ARENA ACADEMY

Knowledge Organiser Booklet

Year 9

2024-25

2nd Half-Term (AUT 2)

Collaboration Opportunity Respect Excellence

DELIVERING A CORE EDUCATION

Subjects

Key Stage 3 (Y7-9):

English
Maths
Science
Geography
History
Religious Education
French
Spanish
Physical Education
Computer Science
Art
Performing Arts
Design Technology
Personal Development

Key Stage 4 (Y10-11):

English
Maths
Art
Business Studies
Religious Education
Food Science
French
Spanish
Geography
Health & Social Care
Combined Science
Triple Science: Biology, Chemistry & Physics
History
Computer Science
Design Technology
Sports Studies
Performing Arts
Psychology
DIT
GCSE PE
Photography
Sociology
Personal Development

What are knowledge organisers?

For students to succeed in a particular area, they must have a foundation of factual knowledge, understand those facts in the context of a conceptual framework and organise knowledge in order to facilitate retrieval and application. We can see knowledge organisers as a way to enable this, in a much more systematic way than traditional revision guides and textbooks.

There are many arguments made for the necessity of the memorisation of important knowledge. Our working memory capacity is limited, so by storing more in our long-term memory, we can free up working memory capacity.

Knowledge organisers are a summary of the key facts and essential knowledge that pupils need about a unit of work or a curriculum subject. Each page contains the essential information broken down into easily digestible chunks. Each single side of A4 is important to focus the minds of the teachers creating them so they only include what's crucial.

Pupils will review, revise and quiz themselves using their knowledge organisers.
Knowledge organisers are a really clear and easy to understand way for parents to be more aware of what their children are learning at school and thus to support them whilst they revise/test themselves at home.

How to use your Knowledge Organiser?

What is a Knowledge Organiser and how will it help me ?
It is an organised collection of knowledge that you need to know and learn for every topic you study in every subject. It will help you to be successful in your tests and exams.
Your teacher will use the knowledge organiser in your lessons. They will ask you to refer to various sections - they might talk this through and/or ask you to make key notes in your books or to highlight certain sections on your knowledge organiser.
Your teacher will set homework, where you will be asked to learn key knowledge from your knowledge organiser - you will then be tested in lessons regularly via short quizzes.

Do I have to bring my Knowledge Organiser every day ?
Yes, you do. It is one of our key expectations that you bring your knowledge organiser to every lesson, every day in your special Knowledge Organiser bag. Your Form Tutor will check this every morning.

Is there anything I could use to support me when using my knowledge organiser ?
Some people find post it's handy to stick onto their knowledge organiser pages - these are useful for extra notes. Small white revision/flash cards are helpful so you can write key facts down. These can then be placed up around the house to help your revision.

How should I use my Knowledge Organiser to help me learn ?
There are lots of ways to use your knowledge organiser - the key to success is to find what works for you. The table below shows you some different ways to use them.

How to use a knowledge organiser – A step by step guide

	Look, Cover, Write, Correct	Definitions to key words	Flash Cards	Self Quizzing	Mind Maps	Paired Retrieval
Step 1	Look at and study a specific area of your knowledge organiser. 	Write down the key words and definitions. 	Use your knowledge organiser to condense and write down key facts and information on your flash cards 	Use your knowledge organiser to create a new quiz. Write down questions using your knowledge organiser. 	Create a mind map with all the information you can remember from your knowledge organiser. 	Ask a partner or family member to have the knowledge organiser or flash cards in their hands 
Step 2	Cover or flip the knowledge organiser over and write down everything you remember. 	Try not to use your knowledge organiser to help you. 	Add pictures to help support. Then self quiz yourself using the flash cards. You can write questions on one side and answers on the other. 	Answer the questions and remember to use full sentences. 	Check your knowledge organiser to see if there were any mistakes with the information you have made. 	They can then test you by asking you questions on different sections of your knowledge organiser 
Step 3	Check what you have written down. Correct any mistakes in green pen and add anything you missed. Repeat. 	Use your green pen to check your work. 	Use a parent/carer or friend to help quiz you on the knowledge. 	You can also use family to help quiz you. Keep self-quizzing until you get all questions correct. 	Try to make connections that links information together. 	Write down your answers. 

What can be found in knowledge organisers?

Some of the core knowledge you can find in your knowledge organiser includes:

- key vocabulary / terminology (tier 3 vocabulary)
- key knowledge that students will require to have memorised for the subject
- key places and people
- useful diagrams (as required for the topic)
- key dates for a subject like history (e.g. when the two World Wars were) would clearly also be included
- key information they should know before starting the topic
- important quotes (that demonstrate those themes)
- important equations
- key academic language (tier 2 vocabulary)

Learn, Cover, Write, Correct

1. LEARN

Choose a small 'chunk' of your the page to learn. Read it over and over again in your head.

2. COVER

Cover up the information you have just learnt.

3. WRITE

When the knowledge is covered up, write down the information you studied.

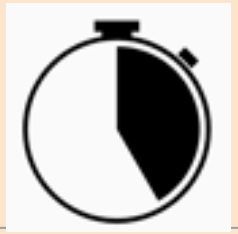
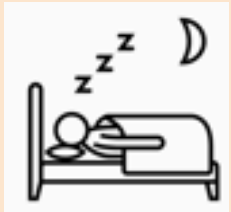
4. CORRECT

Correct your answer, write any missing or incorrect words in red pen.

ARENA ACADEMY

Practice makes Permanent

The Essential Steps for ‘Revising’

Limit distractions 	**Find a nice space to revise in** 	**Create and use a revision timetable. No cramming.** 
Set an alarm and start early 	**Work in intensive blocks of time (25 mins works well)** 	**The more you put in, the more you get out** 
Get plenty of sleep 	**Eat well** 	**Ask your teachers for help** 

Mathematics

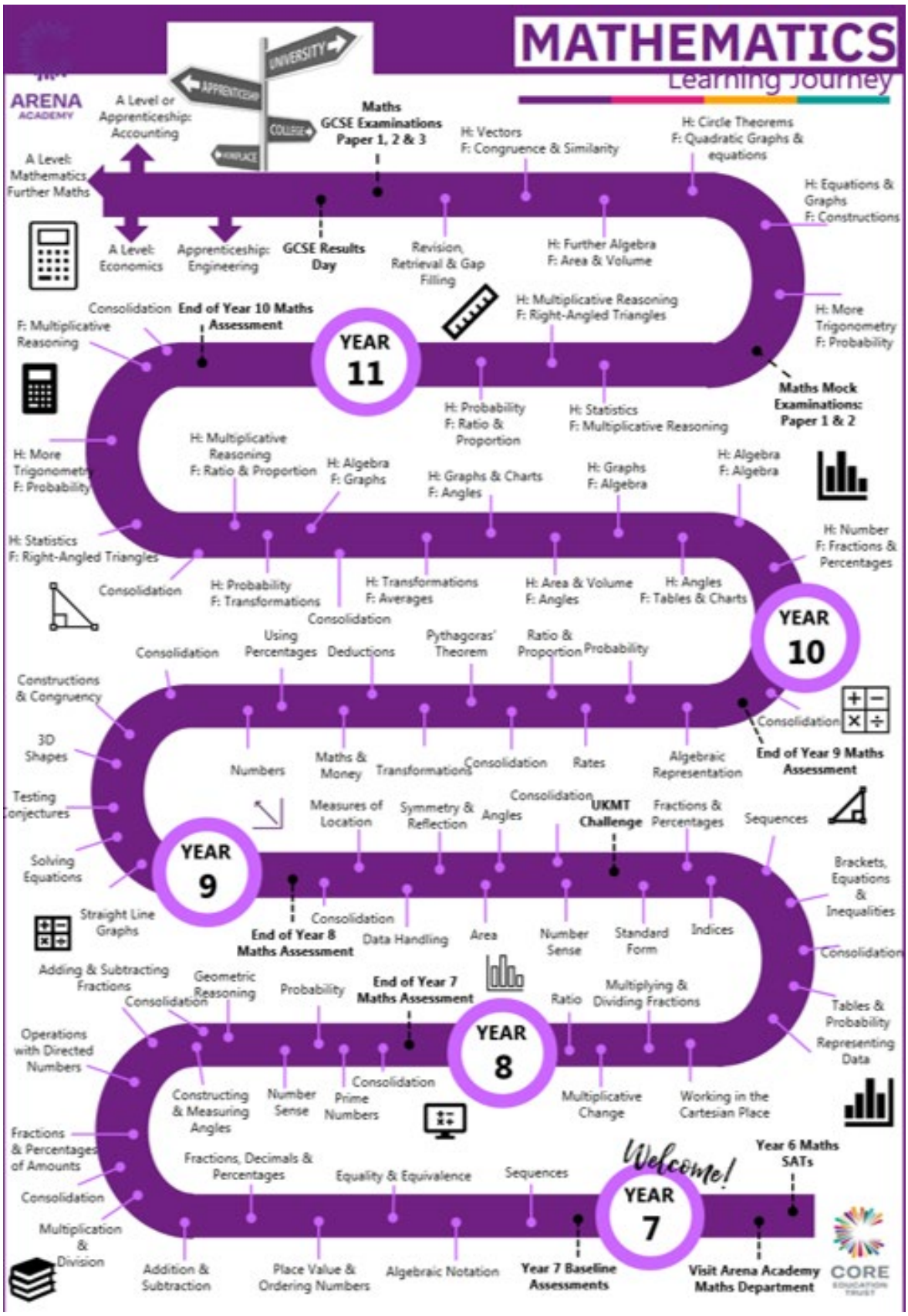
Topics covered from the beginning of the academy year to the end of this half-term.

AUT 1:

1. Straight line graphs
2. Forming and solving equations
3. Testing conjectures

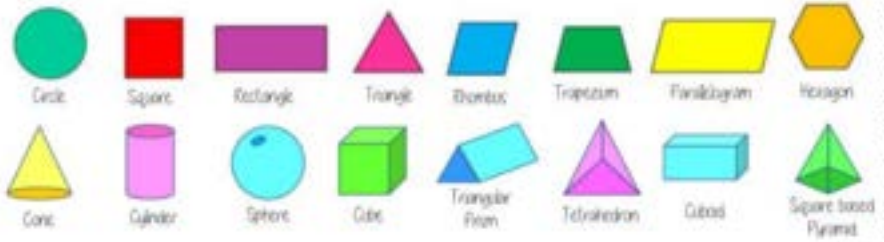
AUT 2:

4. Three dimensional shapes
5. Constructions and congruency


MATHEMATICS
Learning Journey
ARENA ACADEMY
UNIVERSITY
APPRENTICESHIP
COLLEGE
WORKPLACE
A Level or Apprenticeship: Accounting
A Level: Mathematics Further Maths
A Level: Economics
Apprenticeship: Engineering
Maths GCSE Examinations Paper 1, 2 & 3
GCSE Results Day
H: Vectors F: Congruence & Similarity
Revision, Retrieval & Gap Filling
H: Circle Theorems F: Quadratic Graphs & equations
H: Equations & Graphs F: Constructions
H: Further Algebra F: Area & Volume
H: More Trigonometry F: Probability
Maths Mock Examinations: Paper 1 & 2
H: Multiplicative Reasoning F: Right-Angled Triangles
H: Probability F: Ratio & Proportion
H: Statistics F: Multiplicative Reasoning
YEAR 11
Consolidation
End of Year 10 Maths Assessment
F: Multiplicative Reasoning
H: More Trigonometry F: Probability
H: Multiplicative Reasoning F: Ratio & Proportion
H: Algebra F: Graphs
H: Graphs & Charts F: Angles
H: Graphs F: Algebra
H: Algebra F: Algebra
H: Statistics F: Right-Angled Triangles
H: Number F: Fractions & Percentages
Consolidation
H: Probability F: Transformations
H: Transformations F: Averages
H: Area & Volume F: Angles
H: Angles F: Tables & Charts
Consolidation
YEAR 10
Consolidation
Using Percentages
Deductions
Pythagoras' Theorem
Ratio & Proportion
Probability
Constructions & Congruency
3D Shapes
Testing Conjectures
Solving Equations
Numbers
Maths & Money
Transformations
Consolidation
Rates
Algebraic Representation
Consolidation
End of Year 9 Maths Assessment
Straight Line Graphs
Measures of Location
Symmetry & Reflection
Consolidation
Angles
UKMT Challenge
Fractions & Percentages
Sequences
Brackets, Equations & Inequalities
YEAR 9
End of Year 8 Maths Assessment
Consolidation
Data Handling
Area
Number Sense
Standard Form
Indices
Consolidation
Adding & Subtracting Fractions
Geometric Reasoning
Probability
End of Year 7 Maths Assessment
Multiplying & Dividing Fractions
Tables & Probability
Consolidation
Ratio
Representing Data
Operations with Directed Numbers
Constructing & Measuring Angles
Number Sense
Prime Numbers
Consolidation
Multiplicative Change
Working in the Cartesian Place
YEAR 8
Fractions & Percentages of Amounts
Consolidation
Multiplication & Division
Fractions, Decimals & Percentages
Equality & Equivalence
Sequences
Welcome!
Year 6 Maths SATs
Addition & Subtraction
Place Value & Ordering Numbers
Algebraic Notation
Year 7 Baseline Assessments
Visit Arena Academy Maths Department
YEAR 7
CORE EDUCATION TRUST

Maths: Topic 4 3D shapes

Name 2D & 3D shapes



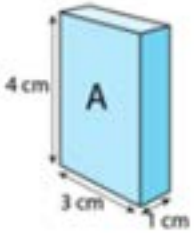
Recognise prisms

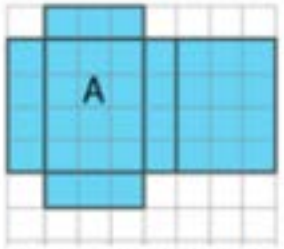
A solid object with two identical ends and flat sides

The cross section will also be identical to the end faces

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

Nets of cuboids

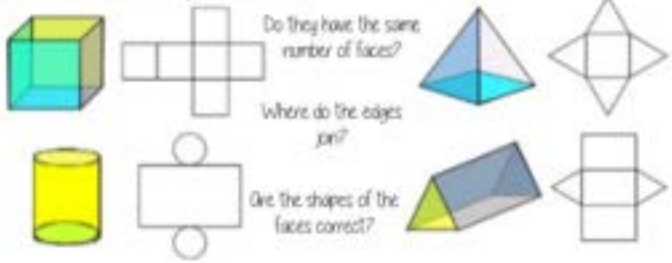




1cm grids help to draw accurately

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

Sketch and recognise nets

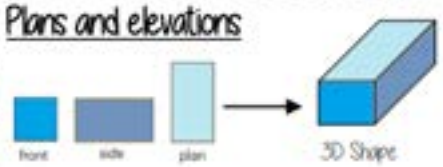


Do they have the same number of faces?

Where do the edges join?

Are the shapes of the faces correct?

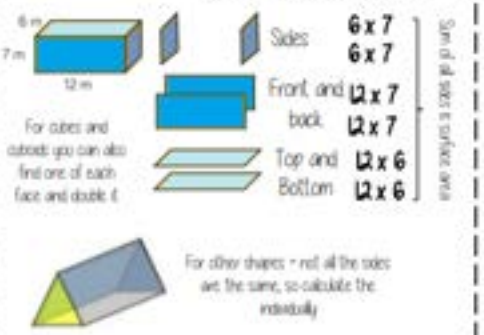
Plans and elevations



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

Surface area

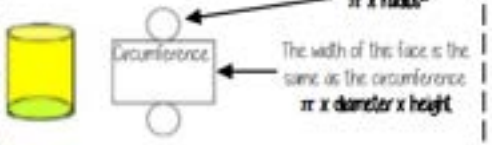
Sketching nets first helps you visualise all the sides that will form the overall surface area



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

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

Surface area - cylinders



2 x π x radius² + π x diameter x height

Volumes

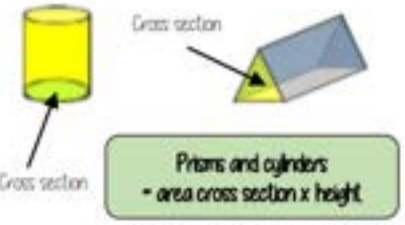
Volume is the 3D space it takes up – also known as capacity if using liquids to fill the space

Counting cubes

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

Cubes/ Cuboids = base x width x height

Remember multiplication is commutative



Prisms and cylinders = area cross section x height

Height can also be described as depth

Area of 2D shapes

R

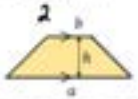
Rectangle
Base x Height

Triangle
½ x Base x Perpendicular height

Parallelogram/ Rhombus
Base x Perpendicular height

Area of a trapezium

$\frac{(a+b)\times h}{2}$



Area of a circle
π x radius²

Areas – square units
Volumes – cube units

Areas and volumes can be left in terms of pi π

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

Maths: Topic 5 Construction and congruency

Draw and measure angles

Draw a 35° angle

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

The angle

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

Scale drawings

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

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

The car image is 10cm

Image	Real life
1cm	30cm
10cm	300cm

Locus of a distance from a point

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

Equipment needed

The radius is the distance from the fixed point

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

Locus of a distance from a straight line

All points are equidistant (the same distance) from line

The ends of the line are fixed points

Equipment needed

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

Locus equidistant from two points

Also a perpendicular bisector

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

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

Join the intersections with a ruler

All points on this line are equidistant from both points

Construct a perpendicular from a point

Point

Line

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

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

Connecting the arcs makes the bisector

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

Locus of a distance from two lines

Also an angle bisector

This cuts the angle in half

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

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

Join the vertex to the intersection

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=PM, BC=LM triangles ABC and PLM are **congruent**

Congruent triangles

Side-side-side

All three sides on the triangle are the same size

Angle-side-angle

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

Side-angle-side

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

Right angle-hypotenuse-side

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

Constructing Triangles

Link to steps

Side, Angle, Angle

Side, Angle, Side

Side, Side, Side

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

English

Topics covered from the beginning of the academy year to the end of this half-term.

