Year 8 – HT5

Newsome Academy
Everyone Exceptional Everyday

Knowledge Organisers

Name:

Team:

Newsome Academy
Everyone Exceptional Everyday

Mathematics

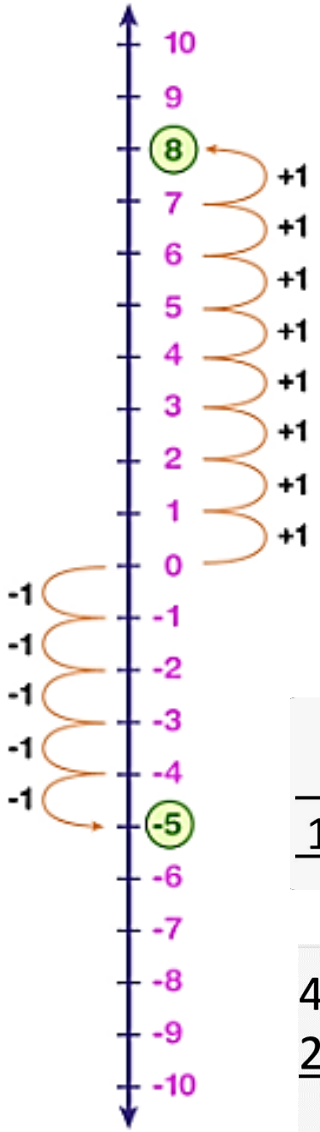
Our students will:

- 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.

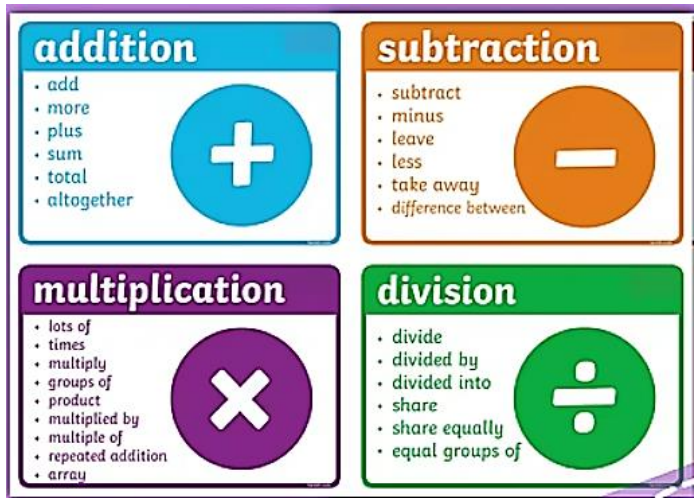
- **reason mathematically** by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language

- 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.

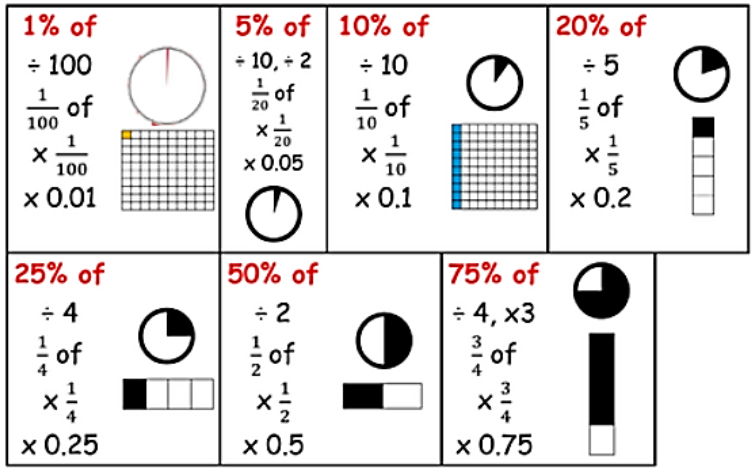
Maths: Quick Reference: Number Skills

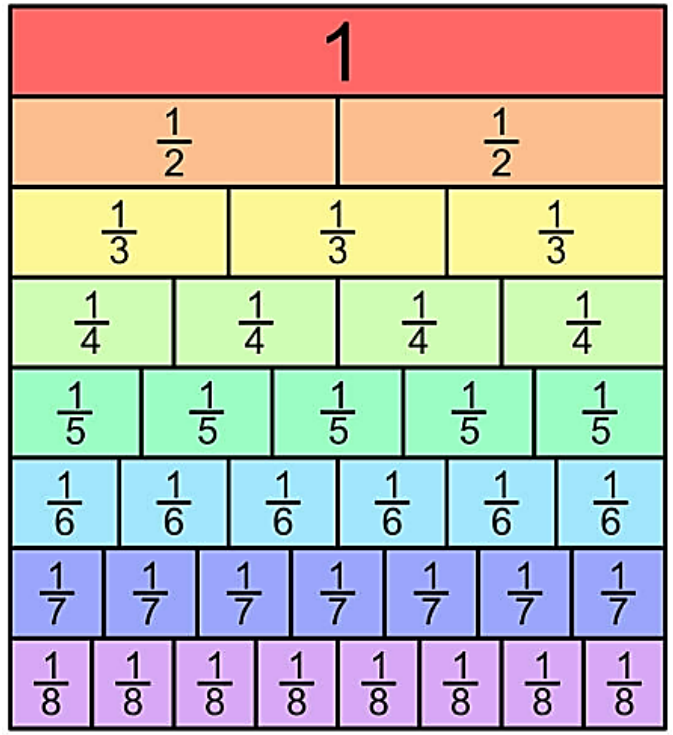


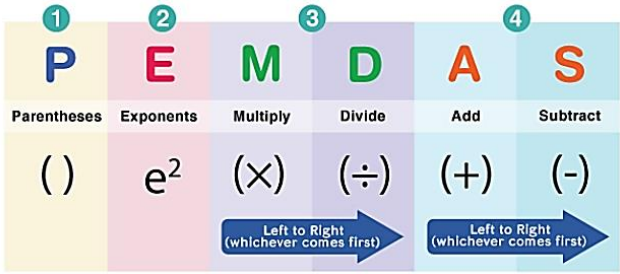
100	10	1	·	$\frac{1}{10}$	$\frac{1}{100}$
Hundreds	Tens	Units	·	Tenths	Hundredths
3	5	2	·	7	1



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







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

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

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

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

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

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

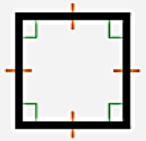
$0.0000053 = 5.3 \times 10^{-6}$

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

Maths: Quick Reference: Geometry & Measures

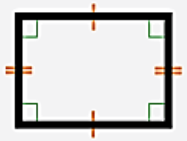
Quadrilaterals

Square



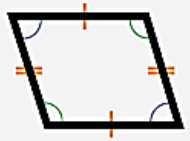
Four sides of equal length, four internal right angles.

Rectangle



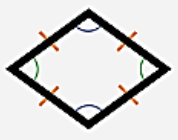
Four internal right angles, opposite sides of equal length.

Parallelogram



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

Rhombus

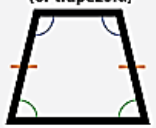


All four sides are the same length, like a square that has been squashed sideways.

Trapezium (or trapezoid)

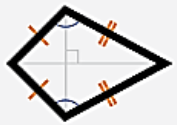
Two sides are parallel. Side lengths and angles are not equal.

Isosceles Trapezium (or trapezoid)



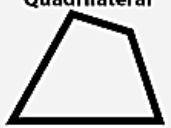
Two sides are parallel and base angles are equal, non-parallel sides are equal length.

Kite



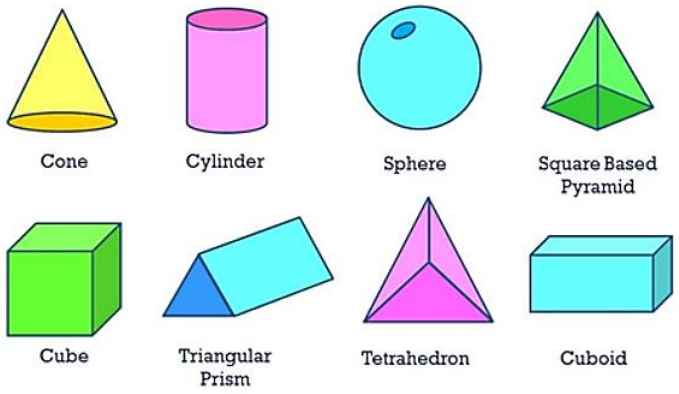
Two pairs of adjacent sides are of equal length; the shape has an axis of symmetry.

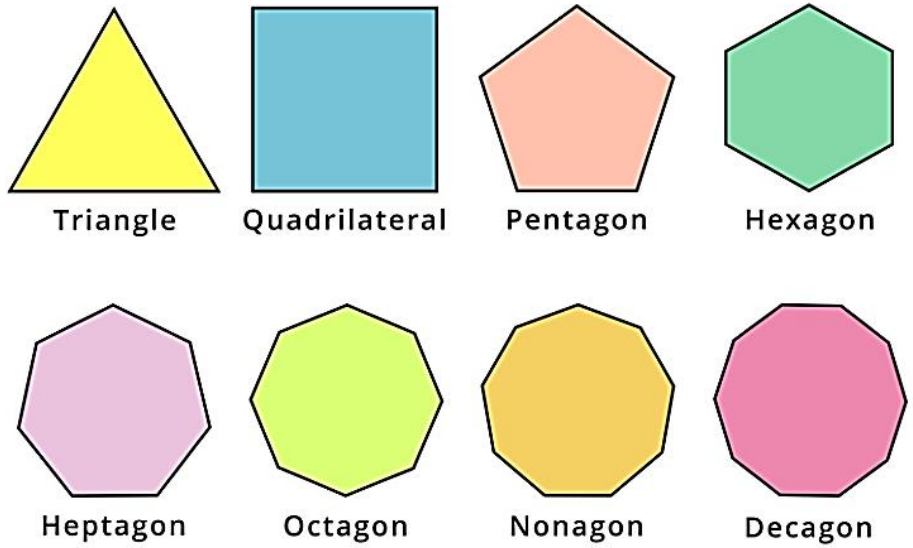
Irregular Quadrilateral

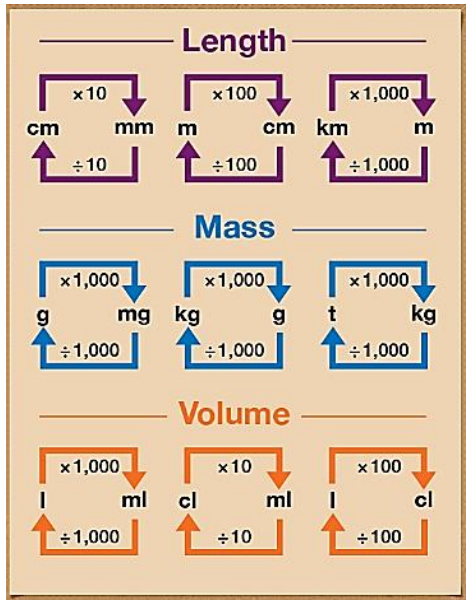


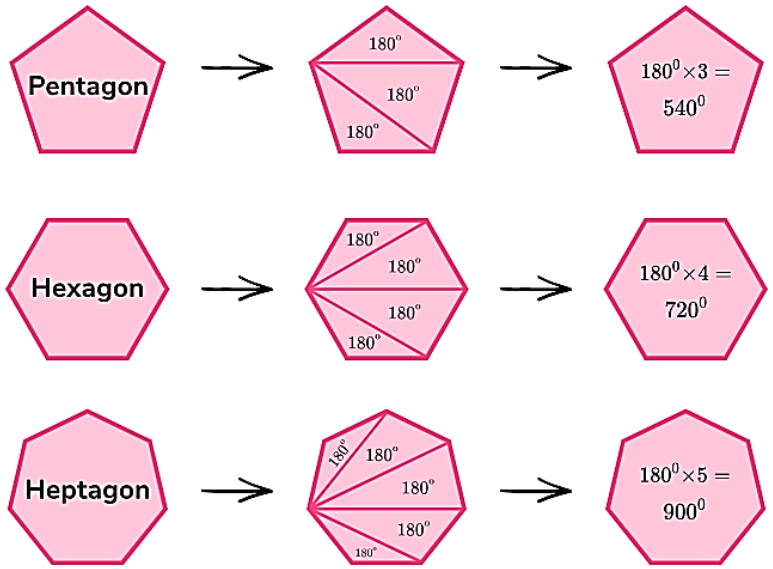
No sides are equal in length and no internal angles are the same.

