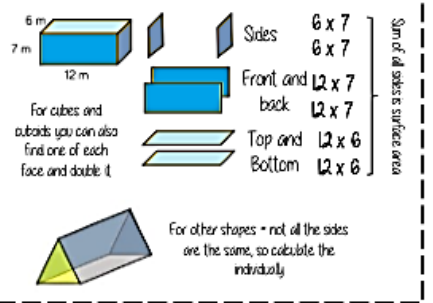
Area of a trapezium
$\frac{1}{2}(a+b) \times h$

Area of a circle
$\pi \times \text{radius}^2$



Surface area

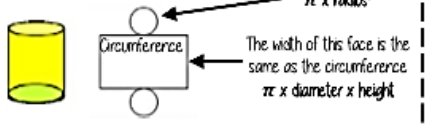
Sketching nets first helps you visualise all the sides that will form the overall surface area



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

Surface area - cylinders



$2 \times \pi \times \text{radius}^2 + \pi \times \text{diameter} \times \text{height}$

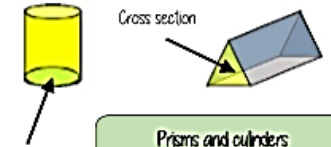
Volumes

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

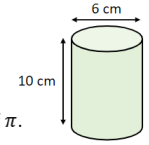
Marbles are put into bags of 10

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

How many marbles are there in total now?

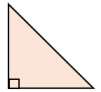
Retrieval Practice

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.

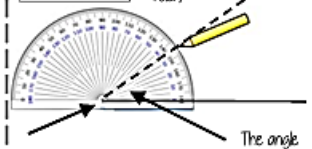
Additional Resources

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)

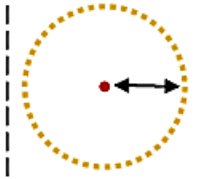
A picture of a car is drawn with a scale of 1:30

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

The car image is 10cm

Image : Real life
1cm : 30cm
10cm : 300cm
(×10 / ×30)

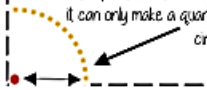
Locus of a distance from a point



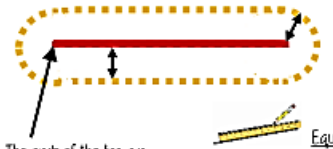
All points are equidistant (the same distance) from the fixed point in the middle.

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

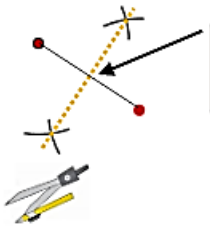


All points are equidistant (the same distance) from line

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

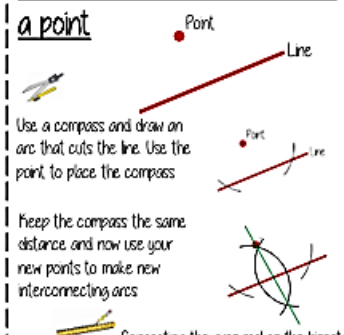


Also a perpendicular bisector
Because if the points are joined, this new line intersects it at a 90°

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

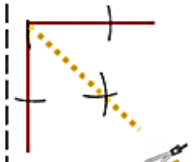
Join the intersections with a ruler.
All points on this line are equidistant from both points

Construct a perpendicular from a point



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

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

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

Constructing Triangles (R)

Link to steps

Side, Angle, Angle

Side, Angle, Side

Side, Side, Side

Congruent triangles

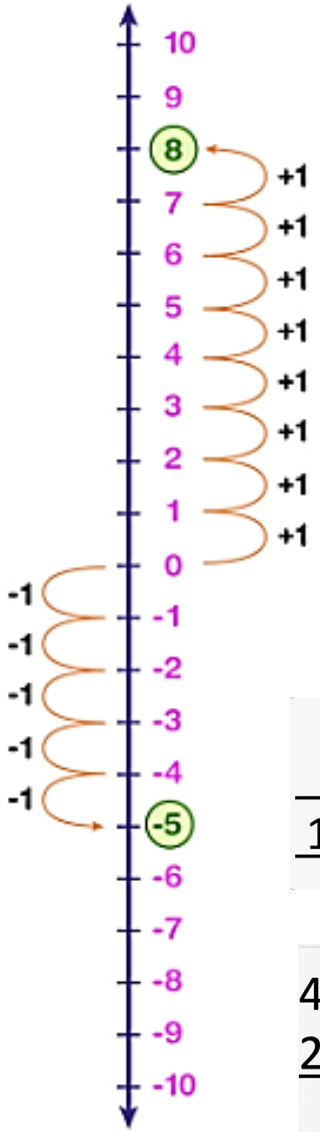
Side-side-side
All three sides on the triangle are the same size

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

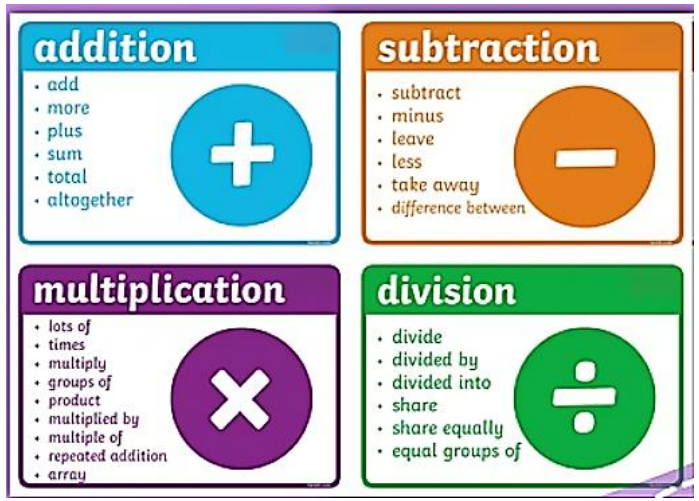
Side-angle-side
Two sides and the angle in-between them are equal in two triangles (it will also mean the third side is the same size on both shapes)

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



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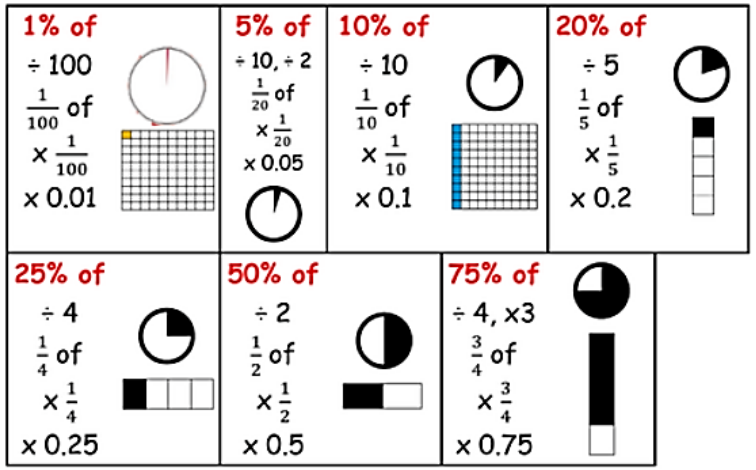
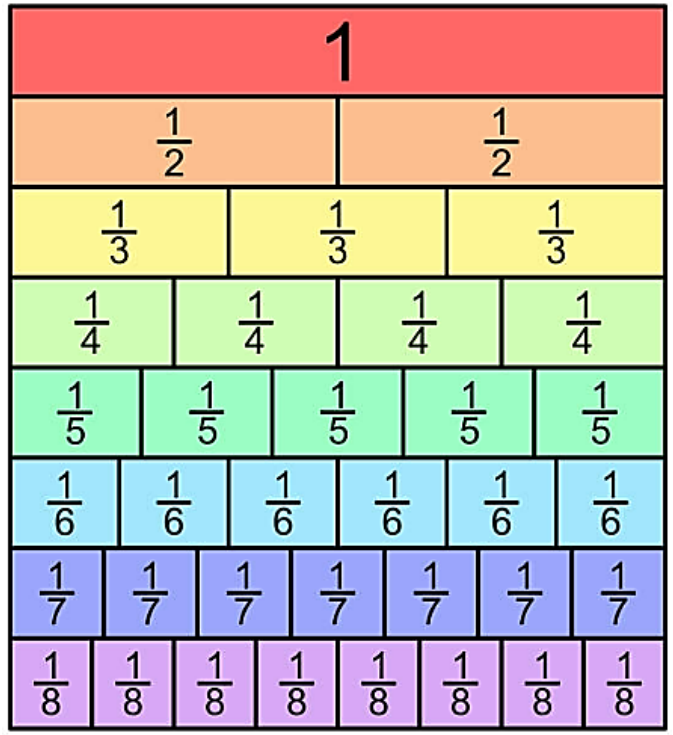
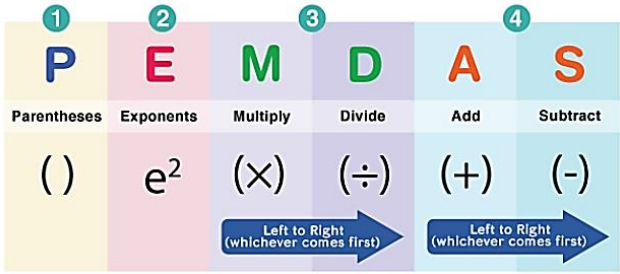
1	1	2	3	4	5	6	7	8	9	10	11	12
2	2	4	6	8	10	12	14	16	18	20	22	24
3	3	6	9	12	15	18	21	24	27	30	33	36
4	4	8	12	16	20	24	28	32	36	40	44	48
5	5	10	15	20	25	30	35	40	45	50	55	60
6	6	12	18	24	30	36	42	48	54	60	66	72
7	7	14	21	28	35	42	49	56	63	70	77	84
8	8	16	24	32	40	48	56	64	72	80	88	96
9	9	18	27	36	45	54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







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

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

$$\begin{array}{r} 045 \\ 8\overline{)3^{3}6^{4}0} \end{array}$$

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

$156000. = 1.56 \times 10^{5}$

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

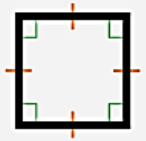
$0.0000053 = 5.3 \times 10^{-6}$

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

Maths: Quick Reference: Geometry & Measures

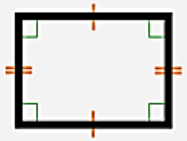
Quadrilaterals

Square



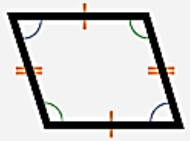
Four sides of equal length, four internal right angles.

Rectangle



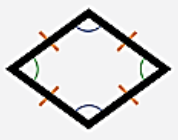
Four internal right angles, opposite sides of equal length.

Parallelogram



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

Rhombus

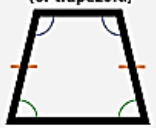


All four sides are the same length, like a square that has been squashed sideways.

Trapezium (or trapezoid)

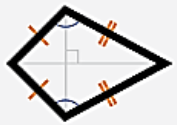
Two sides are parallel. Side lengths and angles are not equal.

Isosceles Trapezium (or trapezoid)



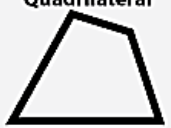
Two sides are parallel and base angles are equal, non-parallel sides are equal length.

Kite



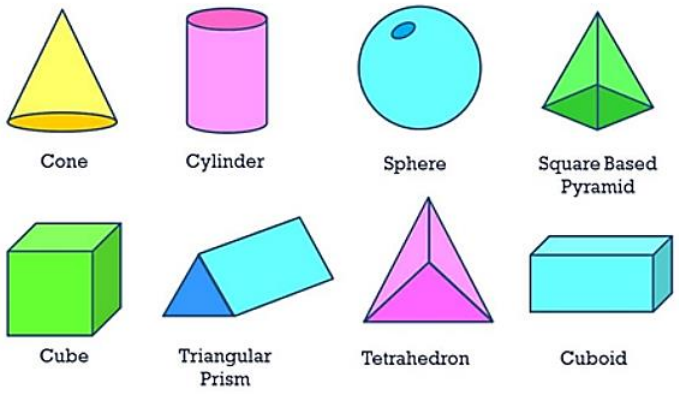
Two pairs of adjacent sides are of equal length; the shape has an axis of symmetry.

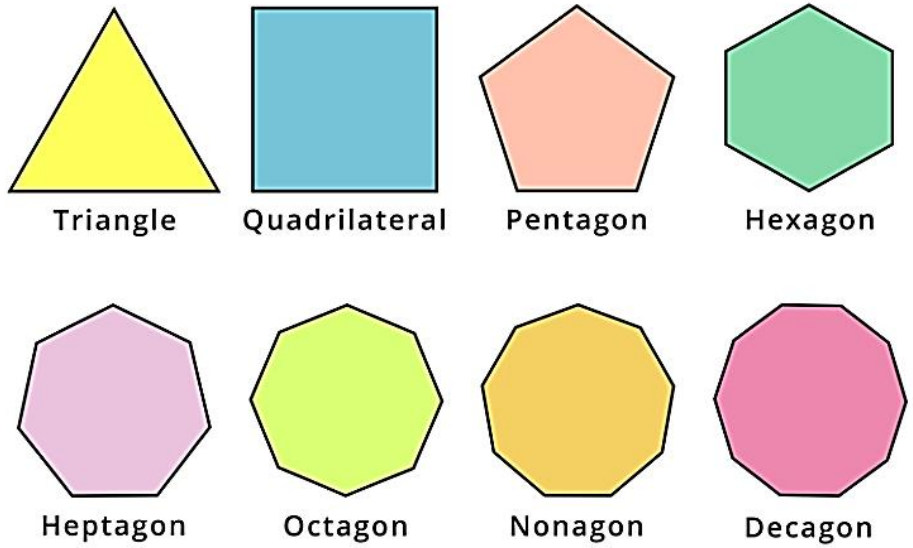
Irregular Quadrilateral

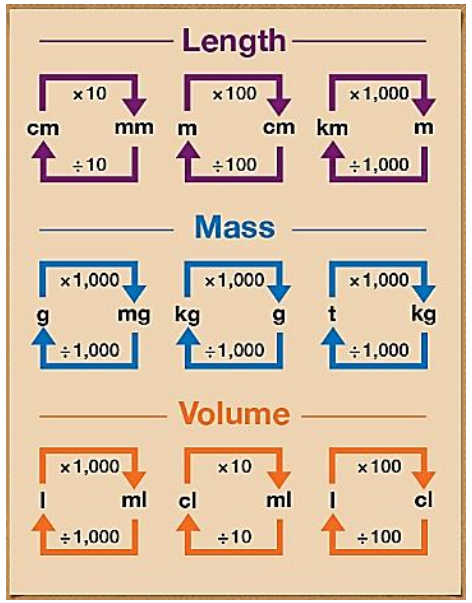


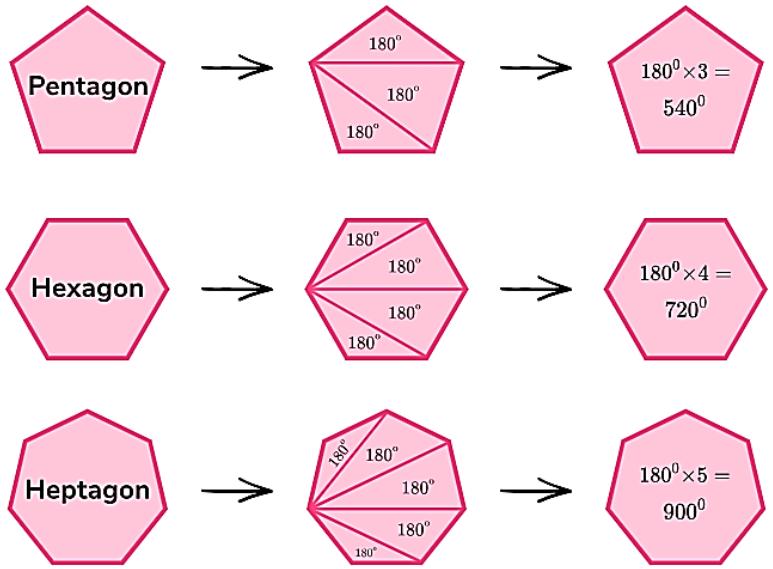
No sides are equal in length and no internal angles are the same.