AUT 1:

1. Great Expectations or Oliver Twist by Charles Dickes

AUT 2:

2. Dystopia - Creative reading and writing

Year 9- Knowledge Organiser – Dystopian Genre

Definition of dystopian writing: literature that describes an imaginary society that is as dehumanising and as unpleasant as possible.

Typical genre features:

- Propaganda is used to control the citizens of society.
- Information, independent thought and freedom are restricted.
- A leader/concept is worshipped by the citizens of the society.
- Citizens have a fear of the outside world.
- Citizens live in a dehumanized state.
- Citizens conform to uniform expectations. Individuality and dissent are bad.
- The society is an illusion of a perfect utopian world.

A Dystopian Protagonist:

- often feels trapped and is struggling to escape.
- questions the existing social and political systems and attempts to rebel but in a way that is still morally acceptable
- believes or feels that something is terribly wrong with the society in which he or she lives.
- Lacks the selfish nature of those in charge.

Typical settings:

- Futuristic, industrial cities
- Destroyed natural habitat with little connection to nature
- High levels of surveillance
- Environments and weather that creates a strong sense of oppression or constraint

Social and Historical Context

- Dystopian ideas within literature have existed for a long time, but the genre itself is one of the newer genres within literature. *Utopia* written by Thomas More in 1516, which, despite its title, reflects a dystopian society. Although it's presented as an ideal world, we know that in reality, it would not successfully function. So even when trying to describe a utopia, writers may actually end up portraying a society that is flawed or dysfunctional.
- With the increase of social media, public surveillance, fear over nuclear weaponry and an increased awareness of social issues such as racism, greed or poverty, writers have written about the extreme cases of controlling such issues.
- **BIG QUESTION: Orwell writes in 1984, "If you want a picture of the future, imagine a boot stamping on a human face – for ever." Is this the true depiction of human life? Does this lead us to assume that humans have an ingrained capability to be evil?**
- Several dystopian books have been adapted for film, fuelling our obsession with the imperfect society and 'what if' scenarios. However, some are less successful than we would expect. P.D. James, who wrote "The Children of Men", acknowledged that it could be seen as science fiction but was anxious that it was instead identified as dystopian to recognise the moral of the story. "The Children of Men" didn't sell nearly as well as her detective novels. Why might this be?) H.G. Wells abandoned his dystopian science fiction to write a different genre. **Why might that be?**

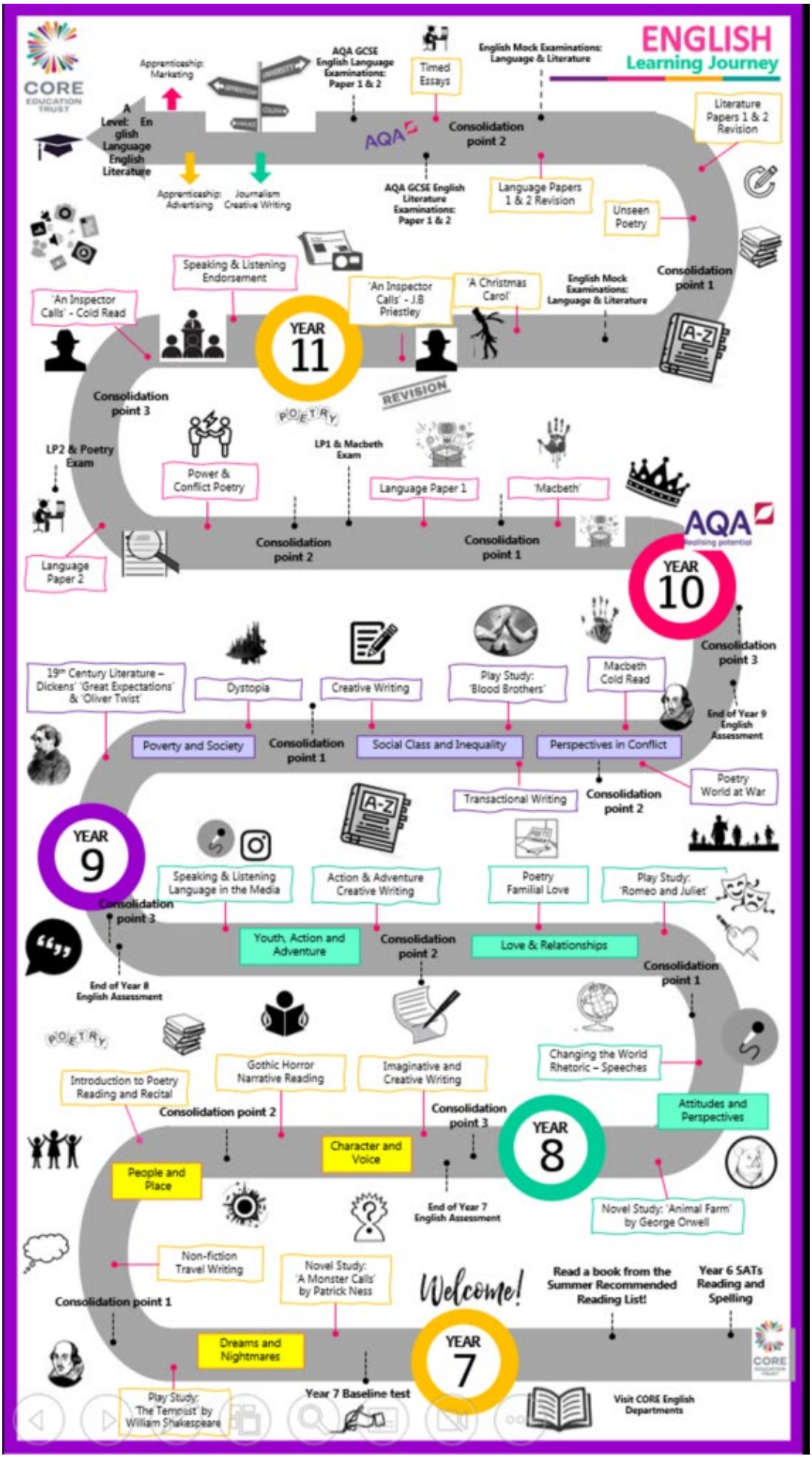
Relevant vocabulary

Utopia
Dystopia
Dehumanising
Dictatorship
Totalitarian
Tyrannical
Oppressive
Repressive
Liberation
Captive
Constrained
Censorship
Compliance

Propaganda
Revolution
Dissent
Compliance
Apocalypse
Conformity
Free will
Democracy
Dysfunction
Omnipresent
Dehumanisation
Surveillance

Notable Dystopian texts

1984 George Orwell	**Brave New World Aldous Huxley**	**The Giver Lois Lowry**	**Farenheit 451 Ray Bradbury**	**The Running Man Stephen King**	**The Maze Runner James Dashner**	**A Handmaid's Tale Margaret Atwood**	**I am Legend Richard Matheson**	**Delirium Lauren Oliver**	**Noughts and Crosses Malorie Blackman**	**More than This Patrick Ness**	**The Hunger Games Suzanne Collins**


ENGLISH
Learning Journey
CORE EDUCATION TRUST
Apprenticeship: Marketing
A Level: English Language English Literature
Apprenticeship: Advertising
Journalism Creative Writing
AQA GCSE English Language Examinations: Paper 1 & 2
Timed Essays
English Mock Examinations: Language & Literature
Consolidation point 2
Literature Papers 1 & 2 Revision
AQA GCSE English Literature Examinations: Paper 1 & 2
Language Papers 1 & 2 Revision
Unseen Poetry
Consolidation point 1
Speaking & Listening Endorsement
'An Inspector Calls' - Cold Read
'An Inspector Calls' - J.B Priestley
'A Christmas Carol'
English Mock Examinations: Language & Literature
YEAR 11
REVISION
POETRY
Consolidation point 3
LP2 & Poetry Exam
LP1 & Macbeth Exam
Power & Conflict Poetry
Language Paper 1
'Macbeth'
Language Paper 2
Consolidation point 2
Consolidation point 1
AQA
YEAR 10
19th Century Literature – Dickens' 'Great Expectations' & 'Oliver Twist'
Dystopia
Creative Writing
Play Study: 'Blood Brothers'
Macbeth Cold Read
Consolidation point 3
End of Year 9 English Assessment
Poverty and Society
Consolidation point 1
Social Class and Inequality
Perspectives in Conflict
Transactional Writing
Consolidation point 2
Poetry World at War
YEAR 9
Speaking & Listening Language in the Media
Action & Adventure Creative Writing
Poetry Familial Love
Play Study: 'Romeo and Juliet'
Consolidation point 3
Youth, Action and Adventure
Consolidation point 2
Love & Relationships
Consolidation point 1
End of Year 8 English Assessment
POETRY
Gothic Horror Narrative Reading
Imaginative and Creative Writing
Changing the World Rhetoric – Speeches
Introduction to Poetry Reading and Recital
Consolidation point 2
Consolidation point 3
YEAR 8
Attitudes and Perspectives
Character and Voice
People and Place
End of Year 7 English Assessment
Novel Study: 'Animal Farm' by George Orwell
Non-fiction Travel Writing
Novel Study: 'A Monster Calls' by Patrick Ness
Welcome!
Read a book from the Summer Recommended Reading List!
Year 6 SATs Reading and Spelling
Consolidation point 1
Dreams and Nightmares
YEAR 7
Play Study: The Tempest' by William Shakespeare
Year 7 Baseline test
Visit CORE English Departments

Science

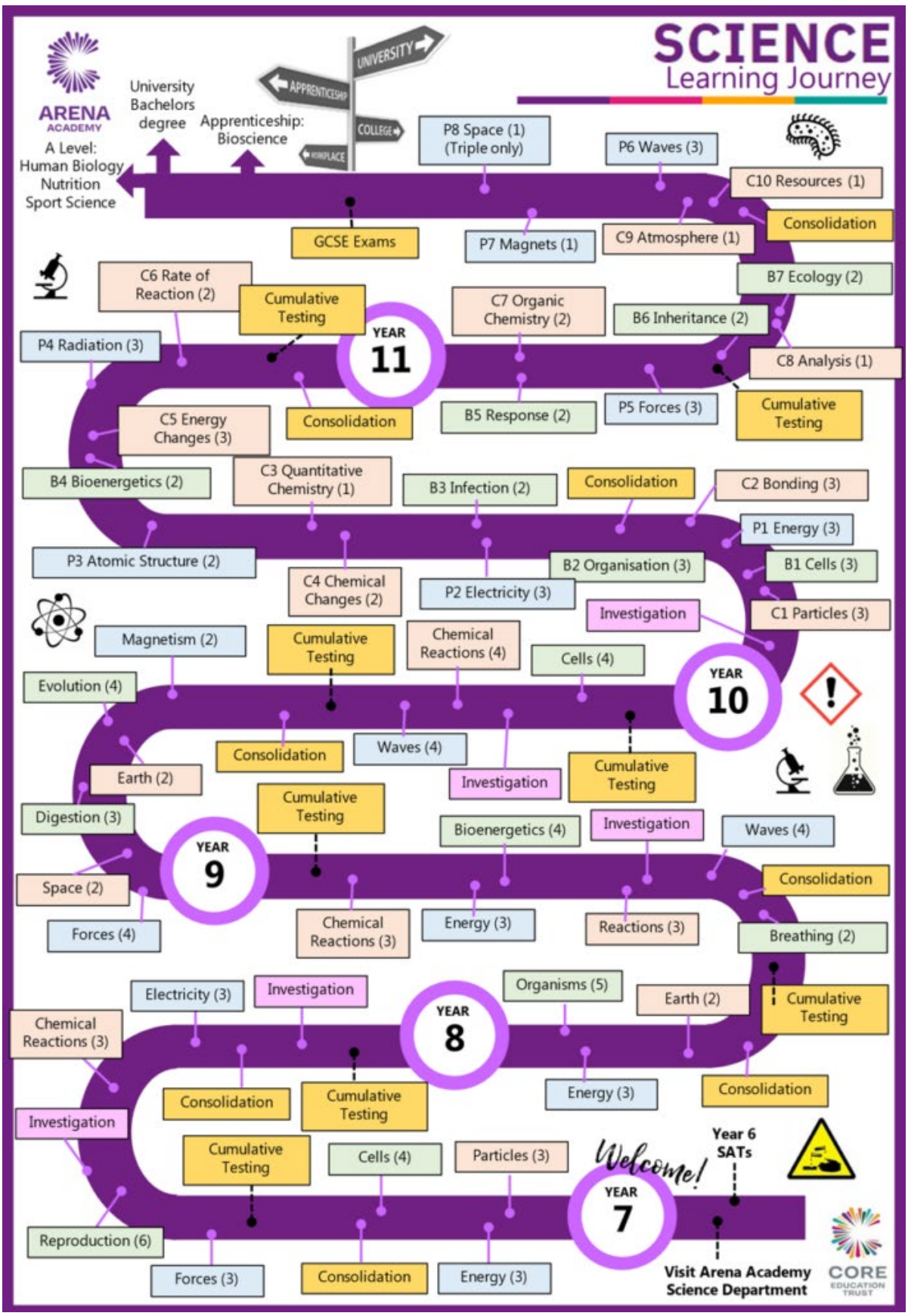
Topics covered from the beginning of the academy year to the end of this half-term.

AUT 1:

1. Forces
2. Pressure
3. Universe

AUT 2:

1. Digestion
4. Evolution


SCIENCE
Learning Journey
ARENA ACADEMY
University Bachelors degree
Apprenticeship: Bioscience
A Level: Human Biology Nutrition Sport Science
UNIVERSITY
APPRENTICESHIP
COLLEGE
WORKPLACE
YEAR 11
GCSE Exams
P8 Space (1) (Triple only)
P7 Magnets (1)
P6 Waves (3)
C9 Atmosphere (1)
C10 Resources (1)
Consolidation
B7 Ecology (2)
B6 Inheritance (2)
C8 Analysis (1)
Cumulative Testing
P5 Forces (3)
B5 Response (2)
C7 Organic Chemistry (2)
Cumulative Testing
Consolidation
C6 Rate of Reaction (2)
P4 Radiation (3)
C5 Energy Changes (3)
YEAR 10
B4 Bioenergetics (2)
C3 Quantitative Chemistry (1)
B3 Infection (2)
Consolidation
C2 Bonding (3)
P1 Energy (3)
B1 Cells (3)
C1 Particles (3)
Investigation
Cumulative Testing
Cells (4)
Chemical Reactions (4)
P2 Electricity (3)
B2 Organisation (3)
C4 Chemical Changes (2)
P3 Atomic Structure (2)
YEAR 9
Magnetism (2)
Cumulative Testing
Evolution (4)
Consolidation
Waves (4)
Earth (2)
Investigation
Cumulative Testing
Digestion (3)
Space (2)
Forces (4)
Chemical Reactions (3)
Energy (3)
Bioenergetics (4)
Investigation
Reactions (3)
Waves (4)
Consolidation
Breathing (2)
YEAR 8
Electricity (3)
Investigation
Chemical Reactions (3)
Consolidation
Cumulative Testing
Organisms (5)
Energy (3)
Earth (2)
Cumulative Testing
Consolidation
Investigation
Cumulative Testing
Reproduction (6)
Forces (3)
Cells (4)
Consolidation
Particles (3)
Energy (3)
YEAR 7
Welcome!
Year 6 SATs
Visit Arena Academy Science Department
CORE EDUCATION TRUST

Year 9 Forces

Key Words:

Equilibrium: State of an object when opposing forces are balanced.

Deformation: Changing shape due to a force.

Linear relationship: When two variables are graphed and show a straight line which goes through the origin, they can be called directly proportional.

Newton: Unit for measuring forces (N).

Resultant force: Single force which can replace all the forces acting on an object and have the same effect.

Friction: Force opposing motion which is caused by the interaction of surfaces moving over one another. It is called 'drag' if one of the surfaces is a fluid.

Tension: Force extending or pulling apart.

Compression: Force squashing or pushing together.

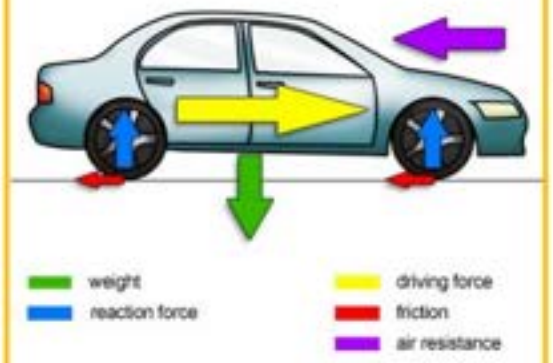
Contact force: One that acts by direct contact.

Forces exist when objects interact- this produces an interaction pair. Forces can deform objects, change their speed, or change their direction of motion.