3D shapes



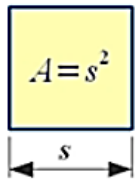




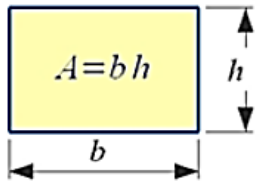


Maths: Quick Reference: Geometry (Areas & Volumes)

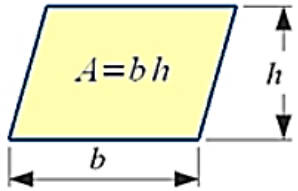
Square



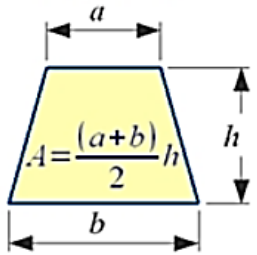
Rectangle



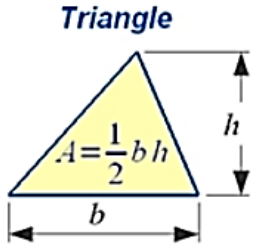
Parallelogram



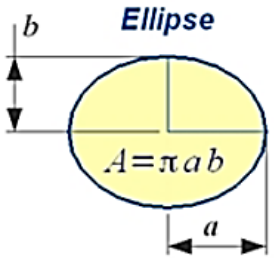
Trapezoid



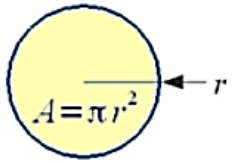
Triangle



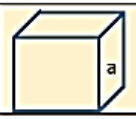
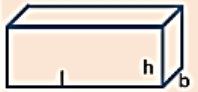
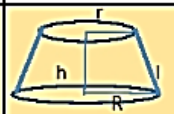
Ellipse



Circle

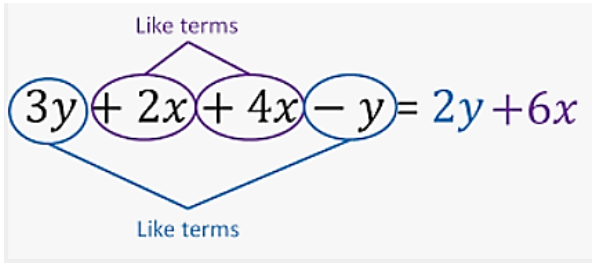


Area and volume of 3d figures

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

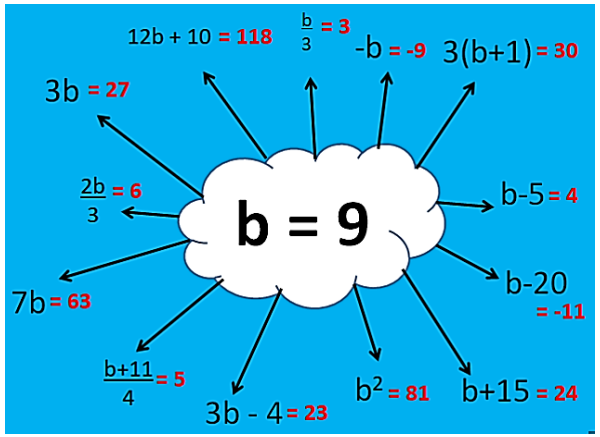


C x C x C x C = C^4

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

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

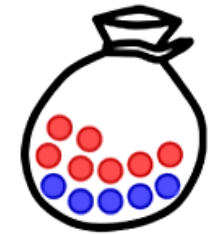
Length (x cm)	Frequency	Midpoint	Midpoint × frequency
$0 < x \leq 10$	4	× 5	= 20
$10 < x \leq 20$	10	× 15	= 150
$20 < x \leq 30$	7	× 25	= 175
$30 < x \leq 40$	4	× 35	= 140
	25		**485**

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

Maths: Quick Reference: Probability

Simple Probability

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



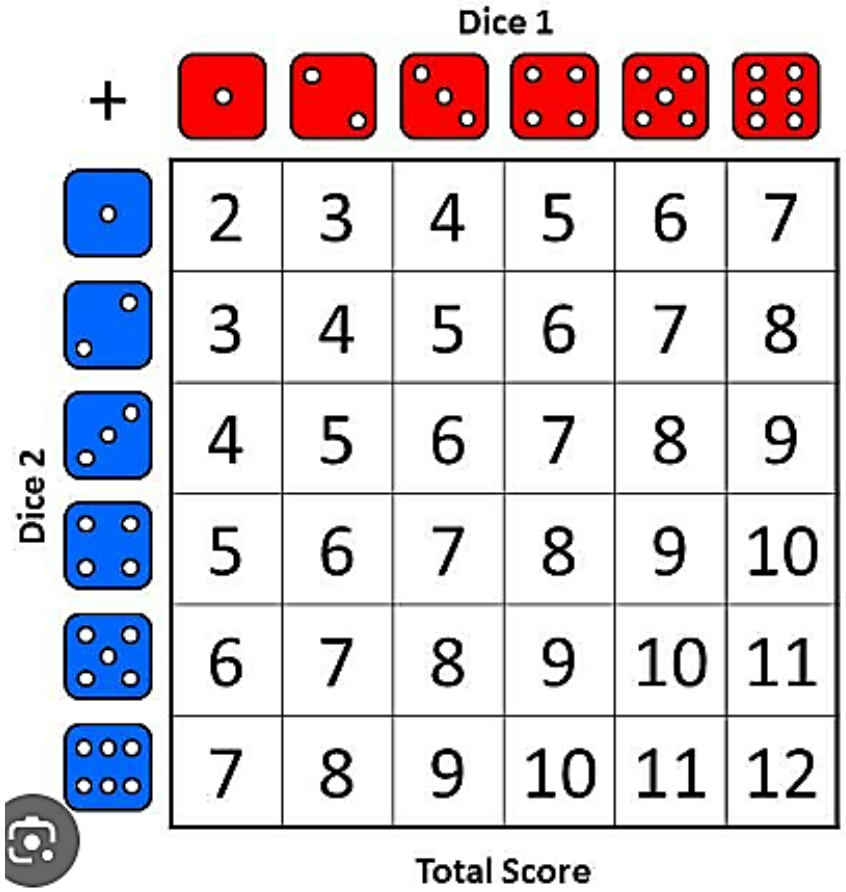
Example:

$P(red) = \frac{7}{12}$ ← 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.

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Science

Our students will:

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

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Humanities

Our students will:

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

Year 8: The Industrial Revolution

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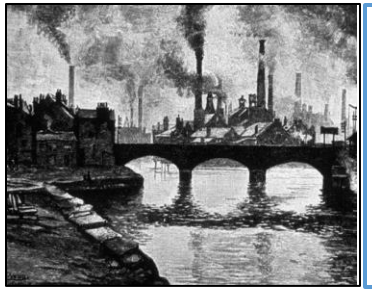
The aims of the sequence of learning are to ensure that all students:

- **Argue the extent to which Industrial Revolution was actually a revolution**
- **Explain what Huddersfield reveals about the Industrial Revolution**

Keyword	Definition
Industrial Revolution	A time of great change in Britain between 1750 to 1900.
Population	Number of people living in a particular place.
Invention	Something new which is created - it can be an object or an idea.
Economy	System of how money is used within a particular country.
Agriculture	Process of producing food by farming of certain plants or raising animals.
Poverty	Lack of basic human needs such as clean water, nutrition, healthcare, education and shelter.
Industry	Process of making products by using machines and factories.
Factory	Place where machines are used to produce goods
Mass production	Production of many products in one go, e.g. textiles
Patent	Gives the inventor the right to exclude others from making, using or selling their invention for a certain time period.
Rural	Countryside living with not many houses or people.
Urban	Towns and cities where many people live and work.
Orphan	A child who has lost both parents.
Apprentice	A young person who works for someone in order to learn their skill.
Parliament	Lawmaking group, in the UK government.

Key Concepts

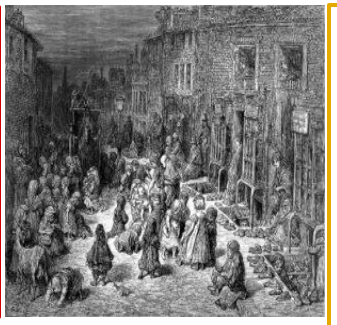
Industrial Changes Overview:
Britain was the leader of the Industrial Revolution and **1750 to 1900** saw major changes:
Transport moved from horse power to steam power.
Production moved from things being made in houses (domestic) to being made in **factories.** People moved from the **countryside** to the **city**. **Inventions** improved production in factories. Britain became the centre of the trading world.



Reasons for the Industrial Revolution:
Population increase = demand for more food and clothes.
Clothes made quicker on machines = factories built.
Use of coal for steam = power for machines.
Transport gets quicker = easier to get goods to shops.
Rise of key people = inventions and money invested in machines.
All of this means more industrial change.

Changes in agriculture
1750 farms were still using medieval ways of planting crops and rearing animals. As population increased, new machines, crops and ways of farming were introduced, e.g. bigger animals and steam powered threshers for wheat. Small fields were replaced and hedges removed. This meant farm workers lost their jobs and many had to move to towns and cities.

Changes in population:
In 1750, the total population of the UK was about 11 million. This grew to about 42 million by 1900!
Moving from rural to urban areas also saw a huge rise; in 1750, only 20% of the population lived in towns, but by 1900 it was 70%. This meant far more people were working in new industries but this also caused problems because they all needed food and homes. As a result, poverty increased, overcrowding was an issue and by 1900, London alone, had 4.5 million inhabitants.