3D shapes



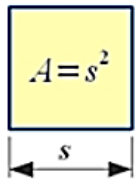




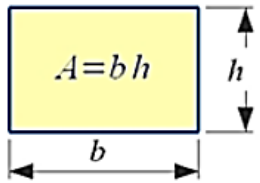


Maths: Quick Reference: Geometry (Areas & Volumes)

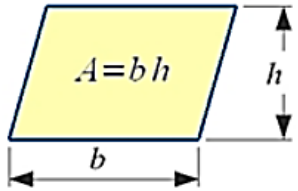
Square



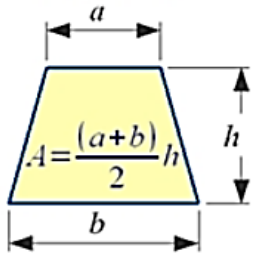
Rectangle



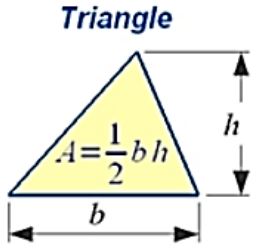
Parallelogram



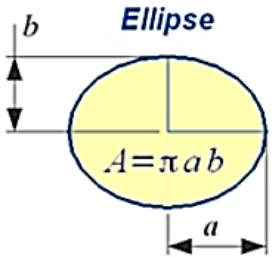
Trapezoid



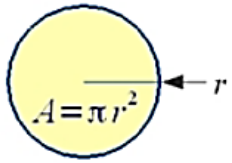
Triangle



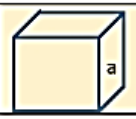
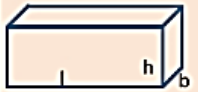
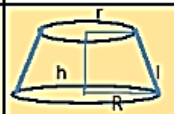
Ellipse



Circle

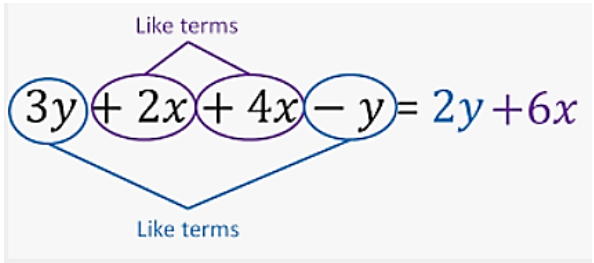


Area and volume of 3d figures

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	$2\pi rh$	$2\pi r(h+r)$	πr^2h
6)	Right circular cone	 r = radius h = height l= slant height	πrl	$\pi r(l+r)$	$\frac{1}{3}\pi r^2h$
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

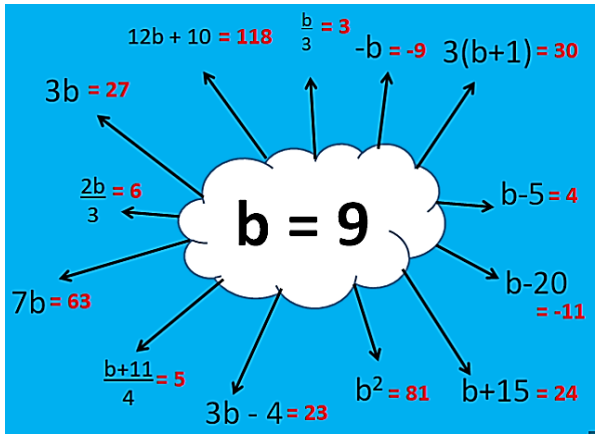


C x C x C x C = C^4

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

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

F O I L

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

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

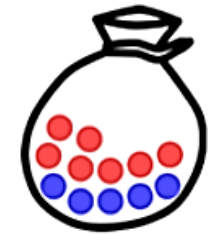
Length (x cm)	Frequency	Midpoint	Midpoint × frequency
$0 < x \leq 10$	4	× 5	= 20
$10 < x \leq 20$	10	× 15	= 150
$20 < x \leq 30$	7	× 25	= 175
$30 < x \leq 40$	4	× 35	= 140
	25		**485**

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

Maths: Quick Reference: Probability

Simple Probability

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



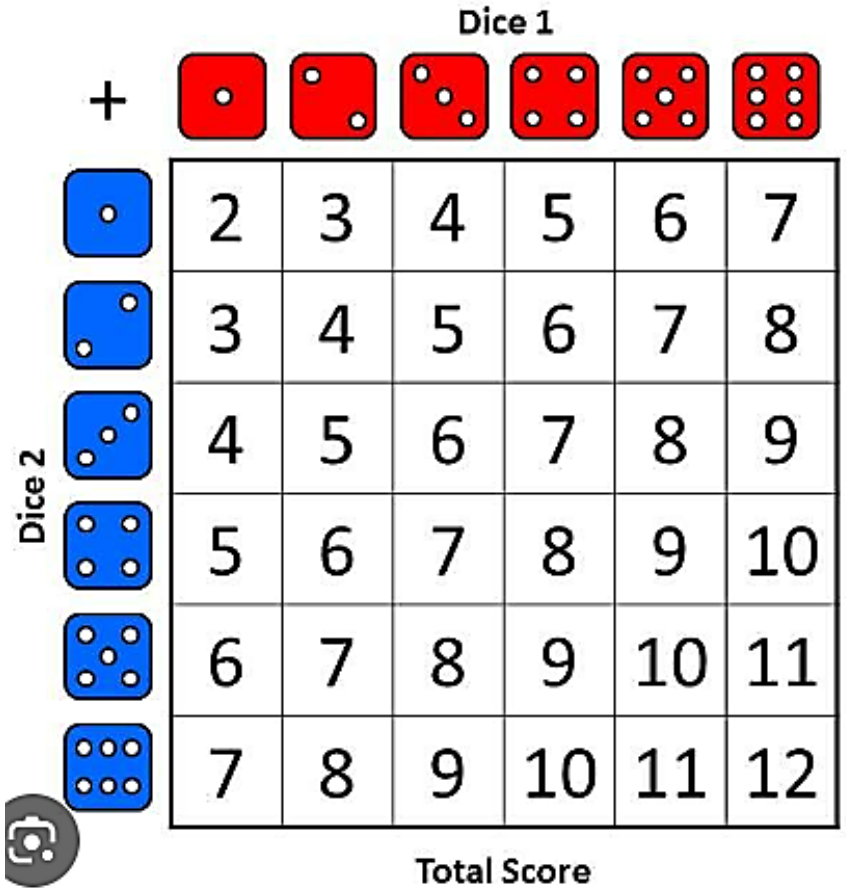
Example:

$P(red) = \frac{7}{12}$ ← 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.

Year 9 - 'Our Day Out'

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

- understand the structure, conventions and dramatic devices
- analyse writers' methods - language, structure and form
- demonstrate the ability to craft a successful description
- effectively analyse the role of the protagonist throughout a whole play
- demonstrate strong comprehension skills and analyse language.

Key Concepts - Knowledge

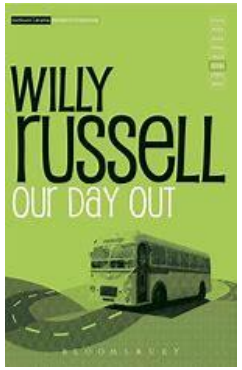
'Our Day Out'

Written as a TV play for the BBC, 'Our Day Out' is inspired by the experiences of the author, Willy Russell as a school boy in a deprived area of Liverpool.

The play takes place in the contrasting areas of Liverpool and Conway. The children from an inner-city school go on a school trip to the seaside in Conway. Conway is a picturesque coastal resort in North Wales, very different to inner city Liverpool in 1970s.

The children in the play come from very poor homes and live in areas of high unemployment and social deprivation.
The majority of the pupils on the trip are members of the Progress Class (a group for children with Educational Needs).

Many characters appear neglected and have very difficult home lives.



Key characters:

Mr Briggs - a strict and disliked teacher

Mrs Kay - a laid back and well-liked teacher

Carol - a 13 year old member of Mrs Kay's progress class

Context: Liverpool in the 1980s

During the economic recession (when incomes go down, but prices and taxes go up), the docks and manufacturers, which were major employers, went into decline and this created unemployment and poverty. The unemployment and poverty resulted in social problems and riots. Adults either had to struggle with jobs that paid very little or live on the dole (welfare money from the government).

During this time, the children of Liverpool suffered from a lack of good education, a lack of facilities including play areas and open spaces and were often living in cramped and unsuitable living conditions with little or no family income.

The difficult lives of the children is best reflected through the character of Carol, who doesn't want the school trip to end as it is so different from life back home in the city.

Year 9 - 'Our Day Out'

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

- understand the structure, conventions and dramatic devices
- analyse writers' methods - language, structure and form
- use terminology
- demonstrate the ability to craft a successful description
- effectively analyse the role of the protagonist throughout a whole play
- demonstrate strong comprehension skills and analyse language.

Key Concepts - Skills

To help you to structure a successful paragraph of language analysis, just remember:

SEIZE

S	**Statement**	How the writer has presented the focus of the question
E	**Evidence**	A quote and method from the text that supports your statement
I	**Inference**	What your quote suggests - how it links to your statement
Z	**Zoom**	Zoom in on a key word or phrase
E	**Effect**	Explain the effect on the reader/audience

Challenge Activities

'I'm not putting up with a pile of silliness from the likes of you.'- Mr. Briggs

How does Russell present Mr. Briggs as an unlikeable character in the quote above?
Use the sentence starters below to help you:

S Russell presents Briggs as unlikeable in the text.

E An example is '.....'

I The use of ..... suggests that Mr. Briggs is .....because.....

Z The word '.....' illustrates this as it connotes .....

E This shows the audience that Mr. Briggs is .....because.....

Topic Links

This topic links to:

- Y8 - Romeo and Juliet
- Y8 – Ghost Boys
- GCSE - An Inspector Calls, A Christmas Carol.

Additional Resources

To further practise and develop your knowledge see:

- the BBC performance of the play here https://www.youtube.com/watch?v=yC94lOtTJrc
- Liverpool poverty and education documentary https://www.youtube.com/watch?v=qaNGkwcdVsE

Career Focus - Where could this take you?

I'm a literary agent, and my job is like a treasure hunt for amazing stories. I team up with talented authors, help them polish their tales, and then work magic to get their books published. My key skills? I've got a knack for spotting hidden gems, a love for storytelling and negotiation superpowers.

'Our Day Out' by Willy Russell

Vocabulary

You will be tested on five words per week.

Keyword	Definition
Act	A major division in a play. An act can be split into scenes.
Scene	A sequence of continuous action in a play, film, opera, or book.
Accent	A distinctive way of pronouncing a language, especially one associated with a particular country, area, or social class.
Allegory	A story that is used to represent a more general message about real-life (historical) issues and/or events.
Antagonist	A character or force against which another character struggles.
Aside	Words spoken by an actor directly to the audience, but not "heard" by the other characters on stage during a play
Class	A division of a society based on social and economic status
Colloquialism	The use of informal language and slang.
Conflict	An issue or disagreement that needs to be solved.
Complication	An issue or problem that arises.
Dialect	A particular form of a language which is peculiar to a specific region or social group.
Dialogue	The conversation between two or more people. In plays, characters' speech is preceded by their names.
Foreshadowing	A literary device that introduces an idea that is repeated or expanded on later.

Keyword	Definition
Dramatic Irony	the contrast between what a character believes and/or says and what the audience knows to be true.
Monologue	A speech by a single character without another character's response.
Naturalism	A type of theatre that attempts to mimic real life and reality.
Progress	.To advance, develop or improve
Protagonist	The main character of a literary work.
Resolution	The sorting out or unravelling of a plot at the end of a play, novel, or story.
Scouse	the dialect or accent of people from Liverpool.
Setting	the place or surroundings where something is positioned or where an event takes place.
Stifle	To restrain or restrict somebody
Suicide	is the act of intentionally causing one's own death.
Stage Direction	A playwright's descriptive or interpretive comments that provide readers (as well as actors and directors) with information about the dialogue, setting, and action of a play.
Theme	A central idea or statement that unifies and controls an entire literary work. The theme can take the form of a brief insight or a comprehensive vision of life; it is not a message or a moral.

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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.

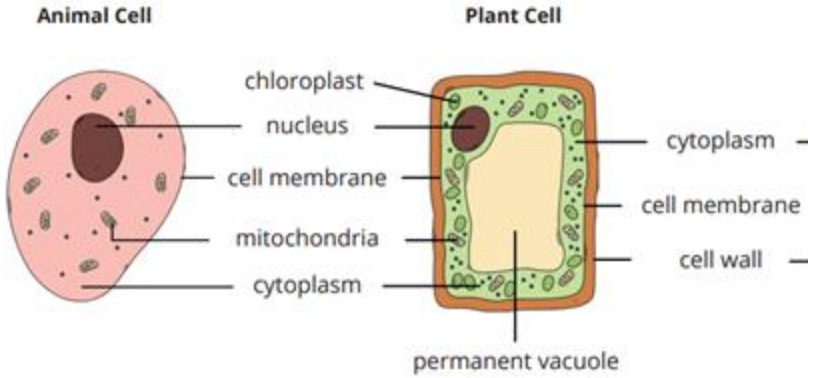
Year 9 Cells

The aims of the sequence of learning are to ensure that all students:
- Describe the structure of different types of cells (animal, plant, bacterial and specialised)
- Explain how to use a microscope to observe cells

Keyword	Definition
Cell	Basic unit of life.
Cell membrane	Controls the movement of substances in and out of the cell.
Nucleus	Contains genetic information and controls the activity of the cell
Cytoplasm	Jelly-like substance where chemical reactions take place.
Mitochondria	Where respirations takes place. Releases energy.
Chloroplasts	Contains the green pigment chlorophyll, the site of photosynthesis.
Vacuole	Contains cell sap and supports the cell.
Cell wall	Provides support to plant cells.
Specialised cell	Cells designed to carry out a particular role in the body.
Diffusion	The movement of partides from an area of high concentration to an area of low concentration.
Active transport	The movement of partides from an area of low concentration to an area of high concentration.
Osmosis	The movement of water from an area of high concentration to an area of low concentration, through a partially permeable membrane.

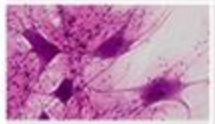
Key Concepts

Cell structure

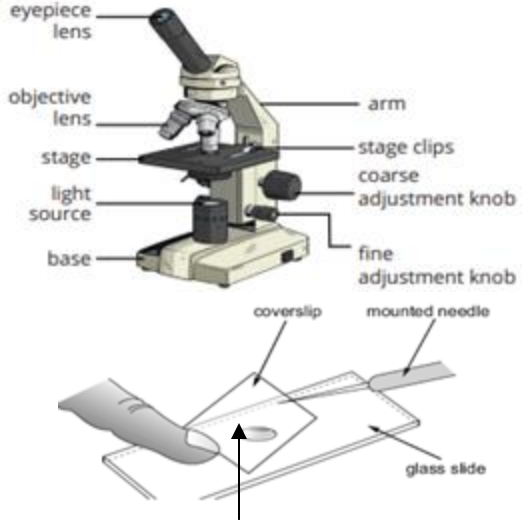


Specialised Cells

Humans are multicellular. That means we are made of lots of cells, not just one cell. The cells in many multicellular animals and plants are specialised, so that they can share out the processes of life. They work together like a team to support the different processes in an organism.

Image	Type of animal cell	Function	Special features
	Red blood cells	To carry oxygen	• Large surface area, for oxygen to pass through • Contains haemoglobin, which joins with oxygen • Contains no nucleus
	Nerve cells	To carry nerve impulses to different parts of the body	• Long • Connections at each end • Can carry electrical signals

Using a light microscope



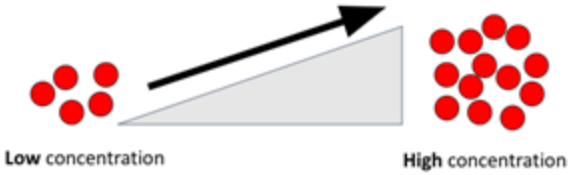
cells with a drop of dye (iodine)

Method:
- Prepare a slide.
- Plug in microscope and turn on light.
- Place slide on stage and hold with clips.
- On the lowest magnification objective lens move the stage as close to the lens as possible
- Focus the image
- Then turn up the magnification by turning to a higher power objective lens.

Cell transport

Diffusion
(does not require energy)

Active transport
(Requires energy from respiration)



Year 9 Cells

The aims of the sequence of learning are to ensure that all students:
- Describe the structure of different types of cells (animal, plant, bacterial and specialised)
- Explain how to use a microscope to observe cells

Retrieval Practice

Questions	Answers
What is a cell?	Cells are the basic building blocks of all living organisms.
What is an organelle?	Specialised structures that perform various jobs inside cells.
What is the function of the nucleus?	Contains genetic information (DNA) that controls cell activities.
What is the function of the cell membrane?	To control what enters and leaves the cell.
What is the function of the cytoplasm?	Where chemical reactions take place.
What is the function of mitochondria?	The site of respiration - where energy is released.
What is the function of the cell wall?	To strengthen and support plant cells.
What is the function of chloroplasts?	Contains chlorophyll to absorb light energy for photosynthesis.
Which organelles are present in both animal and plant cells?	Nucleus, Cell membrane, Cytoplasm, Mitochondria,
Which organelles are present in plant cells but not in animal cells?	Chloroplasts, Cell wall, Vacuole.
How is diffusion different to active transport?	In diffusion, partides move from a high to low concentration and it doesn't require energy. In active transport, particles move from a low to high concentration and it does require energy.
How is a red blood cell adapted to its function?	No nucleus, large surface area and contains haemoglobin to allow the red blood cell to transport oxygen around the body.

Career Focus - Where could this take you?

I am a pathologist. This is a medical healthcare provider who examines bodies and body tissues, I am also responsible for performing lab tests. I help other healthcare providers reach diagnoses and I play an important role in the treatment team. I could work in an NHS or private hospital or in a laboratory. My job is exciting and fulfilling because I get to use my problem solving and analytical skills to come up with a better solution to fight viruses, infections, and other life-threatening conditions.

Challenge Activities

1. Make flashcards for the definitions and retrieval practice questions.
2. Make a mindmap for this topic. Remember to include keywords and the links between information.
3. Research specialised cells found in both animals and plants and turn the information into a leaflet.
4. Research how a bacterial cell is different to a plant or animal cell.
5. Find out more about pathologists and what they do. What qualifications would you need for this career? What current research is being done? What is the salary?
6. Construct a fact file about a famous historical scientist that helped us to understand more about cells.