Contact Forces:
Friction, Air Resistance, and Water Resistance

Non Contact Forces:
Gravity, Magnetic force

Friction can be reduced by lubrication. Air resistance and water resistance can be reduced by streamlining.



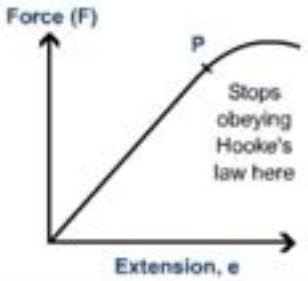
You can draw a force diagram to show the forces acting on an object and label their size (length or thickness of the arrow) and direction with Newtons.

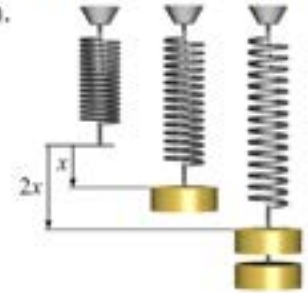
When the resultant force on an object is zero, it is in **equilibrium** and does not move, or remains at constant speed in a straight line.

moving 2m/s

One effect of a force is to change an object's form, causing it to be stretched or compressed. In some materials, the change is proportional to the force applied.

Hooke's law states when you double the force on a spring you double the extension.





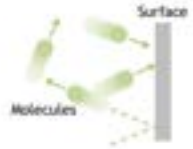
If forces are not balanced the object will speed up, slow down or change direction

Balanced and Unbalanced Forces

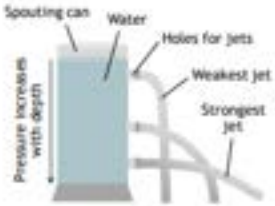
Drag/frictional forces slow down falling or accelerating objects.

Forces
- Contact forces
- Pressure

1. Pressure: The **ratio** of **force** to **surface area.**
2. Gas pressure: Pressure due to the **force** exerted by the **particles** of a gas **colliding with a surface.** Acts in all directions.



3. Atmospheric pressure: The pressure caused by the **weight of the air above** a surface.
4. Liquid pressure: Pressure due to the **force** exerted by the **particles** of a liquid **pushing on a surface.** Acts in all directions.
5. Fluid pressure and depth: The pressure at any point in a fluid **depends on the weight of the fluid** above it. This **increases with depth.**



6. Upthrust: The **upward force** that a fluid exerts on a body floating in it.
7. Sinking: Objects sink if the **weight** of the object is **bigger than** the **upthrust.**
8. Floating: Objects float if the **weight** of the object is **equal to** the **upthrust.**
9. $fluid\ pressure = \frac{force}{area}$
10. $stress = \frac{force}{area}$
11. Stress: The **ratio** of **force** to **surface area** of a solid.
12. Units:
    Pressure and **stress** in **pascals (Pa)** or **Newtons per metre squared (N/m²)**
    Force in **Newtons (N)**
    Area in **metres squared (m²)**

Pressure in solids

- Pressure is the force exerted on a surface because of weight, and is measured in **newtons per metre squared** or **Pascal (Pa)**. Where 1 N/m^2 = 1 Pa.
- For small areas you can use centimetres instead.
- Pressure explains why studded boots help you grip grass, or why snowshoes help you walk in snow.

$$\text{pressure } (N/m^2) = \frac{\text{force (N)}}{\text{area } (m^2)}$$

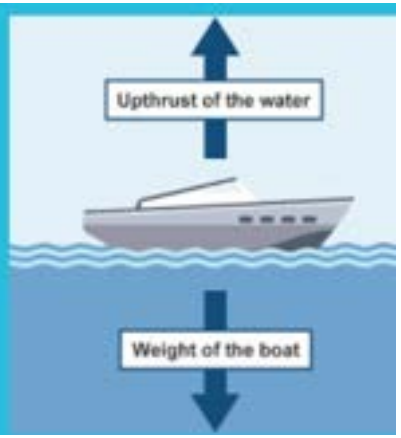
Pressure in liquids

- Solids and liquids are **incompressible**, because all the particles are touching already. This means they pass pressure on.
- The pressure at the bottom of a liquid is bigger than at the top, because the weight of the water pushing down increases with depth.

Year 9 Pressure

FLOAT OR SINK?

Objects that have tightly packed molecules are more dense than those where they are spread out. So depending on the density they will sink or float. For example the image to the right is showing upfrust



PRESSURE DEFINITION

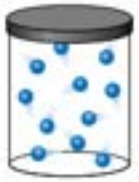
Pressure is the continuous physical force, it is a measure of how much force is acting on a certain area.

- It depends on the force.
- It depends on the area of surface its acting on.
- The greater the force the greater the pressure

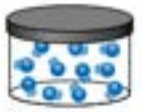
Force is measured in Newtons (N). Area can be cm^2 or m^2 and so pressure is measured in N/cm^2 or N/m^2.

Pressure in gases

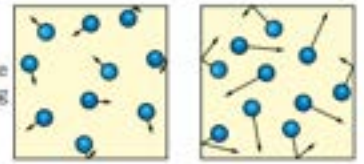
Collisions between gas particles and their container produce **gas pressure.**



If you **compress** (squash) a gas into a smaller volume there will be more collisions, and so a higher pressure.



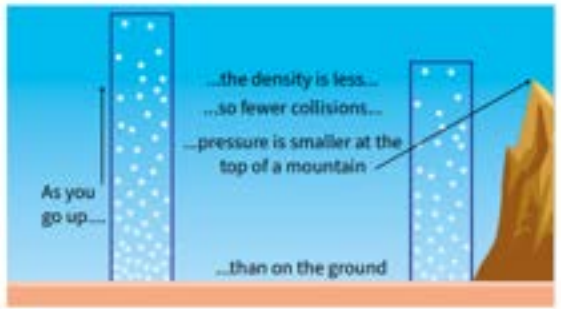
Before heating



If you heat a gas, the particles will have more energy. This means they will move more quickly and collide with the container more often, so the pressure will be greater.

Atmospheric pressure is the pressure acting on us from the air around us.

- The higher above sea level the lower the atmosphere pressure.
- This is because the air is less dense the higher you go above sea level, so there are fewer collisions between air particles.

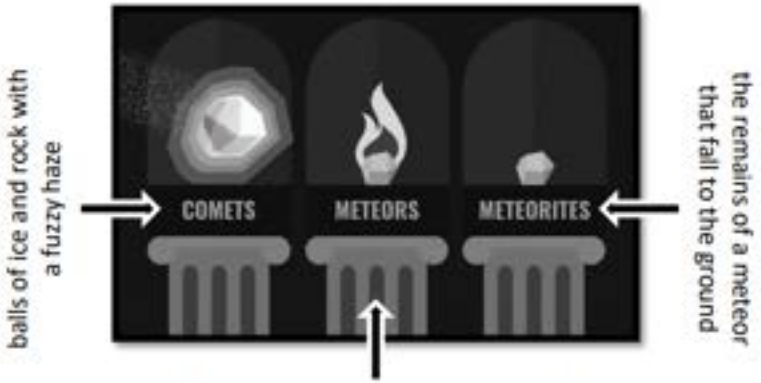


Year 8 Universe

Objects in the Night Sky

Satellites are anything that orbit the Earth, they can be **natural** or **artificial**.

There are five **planets** that we can see from Earth with the naked eye: Mercury, Venus, Mars, Jupiter and Saturn.



Most of the lights in the sky are **stars** in our **galaxy**, the **Milky Way**. We can talk about their distances from Earth in terms of **light years**: the distance light travels in a year.

There are billions of stars in each galaxy. The Milky Way is just one of billions of galaxies in the **universe**.

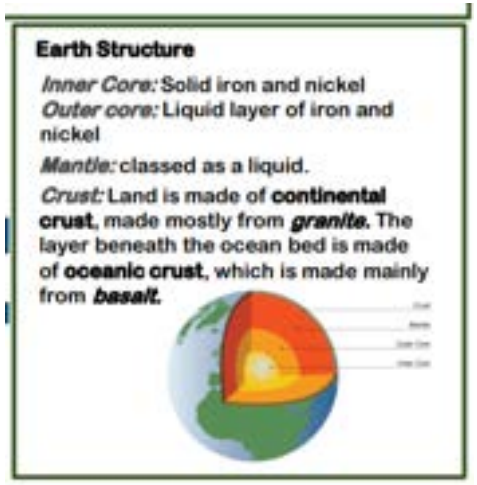
The Solar System

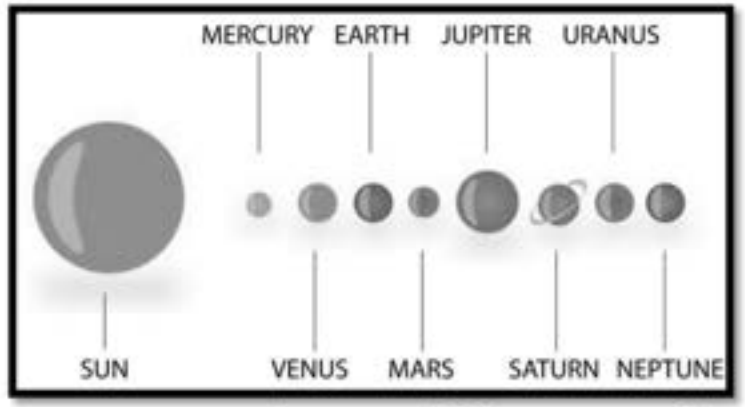
There are eight planets in our solar system, which orbit the Sun in an **ellipse** shape.

The **asteroid belt** is between Mars and Jupiter. It contains thousands of pieces of rock.

The terrestrial planets are made from **rock**, whereas the outer planets are **gas giants**.

The solar system was formed when **gravity** pulled gas and dust together to first form our Sun about 5 billion years ago. Planets formed in a similar way afterwards.



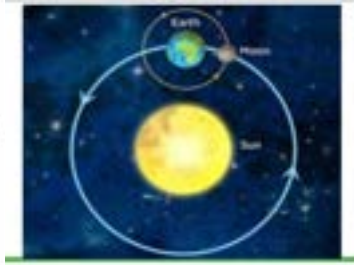


The planets are called Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune.

An easy way to remember the names of planets in order is:
My Very Easy Method Just Speeds Up Naming

The Moon **orbits** the Earth anti-clockwise and takes **approximately 28 days**.
The Moon spins once on its axis every time it orbits Earth. This means that we only see one side of the Moon.
The Moon has different phases depending on where it is in its **orbit**. At different times, the moon appears to be different shapes because the sun light up different parts of the moon as it moves around the Earth. The Moon's **gravity** causes high and low tides.

Geocentric model	A belief people used to have that other planets and the Sun orbited around the Earth.
Heliocentric model	The structure of the solar system where the planet orbits around the sun.



Year 8 Universe

VOCAB

Asteroid: a small rocky body orbiting the sun. Most occupy the asteroid belt (sparse, not like in the films).

Comet: has a nucleus of ice and dust. Has a 'tail' of scattered dust and gas.

Galaxy: a collection of stars and planets, held together by gravitational attraction.

Meteroid: rock fragments derived from comets. When it enters the Earth's atmosphere, the pressure heats it and it becomes a meteor with a fiery tail.

Milky Way: our galaxy. Formed 10 billion years ago.

Solar System: a group of planets and objects that orbit a star.

Sun: the G type Yellow Dwarf star at the centre of our solar system.

Orbit: repeated movement of an object around another object.

Universe: all existing matter and space. Currently believed to be about 10 billion lightyears in diameter and containing a vast number of galaxies. It has been expanding since the Big Bang 13 billion years ago.

PHASES OF THE MOON

- The moon takes 27.7 days to orbit the Earth.
- It also takes 27.7 days to spin on its axis, which is why we only ever see its near side.
- A lunar month is 29 days and 12 hours.
- The moon ALWAYS has a lit side and a far side. How much of the lit side we see determines the moon phase.
- The phase of the moon we see depends on from what direction the sunlight is hitting it, and the angle we see that from Earth.

New Moon: The moon is between the Earth and the sun, so we only see dark. The lit side is facing the sun.

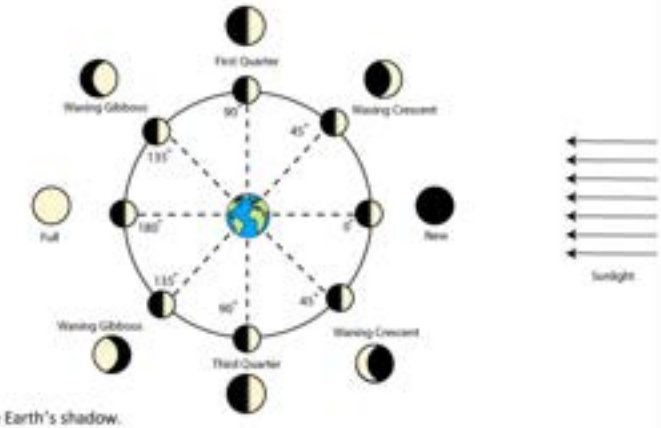
Waxing Crescent: The moon has moved slightly to the East of the sun, so we see a sliver of the lit side. Waxing means growing.

First Quarter (half full): The moon is 90 degrees away from the sun, a quarter of its way through its orbit. We can see half of the lit side, half of the far side.

Waxing Gibbous: gibbous means 'swollen'. We see 3/4 of the lit side, 1/4 far side.

Full Moon: the Earth is between the moon and the sun, so we see the entire lit side.

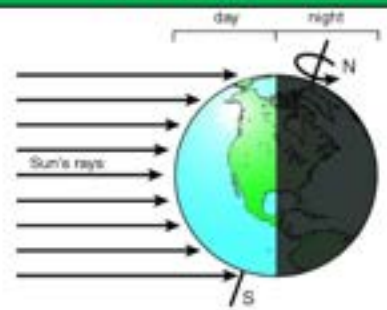
Once at half its orbit, it repeats the phases in the opposite order: waning gibbous, third quarter, waning crescent, new moon.



Solar Eclipse: When the moon is exactly between the sun and the Earth and the Earth passes through the moon's shadow. The sun is 400 times bigger than the moon, but it is also 400 times further away, so the moon covers the sun perfectly. This can only be seen during the day.

Lunar Eclipse (blood moon): When the Earth is positioned exactly between the sun and the moon, and the moon passes through the Earth's shadow. This can only be seen at night.

DAY AND NIGHT



- The parts of the Earth facing the sun are lit up by it, causing day.
- The part of the Earth facing away from the sun are dark, night.
- The rotation of the Earth causes day and night. It rotates on its axis once every 23 hours and 56 minutes. It always rotates anti-clockwise, meaning that the sun always appears to rise in the East and set in the West.
- Because the Earth is tilted on its axis, days get longer and shorter. In July, the Northern hemisphere is tilted towards the sun, so the days are longer. Opposite in December.
- During March and September, the hemispheres are tilted about evenly, so day and night equal out.

SEASONS

- The tilt of the Earth's axis causes seasons.
- Scientists think that, long ago, an impact caused the Earth to tilt on its axis.
- During June, the Northern hemisphere is tilted towards the sun, meaning the sun's impact is more direct, the temperature is warmer and the day is longer. As the Southern hemisphere is also tilted away, the sun's impact is less dramatic, making it colder and darker for longer.
- The equinox is when day and night are the same length. There are two– one in September and one in March.

Why digest food?

The food we eat is made from large insoluble molecules. We need to be able to break these down in our digestive system into small soluble molecules which can move through the wall of the small intestine and into the blood to be carried around the body and to the cells.

Food	Structure	Broken down by:	Enzymes produced by:
Carbohydrates	Starch → Glucose	**Carbohydrase** enzymes	Mouth, pancreas and small intestine
Proteins	Protein → Amino acids	**Protease** enzymes	Stomach, pancreas and small intestine
Lipids (fats)	Fat → Glycerol + fatty acids	**Lipase** enzymes	Lipase enzymes

A balanced diet

A balanced diet contains

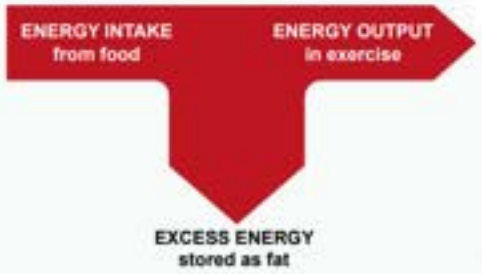
- Proteins - Build bodies
- Carbohydrates - for energy
- Fats - provide energy
- Minerals – iron- for haemoglobin in blood
- Vitamins - vit C- maintains healthy tissues
- Fibre - provides bulk
- Water- essential for body processes and functions.

Excess amounts of any of these can cause health problems.