Factory working conditions
Long working hours: Shifts were usually 12-14 hours a day, 6 days a week and sometimes half day on a Sunday.
Low wages: A typical wage for male workers was about 15 shillings (75p) a week, but women and children were paid much less, with children only receiving three shillings (15p). For this reason, employers preferred to employ women and children. An even better option was to take on an apprentice, as they didn't receive any wages, but were given lodgings, food and clothing instead.
Cruel discipline: People were beaten, whipped and hit with sticks or a leather strap. Other punishments included nailing children's ears to the table and dowsing them in water to keep them awake. Fines and not allowing toilet breaks were also common
Accidents: Children crawling into dangerous, unguarded machinery led to many accidents including loss of limbs and death.
Health: The air was full of dust, which led to chest and lung diseases. The loud noise made by machines also damaged workers' hearing.

Some inventions of the Industrial Revolution

The Steam Engine – 1717:
Thomas Newcomen invented the first steam engine. It would later be improved by James Watt which meant steam engines could replace water and horsepower in a wide variety of industries, which allowed more factories to be built.

The Water Frame -1769:
Richard Arkwright invented a machine, powered by water, to spin cotton into yarn, quickly and easily. His machines did not need skilled operators so anybody could work on them.

The Locomotive – 1814:
Richard Trevithick was a pioneer in early steam engine technology. He developed a new high-pressure steam engine which could be used to reliably move goods and passengers. This invention made transport much easier and quicker.

Year 8: The Industrial Revolution

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

- **Argue the extent to which Industrial Revolution was actually a revolution**
- **Explain what Huddersfield reveals about the Industrial Revolution**

Retrieval Practice

Questions	Answers
Explain how education changed between 1750 and 1900?	Education changed by the implementation of schools; schools were built near factories in order to encourage people to move to areas where there were factories.
Name one improvement in health and medicine in Britain by the 1900s:	The Industrial Revolution between 1750 and 1900 brought on major advances in medicine, especially in the fields of hygiene and vaccinations for previously deadly diseases.
Explain what is meant by the term 'raw materials'?	Raw materials are resources that are extracted from the earth in order to make products. They can also be taken from plants and animals.
Why was British industry so successful? Give two reasons.	The British Industry was successful because the bigger population meant more workers for the factories. Food became cheaper so people's diets improved so less people died. There were more people to buy the goods and to work, due to more raw materials, coal, iron clay, etc. industry could thrive. Improvements in transport, like, ships and the railway.
How did Richard Arkwright's waterframe help factories and production?	The water frame allowed for the mass production of cotton thread as it allowed production to be quicker and the thread stronger, which in turn led to the proliferation of factories and the rise of the industrial economy.
Tell me two ways you could become a child worker in the mills	You could become a child worker as if you were poor, you would be sold into it, or if your family lived in the housing on site of the factory you would work there after finishing school.
What job roles were children given in the mills? Give two examples	Children would be scavengers picking up material, thread and clearing dirt and dust, They could also work as piecers, who stood at the spinning machines and repaired broken thread
What were working conditions like in the mills and factories?	Long working hours, low wages, cruel discipline, fierce systems of fines, accidents, risks to health
How did the Factory Act of 1819 improve conditions in the mills?	No child under the age of nine to work. Children between the ages of nine and 13 years: 48-hour week; must go to school part-time. This Act applied to cotton factories. Once again there was no formal way to enforce this act as no inspectors were created to investigate factories
In your opinion, what was the most significant change during the Industrial Revolution in Britain and why?	I believe the most significant change was the invention of machines in factories to do the work of hand tools because it meant more items could be produced.

Career Focus - Where could this take you?

I am a Novelist: My job is to write books of fiction, and sometime non-fiction, creating characters and plots that may be imaginary or based on real events. I have to make sure I have researched the area I want to focus on and plan my ideas, plots and characters. I will then draft, write, edit and proof-read my work.

Challenge Activities

1. Research the History of local mills in Huddersfield or surrounding areas (within Kirklees, Calderdale and Bradford) and produce a PowerPoint to explain your findings. You must include key information about the mill then and now and include images.
2. Design a board game based around 'factory working conditions'. This should include clues, questions for players to ask, stumbling blocks along the way and then a puzzle to solve to find the winner.
3. Imagine it is the early 1800s; write a report to Parliament explaining why the working day and conditions for people in Britain are unfair. Especially highlight what needs to change for children working in the mills and factories.

Topic Links

This topic links to other humanities topics such as:

- The Slave Trade
- Jack the Ripper
- The making of the UK
- Twentieth Century World

We will also be practicing how to:

- Use statistical data as a source
- Write a piece of Historical Fiction

Additional Resources

To further practise and develop you knowledge see:

https://www.calderdale.gov.uk/wtw/timeline/1810-1850/1810-1850-1.html

https://yorkshire.u08.eu/halifax/

https://yorkshire.u08.eu/huddersfield/

https://huddersfield.exposed/wiki/Newsome_Mills,_Hart_Road,_Newsome

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 8 Horn of Africa

The aims of the sequence of learning are to ensure that all students:
Describe the human and physical geography of the Horn of Africa
Describe the opportunities for economic development in the Horn of Africa

Keyword	Definition
Agriculture	The practice of growing crops or animals
Civilisations	The society, culture, and way of life of a particular area
Conflict	An extended struggle or battle
Economy	All the business activity going on in a country
Depression	An area of sunken land
Fair trade	Trade between companies in developed countries and producers in developing countries in which fair prices are paid to the producers.
Grazing	Land with vegetation on where animals feed
Hostile	Unfriendly and not liking something
Nomadic	People with no fixed home who travel to find grazing land
Region	An area having definable characteristics but not always fixed boundaries
Relief	The difference in height from the surrounding terrain
Rural	Countryside, where people live in farms or in small villages
Semi-nomadic	People living usually in portable or temporary housing who farm animals and crops

Key Concepts

The Horn of Africa is a region and it has 4 count

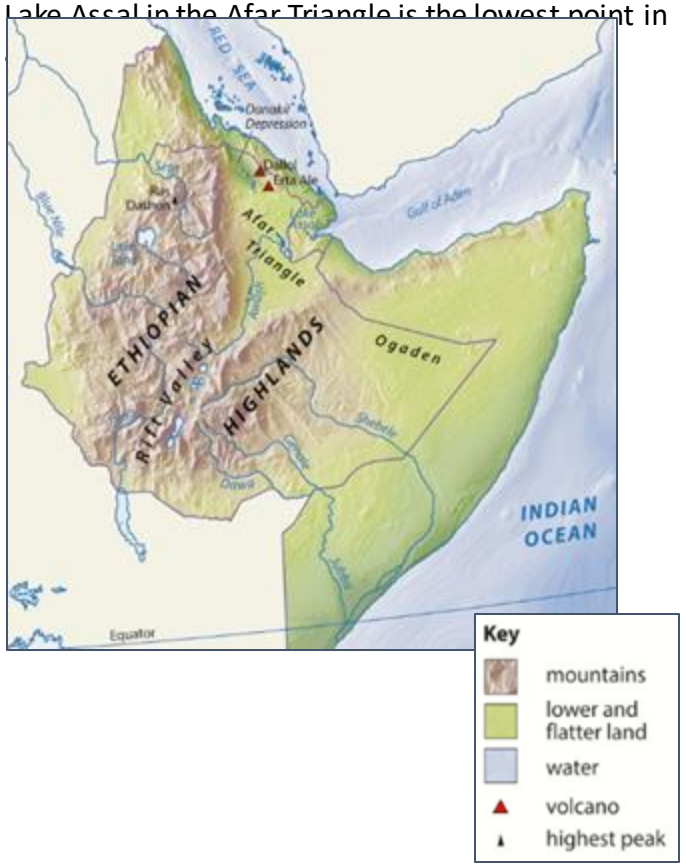
Coffee and Salt

Ethiopia is the home of coffee, around 15 million Ethiopians depend on it (farming or involved in the selling of it) for a living. Around £50 billion is spent on it globally a year

Salt is mined in the Danakil Depression; in the past the Red Sea flooded the area. When the waters fell the water in the Depression slowly evaporated leaving thick beds of salt. You might have had some on your food?

Horn of Africa's physical geography.

The Ethiopian Highlands are the largest area of highland in Africa
The Danakil Depression is 100m below sea level
Lake Assal in the Afar Triangle is the lowest point in



Year 8 Horn of Africa

The aims of the sequence of learning are to ensure that all students:
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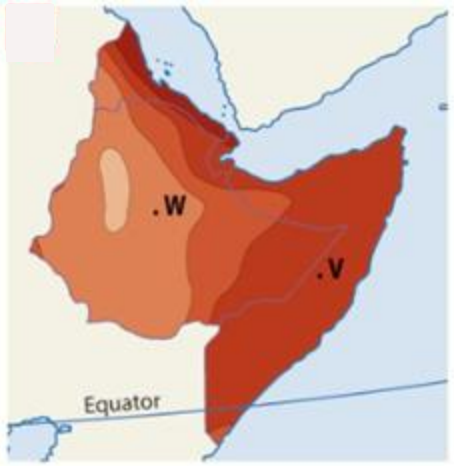
Describe the opportunities for economic development in the Horn of Africa

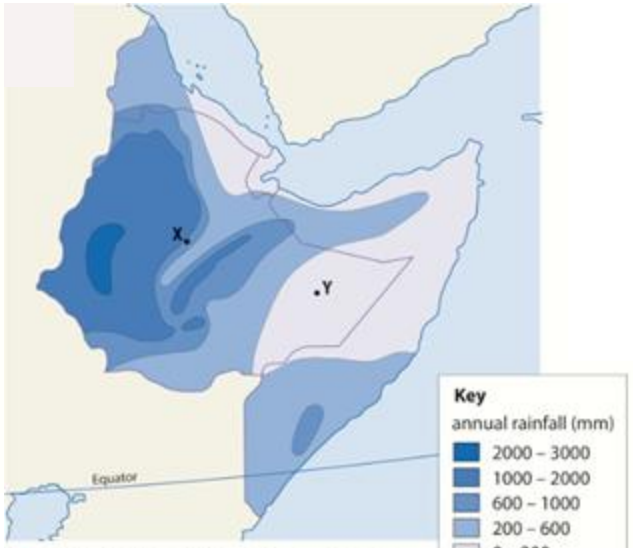
Key Concepts

Horn of Africa Climate



Key
average July temperature °C
30 – 35
25 – 30
20 – 25
15 – 20
10 – 15

◀ Temperature in the Horn of Africa.



Key
annual rainfall (mm)
2000 – 3000
1000 – 2000
600 – 1000
200 – 600
0 – 200

▲ Rainfall in the Horn of Africa. The two palest areas have least rain, and are mostly semi-desert.