Topic Links

This topic links to other science topics such as
- Scientific Skills
- Organisation
- Energy

We will also be practising how to
- Carry out practicals safely
- Write descriptively to compare cells

Additional Resources

Educake - https://www.educake.co.uk/

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

YouTube Cognito - https://www.youtube.com/watch?v=QCCp-Y_-7J0
https://www.youtube.com/watch?v=qHkUOlC8Nbo

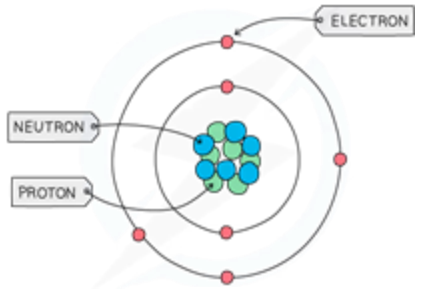
Year 9 Atoms and Calcs

The aims of the sequence of learning are to ensure that all students:
- Describe the structure of an atom and recall how the atomic model was developed
- Calculate RAM, Mr and concentration

Keyword	Definition
Atom	The smallest unit of matter.
Element	A substance made up of only one type of atom.
Compound	Contains two or more different elements that are chemically bonded together.
Mixture	Contains two or more different substances that are not chemically joined together.
Proton	Positively charged particle in the atom.
Neutron	Neutral particle in the atom.
Electron	Negatively charged particle in the atom.
Subatomic particle	Particles that make up the atom.
Nucleus	The centre of the atom, containing protons and neutrons.
Periodic table	A table of elements which are organised into groups and periods.
Group	A column on periodic table (all elements in the same group have similar properties).
Period	A row on the periodic table.
Properties	Characteristics or features of something.

Key Concepts

Atomic Structure



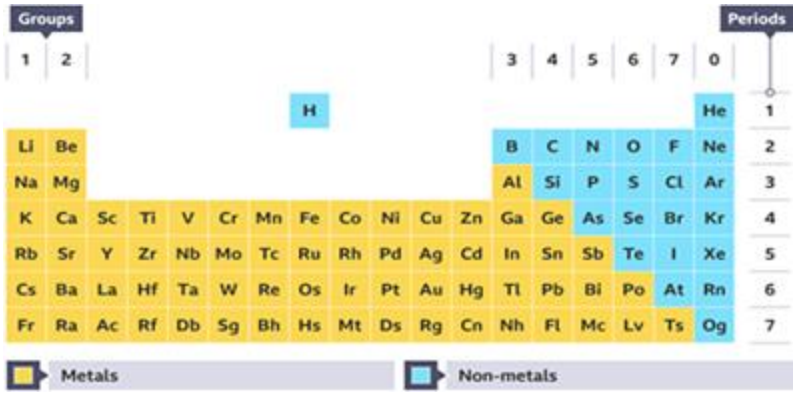
Overall, atoms have no charge (they are neutral). This is because they have the same number of protons (+1 charge) and electrons (-1 charge).

Particle	Relative Mass	Charge
proton	1	+1
neutron	1	0
electron	Very small	-1

Located in the nucleus

Located in the electron shells

Periodic Table



Substances

Element | Compound | Mixture

The properties of a compound are **different** to that of the elements that make it up.
For example, iron (element) is magnetic but iron sulphide (compound) is not magnetic.

Number of Subatomic Particles

Number of protons and neutrons

mass number → 4

atomic number → 2

He ← element symbol

Number of protons (same number of electrons)

Worked example (sodium):

$^{23}_{11}Na$

Protons = 11
Neutrons = 23 - 11 = 12
Electrons = 11

Year 9 Atoms and Calcs

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The aims of the sequence of learning are to ensure that all students:
- **Describe the structure of an atom and recall how the atomic model was developed**
- **Calculate RAM, Mr and concentration**

Retrieval Practice

Questions	Answers
What is an atom?	The smallest unit of matter.
What is an element?	A substance made up of only one type of atom.
What is a compound?	Contains two or more different elements that are chemically bonded together.
What is a mixture?	Contains two or more different substances that are not chemically joined together.
What is the structure of an atom?	Protons and neutrons located in the nucleus, with electrons in electron shells.
What is a subatomic particle?	A particle that makes up the atom.
What is the charge, mass and location of a proton?	Charge = +1, Mass = 1, Location = nucleus.
What is the charge, mass and location of a neutron?	Charge = 0, Mass = 1, Location = nucleus.
What is the charge, mass and location of an electron?	Charge = -1, Mass = very small, Location = shell
What does the mass number tell you?	Number of protons + neutrons an element has.
What does the atomic number tell you?	Number of protons an element has.
What is the overall charge of an atom?	An atom has no charge because it has an equal number of protons (+1) and electrons (-1).
How is the periodic table arranged?	In groups and periods (elements in the same group all have similar properties).

Career Focus - Where could this take you?

I am a chemical engineer. My job is to changing the chemical, biochemical and physical state of a substance to turn it into something else, such as making plastic from oil. I need to understand how to alter raw materials into required products, while taking into consideration health and safety and cost issues. My main workplace is in a lab, office or processing plant develop raw materials into a range of useful products. A career in the field will see you creating petrochemicals, medicine and plastics.

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 the periodic table was created? What scientists were involved?
4. Make a 3D model of an atom (showing the subatomic particles)
5. Find out more about chemical engineers and what they do. What qualifications would you need for this career? What is the average salary?
6. Research the history of the atomic model? What were the previous models? How do we know the atom looks the way we think it does?

Topic Links

This topic links to other science topics such as:
- Bonding
- States of matter
- Radiation
- Chemical reactions

Additional Resources

Educake - https://www.educake.co.uk/

BBC Bitesize - https://www.bbc.co.uk/bitesize/topics/zcckk2p

YouTube Cognito -
https://www.youtube.com/watch?v=fN8kH9Vvqo0
https://www.youtube.com/watch?v=jBDr0mHyc5M

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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

Newsome Academy
Everyone Exceptional Everyday

Year 9: Germany 1919-1939

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

- Describe the most significant reason for the growth of the Nazi party
- Explain the most important reason for the control of the German people
- Evaluate how successful Hitler was in achieving an economic miracle
- Describe what was the most important cause of World War II

Keyword	Definition
Causes	The reason an event happened.
Dictator	A political leader who has total control and power over a country.
Communism	Communism is a type of government. In a Communist system, individual people do not own land, factories, or machinery. Instead, the government or the whole community owns these things. Everyone is supposed to share the wealth that they create.
Lebensraum	Living Space - the land Nazis believed was required in order to grow and flourish.
Appeasement	When Britain and France gave Hitler what he wanted *(appeased him)* to try to avoid war.
Anschluss	German word for 'Union' – Hitler declared an Anschluss between Germany and Austria in 1938.
Blitzkrieg	German attack on enemy targets, means 'lightening war'.
Evacuation	Taking people away from danger.
Persecution	To treat someone cruelly or unfairly especially because of race or religious or political beliefs.
Anti-Semitism	Hostility towards Jews or discrimination against them as a group.
Aryan	Northern Europeans, including Germans, who Hitler believed were the 'Master Race'.
Ghettos	Areas of towns (usually run-down) sectioned off to separate Jews within the community.
Kristallnacht	Night of Broken Glass: attacks on Jews & Jewish property that intensified persecution of Jews in Germany.
Synagogues	Jewish places of worship.

Key Concepts

Causes of WWII: C. Timeline of Hitler's Actions:

1933: Hitler becomes Chancellor of Germany and builds up Germany's armed forces which breaks one of the terms of the Treaty of Versailles.

1936: German soldiers occupy the Rhineland where they were not supposed to go. Other countries, including Britain, did not stop this as the land belonged to Germany. This is the start of **Appeasement** by Britain and France.

1938: Hitler took over Austria, again breaking the Treaty. Britain protested but did nothing.

1938: Hitler threatened war with Czechoslovakia if they did not return the Sudetenland to Germany. 3 million Germans lived there. Britain and France agreed that Germany should be allowed to take the Sudetenland but made Hitler promise not to invade any other countries.

1939: Hitler broke his promise by taking over the rest of Czechoslovakia. He then started to threaten Poland. Poland was determined to fight Hitler...

1st September 1939: Germany invaded Poland, using 'Blitzkrieg' strategy. Britain and France (Poland's allies) gave notice to Germany to remove their troops from Poland. When they did not, Britain and France declared war on **3rd September 1939.**

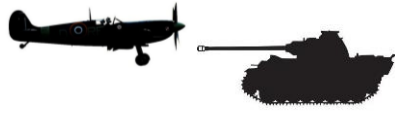
This was the start of World War 2!

Other Causes of WWII:

Treaty of Versailles: By the 1930's many people believed that Germany had been treated too harshly in the Treaty including Britain. Germany had lost land to create new countries like Poland and Czechoslovakia and Hitler promised to overturn the Treaty of Versailles and reunite all German speaking people in a greater Germany.

Appeasement: The policy of appeasement aimed to prevent another war and is linked particularly with the British Prime Minister Neville Chamberlain. Many believe he made a mistake by trusting Hitler. Britain and France could have stopped Germany. Opportunities, such as the Rhineland, were missed and Chamberlain even negotiated with Hitler in Munich to give him the Sudetenland. This prompted the Nazi Soviet Pact.

The Nazi Soviet Pact: Stalin felt alienated by the Munich Agreement and this encouraged him to sign the pact even though he and Hitler hated each other. It was a truce to agree to share Poland. This would help Hitler avoid a war on two fronts and give him back up from the USSR. This made him more confident about invading Poland even though Britain and France had promised to protect them.



What was the most important turning point of World War II?

A turning point is a significant moment when events alter in a way that has an impact both in the short and long term. There are many key moments in WWII that had an impact on the outcome of the war.

Turning Point: Was the evacuation of Dunkirk seen as a triumph or disaster?

Large numbers of British, French and Belgian troops were surrounded by German soldiers in the French town Dunkirk but 338226 were saved by a fleet of British navy ships and 800 small boats. These soldiers made up of much of Britain's army went on to fight throughout the war. It gave the British public hope.

Turning Point: How important was the Battle of Britain?

The Royal Air Force (RAF) successfully defended against attacks by Nazi Germany's air force: Luftwaffe. It has been described as the first military campaign fought entirely by air forces. Hitler changed his tactics when it was clear the RAF could not be defeated, and he cancelled the invasion of Britain. The RAF went on to bomb targets in Germany.

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Retrieval Practice

Questions	Answers
Tell me three minority groups persecuted by the Nazis:	Jewish, disabled and homosexuals
What date was Kristallnacht and what happened?	8th November 1938 when gangs smashed and burned Jewish homes, businesses & synagogues all over Germany and attacked Jews. Many Jews were killed and 20,000 arrested and sent to concentration camps.
Who was Anne Frank and why is she significant when studying the Holocaust?	Anne Frank was a German girl and Jewish victim of the Holocaust who is famous for keeping a diary of her experiences. Anne and her family went into hiding for two years to avoid Nazi persecution
Explain two causes of World War Two (short or long term):	Treaty of Versailles – Many believed Germany was too harshly punished Appeasement- Many believe Chamberlain he made a mistake by trusting Hitler. Britain and France could have stopped Germany.
What was the Nazi Soviet pact? Explain with examples.	A pact between Hitler and Stalin. It was a truce to agree to share Poland. This would help Hitler avoid a war on two fronts and give him back up from the USSR.
Why did Britain and France eventually declare war on Germany?	When Germany invaded Poland
Was Dunkirk a triumph or disaster? Explain your answer.	A disaster as large numbers of Franch, British and Belgium troops died. A success as 338,226 troops were saved
What happened at the Battle of Britain and why was it a turning point of WWII?	The Royal Air Force (RAF) successfully defended Britain against attacks by Nazi Germany's air force the Luftwaffe. Britain could now bomb targets Germany
What consequences did Germany face after the Battle of Stalingrad?	It was the first failure of the war to be publicly acknowledged by Hitler and put Hitler and the Axis powers on the defensive boosting Russian confidence.
Why did Germany surrender? Tell me one reason.	Soviet forces neared Adolf Hitler's command bunker in central Berlin. On April 30, 1945, Hitler committed suicide. Within days, Berlin fell to the Soviets.

Career Focus - Where could this take you?

I am a Screenwriter: My job is to write and develop screenplays for film or TV drama. I do this either based on an original idea, by adapting an existing story into a screenplay or by joining an existing project (if on TV). I will also use events that have happened in History and dramatise it while including historical facts. I have to make sure I have researched the area I want to focus on and plan my ideas, plots and characters.

Challenge Activities

1. Write a newspaper article about one of the key battles in World War Two. You need to research the battles and decide which one you want to write about- ensure you know enough to make a comparison to at least one other battle.
2. Write a script to use in a movie or play about one of the key battles of World War Two or about the Holocaust. Many movies have been produced which use historical fiction (incorporating some historical facts with a fictional storyline).
3. Produce a timeline which can be used as a display piece of key events in World War Two. This should include dates, key individuals, the event (what happened) and pictures to match.

Topic Links

This topic links to other humanities topics such as:

- From Democracy to Dictatorship
- The end of World War Two
- Britain's Homefront
- Judaism

Additional Resources

To further practise and develop your knowledge see:
https://www.familysearch.org/en/blog/world-war-2-facts

https://www.youtube.com/watch?app=desktop&v=8a8fqGpHgsk

https://www.britannica.com/study/world-war-ii-major-events-battles

https://www.bbc.co.uk/bitesize/topics/zk94jxs/articles/z6vff82

Timeline

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.

1939–1945 AD – The Second World War occurs.

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.

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

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.

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.

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

Year 9 Tectonic Hazards

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

- Explain the global distribution of tectonic activity
- Recognise and describe the processes at plate margins
- Describe the effects and responses to a tectonic hazard

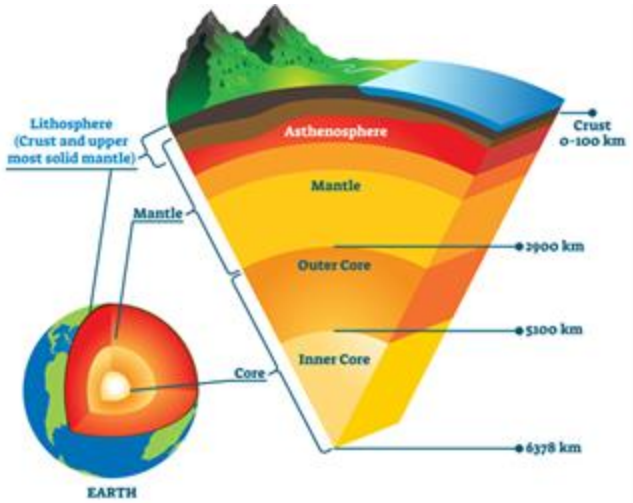
Keyword	Definition
Conservative Margin	Where two tectonic plates move past each other
Constructive Margin	Where two tectonic plates move apart.
Crust	The rigid shell that surrounds the mantle. Oceanic crust is thinner but denser than continental crust
Destructive Margin	Where a continental plate is subducted by an oceanic plate.
Distribution	The way something is spread out or arranged over a geographic area
Fold Mountains	Mountains formed from the folding of the Earth's crust
Immediate response	The reaction of people as the disaster happens and in the immediate aftermath.
Long-term responses	Later reactions that occur in the weeks, months and years after the event
Ocean Trench	Long, narrow depression on the seafloor where oceanic crust is forced under continental crust.
Primary effects	The initial impact of a natural event on people and property, caused directly by it.
Secondary effects	The after-effects that occur as indirect impacts of a natural event, sometimes on a longer timescale
Shield Volcano	A wide, low volcano that erupts basic, runny lava.
Subduction Zone	An area where oceanic crust travels under a continental plate at a destructive margin
Tectonic Plate	A section of the Earth's crust.

Key Concepts

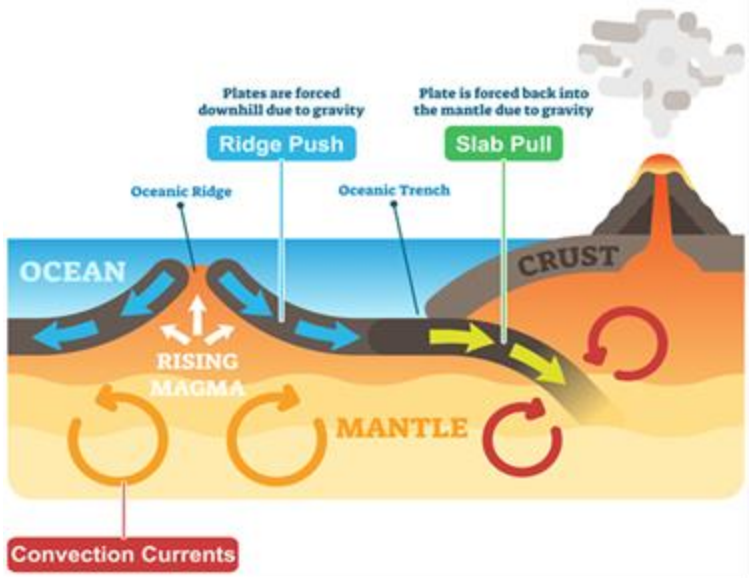
The Distribution of Volcanoes and Earthquakes:

- The distribution is not random.
- Narrow bands along plate margins.
- Occur on both land and sea.
- Volcanoes are found at constructive destructive plate margins.
- Earthquakes occur at all three boundaries

The Structure of the Earth:



How the plates move:



Year 9 Tectonic Hazards

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

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- Recognise and describe the processes at plate margins
- Describe the effects and responses to a tectonic hazard

Key Concepts

Tectonic Plates:

Primary effects

Earthquakes:

- People injured and killed.
- Property, homes and buildings destroyed.
- Roads, railways, ports and bridges destroyed.