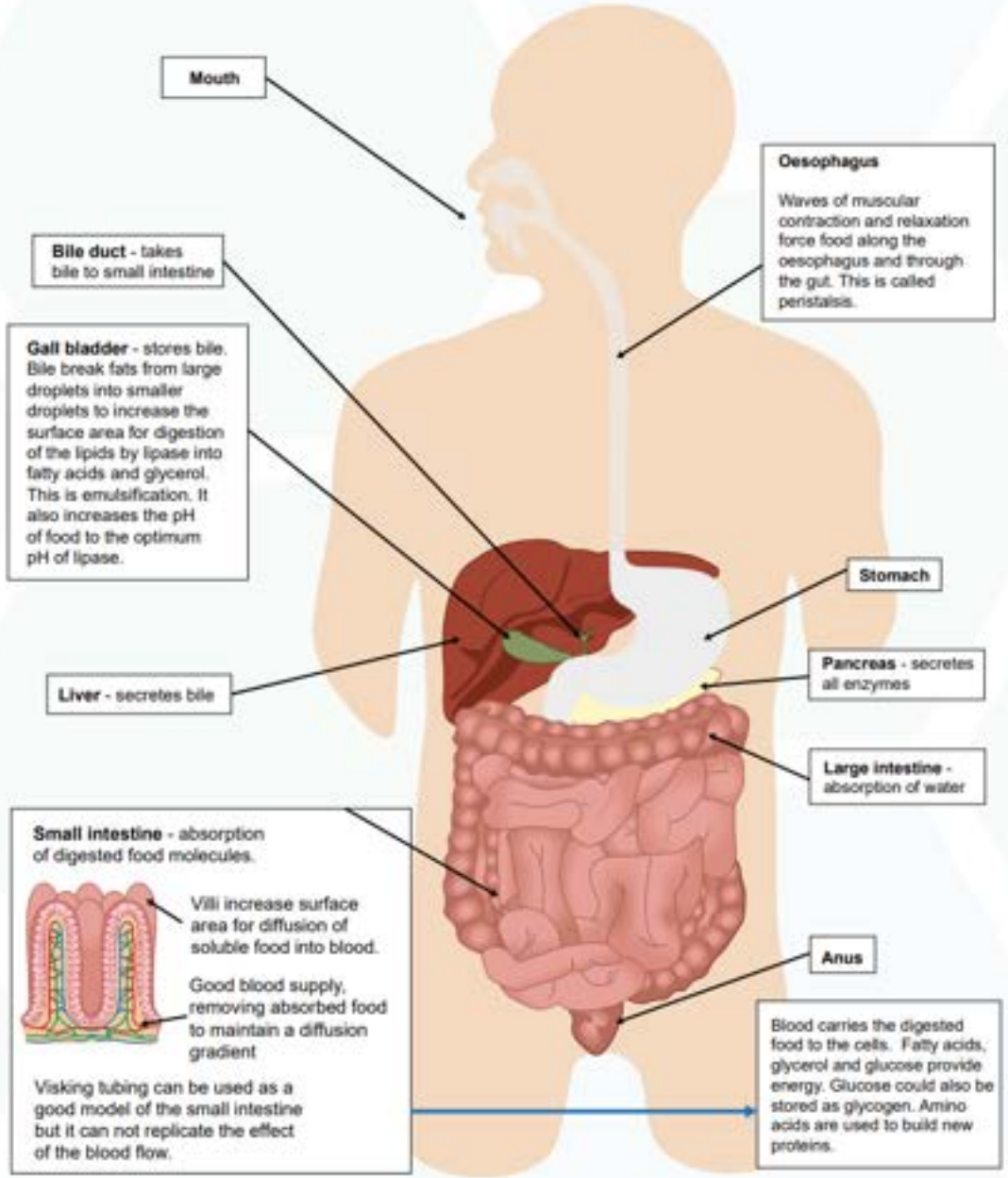
- Excess high energy foods will be stored as fat leading to obesity.
- Excess sugar can lead to type II diabetes, tooth decay and obesity
- Excess fat can lead to obesity, heart disease and circulatory disease.
- Excess salt can lead to high blood pressure.

Food tests

Food	Chemical used	Colour change
Starch	Iodine	Brown to blue/black
Glucose	Benedict's	Blue to brick red
Protein	Biuret	Blue to violet



The digestive system



Keywords

embryo screening – Genetic tests carried out on an embryo to see whether it carries a faulty allele.

evolution – A change in the inherited characteristics of a population over time through a process of natural selection.

evolutionary tree – A method used to show how scientists believe organisms are related.

extinction – The permanent loss of all members of a species.

fossils – The remains of organisms from millions of years ago which are found in rocks.

genetic engineering – The process by which scientists manipulate and change the genotype of an organism.

natural selection – The process by which organisms that are better suited to an environment are more likely to survive and reproduce.

selective breeding – Humans selecting animals or plants, that have a required characteristic, for breeding.

speciation – The process by which two species evolve from a single original species by natural selection. The two populations have become so different that they can no longer interbreed to produce fertile offspring.

variation - Differences in characteristics of individuals in a population.

Variation

Variation maybe be due to differences in:

- the genes that have been inherited (genetic causes);
- the conditions in which they have developed (environmental causes);
- a combination of genes and the environment.

Evolution

All species of living things have evolved from simple life forms by natural selection.

- If a variant/characteristic is advantageous in an environment, then the individual will be better able to compete.
- This means they are more likely to survive and reproduce.
- Their offspring will inherit the advantageous allele.

Year 9 Evolution

Evolution describes the gradual **changes** that happen in the **same species**, living in the **same location**, over a **long time**. Scientists have proof that living things are continuously **evolving** – even today!

Evolution does not describe people changing their bodies by exercise or dyeing their hair. Evolution happens over a much longer time and can only happen between parents and **offspring** through **inheritance**.

Fossils

After an animal dies, the soft parts of its body **decompose** leaving the hard parts, like the skeleton. This becomes buried by small particles of rock called **sediment**. As more layers of sediment build up on top, the sediment around the skeleton begins to compact and turn to rock. The bones then start to be dissolved by water seeping through the rock. Minerals in the water replace the bone, leaving a **rock replica** of the original bone called a **fossil.**

Researchers and scientists have been able to use the fossils they have discovered to find out about different animals, their **characteristics** and how they have changed over the years.

Natural Selection

Natural selection is the idea that species change over time in order to survive in their environment and reproduce. As **offspring** are born, they have the advantageous genetic **characteristics** passed on from their parents. Over time, this is how species **adapt.** Living things that are unable to **adapt** to the changes in the environment are unlike to survive

Fossils of giraffes from millions of years ago show that they used to have shorter necks. They have gradually **evolved** through **natural selection** to have longer necks so that they can reach the top leaves on taller trees.

Galapagos Finches

When bad weather affected plant growth and there were fewer seeds to eat, the **offspring** had to eat larger seeds that would not normally be part of their diet in order to survive. Only the offspring with large beaks could break open and eat the larger seeds. Therefore, these **offspring** survived and the other, smaller beaked offspring died. **Offspring** **inherited** large beaks and so Galapagos finch species started to **evolve** and **adapt.**

Year 9 Evolution

Biodiversity and Waste Management

Biodiversity is the variety of living organisms on the earth or in an ecosystem. It is important in helping to maintain stable ecosystems. Organisms are often interdependent, relying on others as food sources, or to create suitable environmental conditions to survive. Human survival is also dependent on this biodiversity.

The global human population has exceeded 7 billion.
Human population has increased due to modern medicine and farming methods, reducing famine and death from disease.
This means a greater demand for food, resources and water.
It also means more waste and emissions are created.

Sewage, toxic chemicals, household waste and gas emissions pollute the water, land and air, killing plants and animals and reducing biodiversity.

Maintaining Ecosystems and Biodiversity

There are many ways that biodiversity and ecosystems are maintained:

- Breeding programmes can help to protect endangered species from extinction.
- Conservation programmes can help to protect and preserve specialised ecosystems and habitats such as peat bogs and coral reefs.
- Reintroduction of hedgerows and field margins on agricultural land can help improve biodiversity by breaking up the monoculture crops.
- Sustainable forestry programmes help to manage the woodlands and reduce the deforestation to a sustainable rate.
- Societies actively encourage recycling and reusing of products and packaging to reduce the household waste going to landfill sites.

Fossils

Fossils could be:

- the actual remains of an organism that has not decayed;
- mineralised forms of the harder parts of an organism, such as bones;
- traces of organisms such as footprints or burrows.

Many early life forms were soft-bodied so have left few traces behind.

Fossils help us understand how much or little organisms have changed as life developed on earth.

Resistant Bacteria

There is variation in the bacterial population. One bacterium develops a mutation by chance that means it is resistant to an antibiotic.

The antibiotic kills some of the bacteria, the resistant bacterium survives and reproduces.

The antibiotic kills the rest of the non-resistant bacteria so the person may start to feel a little better. The resistant bacterium has survived the antibiotic and continues to multiply.

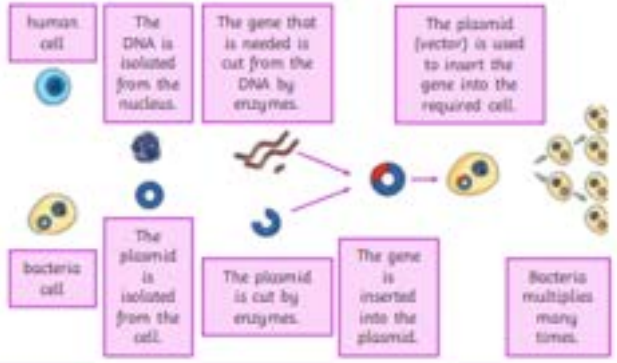
To reduce the rate at which antibiotic-resistant strains appear:

- Antibiotics should only be used when they are really needed, not for treating non-serious or viral infections.
- Patients should complete their courses of antibiotics, even if they start to feel better.
- The agricultural use of antibiotics should be restricted.

Selective Breeding

1. Choose parents who have the desired characteristic.
2. Select the best offspring and breed these to make the next generation.
3. These offspring are then bred again and again, over many generations, until a desired result is achieved.

Genetic Engineering



Classification

Linnaeus classified living things into kingdom, phylum, class, order, family, genus and species.

Organisms are named by the binomial system of genus and species.

Due to evidence from chemical analysis, there is now a 'three-domain system' developed by Carl Woese.

Domain	bacteria	archaea	eukaryota			
Kingdom	eubacteria	archaebacteria	protista	fungi	plantae	animalia

Geography

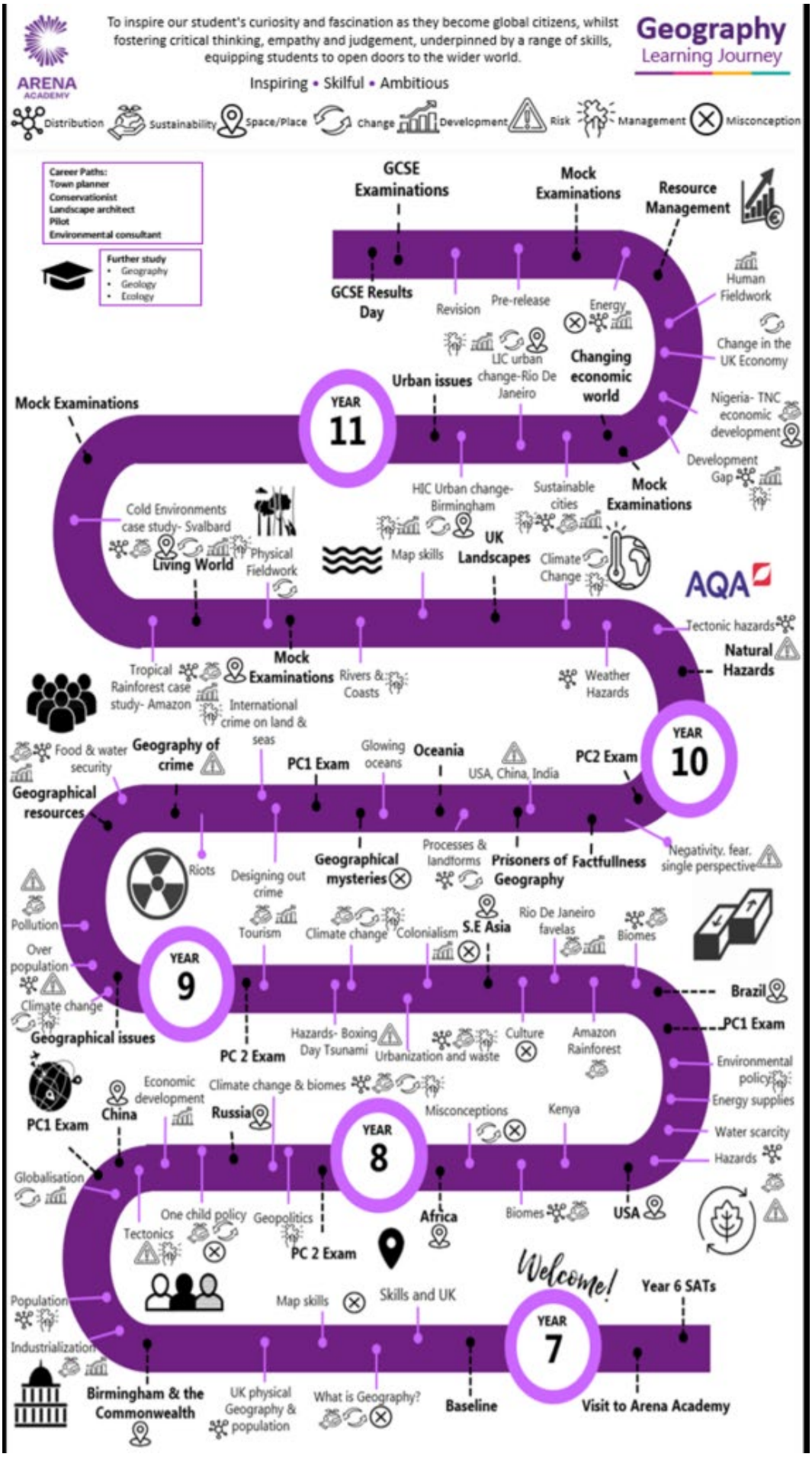
Topics covered from the beginning of the academy year to the end of this half-term.

AUT 1: Geographical issues

1. Climate change
2. Overpopulation
3. Fast fashion
4. Gender inequality

AUT 2: Geographical resources

5. Geography of food
6. Geography of water


ARENA ACADEMY
To inspire our student's curiosity and fascination as they become global citizens, whilst fostering critical thinking, empathy and judgement, underpinned by a range of skills, equipping students to open doors to the wider world.
Inspiring • Skilful • Ambitious
Geography
Learning Journey
Distribution
Sustainability
Space/Place
Change
Development
Risk
Management
Misconception
Career Paths:
Town planner
Conservationist
Landscape architect
Pilot
Environmental consultant
Further study
Geography
Geology
Ecology
YEAR 11
GCSE Examinations
Mock Examinations
Resource Management
GCSE Results Day
Revision
Pre-release
Energy
Human Fieldwork
Change in the UK Economy
LIC urban change-Rio De Janeiro
Changing economic world
Urban issues
Nigeria- TNC economic development
Development Gap
Mock Examinations
HIC Urban change-Birmingham
Sustainable cities
Mock Examinations
Cold Environments case study- Svalbard
Living World
Physical Fieldwork
Map skills
UK Landscapes
Climate Change
AQA
Tectonic hazards
Natural Hazards
Tropical Rainforest case study- Amazon
Mock Examinations
Rivers & Coasts
Weather Hazards
International crime on land & seas
YEAR 10
Food & water security
Geography of crime
PC1 Exam
Glowing oceans
Oceania
USA, China, India
PC2 Exam
Geographical resources
Processes & landforms
Prisoners of Geography
Factfullness
Negativity, fear, single perspective
Riots
Designing out crime
Geographical mysteries
Pollution
Tourism
Climate change
Colonialism
S.E Asia
Rio De Janeiro favelas
Biomes
Over population
YEAR 9
Brazil
Climate change
Geographical issues
PC 2 Exam
Hazards- Boxing Day Tsunami
Urbanization and waste
Culture
Amazon Rainforest
PC1 Exam
Environmental policy
Energy supplies
Economic development
Climate change & biomes
China
Russia
Misconceptions
Kenya
Water scarcity
Hazards
YEAR 8
Globalisation
One child policy
Geopolitics
Tectonics
PC 2 Exam
Africa
Biomes
USA
Welcome!
Year 6 SATs
Population
Map skills
Skills and UK
YEAR 7
Industrialization
Birmingham & the Commonwealth
UK physical Geography & population
What is Geography?
Baseline
Visit to Arena Academy

Year 9 Half Term 1

Units covered: Geographical issues

Key concepts:

Environment	Interconnection	Development
Place	Sustainability	
Space	Change	

Half-term targets:

- Can I describe the impacts of plastic pollution and strategies to manage plastic usage?
- Can I describe the difference between the natural and enhanced greenhouse effect?
- Can I describe the impacts of climate change?
- Can I describe the causes and impacts of overpopulation?
- Can I explain why companies have sweatshops and the impacts of their usage?
- Can I explain how homophobia in a country can influence wider global views?
- Can I describe the similarities and differences between gender inequality in HICs and LICs?
- Can I explain what environmental racism is and how it has caused a socio-environmental crisis?

Key definitions:

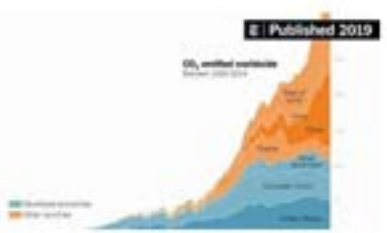
- Greenhouse effect – The process where heat is trapped in the Earth's atmosphere by greenhouse gases which affects Earth's temperature.
- Climate change – The long-term change in average temperature and precipitation in a location.
- Overpopulation – The rapid growth of a population risking numbers that cannot be supported by available resources.
- Sweatshop – A factory or workshop where workers experience poor and illegal working conditions.
- Homophobia – The discrimination and mistreatment of members of the LGBTQ+ community.
- Gender inequality – The discrimination and mistreatment of members of society based on their gender (e.g. sexism against women).
- Environmental racism - A form of systemic racism whereby communities of color are disproportionately burdened with health hazards through policies and practices.