Nomads

In the Horn of Africa nomads live in the dry areas where there is too little rain for crops. They follow the rains to find grass and vegetation.
There ar the region a of Somalia

Djibouti

Djibouti is a tiny country, with a population of only 1.1 million. It has few natural resources but it is in a great location.
It sits at the entrance to the Red Sea, so half the world's container ships pass it on journeys from Africa, Asia and Europe. The port is where ships

	Djibouti	Eritrea	Ethiopia	Somalia	UK
Population (millions)	0.9	5.9	85.2	9.8	64
% aged 14 or under	34	41	44	44	17
% living in towns and cities	77	21	17	38	80
How long a new baby is likely to live for (years)	62	63	60	51	80
% of population with access to clean safe water	92	61	44	29	100
What % of workforce are farmers?	under 30	80	85	71	1.4
GDP per person (PPP) (in dollars)	$2700	$800	$1200	$600	$37 500

Year 8 Horn of Africa

The aims of the sequence of learning are to ensure that all students:
Describe the human and physical geography of the Horn of Africa
Describe the opportunities for economic development in the Horn of Africa

Retrieval Practice

Questions	Answers
Name the 4 countries in the Horn of Africa	Djibouti, Ethiopia, Eritrea and Somalia
What is the capital city of Ethiopia?	Addis Ababa
Name 2 rivers in the Horn of Africa	Blue Nile and Awash
How far below sea level is the Danakil Depression	100m
Which area of the Horn of Africa receives most rainfall and why?	The Ethiopian Highlands because the higher you go the air cools causing precipitation (rain) to develop
How does Djibouti earn money?	The port with ships loading and unloading cargo and it has foreign military bases
Why do nomads move around?	To follow rainfall and find grazing land for their animals
How was salt formed in the Danakil Depression?	The Red Sea flooded the area. When the waters fell the water in the Depression slowly evaporated leaving thick beds of salt
What % of people in Somalia have access to safe, clean water?	29%

Career Focus - Social Researcher

I am a social researcher. I study people and the way they interact with each other. I might ask questions, observe behaviour, or do experiments to learn more about how people behave in different situations. I use this information to try to understand why people do the things they do and how we can make the world a better place for everyone. It's kind of like being a detective, but instead of solving crimes, I try to solve puzzles about how people think and act.

Challenge Activities

- Write a song, poem or rap about nomads and their lifestyle. You can then perform and film/record this
- Create a poster or information leaflet about Fairtrade products and why people should buy them
- Research and write travel guide to Ethiopia - Include details on the climate, physical features, cities, population and what people could see or do there

Topic Links

This topic links to themes in:

- History - slavery and empire
- Music - African music
- Science - Biomes

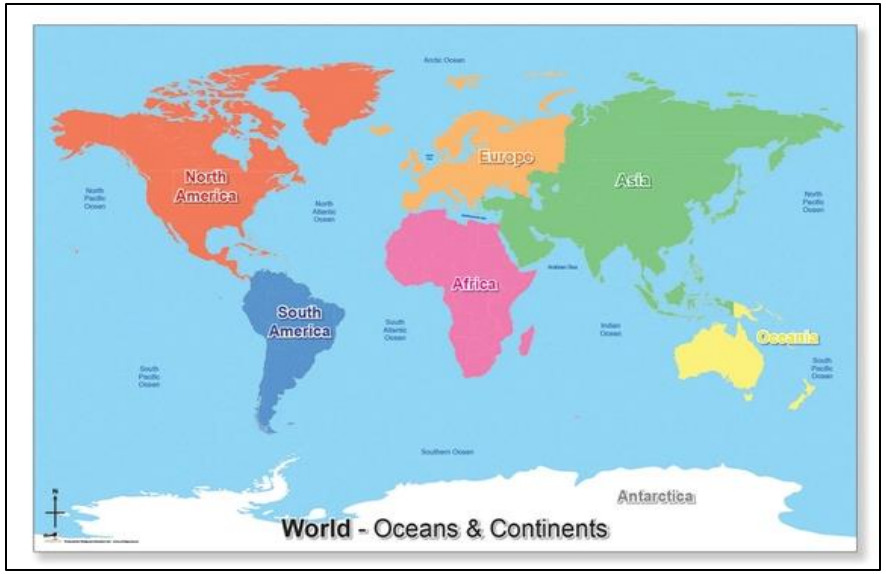
Additional Resources

Horn of Africa

Africa

Geography

Key Concepts: World – Countries and Oceans



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 8 À la maison

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

- **talk about helping at home**
- **Use reflexive verbs to describe their daily routine**
- Give more complex opinions
- Pick out key information in a longer passage of listening and reading.
- **Compare two or more things**

Keyword	Definition
Où habites-tu?	**Where** do you live?
J'habite à Huddersfield dans le nord de l'Angleterre.	I live in Huddersfield in the north of England.
Qu'est-ce qu'on doit faire pour aider à la maison?	What do you have to do to help at home?
Je dois faire la cuisine.	I have to do the cooking
Tu te lèves à quelle heure?.	What time do you get up at?
Normalement je me lève à sept heures.	Normally I get up at 7am.
Qu'est-ce que tu fais le matin?	What do you do in the morning?
Je me douche, je m'habille et je prends le petit déjeuner	I have shower, I get dressed and I have my breakfast.

Qu'est-ce qu'on doit faire pour aider à la maison?

Je dois – *I must*
Tu dois –*you must*
Il doit – *he must*

faire la cuisine - do the cooking
faire la vaisselle - do the washing up
faire la lessive - do the washing
nourrir les animaux - feed the animals
garder ma soeur - look after my sister
garder mon frère - look after my brother
ranger ma chambre - tidy my room

Key Concepts

Talking about my daily life at home.

Ma routine

je me lève	I get up
je prends le petit déjeuner	I have breakfast
je me douche	I have a shower
je me coiffe	I do my hair
je m'habille	I get dressed
je me lave les dents	I clean my teeth
je quitte la maison	I leave the house
je me lave	I have a wash
je me couche	I go to bed

***se** coucher*	to go to bed
*je **me** couche*	I go to bed
*tu **te** couches*	you (singular) go to bed
*il/elle **se** couche*	he/she goes to bed
*on **se** couche*	we go to bed
*nous **nous** couchons*	we go to bed

Essential Phonics and Vocabulary

Silent final 'e'	Silent h	th
quatre 4	heures 	maths + − × ÷

À quelle heure?

(sept) heures …
… et quart
… moins le quart
… et demie
… cinq / dix / vingt / vingt-cinq
… moins cinq / dix / vingt / vingt-cinq

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Year 8 À la maison

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

- **talk about helping at home**
- **Use reflexive verbs to describe their daily routine**
- Give more complex opinions
- Pick out key information in a longer passage of listening and reading.
- **Compare two or more things**

Retrieval Practice

Questions	Answers
Où habites-tu?	J'habite à Huddersfield dans le nord de l'Angleterre. C'est une grande ville.
Qu'est-ce qu'on doit faire pour aider à la maison?	Je dois **faire la vaisselle** tous les jours. C'est **nul!**
Tu te lèves à quelle heure?.	Normalement, je me lève à **sept heures.** Le weekend **je me lève à onze heures,**
Tu t'habilles à quelle heure?	Je m'habille **vers sept heures et demie.**
Tu quittes la maison à quelle heure?	D'habitude je quitte la maison à **huit heures moins cinq.**
Qu'est-ce que tu fais **le matin?**	Je me lève et puis **je prends le petit déjeuner**. À huit heures **je vais au collège.**
Qu'est-ce que tu fais **le matin le weekend?**	Le samedi **je me lève à dix heures, puis je me douche et je me coiffe.** Le samedi soir **je vais chez mes amis.**

Career Focus - Where could this take you?

I am a tour guide. I work with people from all over the world and travel to lots of different cities. It helps me that I can speak another language, because I can communicate with people who live in the country I am touring. I can also give tours in different languages.

Challenge Activities

1. Research the typical day of a French teenager. How is it different to your day?
2. Create a day in the life of a famous person or character. Add times and let them express their opinion about it.
3. Pretend that you are Cinderella. What jobs do you have to do.
4. Complete the activities on sentence builders

Topic Links

This topic links to:

- Holidays
- All about me.
- Hobbies
- Time

Additional Resources

To further practise and develop your knowledge see:

- Sentence builders
- Active learn.

avoir (to have)

j'ai I have
tu as you (sing) have
il/elle/on a he/she has /we have
nous avons we have
vous avez you (plural/polite) have
ils/elles ont they have (m/f)

être (to be)

je suis I am
tu es you (sing) are
il/elle/on est he/she is /we are
nous sommes we are
vous etes you (plural/polite) are
ils/elles sont they are (m/f)

Les quatres saisons

Le printemps *spring*
l'été *summer*
l'automne *autumn*
L'hiver *winter*

janvier
février
mars
avril
mai
juin
juillet
août
septembre
octobre
novembre
décembre

The perfect (past) tense

*Use this tense to talk about what you **did** or **have done***

1. **j'ai** or **je suis** **c'était** = it was
2. Past participle

*Hier, **j'ai** bavardé avec mon meilleur ami sur mon portable. Après, **j'ai** bu un thé. **C'était** relaxant.*

Past participles

1. -er verbs → remove er +é = regarder > regard- > regardé
2. -ir verbs → remove ir +i = vomir > vom- > vomi
3. -re verbs → remove re +u = perdre > perd- > perdu

Negatives in the perfect tense

*Put **ne...pas** around the part of **avoir** or **être***

Remember **ne** shortens to **n'** before a vowel.
Je n'ai pas regardé la télé
Je ne suis pas allé(e) en vacances

Saying "to" or "in" with countries

- Most countries are feminine: ***en** Tunisie; **en** France; **en** Australie*
- A few countries are masculine: ***au** Canada; **au** Maroc*
- A small number of countries are plural: ***aux** États-Unis*
- With islands use ***à** Vanuatu*

Key Verbs

avoir = to have
être = to be

Key irregular verbs in the past tense

J'ai bu = I drank
J'ai fait = I did
J'ai vu = I saw
J'ai pris = I took
Je suis allé(e) = I went

The near future tense

*Use this to talk about what you are **going to** do.*

aller + infinitive

Je vais	**nous** allons
Tu vas	**vous** allez
Il/elle va	**ils/elles** vont

Present tense

d'habitude = usually
normalement = normally

Perfect tense

hier yesterday
le week-end dernier last weekend
l'année dernière last year

Conectives

et and
aussi also
ou or
mais but
avec with

Present tense

d'habitude = usually
normalement = normally

Narrative words

d'abord firstly
puis then
ensuite next
après afterwards
finalement finally

Intensifiers

assez quite
très very
trop too
un peu a little/bit
complètement completely
vraiment really

Negative expressions

ne...pas = not
ne...jamais = never
ne...rien = nothing
***ne** shortens to **n'** in front of a vowel

Possessive adjectives

mon/ma/mes = my
ton/ta/tes = your
son/sa/ses = his/hers

The comparative

Use the comparative to compare two or more things

- ***plus** + adjective + **que** = more ... than ...*
- ***moins** + adjective + **que** = less... than ...*

*Le ski est **plus** amusant **que** le cyclisme*
Skiing is **more** fun **than** cycling

- The adjective must agree with (match) the first noun

*La voile est **plus** fatigante **que** le tennis*
Sailing is **more** tiring **than** tennis

- With plural nouns use ***sont*** (are) and not ***est*** (is)

Use the QR codes to revise key vocabulary

The year	-er past tense	Irregular past	Questions	Key verbs

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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