Volcanoes:

- People and livestock injured and killed due to pyroclastic and lava flows and ash.
- Farmland and property destroyed.
- Water supplies contaminated.

Secondary effects

Earthquakes:

- Fires can start due to broken gas pipes and damaged electricity cables.
- Lack of clean water and sanitation due to burst pipes leading to the spread of disease.

Volcanoes:

- Lahars occur due to the mixing of ash with rain/glacial melt water which can lead to deaths and damage to property.
- Tourism increases with those interested in volcanoes.
- Ash breaks down, providing nutrients to farmland.

Year 9 Tectonic Hazards

The aims of the sequence of learning are to ensure that all students:
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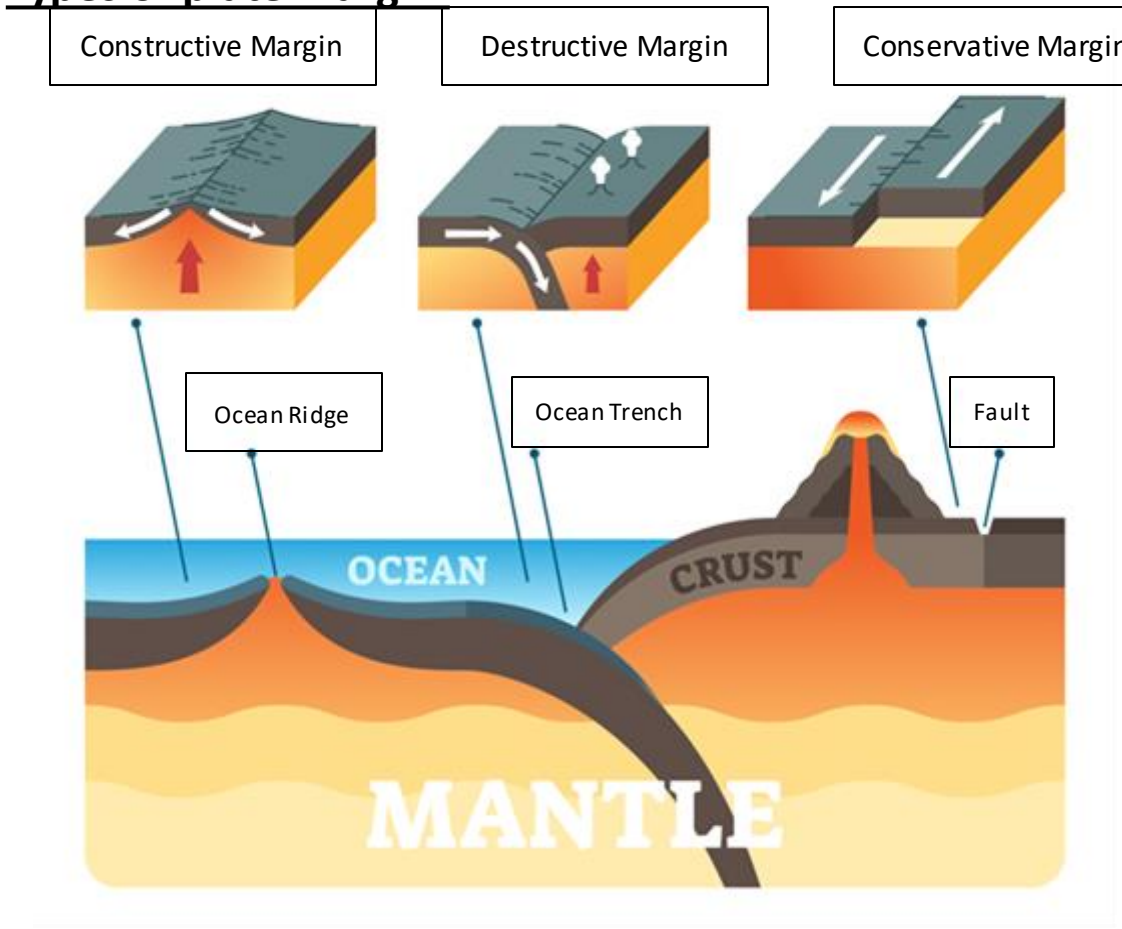
- Describe the effects and responses to a tectonic hazard

Key Concepts

Types of plate margin:



Destructive Margin
- Crust: oceanic and continental
- Landforms: fold mountains, ocean trench and composite volcanoes
- Hazards: earthquakes and volcanoes

Constructive Margin
- Crust: oceanic & oceanic/ continental & continental
- Landforms: ocean ridge/rift valley, shield volcanoes
- Hazards: earthquakes and volcanoes

Conservative Margin
- Crust: both
- Landforms: faults
- Hazards: earthquakes

Immediate Responses:

Immediate responses to tectonic hazards include:
- Issuing warnings
- Rescue teams searching for survivors
- Providing treatment to injured people
- Food, drink and shelter provided
- Bodies recovered
- Fires extinguished

Long-Term Responses:

Long term responses to tectonic hazards include:
- Rebuilding and repairing properties
- Rebuilding and repairing transport infrastructure
- Improving building regulations
- Restoring utilities such as water, electric and gas
- Resettling local people
- Developing opportunities for the economy to recover
- Installing monitoring equipment

Year 9 Tectonic Hazards

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

- Explain the global distribution of tectonic activity
- Recognise and describe the processes at plate margins
- Describe the effects and responses to a tectonic hazard

Retrieval Practice

Questions	Answers
Where are volcanoes and earthquakes located?	Narrow bands along plate margins and on both land and sea
What process in the mantle moves the crust?	Convection currents
Name 2 continental plates	Eurasian Plate and African Plate
Name 2 oceanic plates	Pacific Plate and Nazca Plate
What happens at a destructive plate boundary?	Oceanic and continental crust collide and the denser oceanic crust subducts creating volcanoes and earthquakes on the surface
Give 2 primary effects of an earthquake	People injured and killed. Property, homes and buildings destroyed.
Give 2 reasons why people might live near volcanoes	Tourism increases with those interested in volcanoes. Ash breaks down, providing nutrients to farmland.
Give 2 immediate responses to a tectonic hazard	Rescue teams searching for survivors and providing treatment to injured people
Give 2 long-term responses to a tectonic hazard	Rebuilding and repairing properties and improving building regulations

Career Focus - Where could this take you?

Volcanologists are scientists who use a variety of sophisticated equipment to measure and analyse volcanic activity, lava, rock, ashes and gases as well as earthquakes caused by eruptions. They try to predict eruptions and minimise adverse effects on people and their environment.

Challenge Activities

- Design and create a jigsaw for the plates of the earth
- Create a public safety poster booklet which provides advice on how people should prepare and act in a natural disaster
- Produce a presentation including a series of diagrams and information which explain what happens at the 3 main plate boundaries
- Create a model of an erupting volcano Research a recent volcanic eruption and write a news report on the causes, the effects and how people tried to reduce the impacts

Topic Links

This topic links to

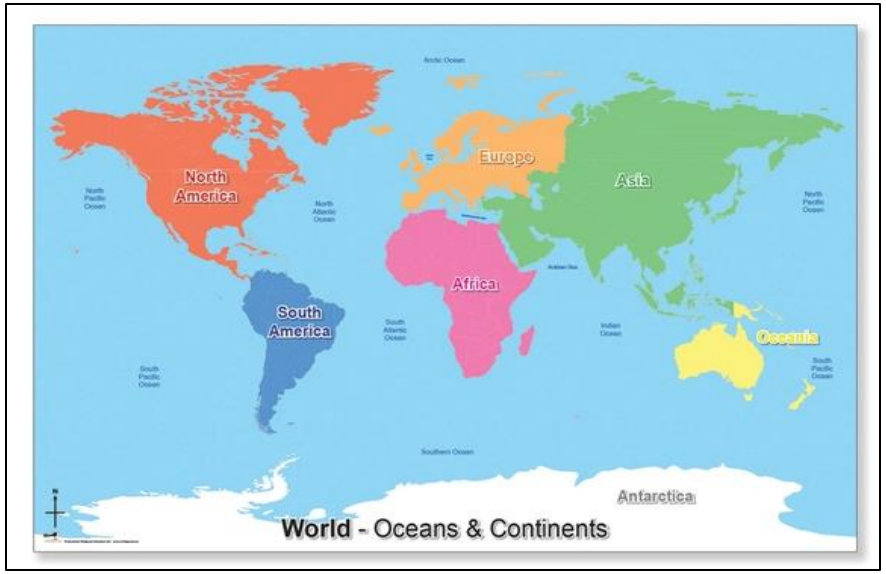
- Science
- Weather Hazards - in Year 10 Geography

Additional Resources

To further practise and develop your knowledge see: BBC Bitesize

Geography

Key Concepts: World – Countries and Oceans



Year 9 The Holocaust

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

- Describe how the Jews were persecuted in Germany
- Explain the impact of the Holocaust on survivors

Keyword	Definition
Antisemitism	Hatred towards Jewish people
Boycotts	Refusing to buy products from a business, country or group of people
Ghettos	A poor urban area mainly occupied by minority groups
Persecution	Punishment or harassment usually of a severe nature based on race, religion, or political opinion in one's country of origin.
Concentration Camps	A place in which large numbers of people, especially political prisoners or members of persecuted minorities, are deliberately imprisoned in a relatively small area with inadequate facilities, sometimes to provide forced labour or to await mass execution

Key Concepts

Anti-Semitism is a certain perception of Jews, which may be expressed as hatred toward Jews. Rhetorical and physical manifestations of antisemitism are directed toward Jewish or non-Jewish individuals and/or their property, toward Jewish community institutions and religious facilities.

Origin – How did antisemitism start?

Jewish people have been discriminated against for more than 2,000 years. Often it has been because of their religious beliefs. In ancient times some people worshipped many gods. They did not trust the Jewish people because the Jews did not follow the same gods. The Jewish people worship only one God.

Later, the new religion of Christianity developed from the religion of Judaism. The new religion was based on the teachings of Jesus Christ. He and his followers were Jewish, but the two religions became separate because of different beliefs. The Christians thought that Jesus was a saviour sent by God. The Jewish people did not believe that. At the time, the Roman Empire controlled the land where both religions began. The Romans destroyed the Jewish Temple in Jerusalem and forced the Jews to leave. Eventually, the Roman rulers accepted Christianity. The empire controlled many lands, so the religion of Christianity spread. The Roman leaders were powerful. They tried to turn Christians against the Jewish people. People treated the Jews poorly. Anti-Jewish laws in ancient Rome separated the Jews and limited their freedoms. Jewish people moved to many parts of Europe, but in some places they were forced to live in areas called ghettos. They were forced to leave other areas altogether. People made up myths about Jewish people so others would not trust them.

Anti-Semitism in the Russian Empire

When they were forced out of parts of western Europe, many Jews moved to Poland and Russia. Toward the end of the 1800s, however, they were mistreated there as well. The Russian Empire wrote laws to take away land from the Jews. Jewish people had to move to a different part of Russia, away from others. Many Jewish people could no longer work. Mobs of people attacked the Jews. These vident attacks were called pogroms.

Anti-Semitism in Modern Europe

In the 1800s people in Europe began to think of Jewish people as a separate race. Racism toward Jews helped a political party in Germany come to power in 1933. The Nazi Party was led by Adolf Hitler. The party spread hateful misinformation about Jewish people. They ordered boycotts of Jewish-owned businesses. They said that the Aryan race was superior. The Aryans were white people from northern Europe. The Nazis wanted to get rid of all Jewish people. They collected Jewish people from throughout Europe. They forced the Jews into concentration camps to work as slaves. Many Jews were killed right away. This time is called the Holocaust. Nazi Germany and those who helped the Nazis killed about 6 million Jews.

The Nazis were defeated in World War II, which ended in 1945. Many places in the world did not express anti-Semitism any more. Jewish people became part of the culture. But in some places, anti-Jewish acts still happened.

Anti-Semitism Today

Today many people believe that anti-Semitism is wrong. Unfortunately, anti-Semitic acts still happen. For example, people paint anti-Jewish symbols on buildings and Jewish graves. Others spread misinformation. They say Jewish people have too much control of the media, the economy, and the government. Some people even say that the Holocaust never happened.

Newsome Academy
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Year 9: The Holocaust

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

- Describe how the Jews were persecuted in Germany
- Explain the impact of the Holocaust on survivors

Key Concepts

The Holocaust: What is it? The mass murder of Jews under the German Nazi regime during the period 1939 - 1945. More than 6 million European Jews, as well as members of other persecuted groups, were murdered at concentration camps such as Auschwitz. Holocaust means destruction or slaughter on a mass scale, especially by fire. Many Jews use the term 'Shoah' which comes from the Hebrew meaning catastrophe.

A History of Anti-Semitism

The Nazis did not invent hatred of Jews or anti-Semitism.

Jews were persecuted in the Middle Ages for religious reasons. In 1190, 150 Jews were massacred in York and all Jews were expelled in 1290.

In many European countries, Jews were blamed for spreading the Black Death and were banned from owning land. In towns they were usually confined to certain areas—ghettos and subject to restrictions, such as curfews.

Martin Luther, who started the Protestant Reformation, called for Jewish synagogues to be destroyed.

In the 1800s, millions of Jews fled the Russian Empire because of pogroms (organised massacre) against them. Immigrants often ended up in Britain or the USA.

The Ghettos:

Ghettos were usually in the most run-down area of a city and were used to segregate the Jews. By mid-1941, nearly all Jews in occupied Poland had been forced into these overcrowded districts.

In the Warsaw ghetto, by far the largest, 490,000 Jews and a few hundred Roma and Sinti (Gypsies) struggled to survive. In larger centres, ghettos were shut in by walls, fences or barbed wire. No one could leave or enter without a special permit.

Jews received little food and the ghettos were overcrowded. Diseases such as typhus and tuberculosis were rife. It is estimated that 500,000 Jews died in the ghettos of disease and starvation. Many also perished in nearby slave labour camps, where conditions were even worse.

Nazis Persecution of the Jews:

Hitler's dislike of the Jews was based on many things including his experiences in Vienna as a youth, but mainly the economy. He blamed them for making Germany weak and for the defeat of World War One.

1933: From 1st April the Nazi Party began an official Boycott of all Jewish shops, businesses, doctors and lawyers. The SA were used to paint Jewish stars or the word 'Jude' (Jew) outside Jewish businesses and they stood outside holding banners to discourage people from going inside. Jews were also banned from government jobs and Jewish civil servants and teachers were sacked.

1935: The Nuremberg Laws were passed and stated only those of German blood could be German citizens. Jews became German 'subjects', not citizens and marriage between Jews and Aryans was banned. Placards saying 'Jews not wanted here' were displayed in resorts, public buildings, restaurants and cafes.

9th November 1938: Kristallnacht *(Night of Broken Glass)* - gangs smashed and burned Jewish homes, businesses & synagogues all over Germany and attacked Jews. Many Jews were killed and 20,000 arrested and sent to concentration camps.

1939-41: Millions of Jews living in Poland & the USSR came under Nazi control. Many were shot or kept in Ghettos.

1942: Leading Nazis agreed upon a 'Final Solution' at the Wannsee Conference to the "Jewish problem". Death camps would be used to eradicate Jews from Europe.

Concentration Camps:

The Nazis had been using concentration camps since 1933 as extended prisons or work camps, often for political opponents, but thousands of Jews were taken to camps like Dachau following Kristallnacht.

Germany's invasions of Poland & The Soviet Union meant that there were now millions more Jews under Nazi control. Initially, groups of SS troops – 'Einsatzgruppen', murdered Jews by shooting.

Following the decision at the Wannsee Conference in 1942 to eradicate all Jews, death camps were built. The death camps used gas chambers to murder Jews and others on an industrial scale.

When Jews arrived from all over Europe, 'selection' happened. Women with young children, the Elderly and the unfit were sent straight to the gas chambers. The Jews were told they were being taken to 'showers' but the 'showers' were in fact gas chambers which used a chemical called Zyklon-B. Usually, people 14 years of age and upwards were sent to the camp if they were fit and healthy. They would receive showers to clean them up. The showers were either really hot or extremely cold. They would then be given a uniform, tattooed with a number and have their hair shaved.

Sometimes, horrifying medical experiments were carried out on camp inmates, for example, by Dr Mengele at Auschwitz who was fascinated in studying twins.

All of the Jews' personal belongings: gold, silver, spectacles, clothes, even hair was kept to be re-used. Even in work camps, deaths through beatings, lack of food and disease were common. It is widely accepted that as many as 6 million Jews were murdered during the Holocaust.

Other groups, such as Russian prisoners, homosexuals, communists, gypsies and the mentally and physically disabled were also victims of the Nazi regime.