Key information:

1. Plastic pollution is the purposeful littering and dumping of plastic materials. These plastics degrade slowly and provide further challenges when microplastics are left behind which can be damaging for animals and can end up in the food chain through consumption. Reducing reliance on plastics, increasing education and increasing recycling and reusing plastics will be key for decreasing plastic pollution.
2. There is a clear distinction between the natural and enhanced greenhouse effect – the natural greenhouse effect is important for survival on Earth since it regulates planet temperature whereas the enhanced greenhouse effect is activities releasing too many greenhouse gases that are trapping too much heat in the atmosphere that is causing global warming and contributing to climate change. Impacts of climate change include ice caps melting, increased extreme temperatures, increased severe weather events and resource security issues.
3. Overpopulation is caused when people are pushed out of areas for reasons such as lack of services, bad transport and lack of job opportunities. They are then pulled into areas that are better suited for reasons such as cleaner environment, lower crime rate and better healthcare. Overpopulation has impacted such as deforestation, decreased resource availability, increased unemployment and overcrowded transport.
4. Sweatshops are used by big TNC's such as Nike and Shein because they are cheaper to run, therefore the company headquarters can maintain the mot profit possible. Sweatshops have poor conditions such as long work hours, pay below a minimum wage and overcrowded conditions that are unsanitary. Companies place these sweatshops in LIC's to further reduce costs but also minimise publication of the issue.
5. Homophobia has been an issue that is covered more in the media due to recent events such as the 2022 Qatar World Cup (Rainbow laces/armband campaign) and Pride. Homophobia in Russia has been hitting the headlines due to its severity, with Russia having a long complex history of dislike towards the gay community. It is now extreme where people face arrest and punishment for stating that they are part of the community and laws have been passed to make it illegal.
6. Gender inequality in countries like Afghanistan are caused to restrictive and religious leadership with women being assigned gender specific roles such as creating and cleaning the family home and having babies. Since the Taliban are back in power, Afghan women are restricted in their job opportunities, the way they dress and where they can go in public without a man or his permission.
7. Saudi Arabia is a HIC with many restrictions for women such as not being able to open their own bank account, file a divorce or go out without male permission. Since Saudi Arabia lifted the ban on women driving in 2018 to modernise, it has given more women independence and is a step in the right direction towards equality.
8. Environmental racism was seen in Flint, Michigan when there was a change in water supply from bringing the water from Detroit to using the local river. However, this largely black community experienced a large-scale healthcare crisis caused by drinking the contaminated water which was not effectively challenged or resolved by the government. This community has raised the concern that this issue was dealt with in a way that would not be seen if the area had lower crime rates and more socio-economic opportunity.

Example exam questions:

1. Explain the impacts and responses of plastic pollution.
2. Describe the difference between the natural and enhanced greenhouse effect.
3. Define the term "overpopulation" and state an example of a location that is becoming overpopulated.
4. State an impact of companies using sweatshops for manufacturing their goods.
5. "Gender inequality does not exist in HIC's." To what extent do you agree with this statement?
6. Explain the impact of environmental racism in Flint, Michigan.



Year 9 Half Term 2

Units covered: Geographical Resources

Key concepts:

Space	Place
Change	Distribution
Environment	Sustainability

Half-term targets:

- Can I state examples of key geographical resources?
- Can I explain the factors that can affect food miles and food waste?
- Can I analyse the arguments for and against GM foods?
- Can I describe the difference between malnutrition and overnutrition?
- Can I describe the geography of chocolate?
- Can I explain the current issues with global water security?
- Can I explain the impacts of water conflict?
- Can I suggest ways of improving water security?

Key definitions:

- Geographical resource - All types of resources of the earth that are extracted, harvested or utilized by society; including understanding their characteristics, production, patterns of areal distribution, and conservation.
- Food miles – The distance a food source travels to get to your plate.
- Food security - The availability of food in a country and the state of having reliable access to enough affordable, nutritious food.
- GM foods - Foods produced from organisms that have had changes introduced into their DNA.
- Malnutrition – A physical condition that results from an imbalance between the nutrients in your body that it needs to function and the nutrients it gets.
- Overnutrition – Where the intake of nutrients exceeds the amount required for normal growth, development and metabolism and can lead to conditions such as obesity.
- Water security – The reliable availability of an acceptable quantity and quality of water for health, livelihood, ecosystems and production.
- Water conflict - Violence or disputes associated with access to, or control of, water resources, or the use of water or water systems as weapons or casualties of conflicts.

Example exam questions:

1. Define the term "GM food."
2. Suggest 2 factors that can affect food security.
3. State 2 impacts of water insecurity.
4. Describe the difference between malnutrition and overnutrition.
5. Discuss the arguments for and against GM foods.
6. Explain methods that can be used to improve water security.

Key information:

1. Resources are all the materials available in our environment which are technologically accessible, economically feasible and culturally sustainable and help us to satisfy our needs and wants. Food is one of these resources and we get ours in the UK from all over the world due to what we are able to produce here and not wanting to stick to foods that are in season. The food we eat makes up about 30% of our carbon footprint. Impacts include increased air pollution, increased health issues such as asthma, congestion and noise. Ways you can reduce food miles include shopping more locally, buying in bulk, using alternative transport to get to shops such as bikes or walking and growing more of your own to decrease how much is bought.
2. Food loss is food that is not eaten. The causes of food waste or loss are numerous and occur throughout the food system, during production, processing, distribution, retail and food service sales, and consumption. Overall, about one-third of the world's food is thrown away. Food demand is growing due to an increasing population, increasing household incomes and increased extreme weather conditions.
3. A genetically modified organism (GMO) is any organism whose genetic material has been altered using genetic engineering techniques/technology. A wide variety of organisms have been genetically modified including animals, plants, and microorganisms. For example, scientists are trying to develop frost-resistant strawberries by inserting DNA from the Arctic flounder fish (which can survive at very low temperatures) into strawberries. Pros and cons of GM foods include allergic reactions, increasing attraction to consumers, more resilient foods and less waste and decreased antibacterial resistance.
4. Health geography is the application of geographical information, perspectives, and methods to the study of health, disease, and health care. Symptoms of malnutrition includes low energy, weight loss, dry skin and longer healing times for wounds. The causes of malnutrition are different depending on where you are in the world and what resources are available. For example, lack of food is the biggest cause of malnutrition in the poorer and developing countries, however in more developed countries one of the main causes is imbalanced nutrient and vitamin intake. Overnutrition symptoms can include large appetite, irritability and confusion and mobility issues.
5. Cacao trees are found in limited geographical zones. Cacao trees only grown in tropical areas where they are hot and there is high precipitation. They thrive when it rains daily and when the average temperature is 27 degrees. Cacao trees grow in the understory layer of tropical rainforests under the shadows of taller trees because they are protected from large amounts of sun exposure whilst still getting the necessary nutrients and moisture to thrive. Fairtrade is a global organisation that works with farmers in less developed countries to get fair working conditions and fair prices for their crops. Fairtrade works with people who produce a range of goods across over 70 countries. Fairtrade works to give farming communities money to run local projects that helps with improving housing, education, healthcare and farming equipment. The farmers are also supported to farm in an environmentally friendly way.
6. Only 3% of the world's water is freshwater, and two-thirds of that is tucked away in frozen glaciers or otherwise unavailable for our use. Places which are arid will often have more problems with water supply. This is due to the features of the climate. An arid climate is known for being hot and dry, often receiving less than 25cm of rain per year. These areas are also called deserts. This affects global water security and can cause conflicts.
7. Water wars are conflicts between countries, states, or groups over access to water resources. There are many reasons why people fight over water supplies including agriculture, overpopulation, overuse and political clashes. A water war has raged on for many years between Egypt and Ethiopia over the allocation of the waters of the River Nile, an invaluable resource to the area.
8. Humans have tried to improve access to water supplies by creating reservoirs which provide a store for the areas that need it. Humans can also improve carbon storage, harvesting wastewater, reusing wastewater and adopting climate smart agriculture.
9. Water aid is an example of an organisation that are helping support water security issues in developing countries – "Clean water, decent toilets and good hygiene are basic human rights. They should be a normal part of daily life for everyone, everywhere – but they aren't. That's why we're here...We convince governments to change laws, link policy makers with people on the ground, pool knowledge and resources and rally support from people and organizations around the world, making lasting change happen on a massive scale.

History

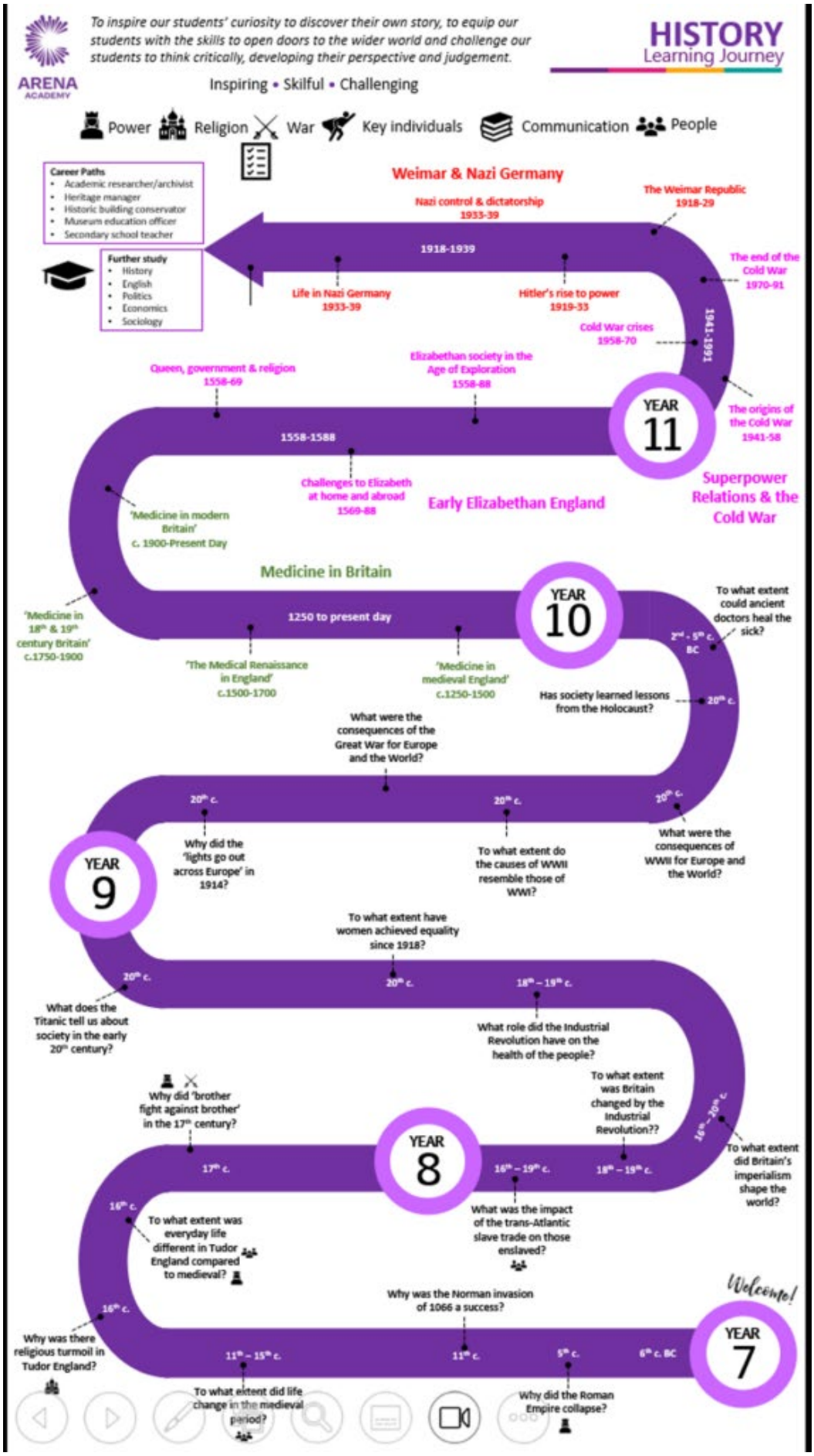
Topics covered from the beginning of the academy year to the end of this half-term.

AUT 1:

1. Early 20th century and the First World War

AUT 2:

2. Post-WWI Europe and the start of WWII


ARENA ACADEMY
To inspire our students' curiosity to discover their own story, to equip our students with the skills to open doors to the wider world and challenge our students to think critically, developing their perspective and judgement.
HISTORY Learning Journey
Inspiring • Skilful • Challenging
Power
Religion
War
Key individuals
Communication
People
Career Paths
Academic researcher/archivist
Heritage manager
Historic building conservator
Museum education officer
Secondary school teacher
Further study
History
English
Politics
Economics
Sociology
Weimar & Nazi Germany
Nazi control & dictatorship 1933-39
The Weimar Republic 1918-29
1918-1939
Life in Nazi Germany 1933-39
Hitler's rise to power 1919-33
The end of the Cold War 1970-91
Cold War crises 1958-70
1941-1991
Queen, government & religion 1558-69
Elizabethan society in the Age of Exploration 1558-88
YEAR 11
The origins of the Cold War 1941-58
1558-1588
Challenges to Elizabeth at home and abroad 1569-88
Early Elizabethan England
Superpower Relations & the Cold War
'Medicine in modern Britain' c. 1900-Present Day
Medicine in Britain
YEAR 10
To what extent could ancient doctors heal the sick?
'Medicine in 18th & 19th century Britain' c.1750-1900
1250 to present day
'The Medical Renaissance in England' c.1500-1700
'Medicine in medieval England' c.1250-1500
2nd - 5th c. BC
Has society learned lessons from the Holocaust?
20th c.
What were the consequences of the Great War for Europe and the World?
20th c.
20th c.
20th c.
YEAR 9
Why did the 'lights go out across Europe' in 1914?
To what extent do the causes of WWII resemble those of WWI?
What were the consequences of WWII for Europe and the World?
To what extent have women achieved equality since 1918?
20th c.
20th c.
18th – 19th c.
What does the Titanic tell us about society in the early 20th century?
What role did the Industrial Revolution have on the health of the people?
Why did 'brother fight against brother' in the 17th century?
To what extent was Britain changed by the Industrial Revolution??
16th – 20th c.
YEAR 8
17th c.
16th – 19th c.
18th – 19th c.
To what extent did Britain's imperialism shape the world?
16th c.
To what extent was everyday life different in Tudor England compared to medieval?
What was the impact of the trans-Atlantic slave trade on those enslaved?
Welcome!
Why was the Norman invasion of 1066 a success?
16th c.
Why was there religious turmoil in Tudor England?
11th – 15th c.
11th c.
5th c.
6th c. BC
YEAR 7
To what extent did life change in the medieval period?
Why did the Roman Empire collapse?

WORLD WAR II KNOWLEDGE ORGANISER

Main Participating Countries

ALLIED POWERS			AXIS POWERS		
Country	Date Joined	Death Toll	Country	Date Joined	Death Toll
FRANCE	3rd Sep, 1939	600,000 1.44% of population in 1939	GERMANY	1st Sep, 1939	approx. 7,200,000 8.5% of population in 1939
UK	3rd Sep, 1939	450,900 0.94% of population in 1939	ITALY	11th Jun, 1940	approx. 500,000 1.14% of population in 1939
SOVIET UNION	22nd Jun, 1941	approx. 24,000,000 13.7% of population in 1939	HUNGARY	27th Jun, 1941	464,000 5.08% of population in 1939
USA	8th Dec, 1941	419,400 0.32% of population in 1939	JAPAN	7th Dec, 1941	approx. 3,000,000 4.0% of population in 1939

Key People

Sir Winston Churchill – (1874-1965) was a British politician who served as the Prime Minister between 1940 and 1945 and again from 1951 to 1955. He took over after a disastrous start to the war in which Nazi Germany conquered much of Europe. He did his best to rally the nation in defiance of Adolf Hitler, possessed excellent military knowledge and forged crucial alliances with both the USA and Russia. Churchill is often characterised for his extraordinary leadership throughout World War II – he was bold, brave, and tireless in his resolve to take on the might of Nazi Germany.

Adolf Hitler - (1889-1945) was a German politician who was the leader of the Nazi party, Chancellor of Germany from 1933-1945, and the Fuhrer of Germany from 1934-1945. In 1923, Hitler had attempted to seize power via a failed coup, and was arrested. However, he began to gain a loyal following through his populist ideas, powerful speeches and charisma. Hitler's Germany invaded Poland in Sep 1939 to start the war, and he initiated the Holocaust. He is therefore significantly responsible for millions of deaths. He committed suicide on 30th Apr 1945, when the war was clearly lost.

Franklin Roosevelt – (1882-1945) was the 32nd President of the United States, from 1933-1945. Not only did Roosevelt guide the USA through most of World War II, but also the Great Depression – When he took office, nearly a third of America's workforce were unemployed. Whilst the USA remained officially neutral at the outset of war, Roosevelt offered diplomatic and financial support to the Allies. After the Japanese attacked Pearl Harbor on 7th December 1941, he declared war on the Axis powers. The US greatly helped the Allies to win the war - He died months before it ended.