8.3: Graphic Design

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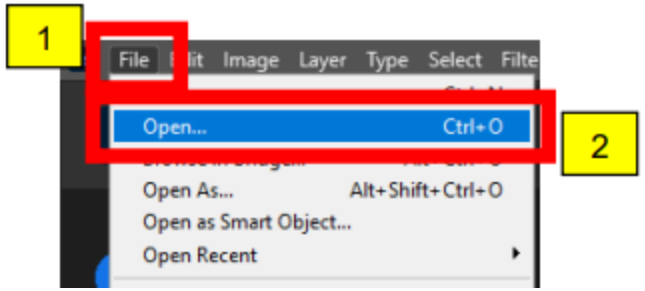
The aims of the sequence of learning are to ensure that all students:

- Demonstrate knowledge of graphic types by describing the difference between a 'bitmap' graphic and a 'vector' graphic
- Demonstrate knowledge of creating superimposed images by describing the steps involved to do this on Adobe Photoshop
- Apply knowledge of using Adobe Photoshop to create a professionally designed movie poster
- Apply knowledge from this unit to accurately describe some keywords

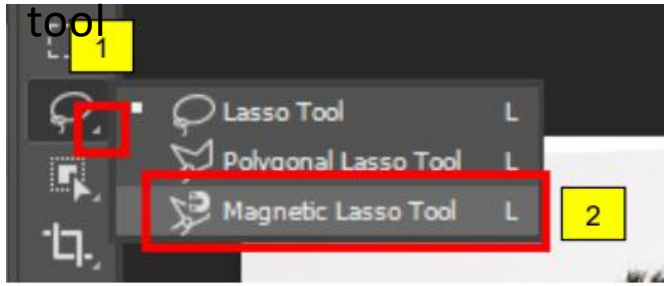
Keyword	Definition
Bitmap Graphic	A bitmap graphic is made up of many tiny parts, called pixels. When zoomed in, you can see each individual pixel. Each pixel is stored as a binary code on the computer (0's and 1's)
Vector Graphic	Vector graphics are created in graphics packages and are made up of shapes called objects. They are scalable - when you resize/enlarge them, they do not lose quality.
Resolution	Resolution is a measure used to describe the sharpness and clarity of an image or picture. It is can be used to judge the quality of hardware and software technologies e.g. monitors
Superimpose	Superimposing is when you place one image over another, so that parts of both images are still visible
Layering	This terms describes the different levels at which you can place an object or image file. Images at the top of the layering list are displayed at the front and images at the bottom are displayed behind the other images.
Movie Genre	A style or category of movie. For example: Action Romance and Comedy
Codes and Conventions	The generally accepted ways of doing something - what you expect to see. e.g. in action movie posters: • Explosions. Guns, Fights • Aggressive body language • Direct gaze to the camera • Orange and red colour schemes • Cars

Key Concepts: Superimposing an image in Adobe Photoshop

Step 1 - Open your images



Step 2 -Select '**Magnetic Lasso**' tool



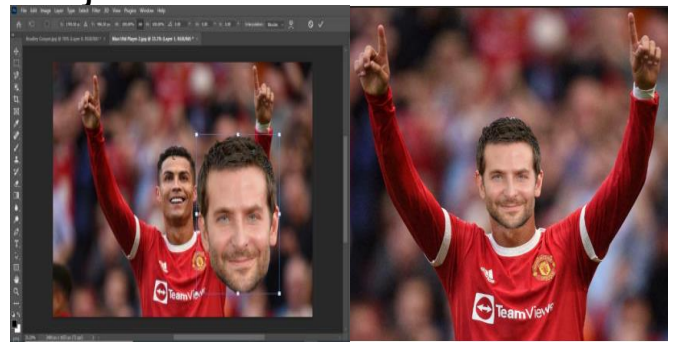
Step 3 – Select the edges of object

Step 4 – Copy selected object **Press Ctrl + C (Copy)**

Step 5 - Open the image that object is being moved on to

Step 6 – Paste object onto image **Press Ctrl + V (Paste)**

Step 7 – Transform and resize object



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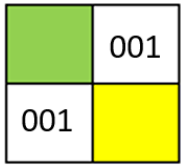
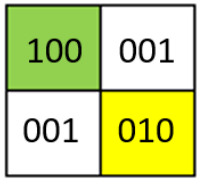
The aims of the sequence of learning are to ensure that all students:

- Demonstrate knowledge of graphic types by describing the difference between a 'bitmap' graphic and a 'vector' graphic
- Demonstrate knowledge of creating superimposed images by describing the steps involved to do this on Adobe Photoshop
- Apply knowledge of using Adobe Photoshop to create a professionally designed movie poster
- Apply knowledge from this unit to accurately describe some keywords

Retrieval Practice

Questions	Answers
Describe the difference between a bitmap graphic and vector graphic	A bitmap graphic is made up of many tiny parts, called pixels. When zoomed in, you can see each individual pixel. Vector graphics are created in graphics packages and are made up of shapes called objects. They are scalable - when you resize/enlarge them, they do not lose quality.
<table><tr><th>Denary no.</th><th>Binary code</th><th>Colour</th></tr><tr><td>0</td><td>000</td><td>Black</td></tr><tr><td>1</td><td>001</td><td>White</td></tr><tr><td>2</td><td>010</td><td>Yellow</td></tr><tr><td>3</td><td>011</td><td>Blue</td></tr><tr><td>4</td><td>100</td><td>Green</td></tr></table> Using this simplified example, How would you represent each pixel in binary to create a simple Image 	 Use the table to determine the binary code required to create a specific colour (or shade of colour)
Why is the Magnetic Lasso tool ideal for superimposing tasks?	The Magnetic Lasso Tool is an edge detection tool, meaning that it actively searches for the edge of an object when you are moving around it. It 'snaps' the selection outline to the edge and clings to it like a magnet
What do the following keyboard shortcuts do in Adobe Photoshop: Ctrl + C Ctrl + V Ctrl + T	Ctrl + C – Copy a selection Ctrl + V – Paste a selection Ctrl + T – Transforms a selection to allow you to move and resize an image layer
List five codes and conventions of a movie poster	Film title, names of lead actors, background images, release date and Images of lead character(s)

Career Focus - Where could this take you?

I am a **Graphics Illustrator** and it is my job to create a visual representation of an idea or associated text. The role involves a lot of work related to drawing, product package design, book illustrations, and graphic novels. I may also be required to lead lots of projects that deal with advertising design and publishing initiatives.

Challenge Activities

1. Create a range of custom superimposed images about a theme of your choice using high-resolution images. You can use Adobe Photoshop or Photopea.com (free alternative).
2. Create a poster on MS Publisher (or other suitable software) that summarises one or all of the following concepts covered in this unit: difference between bitmap and vector images, how to superimpose an image in Adobe Photoshop and what is meant by 'Codes and Conventions' when referring to Movie Posters
3. Create a short vlog about the types of careers you could get into with the skills you have developed in this unit. Explain what you would need to study at college and university to pursue these career paths

Topic Links

Computing Curriculum:

- Understand how instructions are stored and executed within a computer system
- Create, re-use, revise and re-purpose digital artefacts for a given audience
- Undertake creative projects that involve selecting, using, and combining multiple applications

Additional Resources

To further practise and develop your knowledge see the below:

Beginners guide to Adobe Photoshop

- www.youtube.com/watch?v=r1mwj8AH98

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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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Y8 Everyday Objects

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

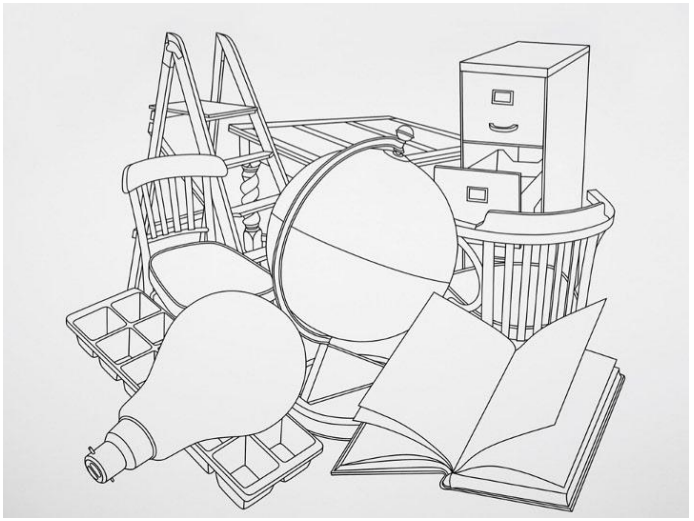
- Develop their observation drawing skills
- Understand how MCM uses scale to create visual impact
- Will demonstrate an understanding of colour theory
- Will be able to create a balanced composition
- Will be able to make links to the artist's work
- Will produce a personal response that meets the brief

Keyword	Definition
Still life	A drawing or painting of an arrangement of objects.
Composition	The composition of an artwork is defined by how the image is depicted and laid out on the canvas.
Scale	In art, scale refers to the size of one whole object in relation to another whole object.
Flat colour	Flat colour generally means solid ink coverage with no gradations, screens or half-tones.
Outline	A line or set of lines enclosing or indicating the shape of an object in a sketch or diagram
Michael	An Irish born artist well

Key Concepts







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Y8 Everyday Objects

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- Will produce a personal response that meets the brief

Retrieval Practice

Questions	Answers
How would you describe Michael Craig-Martin's style?	He draws just enough detail to make the objects instantly recognisable, He uses black outlines and bold, flat colour. He changes the scale of objects in comparison to each other.
How does Michael Craig-Martin use scale in his work?	He changes the size of everyday objects in relation to others. For example he makes small objects much bigger than they are, and reduces the size of larger objects in comparison.
What is a contour line in Art?	It is a line that defines the outline of a form, as well as interior structure, without the use of shading.
What is observational drawing?	Observational drawing is drawing what you see. It can be a flower, a person, a still life, a landscape, or anything. But it's drawing what you see in front of you, as realistically and as true to life as possible.
What is installation art?	Often large-scale, mixed-media constructions, designed for a specific place or for a temporary period of time.

Career Focus - Where could this take you?

I am a **product designer**. I have to define product specifications, and create digital or print drawings. I design fully-functional products. I have to have an eye for colour and shape and be able to turn requirements into practical product features.

Challenge Activities

Develop your drawing skills by practising 'blind contour drawings'.
Start with Blind Contour If You Want Better Drawings (artistsnetwork.com)

Practise drawing in the style of Michael Craig-Martin
KS3 Art Lesson - Still life in the style of Michael Craig-Martin - YouTube

Topic Links

This topic links to:

- Mathematics - scale

Additional Resources

To further practise and develop your knowledge see:

Michael Craig-Martin: Transience - Serpentine Galleries

Drawings | Michael Craig-Martin (michaelcraigmartin.co.uk)

Year 8 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 Regenerated fibre properties
- Rank fibres in order of environmental impact.
- Annotate a range of design ideas which include moral and cultural issues.
- Demonstrate an understanding of smart materials.