As the map shows, most death camps were in Poland rather than Germany, and Poles made up half of the victims. Jews from nearly all European countries were victims during World War Two.

Year 9 The Holocaust

The aims of the sequence of learning are to ensure that all students:
- Describe how the Jews were persecuted in Germany
- Explain the impact of the Holocaust on survivors

Retrieval Practice

Questions	Answers
What is Antisemitism?	Hatred towards Jewish people
What does persecution mean?	Punishment or harassment usually of a severe nature based on race, religion, or political opinion in one's country of origin.
Where were some of the Jewish people forced to live?	Some Jews were forced by the Nazis to live in Ghettos.
What did Hitler blame the Jewish people for?	Making Germany weak and losing World War 1
What happened in Germany on 9th November 1938	Kristallnacht *(Night of Broken Glass)* - gangs smashed and burned Jewish homes, busines ses & synagogues all over Germany and attacked Jews. Many Jews were killed and 2 0,000 arrested and sent to concentration camps.
Which other groups of people were persecuted in Nazi Germany?	Russian prisoners, homosexuals, communists , gypsies and the mentally and physically disa bled

Career Focus - Where could this take you?

I am a Historical researcher. I study past events, people, policies and documents to gain an in-dept understanding of their significance and impact on modern and future societies. Examining primary and secondary sources is an essential part of a historical researcher, as well as knowing and understanding peoples' beliefs and views.

Challenge Activities

- Explain in your own words, the history of Judaism that led to antisemitic attacks.
- Research how the holocaust has affected many Jews in the world today.

Topic Links

This topic links to other RE topics such as
- Judaism

This topic links with other subjects such as:
- History

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

Additional Resources

To further practise and develop your knowledge see:

https://www.bbc.co.uk/newsround/29363650

https://www.bbc.co.uk/bitesize/topics/znwhfg8/articles/z4vvjhv

https://www.bbc.co.uk/bitesize/guides/zf3yb82/revision/6

Religious Studies

Key Concepts

SIX WORLD RELIGIONS (spellings vary)

Religion name	Follower	SYMBOL	NAME OF GOD/GODS	COUNTRY OF ORIGIN	FOUNDER /MESSENGER	HOLY BOOK/S	PLACE OF WORSHIP	MAIN FESTIVALS	Denominations /schools/type/	Followers in the UK (approx.)	Followers in the world (approx.)
BUDDHISM	Buddhist	 Dharmachakra	none	India (Today in Nepal)	Siddhartha Gotama (The Buddha)	Tripitaka	Temple Shrine room Vihara	Wesak Dharma day	Theravada Mahayana Zen Triratna Pure Land	98,000	376 million
HINDUISM	Hindu	 Om/Aum	Brahman (Shiva Vishnu Brahma)	Indus Valley	none	Vedas Bhagavad Gita Mahabharata	Mandir Temple	Holi Diwali		272,000	1 billion
CHRISTIANITY	Christian	 Cross	God	Palestine Israel	Jesus of Nazareth	Bible	Church Cathedral	Easter Christmas	Catholic Eastern Orthodox Church of England Baptist Quaker	30 million	2.2 billion
JUDAISM	Jew	 Star of David	G_d	Israel	Abraham	Torah Tenakh	Synagogue	Rosh Hashanah Pesach Yom Kippur	Hasidic Orthodox Reform Liberal	214,000	14 million
SIKHISM	Sikh	 The Khanda	God Waheguru	Punjab, India	Guru Nanak The ten Gurus	Guru Granth Sahib	Gurdwara	Vaisakhi Diwali	Sahajdhari Amritdhari	239,000	23 million
ISLAM	Muslim	 Five pointed star & crescent moon	Allah (God)	Saudi Arabia	Muhammad (pbuh)	Quran	Mosque	Eid-ul-Fitr Eid-ul-Adha	Sunni Shi'a Sufi	1,278,000	1.6 billion

Theist = Someone that believes in God
Atheist= Someone that doesn't believe in God
Agnostic = Someone that is not sure about the existence of God

Monotheist = Someone that believes in one God
Polytheist= Someone that believes in many gods

Timeline of religions (all dates approximate)

2000 BC	1500BC	560 BC	0	30 AD	610 AD	1500 AD
Hinduism	**Judaism**	**Buddhism**		**Christianity**	**Islam**	**Sikhism**

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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.

Year 9 Mon avenir

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

- Narrate their choice of career, giving reasons and justifications.
- Deliver a short presentation on their future plans.
- Take part in a short conversation, asking and answering questions.
- Identify key information from a longer text containing two time frames.
- Identify key information from a longer passage containing two time

Keyword	Definition
Qu'est-ce qu'on peut faire pour gagner de l'argent?	**What** can you do to earn money?
On peut + infinitive	You can……
Qu'est-ce que tu fais?	**What** do you do?
Je travaille	I work
Je gagne	I earn
Qu'est-ce que tu veux faire comme métier?	**What** do you want to do as a job?
Je veux être…….	*I want to be……*
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…….
Qu'est-ce que tu as fait hier?	***What** did you do yesterday?*
J'ai préparé les repas.	I prepared the meals.
Je n'ai pas aidé à la maison.	I didn't help at home.
C'était **comment**?	**What** was it like?
C'était …	It was ……

Essential Vocabulary, grammar and phonics.

Qu'est-ce qu'on peut faire pour gagner de l'argent?

Pour gagner de l'argent,	*(In order) to earn money,*
on peut …	*you can …*
aider à la maison.	*help at home.*
aider les voisins.	*help the neighbours.*
trouver un petit boulot.	*find a part-time job.*
faire du baby-sitting.	*do babysitting.*

Qu'est-ce que tu fais?

Je lave la voiture.	*I wash the car.*
Je garde mon petit frère.	*I look after my little brother.*
Je garde ma petite sœur.	*I look after my little sister.*
Je range ma chambre.	*I tidy my room.*
Je travaille dans un café.	*I work in a café.*
Je travaille à la boulangerie.	*I work at the bakery.*
Je fais la cuisine.	*I do the cooking.*
Je gagne 8 euros par semaine / par mois.	*I earn 8 euros a week / a month.*

Qu'est-ce que tu veux faire comme métier?

Je veux être …	*I want to be a(n) …*
scientifique.	*scientist.*
pilote.	*pilot.*
ingénieur/ingénieure.	*engineer.*
danseur/danseuse.	*dancer.*
acteur/actrice.	*actor/actress.*
dessinateur/dessinatrice.	*designer.*
infirmier/infirmière.	*nurse.*
policier/policière.	*police officer.*
mécanicien/mécanicienne.	*mechanic.*

Qu – qu'est-ce que

quatre	musique	équipe
4		

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

Je vais habiter …	*I am going to live …*
à l'étranger.	*abroad.*
Je vais acheter …	*I am going to buy …*
une grande maison.	*a big house.*
une Ferrari rouge.	*a red Ferrari.*
Je vais être …	*I am going to be …*
célèbre.	*famous.*
heureux/heureuse.	*happy.*
Je vais avoir …	*I am going to have …*
cinq enfants.	*five children.*
Je vais aller …	*I am going to go …*
à New York.	*to New York.*
en Chine.	*to China.*
Je vais faire du travail bénévole.	*I am going to do voluntary work.*
à l'avenir	*in the future*
dans dix ans	*in 10 years*
dans vingt-cinq ans	*in 25 years*
Ce sera …	*It will be …*
cool / fantastique.	*cool / fantastic.*

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Year 9 Mon avenir

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- Identify key information from a longer text containing two time frames.
- Identify key information from a longer passage containing two time

Retrieval Practice

Questions	Answers
Qu'est-ce qu'on peut faire pour gagner de l'argent?	Pour gagner de l'argent on **peut trouver un petit boulot ou aider à la maison.**
Qu'est-ce que tu fais?	Personellement **je lave la voiture** et **je garde mon petit frère** tous les week-ends. À mon avis c'est **ennuyeux.**
Tu gagnes **combien** d'argent?	Je gagne **dix livres** par heure. C'est bien payé.
Qu'est-ce que tu veux faire comme métier?	Je ne sais pas exactement. Je veux être **acteur mais c'est difficile.** Aussi je veux être **pilote.**
Qu'est-ce que tu vas faire à l'avenir?	Dans dix ans je vais habiter à **New York.** Je vais acheter **une grande maison.** Dans vingt ans je vais **avoir deux enfants.**
Ce sera **comment**?	Je crois que ce sera **formidable.**
Qu'est-ce que tu as fait hier?	Hier matin je suis resté(e) à la maison mais je n'ai pas regardé la télé. L'après-midi **je suis allé au supermarché.**
C'était **comment**?	À mon avis c'était **assez ennuyeux.**

Career Focus - Where could this take you?

I am a news reporter. I work all over Europe and even worldwide. It helps me that I can speak another language, because I can communicate with people who live in the country I am reporting from.

Challenge Activities

1. Research some careers where Languages are important. Make a fact file. Which of these are you interested in?
2. Create a day of Cinderella's diary. Include at least 6 things that she did to help at home and her opinion about the chores.
3. Complete the activities on sentencebuilders.com

Topic Links

This topic links to:

- Sports and leisure.
- All about me.
- Expressing future plans for a concert.

Additional Resources

To further practise and develop your knowledge see:

- Sentencebuilders.com
- Active learn.

Look in Teams to find your logins.

PERFECT TENSE (*"has done/did"*)

Start with the present tense of *avoir/être*, then add the past participle of the second verb:

-er	-ir	-re
Remove **–er** Add **-é**	Remove **-r**	Remove **–re** Add **-u**
jou**er** → (j'ai) jou**é**	fin**ir** → (j'ai) fini	vend**re** → (j'ai) vend**u**

VERBS USING ÊTRE e.g. je suis allé(e)

monter entrer sortir venir aller naître
partir descendre arriver tomber rester
mourir retourner ***(and all reflexive verbs)***

The past participle for these verbs must agree with the subject in gender and number:

je suis allé (m) *je suis tombée* (f)
on est entrés (mpl) *on est entrées* (fpl)

PRESENT TENSE (*"does/is doing"*)

Remove the -er/-ir/-re and add these endings:

	jouer	finir	vendre
je	jou**e**	fin**is**	vend**s**
tu	jou**es**	fin**is**	vend**s**
il/elle/on	jou**e**	fin**it**	vend
nous	jou**ons**	fin**issons**	vend**ons**
vous	jou**ez**	fin**issez**	vend**ez**
ils/elles	jou**ent**	fin**issent**	vend**ent**

ÊTRE
je suis / tu es / il est / nous sommes / vous êtes / ils sont
AVOIR
j'ai / tu as / il a / nous avons / vous avez / ils ont

SIMPLE FUTURE TENSE (*"will/shall do"*)

Add these endings to the infinitive:

	jouer	finir	vendre
je	jouer**ai**	finir**ai**	vendr**ai**
tu	jouer**as**	finir**as**	vendr**as**
il/elle/on	jouer**a**	finir**a**	vendr**a**
nous	jouer**ons**	finir**ons**	vendr**ons**
vous	jouer**ez**	finir**ez**	vendr**ez**
ils/elles	jouer**ont**	finir**ont**	vendr**ont**

IRREGULAR STEMS

être (ser-) *avoir* (aur-) *faire* (fer-)
venir (viendr-) *savoir* (saur-) *aller* (ir-)
devoir (devr-) *pouvoir* (pourr-) *voir* (verr-)

Negatives

Most negatives work like ***ne…pas*** (not). They are in two parts and go around the verb:

- *ne…rien* (nothing)
- *ne…jamais* (never)
- *ne…plus* (no longer, not anymore)

With ***il y a*** (there is/are), the negatives go around *y a* and ***ne*** shortens to ***n'***:

*Il **n'y a rien** a faire.* (There is nothing to do.)
*Il **n'y a jamais** de bus.* (There are never any buses.)
*Il **n'y a plus** de magasins.* (There are no longer any shops.)

Sequencers (narrative words)

d'abord firstly/first of all
ensuite next
puis then
après after/afterwards
finalement finally

Connectives

et and **mais** but
ou or **où** where
parce que because
donc/alors therefore/so
cependant however
car as (because)
puisque since (because)

Present vs. imperfect

il y a (there is)
il y avait (there was)
c'est (it is)
c'était (it was)

IMPERFECT TENSE (*"was doing/used to do"*)

Remove *–ons* from the *nous* form of the present tense, add these endings (*ais/ais/ait/ions/iez/aient*)

	jouer	finir	vendre
je	jou**ais**	finiss**ais**	vend**ais**
tu	jou**ais**	finiss**ais**	vend**ais**
il/elle/on	jou**ait**	finiss**ait**	vend**ait**
nous	jou**ions**	finiss**ions**	vend**ions**
vous	jou**iez**	finiss**iez**	vend**iez**
ils/elles	jou**aient**	finiss**aient**	vend**aient**

NEAR FUTURE TENSE (*"is going to do"*)

Use the present tense of *aller* followed by the infinitive:

je	**vais**
tu	**vas**
il/elle/on	**va**
nous	**allons**
vous	**allez**
ils/elles	**vont**

jouer
finir
vendre
être
aller
vouloir
etc.

CONDITIONAL TENSE (*"would do"*)

Begin with the future stem, add imperfect endings:

	jouer	finir	vendre
je	jouer**ais**	finir**ais**	vendr**ais**
tu	jouer**ais**	finir**ais**	vendr**ais**
il/elle/on	jouer**ait**	finir**ait**	vendr**ait**
nous	jouer**ions**	finir**ions**	vendr**ions**
vous	jouer**iez**	finir**iez**	vendr**iez**
ils/elles	jouer**aient**	finir**aient**	vendr**aient**

IRREGULAR STEMS
Same as for the simple future
EXTRA MARKS: USE WITH THE IMPERFECT TENSE
Si j'avais le temps, j'irais… (If I had time, I'd go to…)

PLUPERFECT TENSE (*"had done"*)

Very similar to the perfect tense, except you start with the *imperfect* tense of auxiliary verbs *avoir/être:*
e.g. j'*avais* joué, il *avait* fini, nous *étions* allés, elles s'*étaient* brossées les dents

Décrire une photo

1st step - Description

To start off:

Sur l'image/la photo	In the image/the photo
Il y a	There is/ are
Je vois / On peut voir	I see / We can see
La photo montre	The photo shows
Le scène se passe	The scene takes place

Locating:

Au premier plan	In the foreground
À l'arrière plan	In the background
À gauche/ à droite	To the left/to the right
Près de..	Close to
Devant/Derrière..	In front of/At the back
Au milieu..	In the middle

Remember to mention the 4 Ws

Where/Où	When/Quand	Who/Qui	What/Quoi
• À l'école • Dans la rue • À la montagne • Au bord de mer • À l'intérieur • À l'extérieur • En ville	<u>Weather</u> • Il fait beau • Il pleut • Il y a du soleil <u>Moment</u> • Le soir • Le midi • Pendant	• Une famille • Des enfants • Beaucoup de monde • Quelques personnes • Des arbres • Des bâtiments	• Ils/Elles sont en train de: parler, manger, faire la fête, rigoler, s'amuser, recycler, apprendre, faire du sport, jouer, bronzer...

2nd step - Opinions

Hypothesis:

Ils/Elles ont l'air	They seem
Il/Elle a l'air	He/She seems
Ça/Il a l'air	It looks like
Peut-être	Maybe
Ça semble être	It seems to be

Say what you think about the photo

Je crois que... I think that...	Je suppose que... I suppose that...
Je pense que... I think that...	Il me semble que... It seems to me that...
Je dirais que... I would say that...	Cela me rappelle... It reminds me of...

J'aime cette photo

- parce que les gens ont l'air heureux/drôles...
- car j'adore la plage, la montagne, les festivals...
- j'aimerais faire partie de la scène pour...

Je n'aime pas cette photo

- pace que la météo n'est pas à mon goût
- car je n'aime pas les activités, je préfère...
- Je ne voudrais pas participer à la photo car...