Benito Mussolini – (1883-1945) the leader of Italy's National Fascist Party. He was Prime Minister from 1922-1945 –from 1925 onwards this was not democratically as he established a dictatorship. Italy entered the war on the side of Germany in 1940, but suffered some disastrous loses. In 1943, Mussolini was dismissed as leader and arrested, but was rescued by Hitler's paratroopers. He was later put in charge of a puppet regime called the Italian Social Republic, by Hitler. He was later caught by Italian Communist partisans and executed by firing squad in 1945.

Joseph Stalin – (1878-1953) was the Communist leader/ dictator of the USSR during WWII. After the death of the Communist Leader Lenin, Stalin won a vicious grapple for power before eventually establishing himself as a totalitarian dictator. His own policies became known as 'Stalinism.' He had signed a non-aggression pact with Germany in August 1939, but in June 1941, Hitler broke it and the Germans invaded. Although initially suffering heavy loses, the USSR's key victories in pushing the Germans back signalled a shift in the war in favour of the Allies.

Anne Frank – (1929-1945) was a German-born diarist. As a young Jewish girl, her family were forced into hiding, fleeing Germany for a secret attic in Amsterdam in the Netherlands. She wrote a diary of her time there. After years in hiding, her family was betrayed and arrested, and taken to concentration camps. Anne died of Typhus in Bergen-Belsen concentration camp. The only survivor from her family was Otto, her father, who published her diaries after her death. It has now become one of the most famous and well-read texts in contemporary history.

Major Events

Event	Image	Description	Date/s	Fact
WWII Begins		On 1st September 1939, Germany invaded Poland, utilising the 'Blitzkrieg' strategy. Britain and France (Poland's allies) gave a notice period for the Germans to withdraw their troops from Poland. When they did not, Britain and France declared war on 3rd September. Britain initially responded with bombing raids over Germany. Nearly six years of war in Europe was to follow.	1st-3rd September 1939	Hitler claimed to attack Poland to give the German people 'Lebensraum' – living space
Evacuation of Children		People expected cities to be bombed, as enemy planes tried to hit targets, for example warehouses and factories. This put would have put city children (in schools and houses close by) in grave danger, and so thousands were evacuated to the countryside. Many were extremely homesick, but some enjoyed their new lives.	September 1939 onwards	About 800,000 children left their homes throughout the war.
The Holocaust		The Holocaust was a genocide committed by Germany and its allies before and during WWII. It involved the systematic murder of 6 million Jews, and millions of 'undesirable' others (around 9-12 million in total). Many were gassed, starved, or died of disease in concentration camps. Conditions in the camps diabolical.	1933-1945	During the Holocaust, about two thirds of the Jews in Europe were killed.
Evacuation of Dunkirk		Large numbers of British, French, and Belgian troops were surrounded by German soldiers at the French coastal town of Dunkirk, and seemed set to perish. Remarkably, 338,226 were saved by a fleet of 800 small boats. The event is also known as the 'Miracle of Dunkirk.'	26th May – 4th June 1940	Mary was the first queen to rule England in her own right.
Battle of Britain		In the Battle of Britain, the Royal Air Force (RAF) successfully defended UK against attacks by Nazi Germany's air force: Luftwaffe. It has been described as the first military campaign fought entirely by air forces.	10th July – 31st October 1940	This was seen by many as Germany's first major defeat in the war.
Attack on Pearl Harbor		This was a surprise military attack by Japan on the United States naval base at Pearl Harbor. It led to the US joining the Allies in the war. The attack commenced at 7.48am Hawaiian time, and was carried out by 353 Imperial Japanese aircraft.	7th December 1941	188 aircraft were destroyed and 2,403 Americans were killed.
D-Day Landings		The Normandy Landings, also known as D-Day, were a series of landing operations by the Allies to claim back Europe. It was the largest seaborne invasion in history. The operation began the liberation of north-western Europe from being under German control.	6th June 1944	Between 14,000 and 19,000 men died in the D-Day landings
Hitler's Suicide		With the Germans facing defeat, Hitler married his long-time love Eva Braun on 29th April. The next day, they committed suicide, reportedly by gunshot.	30th April 1945	There is debate as to how they killed themselves.
Germany Surrenders		The Allies had gradually forced the surrender of Axis troops across Europe in April and early May, 1945. On 7th May, Germany officially surrendered to the Allies, bringing to an end the European fighting in World War II.	7th May 1945	VE (Victory in Europe) Day is still celebrated on 8th May.
America drops the atomic bombs		Japan refused to surrender to the terms of the Potsdam Declaration in July 1945, pledging to fight onto the bitter end. The US considered an invasion, but would have lost around 500,000 men. Instead, they dropped atomic bombs on Hiroshima (6th Aug) and Nagasaki (9th Aug).	6th-9th August 1945	It is thought that 135,000 people died in Hiroshima and 70,000 in Nagasaki.
WWII Ends		The surrender of Japan was announced on August 15th 1945. On August 1928, the Occupation of Japan, led by the Supreme Commander for Allied Powers, began. Japan formally signed for surrender on 2nd September 1945, aboard the US Navy battleship USS Missouri. Allied civilians and military celebrated the end of war. The use of atomic bombs to force the surrender is still debated.	2nd September 1945	Some rogue Japanese soldiers and pilots refused to surrender even into the 1970s!

Timeline of Major Events

1 Sep, 1939 – Germany invades Poland - WWII begins

Apr-Jun 1940 – Germany invades Denmark and Norway

May-Jun 1940 – Germany takes over most of Western Europe

Jul-Oct 1941 – The Battle of Britain

22 Jun 1941 – The Axis attack Russia

7-9 Dec 1941 – Japan attack US. US joins Allies

4 Jun 1942 – Battle of Midway. US beats Japan

8 Sep 1943 – Italy surrenders

6 June 1944 – D-Day – allies invade Normandy

25 Aug 1944 – Paris liberated from German control

7 May 1945 – Germany surrenders

Aug 1945 – The US drops atomic bombs on Japan

2 Sep 1945 – Japan surrenders – WWII is over.

Religious Education

Topics covered from the beginning of the academy year to the end of this half-term.

AUT 1:

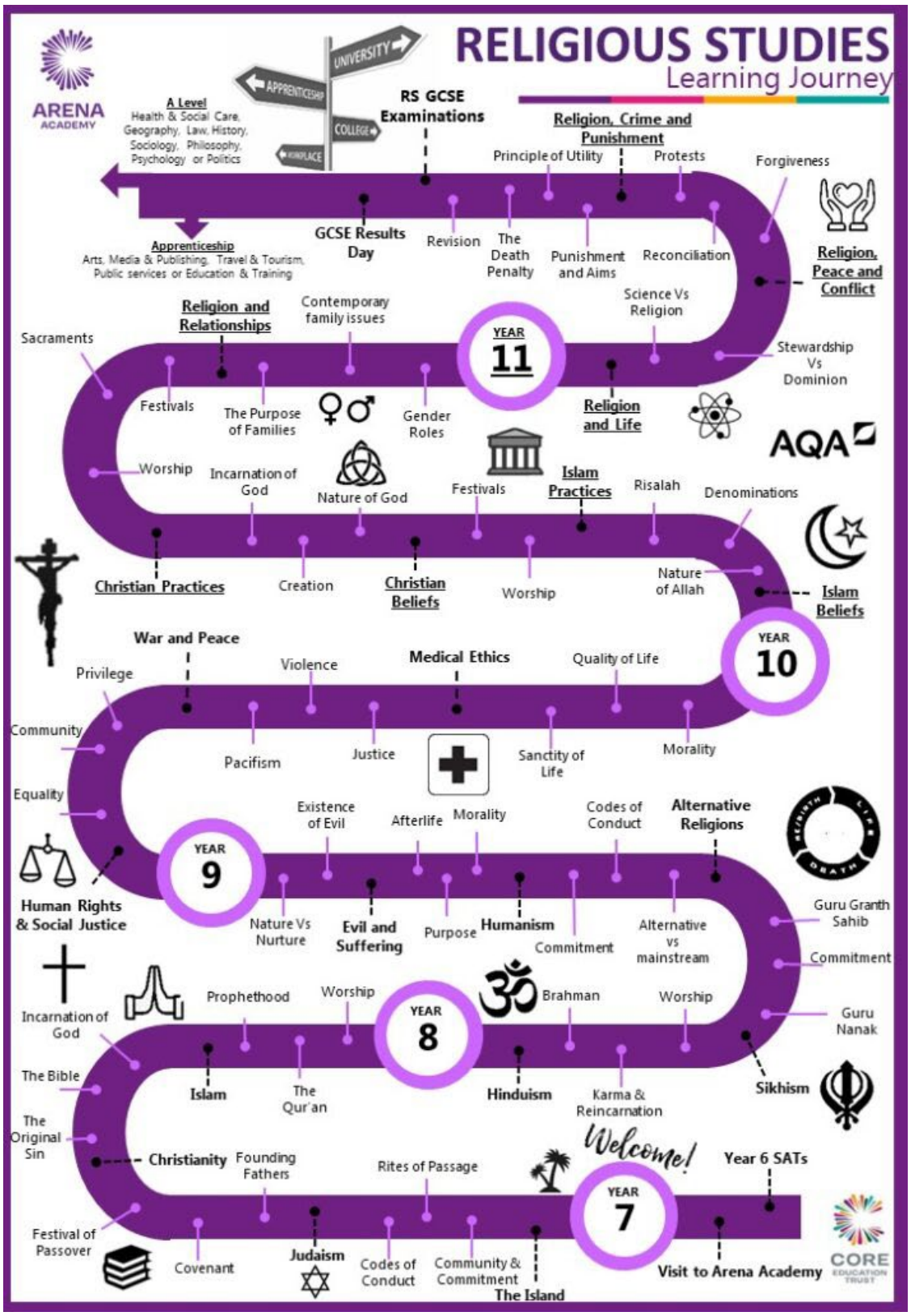
1. Medical Ethics

AUT 2:

2. War and Peace

Later in the Year:

3. Human Rights
4. Social Justice


RELIGIOUS STUDIES
Learning Journey
ARENA ACADEMY
A Level
Health & Social Care, Geography, Law, History, Sociology, Philosophy, Psychology or Politics
Apprenticeship
Arts, Media & Publishing, Travel & Tourism, Public services or Education & Training
UNIVERSITY
APPRENTICESHIP
COLLEGE
WORKPLACE
RS GCSE Examinations
GCSE Results Day
Revision
The Death Penalty
Religion, Crime and Punishment
Principle of Utility
Punishment and Aims
Protests
Reconciliation
Forgiveness
Religion, Peace and Conflict
Science Vs Religion
Religion and Life
Stewardship Vs Dominion
AQA
YEAR 11
Religion and Relationships
Contemporary family issues
Sacraments
Festivals
The Purpose of Families
Gender Roles
Worship
Incarnation of God
Nature of God
Christian Practices
Creation
Christian Beliefs
Festivals
Worship
Islam Practices
Risalah
Denominations
Nature of Allah
Islam Beliefs
YEAR 10
War and Peace
Privilege
Violence
Medical Ethics
Quality of Life
Community
Pacifism
Justice
Sanctity of Life
Morality
Equality
Human Rights & Social Justice
YEAR 9
Existence of Evil
Afterlife
Morality
Codes of Conduct
Alternative Religions
Nature Vs Nurture
Evil and Suffering
Purpose
Humanism
Commitment
Alternative vs mainstream
Guru Granth Sahib
Commitment
Incarnation of God
Prophethood
Worship
YEAR 8
Brahman
Worship
Guru Nanak
The Bible
Islam
The Qur'an
Hinduism
Karma & Reincarnation
Sikhism
The Original Sin
Christianity
Founding Fathers
Rites of Passage
Welcome!
Year 6 SATs
YEAR 7
Festival of Passover
Covenant
Judaism
Codes of Conduct
Community & Commitment
The Island
Visit to Arena Academy
CORE EDUCATION TRUST

Medical Ethics

1) IVF

This is a way to have a baby, but with scientific help. It involves growing the egg and sperm cells in a test tube, and the inserting it into the mother. It involves throwing many fertilised eggs away, and many religions feel it is not right, like Islam and Christianity

2)Adoption

When a couple cannot have a child, they may choose to look after a child that they do not share their DNA with. They would not be biological parents. In Islam, everyone has the right to know their parents and so adoption is not allowed unless children are aware of their biological parents. Christians think it is the most loving thing to do.

3) Surrogacy

If mothers find it hard to go through a pregnancy another woman can look after the foetus for the duration of the pregnancy. Islam is against this because it makes it hard to distinguish who is the real mother, but Christians think it is the most loving thing to do.

4)Organ donation

5) Saviour siblings

This involves giving blood and or organs for those who have failing organs. Some religions, like Islam, feel that someone needs to be whole to enter heaven, but some religions, like Christianity, feel that it should be done to help those unwell or those who are suffering

Keywords

Sanctity of life	The belief that all life is sacred and created by God
Fertility Treatment	A way to have a baby using science
IVF	When a sperm and egg are fertilised in a test tube and inserted back into be mother for a natural birth.
Surrogacy	When another lady agrees to hold the baby (pregnancy) for nine months because the biological mother is too ill.
Adoption	Looking after someone else's child as your own because a couple cannot have a baby naturally.
Organ donation	Giving organs to help another person once dead, or alive
Saviour sibling	When parents have an additional baby to help an existing child to stay alive
Blood transfusion	Giving blood to help someone else
Foetus	An unborn baby
Sperm and egg	Cells used to generate a baby

Useful quotes

Love thy neighbour- Christianity

Do not kill your children for fear or want
(Islam)

Call on me and I shall answer you
(Islam)

Be fruitful and multiply
(Christianity)

Medical Ethics (2)

1) Abortion

Sometimes couples do not want to have a baby. If they fall pregnant, and want to terminate the pregnancy, it is called an abortion.
Both Islam and Christianity allow for abortion, but only in some circumstances: if the mother or baby's life is at risk.

2)Euthanasia

Sometimes life is not worth living for patients who are suffering from terminal illnesses. They may wish to end their life so that they do not need to suffer anymore but they cannot do this themselves. They may need a doctor to help them. This is called euthanasia.

Islam and Christianity allow for euthanasia in some circumstances.

3) Animal testing

Most of our products, especially medicines, are tested beforehand on animals for possible side effects.

There is a big debate about whether humans should do this because animals also feel pain and could even do die from this.

Some religions allow for animal testing because they believe that humans should have control over animals

4) Drugs and Alcohol

Drugs and alcohol both have an affect on the body by slowing movements or making them increase.

Religions feel differently towards drugs and alcohol because of how it can make people behave. Some religions rely on the consumption of alcohol.

Keywords

Sanctity of life	**The belief that all life is sacred and created by God**
Euthanasia	An easy and painless death
Abortion	Removal of a foetus
Animal testing	Testing products on animals to look for side effects
drugs	Substances that alter how humans behave
Alcohol	A substance that alters how humans behave
Pro-life	The idea that all life is important and must be

Useful quotes

Love thy neighbour- Christianity

Do not kill your children for fear or want
(Islam)

Call on me and I shall answer you
(Islam)

Be fruitful and multiply
(Christianity)

War and Peace Knowledge Organiser

1) War

Why do people go to war or have a conflict?

- Greed
- Revenge
- Power
- Mental illness

2) Just War

This is the idea that war can be able to be waged if, and only if, it can meet certain criteria. These are:

1) Has a just cause
2) Doesn't harm religious buildings
3) Does not target women and children
4) Is a last resort
5) Does not cause uneccessary harm
This is supported by Christianity, Islam and Buddhism

3) Christianity and Buddhism on war

Christians believe that Jesus taught peace. Jesus taught that God has a plan for all and that we should all 'love thy neighbour'. War can be waged, but only as a last resort. Peace if always a better response.

Buddhists are pacifists. This means that they believe that violence, including war, can never help achieve anything good. War must never be entered into by anyone and if there are any issues it should be solved in a peaceful manner

Keywords

War	Conflict between two or more different countries
Peace	Absence of war and conflict
Just war	Conditions for War to be allowed in religion
Sanctity of life	All life is sacred because it is created by God
United nations	A worldwide organisation that aims to minimise war and conflict
Reconcile	Trying to get people to work together to resolve conflict
Non-violent protest	Peaceful ways to create change

4) Sanctity of life

The sanctity of life is the belief that all life is sacred because it was created by God. Therefore no one has the right to take it away.
Christians agree with the idea of sanctity of life. They believe that life is created by God and that all life should be preserved. Buddhists also believe in the sanctity of life, even though they do not believe that life was created by God. They insist that everyone should have a fair opportunity to achieve good karma.

5) United Nations

The United Nations is an international organisation that works to help minimise war and conflict in the world. They sometimes act as a third party to help negotiate between two countries that are not getting on and often help to supply aid to those people who need it most during war.

5) Examples of non violence

- Martin Luther King, Ghandi

Human Rights Knowledge Organiser

1) Human Rights

Human rights are rights that human beings have regardless of their gender, nationality, place of residency, sex, ethnicity, religion, color. Every human has these rights no matter what. There are 30 human rights in a document called the 'Universal Declaration of Human Rights.' Human rights are important because they protect humans from any type of harm.