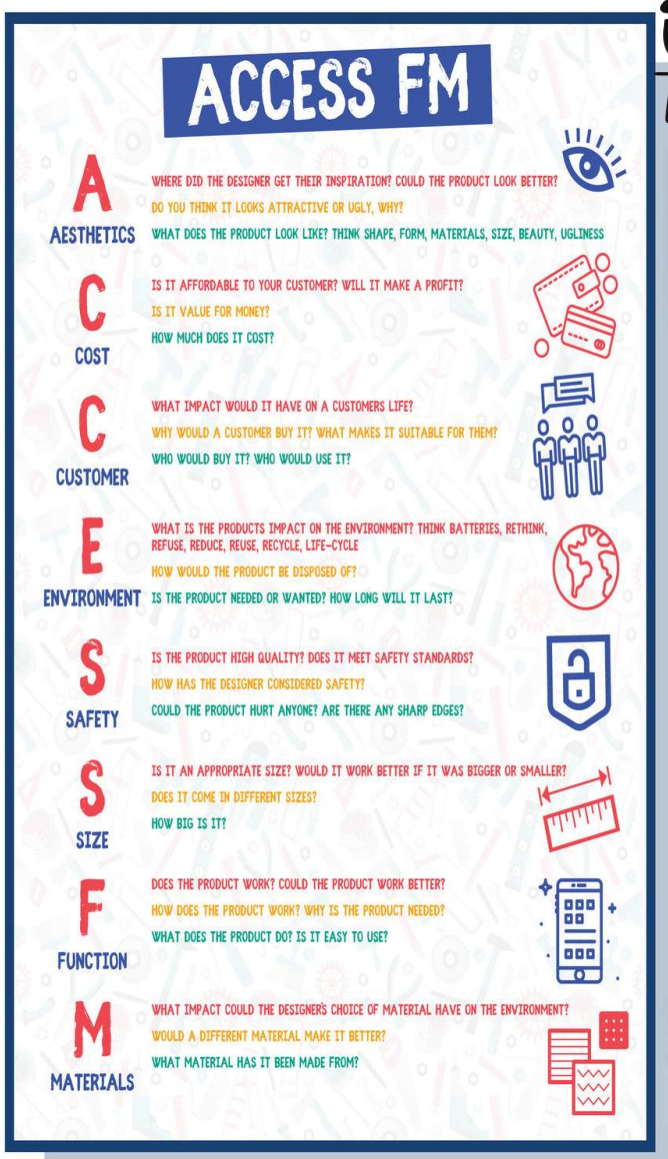
Keyword	Definition
Conductive	Having the property of conducting something (especially heat or electricity).
Fabric	Cloth or other material produced by weaving or knitting fibres.
Synthetic	Made by chemical synthesis, especially to imitate a natural product.
Fibres	A thread or filament from which a vegetable tissue, mineral substance, or textile.
Electric	Worked by, charged with or producing electricity
Textiles	A type of cloth or woven/ knitted fabric.
Aesthetics	A set of principles concerned with the nature and appreciation of beauty.
Solder	Solder is a fusible metal alloy used to create a permanent bond between metal.
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.
Diode	Electronic component that conducts current primarily in one direction.
Positive	Electric charge of a positive point charge
Negative	Electric field of a negative point charge
Laser	A laser is a device that emits light through a process of optical amplification
Equipment	Equipment most commonly refers to a set of tools or other objects
Battery	A device that provides electrical power

Key Concepts

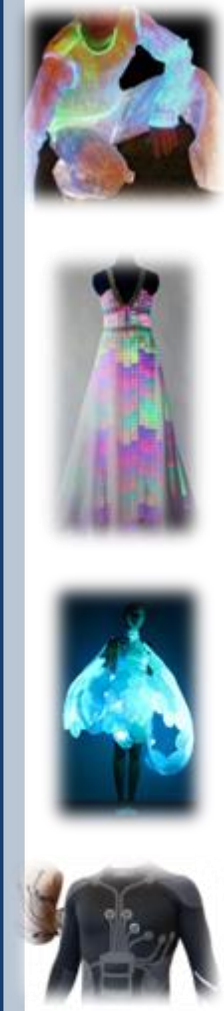
Types of Fibres

Regenerated Fibres

ACCESS FM



Smart Textiles



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Year 8 E-Textiles Muggler 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 regenerated fibre properties
- Rank 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 a regenerated fibre?	Made from a plant	Made in a factory	Coal & oil	A fibre made from cellulose (wood pulp)	A fibre made from Animals
B. Which fibres are Regenerated? (select more than 1)	Wool	Lyocell	Acetate	Cotton	Polyester
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. Which fibres are Synthetic? (select more than 1)	Polyester	Nylon	Cotton	Bamboo	Viscose
E. What is a light emitting Diode?	A type of disco ball	A Type of switch	A type of resistor	LED Light	A type of battery
F. What advantages are they in using a laser cutter? (select more than 1)	Fast	Accurate	Less material wastage	Cuts multi materials (except metal)	Cuts complex shapes and fine detail

Questions you got wrong	Quick Corrections (bridge learning gaps & misconceptions)

Career Focus - Where could this take you?

A Lab Technician performs tests and analyses in a laboratory. Lab technicians work in a variety of different fields such as medicine, textiles and Engineering.

Huddersfield University offer an MA degree in Textile Technology, and you will need an Honours degree (2:2 or above) in a relevant subject or an equivalent professional qualification.

Salaries usually range from £18,000 - £38,000

Challenge Activities

Can you Identify these E-Textile Symbols and Explain when they do?

Topic Links

This topic links to:

- Science- How electronics can be used within textiles and the development of Smart Fibres
- English- Subject specific Vocabulary knowledge, understanding and spelling.

Additional Resources

To further practise and develop your knowledge see:

Year 8 Resistant Materials

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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 Timber Materials and properties/
- Rank Materials in order of environmental impact.
- Demonstrate an understanding of gear and pully systems.
- Demonstrate an understanding of working drawings, measurements and functions.

Keyword	Definition
Gears	One of a set of toothed wheels that work together to alter the relation between the speed of a driving mechanism
Compression	The action of compressing or being compressed.
Tension	The state of being stretched tight:
Pinewood	An evergreen coniferous tree that has clusters of long needle-shaped leaves
PVA	Polyvinyl acetate used to glue materials
Scroll saw	A scroll saw is a small electric or pedal-operated saw used to cut intricate curves in wood,
Shear	is a process that cuts stock without the formation of chips or the use of burning or melting
Laser	A laser is a device that emits light through a process of optical amplification
Safety Goggles	Protective eyewear to stop fragments entering the eye.
Timber	Timber is wood that has been processed into uniform and useful sizes
Specification	A design specification is a detailed document that sets out exactly what a product or a process should present
Analysis	is the process of breaking a complex topic or substance into smaller parts in order to gain a better understanding of it.
Iconic Design	someone or something that is seen as a cultural icon
Product Lifecycle	is the process of managing the entire lifecycle of a product from its inception through the engineering, design and manufacture,
Corrugated Cardboard	is a type of packaging material consisting of a fluted corrugated sheet and one or two flat linerboards

Key Concepts

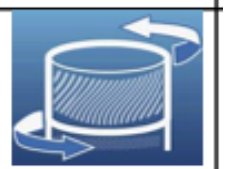
FORCES

Tension
Being stretched

Bending
A motion or action that bends

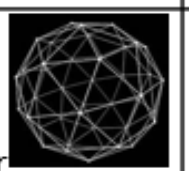
Compression
Putting pressure on an object

Torsion
Twisting



Shear
Cutting

Triangulation
Forming rigid triangles together



Tools

Materials & End Products

Stainless Steel Spoon

Aluminium Aircraft Fitting

Copper Tubing

Year 8 Sweet Dispenser Project

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

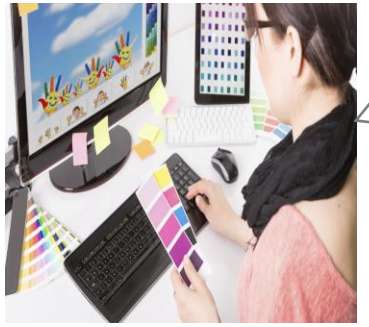
- Demonstrate safe use of tools and equipment.
- Explain a range of Timber Materials and properties/
- Rank Materials in order of environmental impact.
- Demonstrate an understanding of gear and pully systems.
- Demonstrate an understanding of working drawings, measurements and functions.

Retrieval Practice

Question	A1	A2	A3	A4	A5
A. What is an Acrylic?	Wood	Metal	Plastic	LED	Film
B. What is a product analysis?	A Detailed look at a specification	A quick look at a product	A Detailed look at a shoe	A Detailed look at a car	A Detailed look at a product
C. What is Shear referring to?	Sewing	Drawing	Jumping	Cutting	Dancing
D. Which are iconic designs? (select more than one)					
E. What is a scroll saw?	A bladed machine for cutting wood.	A drill part	A paper cutter	A saw for cutting Glass	A machine for drilling holes
F. What is Timber?	A type of wood	A type of plastic	A type of metal	A type of glass	A type of Fabric

Questions Which you got wrong	Quick Corrections (bridge learning gaps & misconceptions)

Career Focus - Where could this take you?



Engineers, as practitioners of engineering, are professionals who invent, design, analyse, build and test machines and complex systems.

Kirklees College offer an Engineering and Manufacturing course level 2 and you will need A minimum of 4 GCSEs with the following grades: English at 3 or above and maths at 3 or above and 2 other GCSEs at 3 or above including a science or technology course.

Salaries usually range from £36,000-£48,000

Challenge Activities- Match the Product to the Designer.

Charles Rennie Macintosh

Tesla

Phillipe Starck

James Dyson

Topic Links

This topic links to:

- History- Iconic Design
- English- Subject specific Vocabulary knowledge, understanding and spelling.
- Maths- Measurements in cm.

Additional Resources

To further practise and develop your knowledge see:
https://youtu.be/9wHlJXnx0bM

https://youtu.be/b36Lt9bXFsk

https://youtu.be/qHzIWl7CS8E

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Year 8 Food Tech

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

Apply knowledge of Health and Safety in relation to the Food Standards Agency and Legislation

- **Demonstrate knowledge of food provenance**
- **Be able to discuss confidently a range of manufacturing processes**

Keyword	Definition
Food origin	Where the food originated in the world
Food provenance	Whether the food was grown, caught or reared
Transportation	How food is transported from one place to another
Food processing	Changing food in some way e.g washing, chopping, pasteurising, freezing, fermenting, packaging
Food manufacturing	Food manufacturing refers to transforming raw ingredients into edible products such as using wheat, oat, and sugar to make cereals, desserts, and pet food.
Farming	Farming is the activity of growing crops or keeping animals on a farm.
Calcium	Calcium is a mineral your body needs to build and maintain strong bones and to carry out many important functions.
Carbohydrate	Carbohydrates provide energy for the body. The body breaks carbohydrates down into glucose, which is the primary energy source for the brain and muscles.
Protein	Protein is one of the three nutrients found in food that the body needs in large amounts. It is essential for the maintenance and building of body tissues and muscle.
Fibre	Fibre is a type of carbohydrate that the body cannot break down and so it passes through our gut into our large intestine (or colon). It is found naturally in plant foods like wholegrains, beans, nuts, fruit and vegetables and is sometimes added to foods or drinks. Fibre helps to keep our digestive system healthy and helps to prevent constipation.
Fat	The body uses fat as a fuel source, and fat is the major storage form of energy in the body. Fat also has many other important functions in the body, and a moderate amount is needed in the diet for good health. Too much fat or too much of the wrong type of fat can be unhealthy.
Cross-contamination	Cross-contamination is the physical movement or transfer of harmful bacteria from one person, object or place to another.
Nutrient	a substance that provides nourishment essential for the maintenance of life and for growth.
Healthy	In a good physical or mental condition; in good health.