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Computing

Our students will:

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

Unit 9.2: Design a Website

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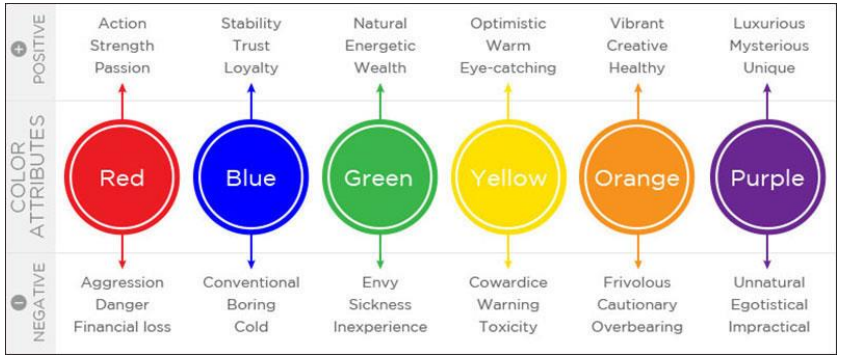
The aims of the sequence of learning are to ensure that all students:

- Demonstrate knowledge of planning and design techniques by creating a detailed moodboard and storyboard
- Demonstrate knowledge of using MS PowerPoint by developing a professional looking website
- Demonstrate knowledge of testing techniques by completing a testing table document
- Apply knowledge from this unit to accurately describe some keywords

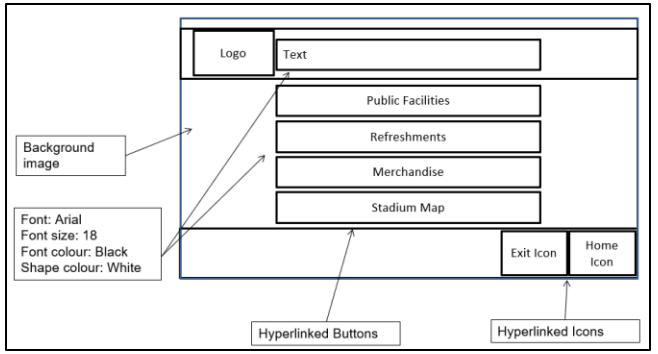
Keyword	Definition
User Interface (UI)	The method in which a person controls and interacts with a software application or hardware device
Mock-up	A realistic representation or a visual draft of the design of a digital product e.g. app, website…
Mood board	A 'collage' of design ideas, colours or other inspirations used to show the thinking towards a design task
Storyboard	A graphical representation of the main sequence of steps/screens that users will use on an interface
Project Requirements	The features, functions, and tasks that need to be completed for a project to be deemed successful
House Style	A company's preferred manner of presentation and layout of written or digital material
Master Slide	A feature in Microsoft PowerPoint that helps you create a template design that can be applied across the whole document.
Hyperlink	An object (word, shape or image) that you can click on to jump to a new section within the current document or to a brand new document
Professional Design	A design that aims to follow industry standards or rules to replicate the design quality or style of something that has been created by a professional

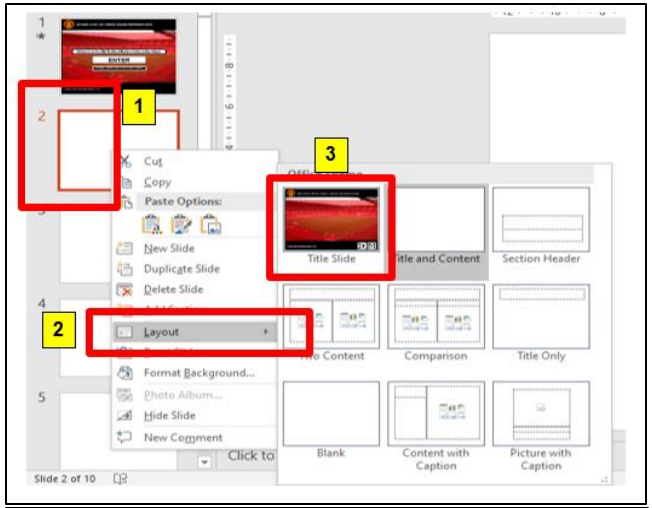
Key Concepts

Colour Attributes



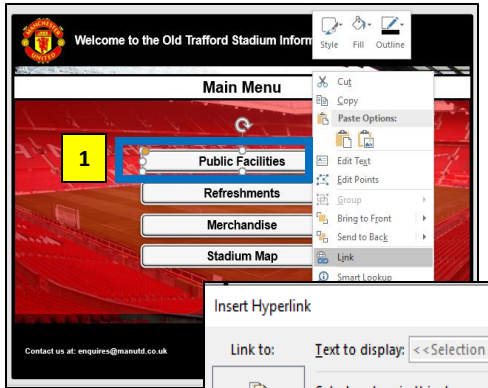
Example Storyboard





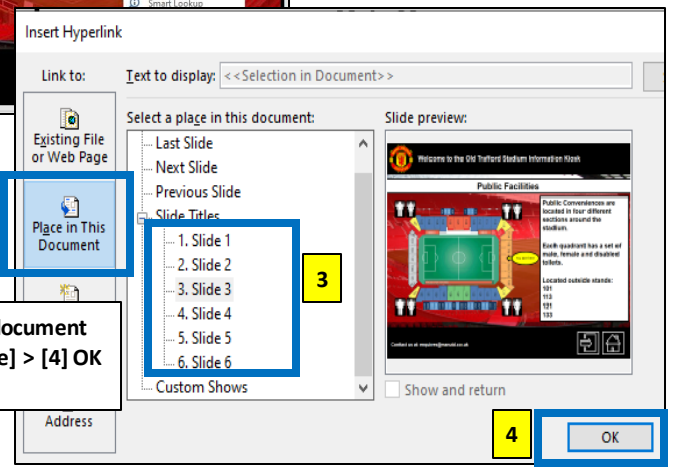
Applying the Master Slide to the document

1) Right click on a new slide
2) Select the 'Layout' option
3) Select the Master Slide template



How to create Hyperlinks

1) Right click on button > Link



2) Place in this document > [3] [Select Slide] > [4] OK

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Unit 9.2: Design a Website

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

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- Demonstrate knowledge of testing techniques by completing a testing table document
- Apply knowledge from this unit to accurately describe some keywords

Retrieval Practice

Questions	Answers
What is a 'User Interface' and what is the purpose of it?	A user interface, also called a "UI", is the method in which a person controls and interacts with a software application or hardware device. The UI acts as the layer between the software and the computer hardware – most software will be unusable without a UI.
Why is it important to carefully consider the use of a colour when designing a user interface?	Colour can speak, as powerful as language. It is the visual appearance, which largely depends on colour, that always leaves you the very first impression.
Which details do you need to include on a 'Storyboard' design?	A storyboard must include the following: Details such as font name, font size, font colour, shape colour, logo position, text box position and positioning of other objects.
What are you able to do using the 'Slide Master' tool in MS PowerPoint?	In MS PowerPoint, a Slide Master is a feature that allows you to create master templates (or master slides). One template design can be applied to slides within the document – this reduces interface development time and allows the designer to develop a clear house style.
Which features and tools in MS PowerPoint are useful when developing a user interface?	Some useful features and tools are: • Slide Master – to create template designs • Hyperlinks – to create a navigation bar and other interactive buttons • Drawing tools e.g. Shape -Fill, -Outline, -Effects… • Arrange tool – for layering of objects (sent to front and send to back) • Text boxes – add content on each slide • Insert Online Pictures tool – to insert images from the web
Explain what a 'Hyperlink' allows you to do and how you could it on your user interface?	A hyperlink is an object (word, shape or image) that you can click on to jump to a new section within the current document or to a brand-new document. They allow users to click their way from page to page.
What is the purpose of testing a digital product or interface?	There are many benefits to testing a digital product or interface: • Refines the whole product before release • It reduces development and maintenance costs • Provides better usability and enhanced functionality • Reduces the number of 'bugs' or errors • Creates a positive impression of you/ your company

Career Focus - Where could this take you?

In my role as a **User experience (UX) designer** I create accessible, aesthetically appealing and meaningful physical and digital products that people find enjoyable to use. It is about understanding users' emotions and feelings to make sure they continue to come back to the product.

Challenge Activities

1. Create a professionally designed and formatted questionnaire or survey to gather feedback for the user interface. Include questions that clearly check if you have met the requirements of the project. Use the feedback to make improvements to your user interface.
2. Create a tutorial video or document to explain how to create an interactive user interface using MS PowerPoint. Make sure it includes a step-by-step breakdown of each task.
3. Do some research on the internet to find out which other pieces of software can be used to create a user interface. Create a table which compares the features, tools and functionality of each piece of software and then decide which software you think is the most appropriate to use to create a most professional looking user interface.

Topic Links

This topic links to:
Computing Curriculum:

- Design, use and evaluate computational abstractions that model the state and behaviour of real-world problems and physical systems
- Create and re-purpose digital artefacts for a given audience, with attention to trustworthiness and usability
- Art and design (creative design, colour schemes etc..)
- English (appropriate language for a target audience)

Additional Resources

To further practise and develop your knowledge see:

- Colour scheme designer: https://paletton.com/
- Master Slide Tutorial: youtu.be/bDk7z0mYmeE
- Hyperlinks Tutorial youtu.be/bYkUuaA63vc

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CAPE

Our students will:

- produce creative work, exploring their ideas and recording their experiences
- become proficient in drawing, painting, sculpture and other art, craft and design techniques
- evaluate and analyse creative works using the language of art, craft and design
- know about great artists, craft makers and designers, and understand the historical and
- cultural development of their art forms.

- develop competence to excel in a broad range of physical activities
  are physically active for sustained periods of time
  engage in competitive sports and activities
- lead healthy, active lives.

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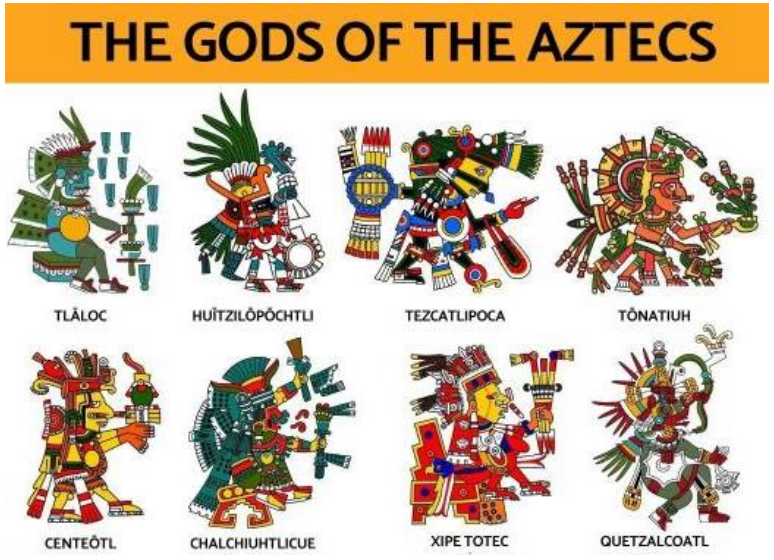
Year 9 Aztec Art

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

- Will have an understanding of what happened to the Aztec Empire
- Will develop their observational drawing skills
- Will be able to describe the characteristics of Aztec textile designs
- Understand how to produce a relief printing block
- Be able to produce a mixed media background
- Will produce a repeat print of an Aztec symbol
- Will be able to talk about their work using subject specific language

Keyword	Definition
Aztecs	The Aztecs were a Mesoamerican culture that flourished in central Mexico in the post-classic period from 1300 to 1521.
Polytheist	Someone who believes in many Gods.
Belief	Trust, faith or confidence in someone or something.
Symbol	A mark or character used to represent an object, function, or process.
Textile	Any fabric or cloth.
Geometric	Characterised by or decorated with regular lines and shapes.
Poly printing	A method of relief printing that doesn't use sharp tools.
Repetition	The act of doing, saying or writing something again.
Mixed media	In visual art, mixed media describes artwork in which more than one medium or material has been employed.

Key Concepts



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- Be able to produce a mixed media background
- Will produce a repeat print of an Aztec symbol
- Will be able to talk about their work using subject specific language

Retrieval Practice

Questions	Answers
Where did the Aztecs live?	The Aztecs were the Native American people who dominated northern Mexico at the time of the Spanish conquest in the early 16th century. A nomadic culture, the Aztecs eventually settled on several small islands in Lake Texcoco where, in 1325, they founded the town of Tenochtitlan, modern-day Mexico City.
What food products did the Aztecs introduce to the Spanish?	Corn, tomatoes, chocolate and vanilla.
Name 3 man-made structures the Aztecs introduced to the Spanish.	Suspension bridges, pyramids, sewage system.
What is relief printing?	A printing methods where a printing block which has had ink applied to its non-recessed surface, is brought into contact with paper. The non-recessed surface will leave ink on the paper, whereas the recessed areas will not.
Why should you do a test print?	Doing a test print means you have the chance to make sure that your printing block is as you want it to be, and that the ink is loaded enough to leave a good print.
Why does your mixed media background need to be flat?	So that your printing block will make contact with the surface of the paper and leave a perfect print.

Career Focus - Where could this take you?

My job is a textile technician. I make sure the machines and equipment that are used to produce textiles in factories are operating correctly, minimising interruption in production and ensuring people can work safely on the machines.

Challenge Activities

Make an Aztec inspired relief painting.
Art Attack! - Time Travel - Aztec Art! - Disney Junior UK HD - YouTube

Make an Aztec symbol/God weaving.
Aztec Suns | theMESSYartroom (wordpress.com)

Topic Links

This topic links to:

- History – Spanish conquest of the Aztec Empire.
- Geography – Location of the Aztec and Mayan Empires.
- Mathematics – geometric shapes.

Additional Resources

To further practise and develop your knowledge see:

How Hernán Cortés Conquered the Aztec Empire | HISTORY

See How Indigenous Weaving Styles Are Preserved in Guatemala | National Geographic - YouTube

Year 9 Textiles

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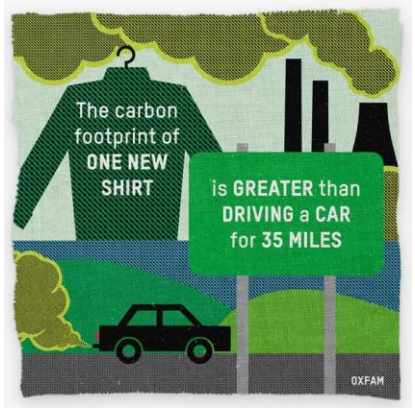
The aims of the sequence of learning are to ensure that all students:

- 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.

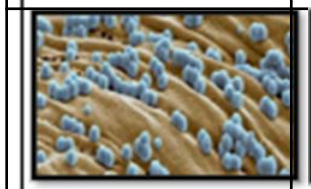
Keyword	Definition
Corrugated	Describing a series of parallel ridges and furrows
Fabric	Cloth or other material produced by weaving or knitting fibres.
Synthetic	Made by chemical synthesis, especially to imitate a natural product.
Smart Fibres	Smart fibres and structures can be defined as materials and 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
				

Year 9 Skills Cushion Project

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

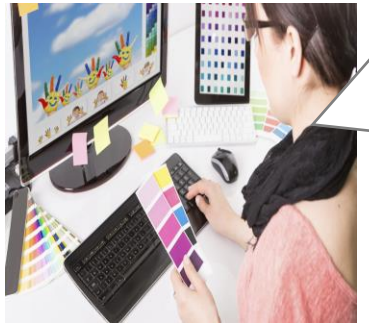
- Demonstrate safe use of tools and equipment.
- Explain a range of Decorative Techniques
- Rank Smart Fibres in order of environmental impact.
- Annotate a range of design ideas which include moral and cultural issues.
- Demonstrate an understanding of smart materials.

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 sub stance	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?



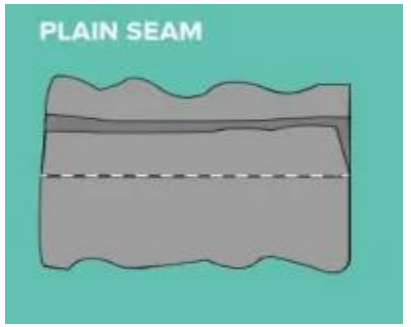
A Graphic Designer creates visual images or layouts for their clients. Graphic designers use digital software to create their unique images. A graphic designer can create visuals for a range of media, including social media posts, websites, company logos and print materials.

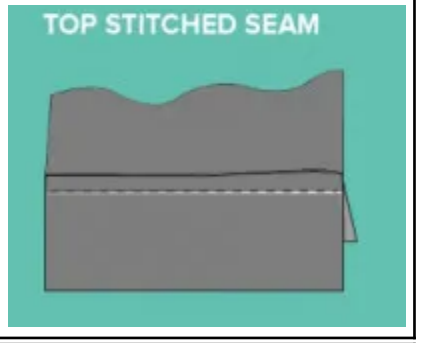
Huddersfield University offer an BA Hons degree in Graphics Design, and you will need 5 GCSE grades 5 and above and a higher-level certificate in the subject.

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

Year 9 Resistant Materials

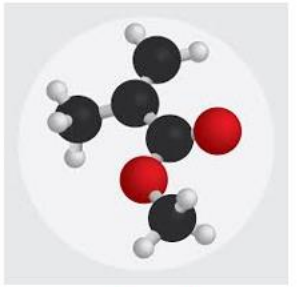
The aims of the sequence of learning are to ensure that all students:

- Demonstrate safe use of tools and equipment.
- Explain a range of material properties and end uses.
- Rank materials in order of environmental impact.
- Annotate design solutions with manufacturing production in mind.
- Demonstrate an understanding of Card Prototyping.