2) Rights in our Community

According to the Universal Declaration of Human Rights, every community should have all human rights being respected. However, this is not the practice in all communities. Some rights may be respected while others are being denied.

3) Asylum and Refugee

An asylum seeker is someone who seeks asylum (safety) in a foreign country and has applied to the government for refugee status. A refugee who is forced to leave their country because they are afraid of being mistreated because of their religion, political beliefs or social behavior.

4) Dalai Lama

The Dalai Lama is the head monk of Tibetan Buddhism. There have been only 14 Dalai Lamas in the history of Buddhism. According to Buddhist belief, the current Dalai Lama, Tenzin Gyatso, is a reincarnation of a past Lama. He fights for people's freedom and human rights. In 1989, he won the Nobel Peace Prize for the work that he has done.

Keywords

Human Right	Rights that all humans should have e.g. right to shelter
Asylum Seeker	Someone who seeks safety on a foreign country
Refugee	Someone who is forced to leave a country due to abuse
Dalai Lama	Monks who fought for peace and human rights
Immigrant	A person who comes to live permanently in a foreign country
Universal Declaration of Human Rights	A document which outlined the rights and freedoms everyone is entitled to.
Missionaries	People who are sent on a mission to do religious or charity work in a foreign country.

5) Martin Luther King

Throughout his life Martin Luther King was confronted by violence. None of this made him respond with violence. His Christian beliefs told him that violence and hatred could only be conquered by love and forgiveness. MLK arranged the Montgomery Bus Boycott to put an end to segregation and discrimination. In 1964 Martin Luther King was awarded the Nobel Peace Prize.

6) Ghandi

Ghandi used non-violence in an attempt to get equal rights for the people in India and to gain independence for India. So he changed his clothes and lifestyle and lived a simple life to help him understand his people better. Gandhi was imprisoned many times but still continued his work. India were finally given independence on 15th August 1947.

7) Mother Teresa

Religion was very important to Mother Teresa and her family, she was a Roman Catholic. She remembers her mother always telling her, to love God and her neighbours. Mother Teresa and her sisters helped the people of Calcutta by teaching, and caring for them. In 1979, Mother Teresa was awarded the Nobel Peace Prize.

Religion, Human Rights and Social Justice Knowledge Organiser

1) Prejudice, race and discrimination

All Muslims must understand the true spirit of Islam and aspire to follow the Prophet (PBUH) and be more like him. That means to reject all forms of racism, discrimination and prejudice. People must not be judged by their background/race. Christians believe that all humans are made in the image of God - they are created with souls that never die and are very special. Therefore any action that offends a person is an insult to God who created and loves that person. The Church does not agree with any form of discrimination such as racial or gender discrimination. All men and women are equals and both are children of God.

2) Religious Freedom

Religious freedom means people have the freedom to hold different religious beliefs and to express those beliefs without restrictions. It also includes the freedom to change one's religion or beliefs. Bible quote: 'Now accept the one who is weak in faith, but not for the purpose of passing judgement on his opinions' (Roman 14:1) Quran quote 'There is no compulsion where the religion is concerned' (2: 256)

3) Wealth and Poverty

Muslims believe Allah will put them through much hardship & ease. It has always existed - even in time of prophet P.B.U.H. There wealthy will be tested on how much wealth they have and how they spent it in the way of Allah. The poor will be rewarded for their patience. Allah will never put Muslims in an unfavourable situation. Christians are asked to looking after all given by God and to share their wealth properly for those who have less. Wealth is a blessing from God especially for Monks and nuns who have dedication to their faith and a promise to God

Natural circumstances / caused by human beings. Jesus healed people and taught mankind to care for the poor and spend time with the poor. People can do this through charity, social support or practical assistance for basic needs.

Keywords

Prejudice	Unfair and unreasonable opinion or feeling formed without enough thought or knowledge
Race	A group human beings can be divided into based on distinctive physical traits
Discrimination	Unfair treatment of different categories of people, especially on the grounds of race, age, sex or disability
Religious freedom	Religious freedom means people have the freedom to hold different religious beliefs and to express those beliefs without restrictions.
Wealth	An abundance of valuable possessions or money
Poverty	The state of being extremely poor
Exploitation	Exploitation: The action of treating someone unfairly in order to benefit from their work.

4) Exploitation

Islam does not allow exploitation. In pre-Islamic Arabia, slavery was an established practice the prophet P.B.U.H tried to put an end to this and righteous Muslims follow this and try to put an end to exploitation. Allah greatly rewards the one that frees a slave as mentioned in the Quraan. Islam is also very respectful of the rights of workers as Muslims are commanded to pay for work immediately. Jesus was consistently on the side of the poor as God created all of mankind in His image. God teaches love for your neighbor and those in need so Jesus taught people speak up for those who cannot speak for themselves and for their rights. Christians are expected to pray for others and God will immensely reward people who are generous to the poor and help others

Computer Science

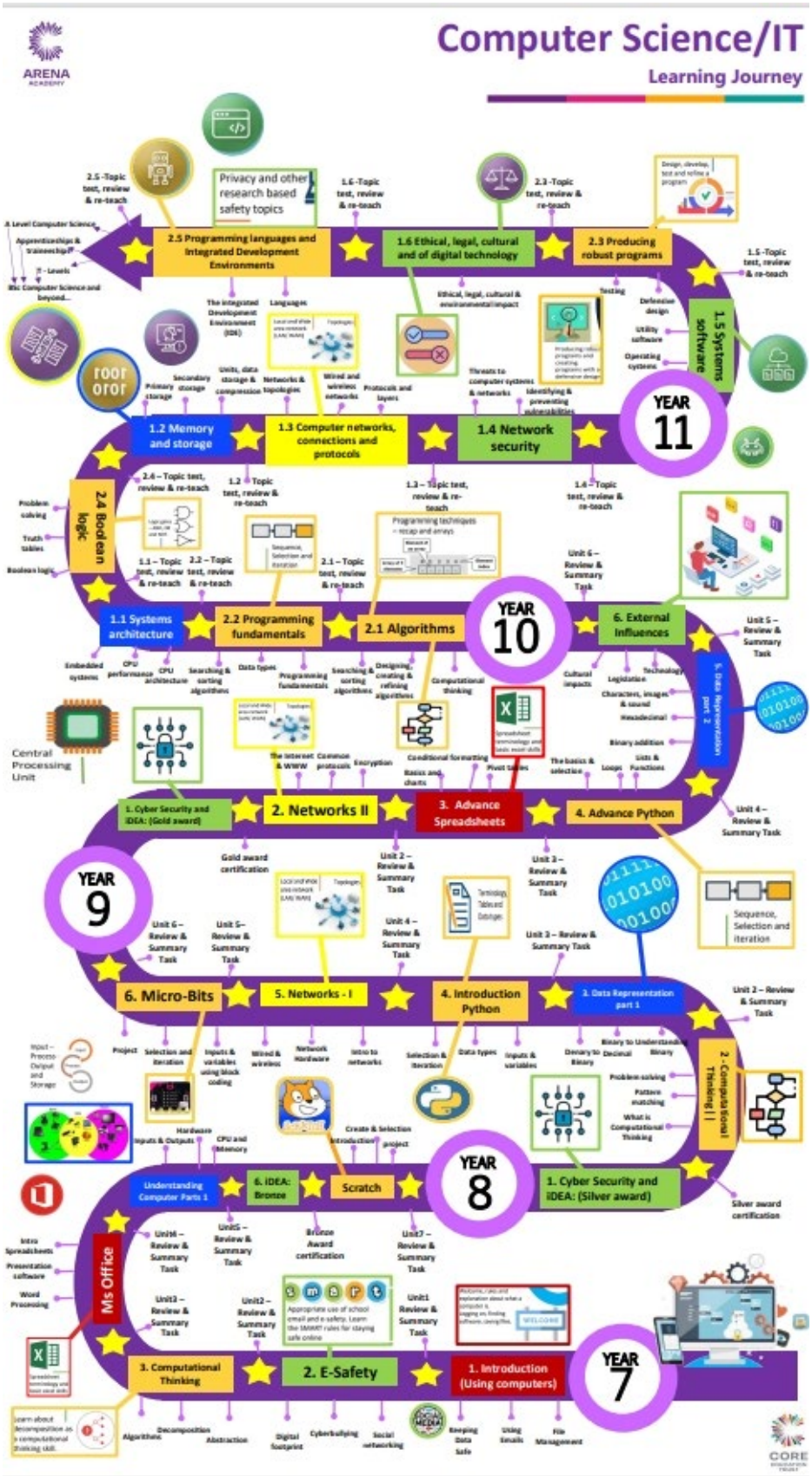
Topics covered from the beginning of the academy year to the end of this half-term.

AUT 1:

1. IDEA (bronze/silver/gold) award

AUT 2:

2. Networks ||


ARENA
Computer Science/IT
Learning Journey
Privacy and other research based safety topics
2.5 Programming languages and Integrated Development Environments
1.6 Ethical, legal, cultural and of digital technology
2.3 Producing robust programs
1.5 Systems software
1.2 Memory and storage
1.3 Computer networks, connections and protocols
1.4 Network security
YEAR 11
2.4 Boolean logic
1.1 Systems architecture
2.2 Programming fundamentals
2.1 Algorithms
YEAR 10
6. External influences
Central Processing Unit
1. Cyber Security and iDEA: (Gold award)
2. Networks II
3. Advance Spreadsheets
4. Advance Python
YEAR 9
6. Micro-Bits
5. Networks - I
4. Introduction Python
3. Data Representation part 1
2 - Computational Thinking ( )
Understanding Computer Parts 1
6. iDEA: Bronze
Scratch
YEAR 8
1. Cyber Security and iDEA: (Silver award)
Ms Office
3. Computational Thinking
2. E-Safety
1. Introduction (Using computers)
YEAR 7
CORE

World Wide Web

- A collection of web pages
- Stored on computers all over the world
- Accessed via the Internet
- No central storage
- No owner

Uniform resource locator (URL) – this is a web address that are unique.

www.abc.co.uk/images/logo.jpg

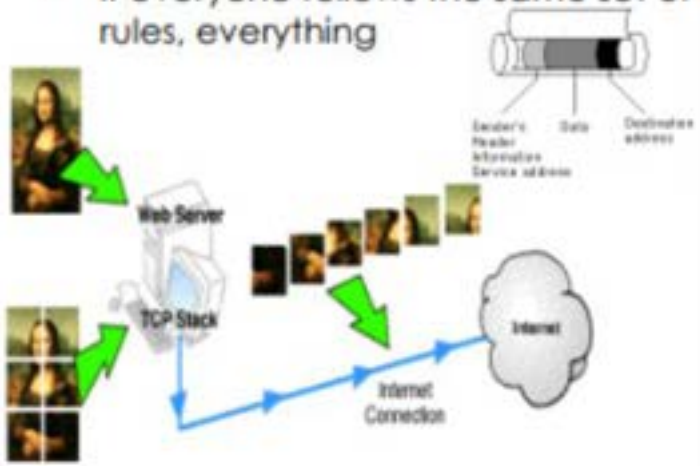
- Hosted on the WWW
- Name of the organisation
- A Company
- UK based
- Folder location and filename on the site

Domain names

Websites are stored on web servers connected to the internet. Each website has an IP address so people can access the pages using their browser software/ However, when you want to access a site you don't enter the IP address, you type in a domain name.

HTTP: Hyper Text transfer protocol

- A protocol is a set of rules
- HTTP defines the rules used by web browsers and servers to exchange information
- If everyone follows the same set of rules, everything works



Data Packets

- Data transmitted over the Internet is broken down into smaller chunks or packets to be sent
- The destination and sender's addresses are added
- Each packet is numbered, sent separately, then put in the right order again at the other end

IP Addressing

IP address is like the way the postal service works. Every house has a unique address with house number, street name, town and postcode.
Every computer has a separate unique address and data can be sent to these addresses to request or display a web page for example

History of connectivity

The first copper cable, 2.500 miles long, was laid across the Atlantic in 1858. Each mile of cable, 133 miles of wire was needed.

Computer Science

Key vocabulary	
Antimalware	Software designed to protect a computer in one of 3 ways: preventing installation of harmful software, preventing important files from being changed, scanning for virus activity on the system and removing as appropriate. Antimalware protects against worms, Trojan Horses, spyware, adware and keyloggers.
Antivirus	Software designed to protect against viruses.
Update	New malware is released regularly and so anti-malware definitions must be up-to-date to protect form the latest viruses.
Firewall	Hardware or software designed to prevent unauthorised access to or from a private network or intranet. All messages entering or leaving the network will pass through the firewall to be examined.
Password Protection	In a networked environment such as a school or a company, multiple users use many of the computers. Passwords should be strong (Not easy to guess, lower and uppercase letters, numbers, symbols).
Access Levels	Part of an access control procedure for computer systems, which allows a system administrator to set up a hierarchy of users. Thus, the low-level users can access only a limited set of information.
Encryption	Changing data before transmission so someone can only decipher it with the appropriate key to unlock information. Interceptors would find the message unintelligible.
Key	A cryptographic key is a string of bits used by a cryptographic algorithm to transform plain text into cipher text or vice versa. This key remains private and ensures secure communication.
Symmetric Key encryption	A secret key algorithm (sometimes called a symmetric algorithm) is a cryptographic algorithm that uses the same key to encrypt and decrypt data.
Asymmetric key encryption	Asymmetric cryptography, also known as public key cryptography, uses public and private keys to encrypt and decrypt data. The keys are simply large numbers that have been paired together but are not identical (asymmetric).

Figure 3 – Symmetric encryption methods such as the Caesar cipher involve shifting letters along the alphabet.

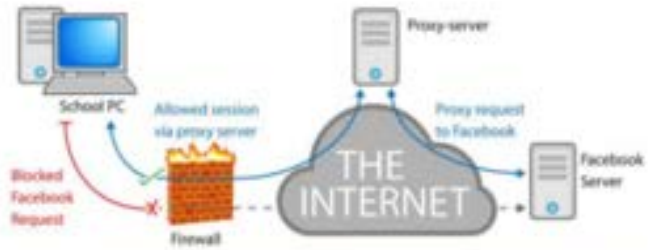


Figure 1 - A firewall sits on the edge of a network and chooses which traffic to allow through using a set of rules. As shown above the rules may not always be strong enough.

Plaintext	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
Ciphertext	F	O	X	A	B	C	D	E	G	H	I	J	K	L	M	N	P	Q	R	S	T	U	V	W	Y	Z

Plaintext	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
Ciphertext	B	C	D	E	G	H	I	J	K	L	M	N	P	Q	R	S	T	U	V	W	Y	Z	F	O	X	A

Cipher to use in HW

Figure 2 - Keyword encryption involves using a keyword to begin filling up the alphabet, then the rest is filled with remaining letters.

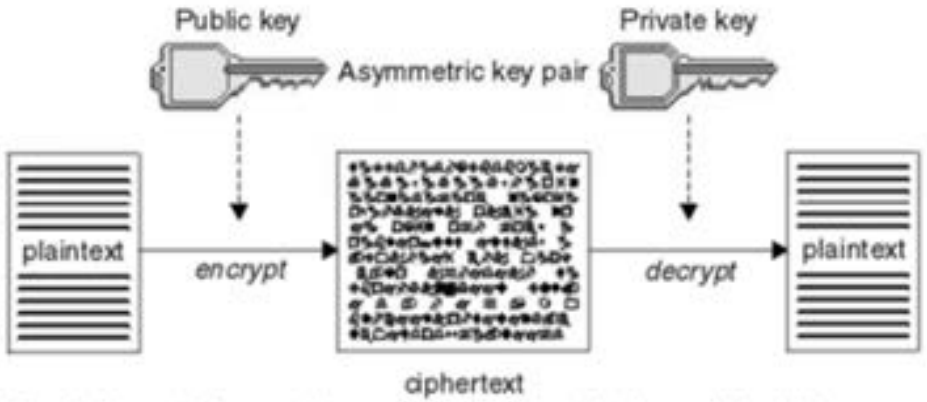


Figure 4 - Asymmetric key encryption uses public keys to encrypt data for somebody who then uses their private key to decrypt it.