Key Concepts

The **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

The scheme gives businesses a rating from 5 to 0 which is displayed at their premises and online so you can make more informed choices about where to buy and eat food.
5 – hygiene standards are very good
4 – hygiene standards are good
3 – hygiene standards are generally satisfactory
2 – some improvement is necessary
1 – major improvement is necessary
0 – urgent improvement is required

Chicken / Vegetable Curry

Equipment:

- Chopping board
- Vegetable knife
- Large pan
- Wooden spoon
- Cutlery

****container with a lid****

Ingredients:

- **2 chicken breasts**
- **1 red onion**
- **½ red or green pepper**
- **1 tin of chopped tomatoes**
- **2 tsp curry powder or paste**
- **1 tbsp. tomato puree**
- **4 button mushrooms**
- **25g natural yoghurt or single cream (optional)**
- **2tsp vegetable oil**

- **Replace chicken with either: 100g green or red lentils, Quorn pieces, potato, spinach or mushroom combination.**

Method:

1. Chop any vegetables and place in pan with vegetable oil.
2. Put pan on low heat stir with wooden spoon.
3. Chop chicken into pieces.
4. Add chicken to pan being careful to avoid cross contamination.
5. Stir chicken with wooden spoon and turn to medium heat.
6. Add curry powder and continue to cook ensuring chicken doesn't stick to pan.
7. Once chicken is cooked through (no longer pink in the middle) stir in tin tomatoes and puree.
8. Continue to cook on medium heat to low heat (simmer).
9. Stir in yoghurt or cream.
10. Turn off heat and transfer to container.

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

RECIPE

Year 8 Food Tech

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

Apply knowledge of Health and Safety in relation to the Food Standards Agency and Legislation

- Demonstrate knowledge of food provenance
- Be able to discuss confidently a range of manufacturing processes

LAMB KOFTA BALLS

Equipment

- Baking tray
- Cutlery
- Mixing bowl
- Rounded knife
- Fork
- Measuring bowl
- Weighting scales

Ingredients:

- **1 small onion**
- **1 clove of garlic**
- **1/2 red chilli**
- **200g lamb mince**
- 1 x 5ml spoon cumin
- 1 sprig of parsley, mint and coriander

*** **Container with a lid** ***

Method:

1. Heat oven to 220°c
2. Peel the onion and cut in half.
3. Peel the garlic.
4. Cut off the top of the chilli and remove the seeds.
5. Put the onion, chilli and garlic into the food processor and blitz.
6. Add the mince, cumin and herbs and blitz together.
7. Sprinkle a little flour onto a chopping board, then divide and shape the mixture into 8 balls.
8. Put the balls onto a lined baking sheet and into the oven for 20 minutes.
9. Thoroughly wash and dry your hands after touching the raw meat.
10. Serve with a pitta bread, rice, sour cream and salad

RECIPE

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Year 8 Food Tech

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

Apply knowledge of Health and Safety in relation to the Food Standards Agency and Legislation

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CHOCOLATE BUNS

Ingredients

- **100g dark Chocolate**
- **100g margarine**
- **50g brown sugar**
- 2tbsp hot water
- **2tbsp Syrup**
- **50ml milk**
- **1 egg**
- **100g SR Flour**
- **2 tbsp cocoa powder**
- **12 cake cases**

Equipment

Sieve
Mixing bowl
Tablespoon
Wooden spoon
Small pan
Wire cooling tray
Small bowl
Table knife
Teaspoon

1. Preheat the oven to 180˚C and line the bun tin with 12 paper cases.
2. Melt margarine, sugar, chocolate, syrup and water together in a pan until melted. Set aside for two minutes then add milk and egg.
3. Beat in the sieved flour and cocoa carefully. Add any extra ingredients you may be using at this stage.
4. Use a jug to pour the mix into the cake cases
5. Half fill the paper cases with the mixture and bake for around 20 mins until firm and well cooked
6. Place on a cooling rack to cool down.

RECIPE

Year 8 Rap and Hip Hop

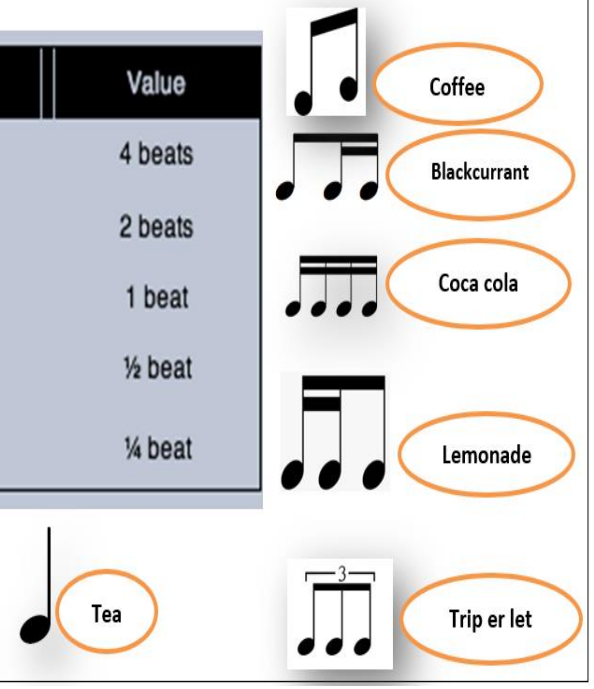
The aims of the sequence of learning are to ensure that all students:
To develop an understanding of Hip Hop and it's surrounding culture.
To be able to perform Gangsta's Paradise, using appropriate musical technique on the keyboard.
To develop appropriate musical vocabulary through the MAD TSHIRT mnemonic.
To be able to identify musical features of Gangsta's Paradise, applying appropriate musical vocabulary.

Keyword	Definition
Melody	The main layer or tune of a piece. Melodies can move by **step** or in **leaps.**
Articulation	The way the notes are played: *long and smooth* or short and choppy. **Legato** = Long and smooth **Staccato** = Short and choppy.
Dynamics	How loud or quiet the sound is.
Texture	The layers that make up a piece **Monophonic** = **One Layer** On its own. **Homophonic** = One melody and accompaniment **Polyphonic** = More than one melody at the same time.
Structure	The way the music is put together in **sections**. *Beginning – Middle – End*
Harmony	The **chords** that accompany the melody. **Diatonic –** notes that blend well together. **Dissonant -** notes that **do not** blend well together. **Tonality –** What key the music is in.
Instrumentation /Forces	The **instruments** or **voices** used to perform a piece of music.
Rhythm	The **note values** used. **Syncopation** – off beat rhythm.
Tempo	The ***speed*** of the beat

Key Concepts

Rhythmic Dictation

Note	European Name	Value
𝅝	Semibreve	4 beats
𝅗𝅥	Minim	2 beats
♩	Crotchet	1 beat
♪	Quaver	½ beat
𝅘𝅥𝅯	Semiquaver	¼ beat



What is Hip-hop?

Hip-hop music focuses on rhythm rather than melody and harmony. It is characterised by:

- rapping
- use of samples
- use of programmed beats
- DJing

What is Rapping?

Rapping is rhythmical, rhyming, semi-spoken recitation. Often the lead vocal is joined by another member of the group who:

- doubles the last word of some lines
- adds answering phrases
- adds spoken ad libs

Year 8 Rap and Hip Hop

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The aims of the sequence of learning are to ensure that all students:
To develop an understanding of Hip Hop and it's surrounding culture.
To be able to perform Gangsta's Paradise, using appropriate musical technique on the keyboard.
To develop appropriate musical vocabulary through the MAD TSHIRT mnemonic.
To be able to identify musical features of Gangsta's Paradise, applying appropriate musical vocabulary.

Gangsta's Paradise – MAD TSHIRT, Musical analysis.

Hip Hop	Musical Devices	Sampling	Riffs
Hip Hop is not just a style of music but an entire **culture** that is made up: • DJing and **beat making.** • B-Boying or **Break Dancing**, a form of acrobatic group dancing. • **Graffiti art** • **Mc'ing or rapping.**	Musical devices are techniques used by composers (people who write music) to give a certain feel or sound to the music. Using specific **musical devices** can make the music sound like a specific style. **Examples** = Riffs / Sampling	In music, sampling is when a short snippet (or sample) of a sound recording is used in another recording. Samples are often changed in some way e.g. by changing the **pitch** or **slowing** them down.	A riff is a short **repeating pattern** in a piece of **pop** music.
Gangsta's Paradise: Texture The song uses **two** types of texture **Homophonic** – One melody and accompaniment (during the **verse** sections) **Polyphonic** – more than one melody at the same time (during the **chorus** sections).	**Gangsta's Paradise: Tonality** Gangsta's Paradise is in a **minor key.** It sounds **sad**, which fits with the lyrics.	**Gangsta's Paradise: Harmony** The chord sequence, which repeats throughout the song is: G Major | E minor | F# Major | B minor	**Time Signature** Gangsta's Paradise is in **4/4**, meaning each bar has 4 beats. 
Breakbeat *A short break in the song that is **just** the drum beat on its own.* Breakbeats were **sampled** a lot because drumbeats are perfect to rap over.	**Looping** A small section of sound that is repeated.	**Vocalisation** ***Wordless*** singing. Wordless singing can be heard during the chorus of Gangsta's Paradise in the backing vocals	**Melisma** Signing more than one note per syllable.

I'm a music producer and my job is to arrange compositions, runs recording sessions, and suggests changes to instrumentation, effects and lyrics. I guide the mastering, mixing of the music and also the recording engineers. I also gather ideas and inspiration for projects and develop the vison and direction for each project.