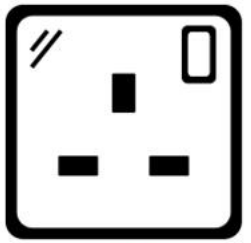
Keyword	Definition
Seasonal	Seasoning wood is the process of correctly drying timber in order to remove moisture in the cells of the wood walls.
Specification	an act of describing or identifying something precisely or of stating a precise requirement.
Mass Production	the production of large quantities of a standardized article by an automated mechanical process.
Batch Production	Batch production is a method of manufacturing where the products are made as specified groups or amounts, within a time frame
Ergonomics	Human factors and ergonomics are the application of psychological and physiological principles to the engineering and design of products.
Anthropometric Data	A list of units of measurement based on human body parts or the attributes and abilities of humans.
JIT Production	Just-in-time manufacturing tries to match production to demand by only supplying goods which have been ordered and focuses on efficiency.
Continuous Production	Continuous production is a flow production method used to manufacture, produce, or process materials without interruption.
Resistor	A resistor is a passive two-terminal electrical component that implements electrical resistance as a circuit.
Micro Controller	A microcontroller contains one or more CPUs (processor cores) along with memory and programmable input/output peripherals.
Modifications	A change in design/ product which makes it better.
LED	is a light-emitting diode.
PET	most common thermoplastic polymer resin of the polyester family
Poly Propylene	a thermoplastic polymer used in a wide variety of applications.
HDPE	thermoplastic polymer produced from the monomer ethylene

Key Concepts

Polythene

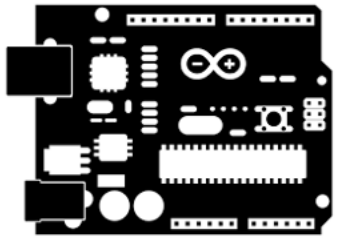


Acrylic



ABS

Vacuum Former

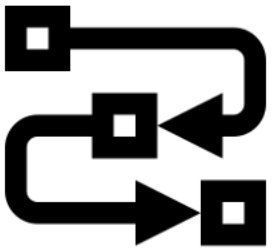


Microcontroller

Switch

LED

Resistor



Process

Health & Safety

Time Constraints

Modifications

Year 9 Anglepoise Lamp 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 material properties and end uses.
- Rank materials in order of environmental impact.
- Annotate design solutions with manufacturing production in mind.
- Demonstrate an understanding of Card Prototyping..

Retrieval Practice

Question	A1	A2	A3	A4	A5
A. What is rethinking?	Designing	Making	Discarding	Creating	Upscaling
B. What is reusing?	Maintaining	Discarding	Making	Upscaling	Creating
C. What is recycling?	Creating	Upscaling	Discarding	Making	Collecting
D. What is repairing?	Making	Fixing	Creating	Discarding	Upscaling
E. What is reducing?	Discarding	Making	Imprint	Creating	Upscaling
F. What is refusing?	Creating	Discarding	Upscaling	Morals	Making
G. What is mass production?	Detailed	Maintenance	Rapid	Thousands	Expensive
H. What is batch production?	Hundreds	Detailed	Detailed	Maintenance	Rapid
I. What is one off?	Maintenance	Rapid	Expensive	Detailed	Singular
J. What is continuous?	Expensive	Ongoing	Maintenance	Rapid	Detailed
K. What is seasonal?	Rapid	Expensive	Monthly	Maintenance	Thousands
L. What does the JIT process provide?	Expensive	Thousands	Rapid	Efficiency	Maintenance

Question	Quick Corrections (bridge learning gaps & misconceptions)

Career Focus - Where could this take you?

Architects are responsible for designing buildings that meet the needs of their clients and comply with local building codes. Architects work with clients and other professionals to develop project plans that outline the scope, budget, and timeline for the project

Huddersfield University offer an Architectural Technology BSc(Hons) and you will need 5 GCSE grades 5 and above and a higher-level certificate in the subject.

Salaries usually range from £21,000-£80,000

Challenge Activities- Can you match the correct product to material?

HDPE

PTE

Poly Propylene

Topic Links

This topic links to:

- Science- The creation of Plastics.
- English- Subject specific Vocabulary knowledge, understanding and spelling.
- Maths- Measurements and scales of productions.

Additional Resources

To further practise and develop your knowledge see:

https://youtu.be/iO3SA4YyEYU

https://youtu.be/_6xlNyWPpB8

https://youtu.be/eISJ33Scrnc

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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.

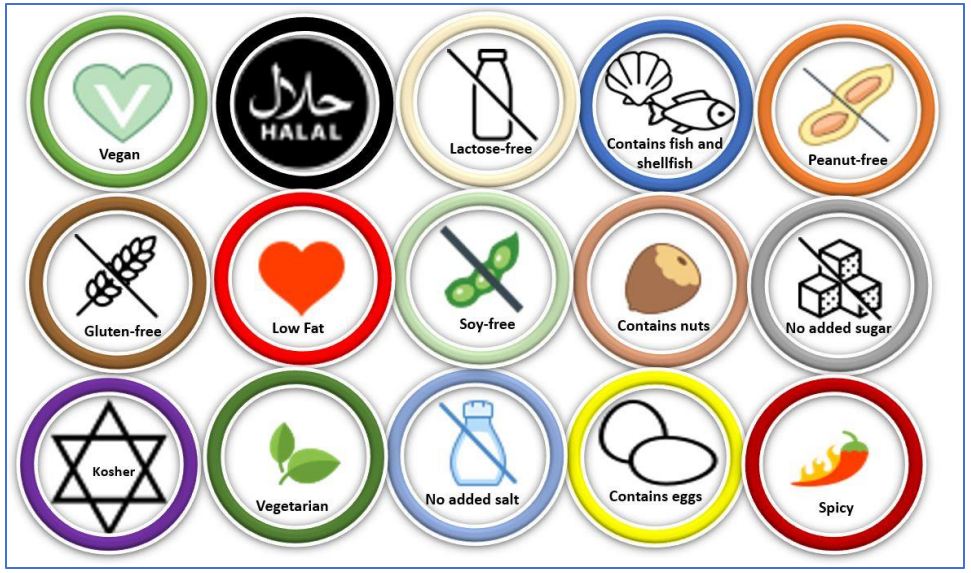
Food Standards Act 1999

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

Spaghetti Bolognese

Equipment:

- Chopping board
- Vegetable knife
- Vegetable peeler
- Sauce pan
- Frying pan
- Tin opener
- Wooden spoon
- Measuring jug
- Colander
- Weighting scales

Ingredients:

- 1 onion
- 1 clove garlic
- 1 carrot
- 1 celery stick or pepper
- 1 x 15ml spoon oil
- 250g minced beef
- 1 x 400g canned chopped tomatoes
- 100g pasta

Note you can have mushrooms or peppers if you like.

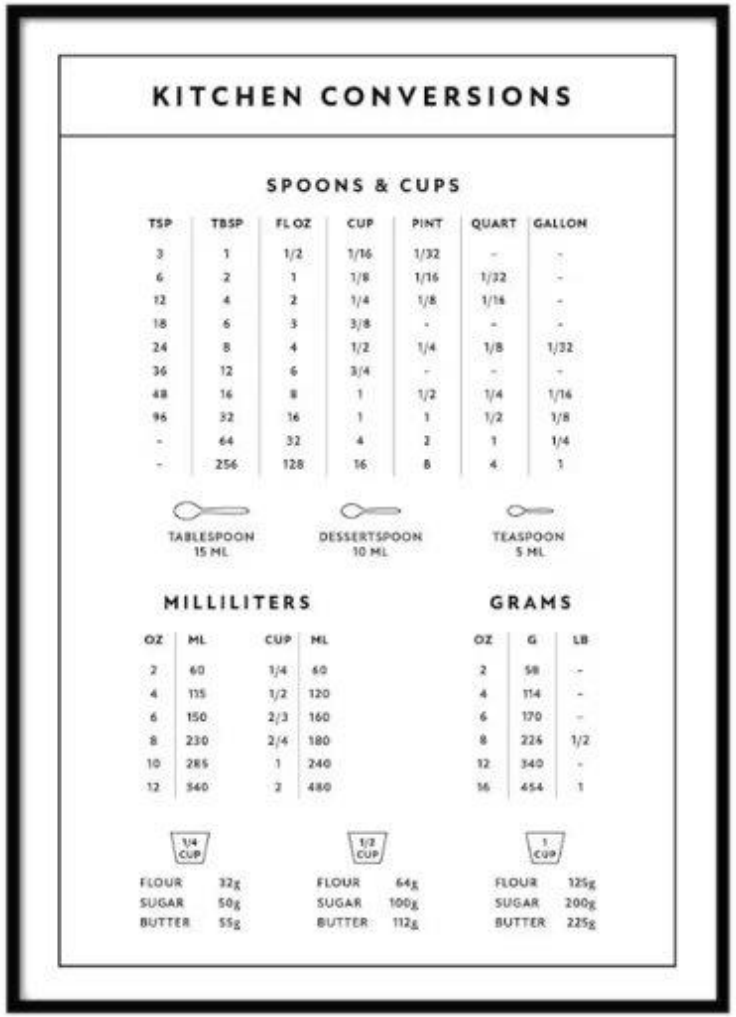
Method:

1) Prepare yourself.
2) Put water into sauce pan and place on to the hob. Turn on the hob.
3) Prepare the vegetables:

- Peel and chop the onion;
- Peel and crush then garlic;
- Peel and slice the carrot;
- Finely chop the celery.

4) Fry the onion, garlic, carrot and celery in the oil.
5) Add the meat and cook until the mince is lightly brown.
6) Add tomatoes, tomato puree, mixed herbs and water and mix all the ingredients together. Then add a few twists of black pepper.
7) Bring to the boil, then simmer for 20 minutes.
8) Meanwhile, place the spaghetti in separate sauce pan of boiling water. Cook for 10-12 minutes or until the spaghetti is 'al dente'.
9) Drain the water from the spaghetti using a colander.
10) To serve , pour some of the Bolognese sauce over the spaghetti.

Skills:	Definition:
1.	**General practical skills:** General practical skills including: weighing, measuring, preparing ingredients and equipment, correct cooking times, testing for readiness and sensory testing.
2.	**Knife skills:** including: fruit, vegetables, meat fish or alternatives.
3.	**Preparing fruit & vegetables:** size & shape
4.	**Use of the cooker (and Skills 6: Cooking Methods):** Using the cooker including: the hob, grill and oven.
6.	**Cooking methods:** Using the cooker including: the hob, grill and oven.
7.	**Preparing, combine and shape:** Techniques to prepare, cook and combine different ingredients.
8.	**Sauce making:** starch based, reduction and emulsions.



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Year 9 Food Tech

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- Demonstrate sound preparation skills of both equipment and ingredients
- Safely use a range of cooking techniques, appropriate to the task

Chocolate Brownies

Ingredients

- 170 grams Margarine or butter
- 200 grams Dark chocolate
- 100 grams Self Raising flour
- 250 grams Sugar
- 2 large eggs
- Optional nuts, marshmallows, biscuits, cream eggs

*** **Oven proof dish** ***

Equipment:

- 2 bowls
- Square tin
- Wooden spoon
- Spatula
- Cooling tray

Method

- Pre- heat oven to 180 degrees
- Grab 2 bowls
- Grease and line a square tin. See Demo
- Melt the butter and the chocolate in the microwave for 30 seconds at a time until melted, beat with a wooden spoon.
- Leave to cool while you prepare the other ingredients.
- In a bowl add the sugar and eggs. Beat together.
- Fold in the cooled chocolate mixture.
- Add the flour
- Pour into the tin and bake for 30 minutes. They should still be soft in the centre.
- Turn out onto a cooling tray.

Skills:	Meaning
1.	**General Practical Skills:** Weighing ingredients, measuring, preparing ingredients and equipment, correct cooking times, testing for readiness and sensory testing.
2.	**Knife skills:** Can use equipment safely. Slicing, dicing and chopping
3.	**Preparing fruit and vegetables:** I can prepare fruit and vegetables in many different ways: Slicing, peeling, grating, dicing and chopping.
4.	**Use of the cooker (and Skills 6: Cooking Methods):** Using the cooker including: the hob, grill and oven.
6.	**Cooking Methods:** Using the cooker including: the hob, grill and oven.
7.	**Preparing, combine and shape:** Techniques to prepare, cook and combine different ingredients.
11.	**Raising Agents:** Use of raising agents including: eggs, chemical, steam and biological.

Career Focus - Where could this take you?

I am a food critic and I analyse the food and restaurants around the country and write about them in newspapers, magazines and blogs.

Challenge Activities

Try some of these recipes at home Follow the links below:

- Swiss Roll
- Lasagne
- Breakfast Muffins

Food skills are acquired, developed and secured over time .

Bridge hold

Claw grip

Topic Links

This topic links to:

- Mathematics - use standard units of mass, length, time, other measures
- Science: Nutrition and digestion
- Physical health and fitness - The characteristics and mental and physical benefits of an active lifestyle.

Additional Resources

To further practise and develop your knowledge see:

Eat well guide Quiz

Eat well guide

Eat well video resource

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Year 9 Film Music

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

- Learn to perform a range of film music, developing performance skills
- Listen with discrimination to film music and be able to recognise a range of composing devices
- **Compose music suitable for a scene, that uses a range of musical devices**
- **Use audio software to edit and enhance compositions**

Retrieval Practice

Questions	Answers
What is an **ostinato** and why is it effective in film music?	An ostinato is a repeated pattern. It can be rhythmic or melodic. They help to build up suspense.
What is the difference between **major, minor** and **discordant** chords?	Major chords sounds pleasing and happy. Minor chords sound sad and reflective. Discords create a clash and sound nasty, and scary.
What composing devices might you use to create a spooky scene?	An ostinato, the chromatic scale and/or a pedal note
What **instrumentation** would be effective for a scene about grief, emotion and loss?	Strings, harp or woodwind
How would you play a **chromatic** scale on the piano?	You would move from white key to black, using your thumb and middle finger
What is the device **pedal note** used for	It is a long held and it can make the audience feel tense and uneasy.
Name three **film composers** and the films that they have written music for.	There are lots to choose from!

Career Focus - Where could this take you?

I am a composer for film and TV programmes. I write in a variety of different styles to suit the job that I am commissioned to do. I use a range of musical skills but mostly my keyboard and music technology skills are used. Sometimes I work with other musicians, and film directors and producers. I have an excellent understanding of composing devices and how musical cliches work.

Challenge Activities

- Music in a film is there to set the scene, enhance the mood, tell the audience things that the visuals cannot, or manipulate their feelings. Sound effects are not music!
- Some music is composed specially for a film (original). Much of this is broadly classical in style
- Some music used in film soundtracks was composed for other (non-film) purposes but is adopted for use in a film because it fits the film-maker's intentions.

- Watch a film and think about what mood the music is creating. What musical devices can you recognise?

Topic Links

Drama – actors and directors on stage have to think about the music they will use to support their action
History – very often, film music helps to set the time or age of a film. Watch a film from a different time period and think about how the music reflects that
Computing – in Computing you will learn to edit sound and moving image, which is a transferable skill to music

Composers to have a listen to...

- James Horner
- Danny Elfman
- Thomas Newman
- Rachel Portman
- Ennio Morricone
- John Barry

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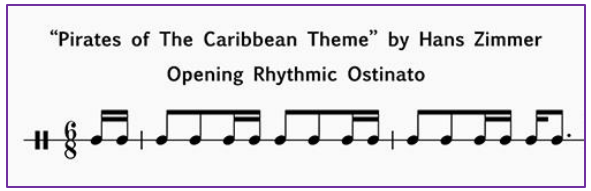
Year 9 Film Music

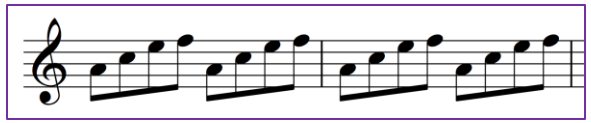
The aims of the sequence of learning are to ensure that all students:

- Learn to perform a range of film music, developing performance skills
- Listen with discrimination to film music and be able to recognise a range of composing devices
- Compose music suitable for a scene, that uses a range of musical devices
- Use audio software to edit and enhance compositions

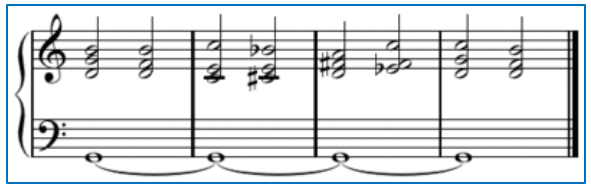
Keyword	Definition
Dynamics	How loud or quiet the music is and how it changes - suddenly or gradually
Tempo	How fast or slow the music is and how it changes - suddenly or gradually
Texture	The layers of sounds/instruments – thick or thin
Attack and Decay	How the sounds start and stop – fading in and out or attacking suddenly
Pitch	How high or low the music is
Instrumentation	The instruments that are used
Ostinato	An idea that repeats again and again
Pedal Note	A long, held note
Discord	A clashing chord – usually sounds quite nasty
Major	A happy and bright sounding chord
Minor	A sad and sombre sounding chord
Chromatic Scale	Moving by semitones

Key Concepts





Ostinatos are musical ideas that repeat – they are used in music to drive tension, create suspense and to help us respond to characters



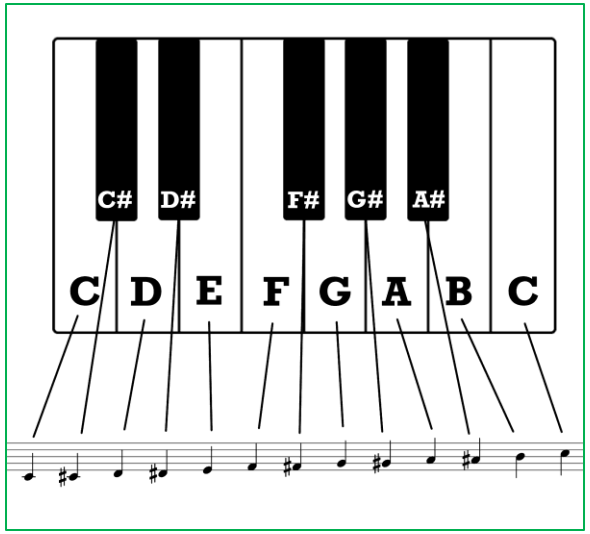
A **pedal note** (or pedal point) is a long held note that often has other musical ideas happening at the same time. It is a Clever way to make a scene more tense

The **chromatic scale** is where we move by semitones. On the piano, this is from white key to black key. This creates a really spooky sound

Instrumentation is how we use musical instruments to create associations with feelings or events or stories. These are called musical cliches. Examples are:

Woodwind	Natural sounds such as bird songs, animals, rivers etc
Bassoon	Sometimes for comin effect (eg. A drunk person)
Brass	Soldiers, war, royalty, ceremonial occasions
Tuba	Large and slow moving things
Harp	Tenderness, love
Glockenspiel	Magic, music boxes, fairytales
Timpani/Drums	War, fighting, thunder
Strings	Used to portray emotions, passion, grief etc
Tremelo strings	Tension, fear, drama

A **discord** is a chord where the notes clash. This is usually because the notes are very close together, in a cluster



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Year 9 Net and Wall Games

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

- Can identify at least five core skills required for net and wall games
- Demonstrate core skills in a practice situation
- Demonstrate core skills in a game situation
- Lead a small group of peers in a skill practice session

Keyword	Definition
Racket	A piece of equipment with a handle, frame and head. This is used to hit the shuttle or ball over the net
Shuttle	A cone shaped object with a cork base. This is hit over the net with the racket.
Net	Rectangular net placed across the court. It divides the court in two.
Court	The playing surface area marked out with lines
Table	The playing surface used to play table tennis
Serve	A shot that is selected to start a game in net and wall activities
Forehand shot	Shot taken with the palm of your hand facing the direction of the stroke
Backhand shot	Shot taken with back of your hand facing the direction of the stroke across your body
Let	The shuttle or ball hits the top of the net and lands in the service box. The serve is retaken for fair play
Drop shot	The shuttle or ball is hit gently so it falls just over the net
Spin	Applying rotation on the ball so it moves faster in the air and rebounds on the table
Clear shot	A defensive shot where the shuttle is placed to the back of the court

Key Concepts You should already know:- The aim of net and wall games
You will be assessed on:- Understanding - Technique in isolation - Technique in game - Leadership - Attitude to learning

Table Tennis

Ready Position

Players should always be in the ready positon before receiving the ball.