Challenge Activities

Name that pitch! https://www.musictheory.net/exercises/note

Further reading https://www.musicca.com/notes

Another quiz! https://www.musictheoryacademy.com/music-theory-quizzes/

Topic Links	Additional Resources
This topic links to Maths – understanding of pitch requires knowledge of half steps and full steps and the ability to count in different intervals Science – pitch is a scientific concept. Concert A has a frequency of 440 Hz vibrations per second	Free sheet music for piano - https://makingmusicfun.net/htm/printit_piano_sheet_music_index Have a go at writing your own melody - https://www.bbc.co.uk/bitesize/topics/z3dqhyc/articles/z7n2qp3

Year 7 Trampolining

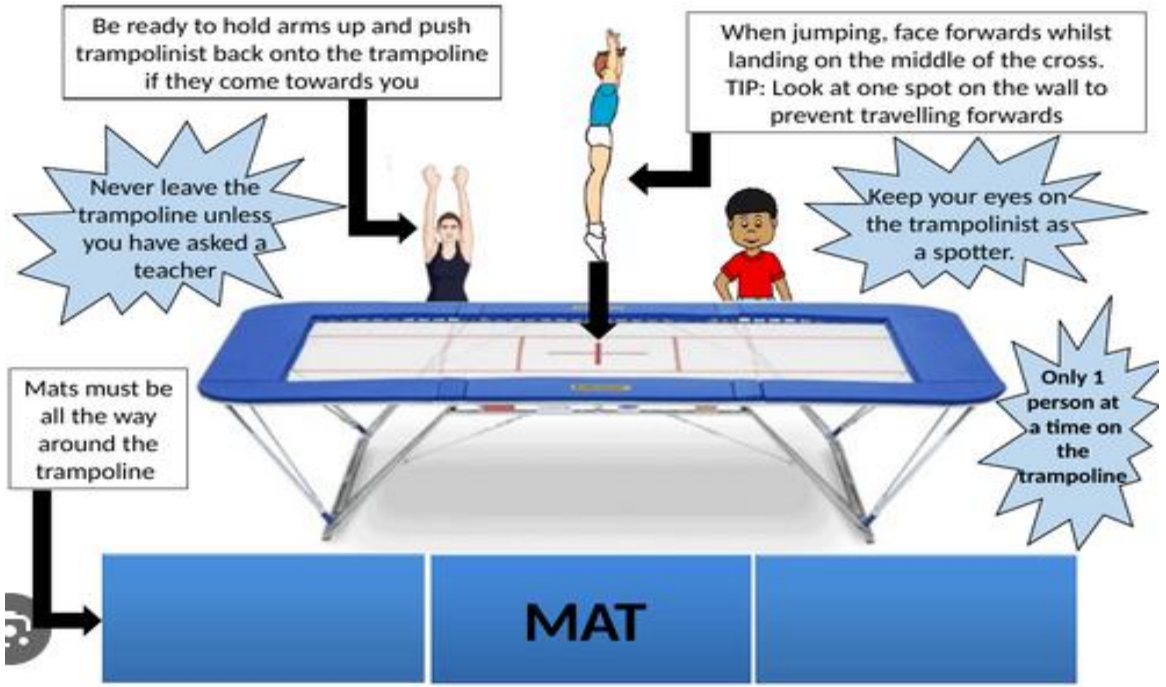
The aims of the sequence of learning are to ensure that all students:

- Identify at least 4 core trampolining skills.
- Demonstrate basic core skills such as a straight jump.
- Demonstrate a 5 bounce routine.
- Lead a small group of peers in a warm up.

Keyword	Definition
Spotting	Standing around the trampoline to help prevent the performer from falling.
Aesthetic	The way something looks/something looking artistic.
Flexibility	The range of motion allowed at a joint.
Pike	Jumping with the legs extended out in front of the body and toes pointed.
Tuck	Jumping with the knees flexed and toes pointed down.
Straddle	Jumping with the legs extended diagonally from the hips.
Feedback	Information given to an individual/team about their performance.

Key Concepts

Plantar-flexion occurs at the ankle to allow you to point your toes. Make sure your toes are pointed when performing a core skill such as a **straight jump.** This makes your performance **aesthetic.**



Sentence starters for feedback
I enjoyed...
I can now work on...

Above are the basic jump shapes you will achieve by the end of the block. Take note of how the legs and feet are used to make the move aesthetic.

Use the **feedback** sentence starters above to provide **feedback** to a **peer.**

Year 7 Trampolining

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- Identify at least 4 core trampolining skills.
- Demonstrate basic core skills such as a straight jump.
- Demonstrate a 5 bounce routine.
- Lead a small group of peers in a warm up.

Retrieval Practice. Recall routines for your performance.

Routine #1:
Tuck jump
Straddle jump
Pike jump
Seat landing
To feet

Routine #2:
½ twist Jump
Tuck jump
Seat landing
To feet
Straddle jump

Routine #3:
Full twist jump
Tuck jump
Seat landing
To feet
Straddle jump

Depending on your progress levels in trampolining:-
If you are unable to complete a seat landing, then you can replace with a pike jump.
If you are unable to complete the routine, then have two bounces between each skill.

Questions	Answers
What are the most important components of fitness for a trampolining athlete?	Flexibility, balance, coordination.
Why is it important that a trampolining move is done in an aesthetic way?	To ensure that the audience can see the full extent of the performance.
What is the difference between a straight bounce and a tuck jump?	On a straight jump the legs are straight and the toes pointed. On a tuck jump, the knees are flexed with the toes pointed.
Why is it important that you can stop safely on the trampoline?	To reduce the risk of injury when finishing a move.

Career Focus - Where could this take you?

Performance coaches watch and analyse the performances of athletes to help them improve.

Challenge Activities

Create:

- **Create a 5 bounce routine using the correct trampolining terminology. You can use this routine in class so make sure it only has skills in which you can perform.**
- **Create a mind map containing all of the basic core skills you have learnt about – draw a diagram showing how each is completed. Label key components e.g. pointed toes.**

Topic Links

This topic links to:

- **Science – anatomy and physiology**
- **Maths – Angles**
- **Voice 21 – verbal feedback to peers**
- **English – understanding and defining key terminology**

Additional Resources

To further practise and develop your knowledge see:

- **https://www.bbc.co.uk/bitesize/guides/z39ck7h/revision/1**
- **https://www.youtube.com/watch?v=M_h9dmJ3NmM**

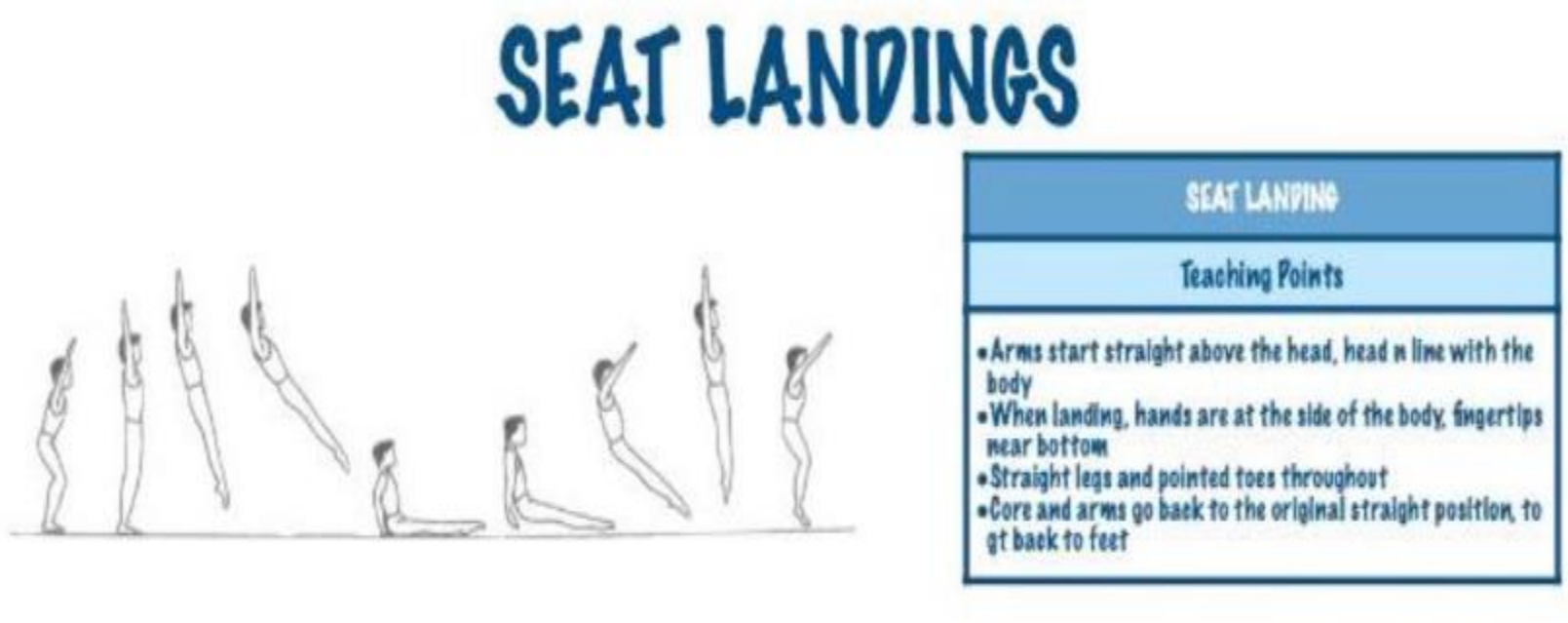
Year 8 Trampolining

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

- Identify at least 5 core trampolining skills.
- Demonstrate core skills such as a seat drop.
- Demonstrate a 7 bounce routine.
- Lead a small group of peers in a drill.

Keyword	Definition
Spotting	Standing around the trampoline to help prevent the performer from falling.
Aesthetic	The way something looks/something looking artistic.
Flexibility	The range of motion allowed at a joint.
Pike	Jumping with the legs extended out in front of the body and toes pointed.
Tuck	Jumping with the knees flexed and toes pointed down.
Straddle	Jumping with the legs extended diagonally from the hips.
Feedback	Information given to an individual/team about their performance.
Bounce count	The amount of times the bed is touched during a routine.
Parallel	Straight lines that do not intersect.

Key Concepts



Plantar-flexion occurs at the ankle to allow you to point your toes. Why do your toes need to be pointed when performing on the trampoline?

Peer feedback sentence starters:

- I really liked how you…
- For your next performance try to…
- To improve your aesthetics try to…
- You showed great…

What you should already know:

- At least 4 core trampolining skills.
- Demonstrate a 5 bounce routine.

Year 8 Trampolining

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

- Identify at least 5 core trampolining skills.
- Demonstrate core skills such as a seat drop.
- Demonstrate a 7 bounce routine.
- Lead a small group of peers in a drill.

Retrieval Practice. Recall routines for your performance.

Routine #3:
Full twist jump
Tuck jump
Seat landing
To feet
Straddle jump

Routine #4
Full twist
Straddle jump
Seat landing
½ twist to feet
Tuck jump

Routine #5:
½ twist jump
Straddle jump
½ twist to seat landing
To feet
Pike jump

Questions	Answers
Why does a trampolinist require good flexibility?	Without flexibility, a trampolinist will struggle to perform their moves aesthetically due to a lack of pointed toes and straight body lines.
Explain the importance of an aesthetic performance.	An aesthetic performance is important as it allows people to fully enjoy the performance and ensures the performance looks good to the audience.
Why does a seat landing require good core strength?	Because without good core strength, the body will not stay tense and upright.
Give 3 safety points for trampolining.	All jewellery removed, hair tied back, socks worn. Are you able to explain why?

Career Focus - Where could this take you?

Trampoline testers work together to test the safety and bounce of trampoline beds.

Challenge Activities

Create:

- **Create an 8 bounce routine using the correct trampolining terminology. You can use this routine in class so make sure it only has skills in which you can perform. Try to include at least 2 different shapes.**
- **Research Olympic trampolinist Bryony Page and create a fact file page on her.**

Topic Links

This topic links to:

- Science – anatomy and physiology
- Maths – Angles
- Voice 21 – verbal feedback to peers
- English – understanding and defining key terminology

Additional Resources

To further practise and develop your knowledge see:

- https://www.bbc.co.uk/bitesize/guides/z39ck7h/revision/1
- https://en.wikipedia.org/wiki/Trampolining_terms

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