- Knees bent
- Feet shoulder width apart
- Feet shoulder width apart
- Racket should be level with the table and in front of body

Backhand push

- Ready position
- Controlled backswing so your elbow bends inwards towards chest (making an L shape)
- Forward movement comes from the elbow making contact underneath the ball
- Finish by extending your arm in the follow through (changing from an L shape to a I shape)

Forehand Drive

- Ready position
- Controlled backswing, with striking arm opening up extending outwards
- Positive forward movement, arm moves forward and weight transfers from right to left foot
- Strike the ball on top of the bounce
- Follow through the shot, moving upwards and finishes in line with your nose

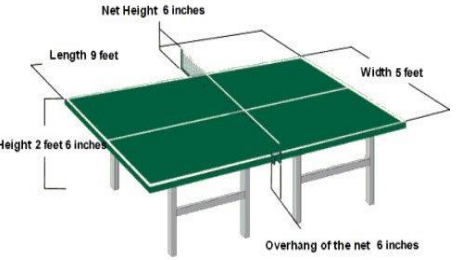
Backhand serve

- Ready position
- The ball rests in the palm of the resting hand
- Arm moves back towards chest
- Toss the ball up (at least 15cm)
- Forward movement comes from the elbow making contact down on the ball so it bounces on your half of the table first
- Head should be over the ball when making contact
- Follow through by returning to the ready position

9 feet (2.74m) long,
5 feet (1.525m) wide and
2 feet 6 inches (76cm) high

... and the net is

6 feet (1.83m) long and
6 inches (15.25 cm) high.



Badminton

The aim of badminton is to hit the shuttle with your racket so that it passes over the net and lands inside your opponent's half of the court. Whenever you do this, you have won a rally; win enough rallies, and you win the match.

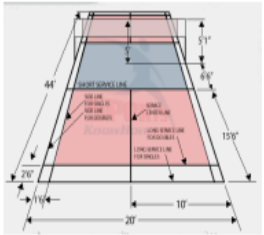
Your opponent has the same goal. He will try to reach the shuttle and send it back into your half of the court. You can also win rallies from your opponent's mistakes: if he hits the shuttle into or under the net, or out of court, then you win the rally.

Scoring
A point is scored when you successfully hit the shuttlecock over the net and land it in your opponent's court before they hit it. A point can also be gained when your opponent hits the shuttlecock into either the net or outside the parameters

To win a game you must reach 21 points before your opponent. If you do so then you will have won that set. If the scores are tied at 20-20 then it comes down to whichever player manages to get two clear points ahead. If the points are still tied at 29-29 then the next point will decide the winner of the set. Winning the overall game will require you to win 2 out of the 3 sets played.

The Court

The overall dimensions of a badminton court is 20 feet by 44 feet. The lines along these measurements mark the side-lines for doubles play and long service lines for singles play.
The net line marks the middle of the court where the net is placed, creating a 22 feet by 20 feet area on each side of the net.
The badminton net measures 5 feet tall in the centre.



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Year 9 Net and Wall Games

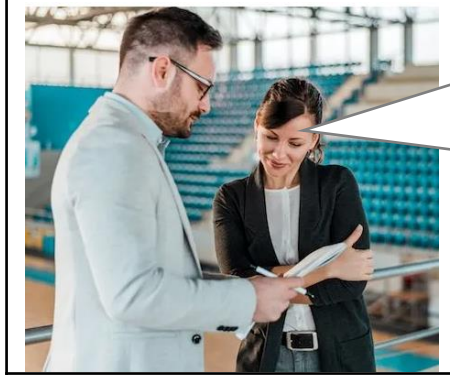
The aims of the sequence of learning are to ensure that all students:

- Can identify at least five core skills required for net and wall games
- Demonstrate core skills in a practice situation
- Demonstrate core skills in a game situation
- Lead a small group of peers in a skill practice session

Retrieval Practice

Questions	Answers
What are some of the core skills needed for attacking in badminton and why are they important?	1. Smash shot is a core skill. The aim is to hit the shuttle as hard as possible to the oppositions side of the court floor, so they are unable to return the shot due to the velocity (speed and direction) placed on the shuttle. 2. The long serve is a core skill for attacking in badminton. The aim is to send the opponent to the back of the court, so they find it more difficult to return the shuttle back to you. If the shuttle is returned, it shall usually be a high return giving (you) the attacker time to react by selecting the smash shot in order to win the next point
What are some of the core skills needed for defending in badminton and why are they important?	1. The overhead clear shot is used in a rally situation so that you force your opponent to move to the back of the court. This then allows you time to get prepared into a better court position and to apply attacking tactics to win the next point. 2. The drop shot is a gentle forehand or backhand shot that applies little force to the shuttle, so it drops just over the net. This is usually a defensive shot as it slows down the speed of the rally. It does however have an advantage of attacking if your opponent is at the back of the court. The shot can force your opponent to move and make an error.
What are some of the core skills needed for attacking in table tennis and why are they important?	1. Top spin forehand drive shot is a fast open palm shot facing the direction of the stroke. By placing top spin on the ball, the balls rotation means it travels faster through the air and recoils off the table meaning that the opponent will find it hard to react to return the shot successfully. This means you are more likely to win the point in a game. 2. Back spin forehand or backhand shot is skill that is designed to slow down the speed of a rally in table tennis. It forces the ball to gently land just over the net and stop dead. This means the opponent has to move quickly forward from the back of the table to the front of the table.
What are some of the core skills needed for defending in badminton and why are they important?	1. Backhand push shot and the forehand push shot are two skills designed to slow down the speed of a rally in a game. This gives the person more time to react to the next shot so they can have time to think about where they want to place the ball when they are in a better attacking position so they can then try to win the next point.

Career Focus - Where could this take you?



I am a sports sales executive. I have a degree in Sports Science Technology. A sports sales executive is a sales professional who specialises in sports sales. My responsibilities include persuading people to buy our products, negotiating sales prices, presenting to clients and meeting sales targets.

Challenge Activities

Design a skill card:
This can be used in a PE lesson to help a student to assess their current ability level.
The skill card should have basic key instructions and diagrams that you have learnt from badminton or table tennis.

Create a rules of the game poster:
This can be used by all students in their PE lessons for badminton or table tennis when their role is umpiring a game so that all games can be played fairly, following RITA values.

Topic Links

This topic links to:

- Science –The role of the cardiovascular system; the physics of sports
- English –understanding and defining key terminology
- Mathematics –problem solving, recording figures and analysing performance and score keeping
- Voice 21 –coaching peers and explaining rules by officiating

Additional Resources

To further practise and develop your knowledge see:

https://www.badmintonengland.co.uk/

https://www.tabletennisengland.co.uk/

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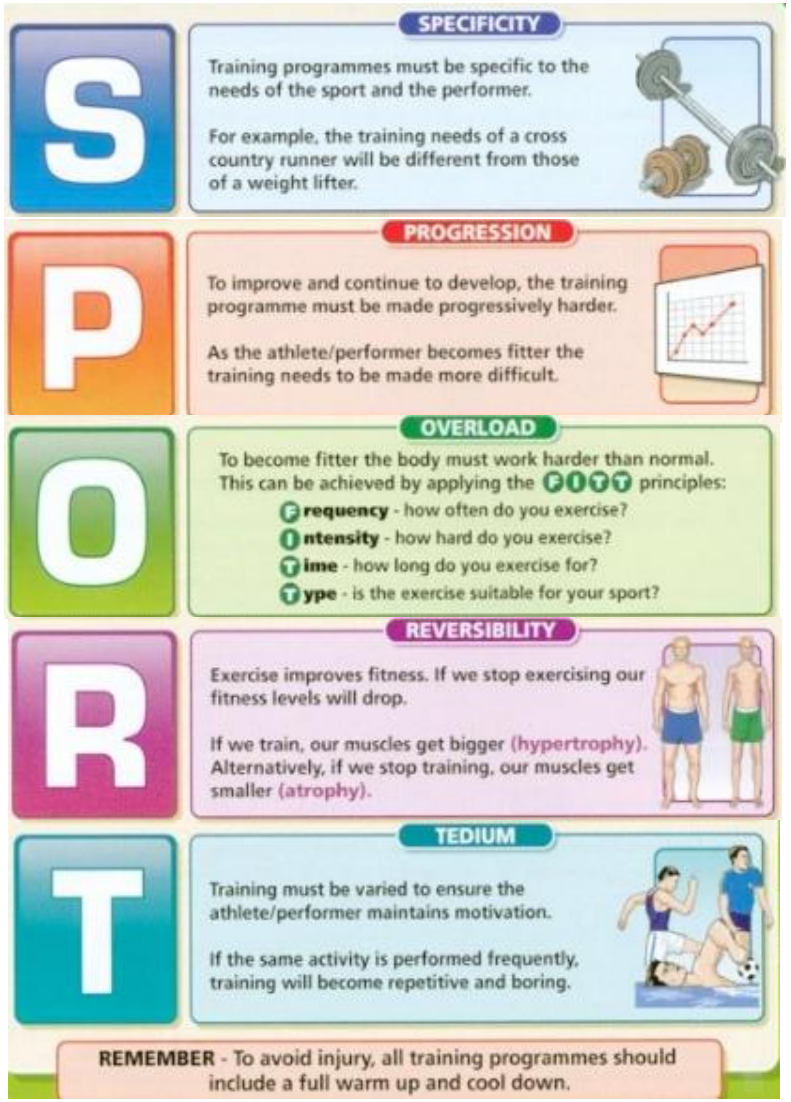
Year 9 Health and Fitness

The aims of the sequence of learning are to ensure that all students:
Being able to demonstrate the: set up, completion and interpretation of fitness tests. Learning about and understanding the components of fitness and how they can be trained. Learning which components of fitness are important to specific types of athlete. Learning about and completing training sessions to train specific components of fitness. Learning how to live a healthy, active lifestyle.

Keyword	Definition
Power	This is the ability to perform maximum strength and maximum speed of your muscles in order to generate forces to move an object or propel yourself forward. Power = strength x speed.
Co-ordination	The ability for muscles to work together in pairs to move different body parts at the correct time with ease and efficiency.
Reaction Time	The time taken for a person to respond and initiate movement to a stimulus (object or person or sound).
Agility	The ability to change direction at speed in a controlled movement without loosing balance.
Balance	The ability to maintain your centre of mass and control of sports performance either statically (stationary) or dynamically (moving).
Speed	The rate at which a person moves as fast as possible to cover a distance over the shortest time possible. Speed=distance/time.
Cardiovascular endurance	The ability for the heart and blood vessels to transport oxygenated blood to the working muscles in sports performance. The performer can work at a moderate level of intensity for a long period of time without getting fatigued (tired).
Muscular strength	This is the maximum force that can be applied from muscles in order to overcome resistance (external force) so that movement can take place.
Muscular endurance	The ability for muscles to work in a repeated muscular action in unison at moderate intensity for a long period of time without them getting fatigued (tired).
Flexibility	This is the range of movement that can be performed around a joint by the muscles, ligaments and tendons without any pain or over stretching.
Body composition	This is the combined total percentage of fat, bone and muscles ratio (amount) made up by a persons body.

Key Concepts You should already know:- Some components of fitness and be able to apply them to a healthy and active lifestyle
You will be assessed on:- Understanding - Technique - Application - Leadership

Health and Fitness Key Concepts



The Principles of Training (SPORT) is used to create a training programme that is designed to improve a persons performance over time.
What ways can you see how changed have been made in the programme below.

Action	1.-3. Week Action/ Repetition	4.-6. Week Action/ Repetition	7.-8. Week Action/ Repetition
Jump Squat	***20 sec x 3 repetition***	***35 sec x 3***	***40 sec x 3 repetition***
Alternate Legs Jump	*20 repetition*	*25 repetition*	*25 repetition*
Squat	***25 repetition***	***35 repetition***	***25 repetition***
Chunch	*30 repetition*	*35 repetition*	*30 repetition*
Lying Twist Trunk	***25 sec x 2 repetition***	***30 sec x 2 repetition***	***25 sec x 3 repetition***
Lunge	*30 sec x 3 repetition*	*35 sec x 3 repetition*	*30 sec x 3 repetition*
Side Plank	***30 sec x 2 repetition***	***40 sec x 2 repetition***	***35 sec x 3 repetition***
Burpee	*30 sec x 2 repetition*	*40 sec x 3 repetition*	*35 sec x 3 repetition*
Mountain Climber	***30 sec x 2 repetition***	***40 sec x 2 repetition***	***35 sec x 2 repetition***
Twist With Medicine Ball	*30 sec x 3 repetition*	*45 sec x 2 repetition*	*30 sec x 3 repetition*

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Year 9 Health and Fitness

The aims of the sequence of learning are to ensure that all students:
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Retrieval Practice:
Match the word banks to the for a correct explanation on the methods of training

Questions: Use the word banks below:	Answers: Use the words to match to create the correct sentence for each method of training.
times rest activity swimming time week aerobic	**Continuous training:** Continuous Training involves performing an _____ for an extended period of ____ without _____ (often longer than 20 minutes). Activities might be jogging, _____, cycling, walking or rowing and should be completed at least 3 or 4 _____ a _____ to improve _____ endurance.
Pace Repetitions Resistance Hill Striding Standing walking	**Acceleration Sprints** Acceleration sprints involve changing the ____ of the sprint and gradually increase speed from a _____ or rolling start to jogging, followed by _____ and a maximum sprint. Different drills can be used such as _____ drills and ____ sprints where speed is the focus. This type of training requires regular rest intervals of jogging or _____ that is used in between _____.
strength stronger weights stress tears fibres size hours repair	**Weight training** Weight Training is an effective way to improve _____, this is done by free _____ or resistance machines to place _____ on certain muscles. As the muscle works lifting weights, small _____ occur in between individual muscle _____ which _____ naturally over 24 _____ so that they become bigger and _____. This also leads to increases in ____ and strength of the overall muscle.

Career Focus - Where could this take you?

I am a gym fitness technician. I visit gyms within a designated area and make sure all the equipment is safe and in a good working condition. This is so that the people using the equipment can exercise and avoid any injuries. If the equipment has stopped working, I have to investigate the problem. I order new parts and repair them so the machines can be used again.

Challenge Activities

Design a training programme:-
Can you create a 4-week training programme that shows 5 different exercises that get progressively harder each week. Use the example provided on the previous page for guidance.

Create a match the keywords to definition poster:-
This can be used by all students in their PE lessons as memory recall revision task. Select between five to eight different key words and match them to the correct definition answers. Make sure on the reverse of your skill card you have included the correct answers so students can test and assess themselves and others.

Topic Links

This topic links to:
- RSHE – Understanding how physical activity can reduce stress and anxiety and promote physical, mental and social wellbeing
- English – understanding and defining key terminology
- Mathematics – problem solving, recording figures and analysing performance.
- Voice 21 – coaching peers with their training sessions

Additional Resources

To further practise and develop your knowledge see:

https://www.topendsports.com/testing/tests/

https://www.brianmac.co.uk/eval.htm

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Usernames and Passwords