Art

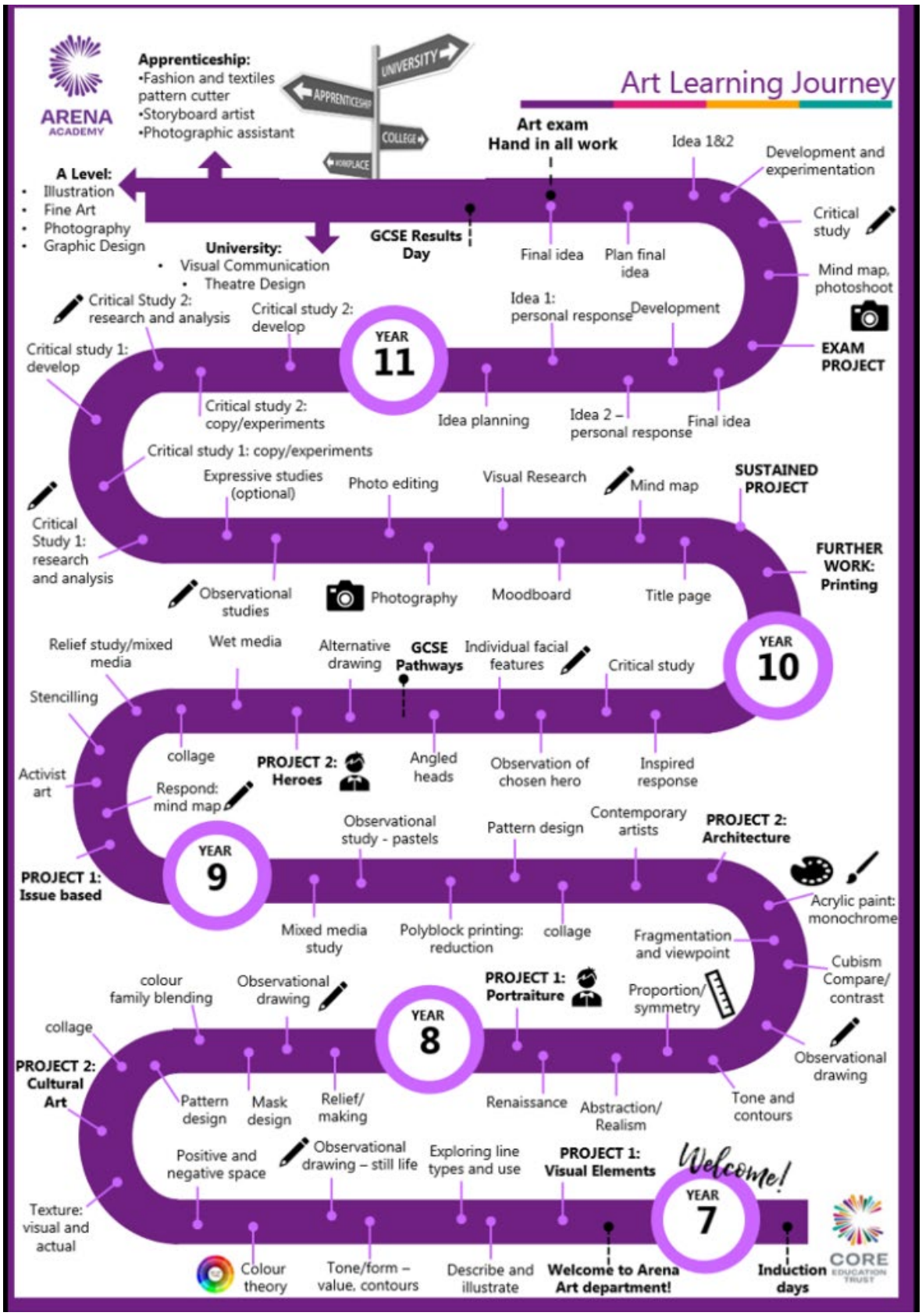
Topics covered from the beginning of the academy year to the end of this half-term.

AUT 1:

1. Visual Elements
2. Describe and illustrate
3. Exploring line types and use

AUT 2:

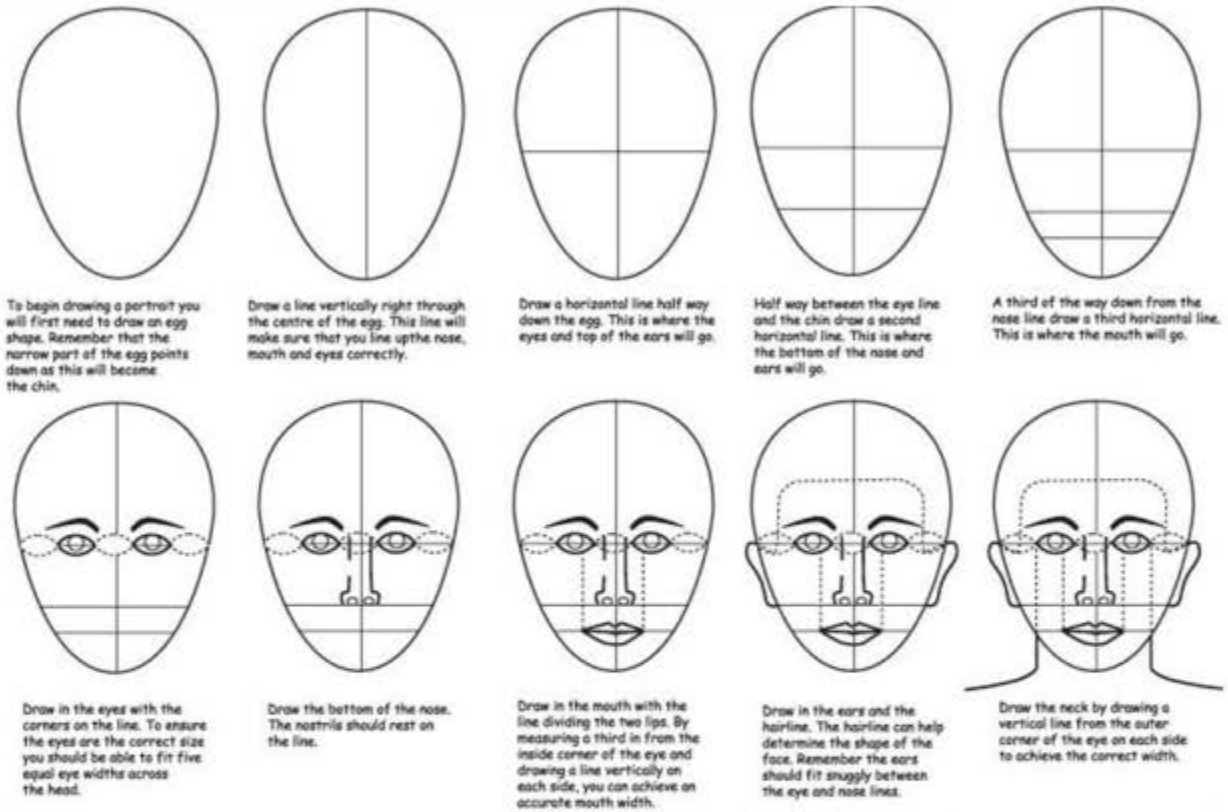
4. Tone and contours
5. Colour theory


ARENA ACADEMY
Apprenticeship:
•Fashion and textiles pattern cutter
•Storyboard artist
•Photographic assistant
UNIVERSITY
APPRENTICESHIP
COLLEGE
WORKPLACE
Art Learning Journey
Art exam
Hand in all work
Idea 1&2
Development and experimentation
A Level:
• Illustration
• Fine Art
• Photography
• Graphic Design
University:
• Visual Communication
• Theatre Design
GCSE Results Day
Final idea
Plan final idea
Critical study
Mind map, photoshoot
EXAM PROJECT
Critical Study 2: research and analysis
Critical study 2: develop
Idea 1: personal response
Development
YEAR 11
Critical study 1: develop
Critical study 2: copy/experiments
Idea planning
Idea 2 – personal response
Final idea
Critical study 1: copy/experiments
Expressive studies (optional)
Photo editing
Visual Research
Mind map
SUSTAINED PROJECT
Critical Study 1: research and analysis
Observational studies
Photography
Moodboard
Title page
FURTHER WORK: Printing
YEAR 10
Relief study/mixed media
Wet media
Alternative drawing
GCSE Pathways
Individual facial features
Critical study
Stencilling
collage
PROJECT 2: Heroes
Angled heads
Observation of chosen hero
Inspired response
Activist art
Respond: mind map
Observational study - pastels
Pattern design
Contemporary artists
PROJECT 2: Architecture
YEAR 9
PROJECT 1: Issue based
Mixed media study
Polyblock printing: reduction
collage
Fragmentation and viewpoint
Acrylic paint: monochrome
Cubism Compare/ contrast
colour family blending
Observational drawing
PROJECT 1: Portraiture
Proportion/ symmetry
YEAR 8
collage
Observational drawing
PROJECT 2: Cultural Art
Pattern design
Mask design
Relief/ making
Renaissance
Abstraction/ Realism
Tone and contours
Positive and negative space
Observational drawing – still life
Exploring line types and use
PROJECT 1: Visual Elements
Welcome!
YEAR 7
Texture: visual and actual
Colour theory
Tone/form – value, contours
Describe and illustrate
Welcome to Arena Art department!
Induction days
CORE EDUCATION TRUST

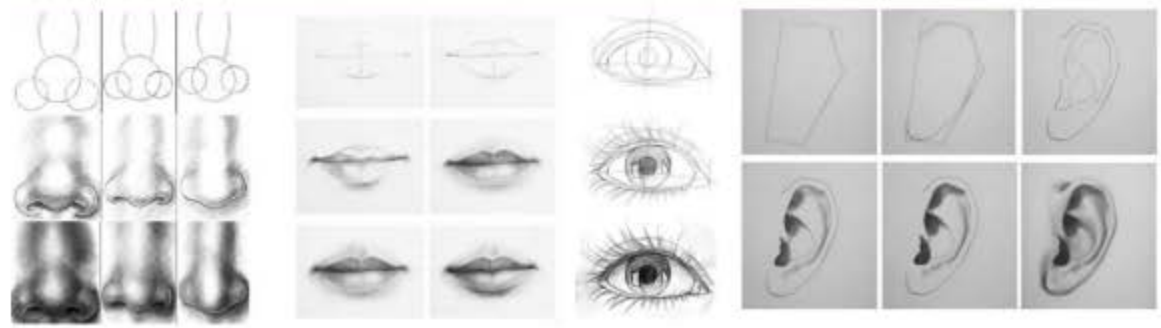
Key Words for Portraiture

Proportion	The **size and positioning** of different elements which make up an artwork.
Scale	The **size** of something. How **big** or how **small** an element is in an artwork e.g. the eyes on the face.
Accuracy	An artwork which is **'true, correct or exact'.**
Tone	**Tone** refers to the light and dark shades used in a drawing or painting. The effect of using tone successfully is that the piece of work **appears 3D and realistic.** An observational drawing should use a wide range of different tones.
Directional lines	Lines which lead the eye around a path in an image. In portraiture, directional lines are used to show the structure and contour of the face.
Mark making	Mark making can also be used to create **a range of different tones.** This is appropriate when trying to **show texture** in your work **for example, when drawing hair.**
Form	**A three dimensional** figure. In a painting or drawing you can give the illusion of a 3-D form by using tone and line to create realism.
Contour line	The **outline of a** form as well as it's **interior structure.**

Step by step guide to drawing accurate proportions of the face



Step by step guide to drawing features



Key Words in Art for Tone

Tone	**Tone** refers to the light and dark shades used in a drawing or painting. The effect of using tone successfully is that the piece of work appears 3D. An observational drawing should use a wide range of different tones. You should always aim to use a range of the different tones that you can see in the gradient below.

Highlight	This refers to the lightest tones.
Mid-tones	This refers to the tones in between light and dark.
Shadows	This refers to the darkest tones.

DARK... **To** **...LIGHT**

Tonal range using pencil shading

Gradual	To build tone up **slowly and in layers.**
Blending	To gradually **merge one shade into another.**
Light source	What direction **the light is coming from.**
Directional lines	Lines which lead the eye around a path in an image. Often used to give the **appearance of 3-Dimensions** in an artwork.

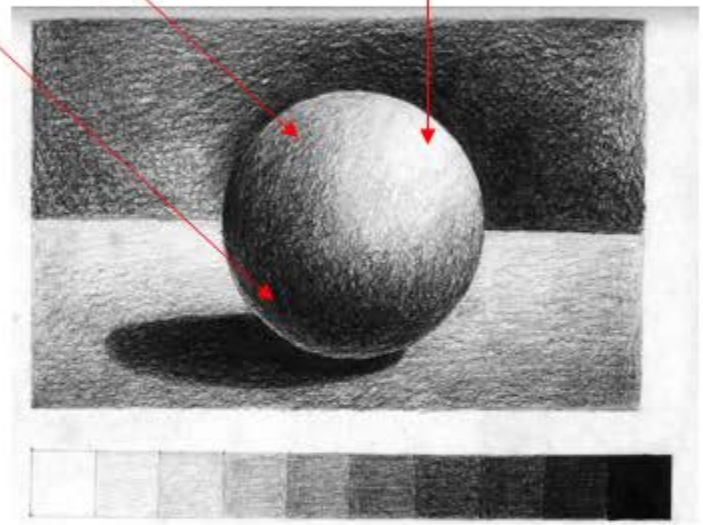
Mark making	Mark making can also be used to create **a range of different tones.** This is appropriate when trying to **show texture** in your work.




Tonal Colour

Tone is more important than colour in order to make a piece of work look more realistic but colour can represent **tonal values.**

Although this portrait uses very unrealistic colours, overall it appears to be a realistic portrait of a face. If you squint at the image, you can see dark, medium and light areas represented through a choice of appropriate colours. For example, the blues appear darker while the pinks represent the mid tones.



Using tone to create a 3-D effect

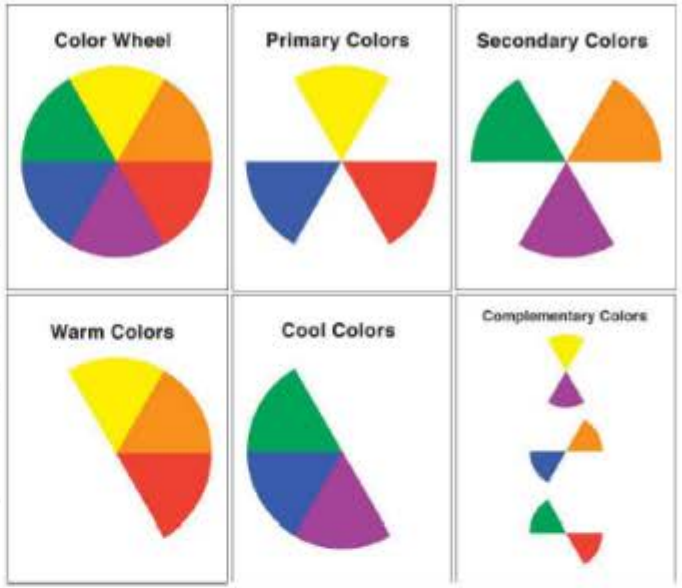
This example of a tonal shaded sphere, shows how the light source creates different tones. By gradually blending from dark to light using directional lines, the form of the sphere appears realistic.

Knowledge Organiser for Colour

Key Terms

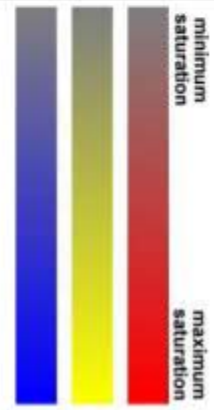
Colour Wheel	A diagram that shows how colours relate to each other. It is organised so that there is a space between the primary colours for the colour that is created when those two primary colours mix together. The colour wheel is organised so that complementary colours are opposite each other. Using the colour wheel will help you make decisions about the combination of colours you choose in your artwork.
Primary Colours	Red, blue, yellow. They cannot be mixed from other colours. They are the source of all other colours.
Secondary Colours	Green, purple, orange. They are created when two primary colours are mixed together (red + blue = purple, blue + yellow = green, yellow + red = orange)
Complementary Colours	Colours that are opposite each other on the colour wheel. Because they contrast, complementary colour pairs make each other stand out when placed next to each other. This creates a bold, lively effect.
Harmonious (or Analogous) Colours	Colours that are next to each other on the colour wheel and similar in hue. They create a sense of harmony and calm when used together.
Tertiary Colours	A primary colour mixed with a secondary colour that is next to it on the colour wheel (e.g. red + orange= red-orange).
Cool Colours	Blue, green and purple. Cool colours appear calm and make us think of cold imagery such as ice and snow. Cool colours recede or seem to go backwards. Think about how cool colours could create a sense of distance in your work or they might be a good choice for a background.
Warm Colours	Red, orange, yellow. Warm colours make us think of heat and sunshine. Warm colours advance or seem to come forwards. Think about how you might use warm colours for foregrounds and focal points in your work.
Tint	A colour or hue with white added to it. A tint might also be known as a pastel colour. E.g. 'baby pink'.
Shade	A colour or hue with black added to it.
Hue	A 'true' colour, without tint or shade added.
Value	The lightness or darkness of a colour; low value is dark, high value is bright.

Colour Wheel and Colour Theory



Tints and tones

Saturation	The brilliance or intensity of a colour. The more saturated a colour is, the less grey it has. A colour low in saturation is closer to grey.
Desaturation	Makes colours more muted. To desaturate a colour, black or white is added.
Earth Colours	E.g. browns, beiges, greys, ochres. They are called earth colours as they remind us of the earthy hues found in soil or rock. Earth colours are made by mixing complementary hues.
Monochromatic	An image using tones of one colour only, especially black and white.
Neutral colours	Colours that are not a particular hue (for example; grey, white and brown).
Colour Palette	The range of colours used by an artist or designer in a piece of work.



Words to help you describe colour	Subtle, lively, dynamic, artificial, natural, earthy, neutral, discordant, violent, brilliant, deep, intense, harmonious, rich, saturated, desaturated, vibrant, vivid, dull, flat, muted, insipid, pale, mellow, subdued, energetic, sedate, cold, warm, delicate, fiery, fluorescent, luminescent, pure, sombre, bleak, clean, contrasting, dusty, lustrous, uneven, translucent, striking, soothing, rustic, radiant, matte, multi-coloured, monochrome

Performing Arts: Music and Drama

Topics covered from the beginning of the academy year to the end of this half-term.

AUT 1:

Drama

1. Communication
2. Confidence
3. Collaboration

Music

1. Confidence
2. Pitch
3. Collaboration

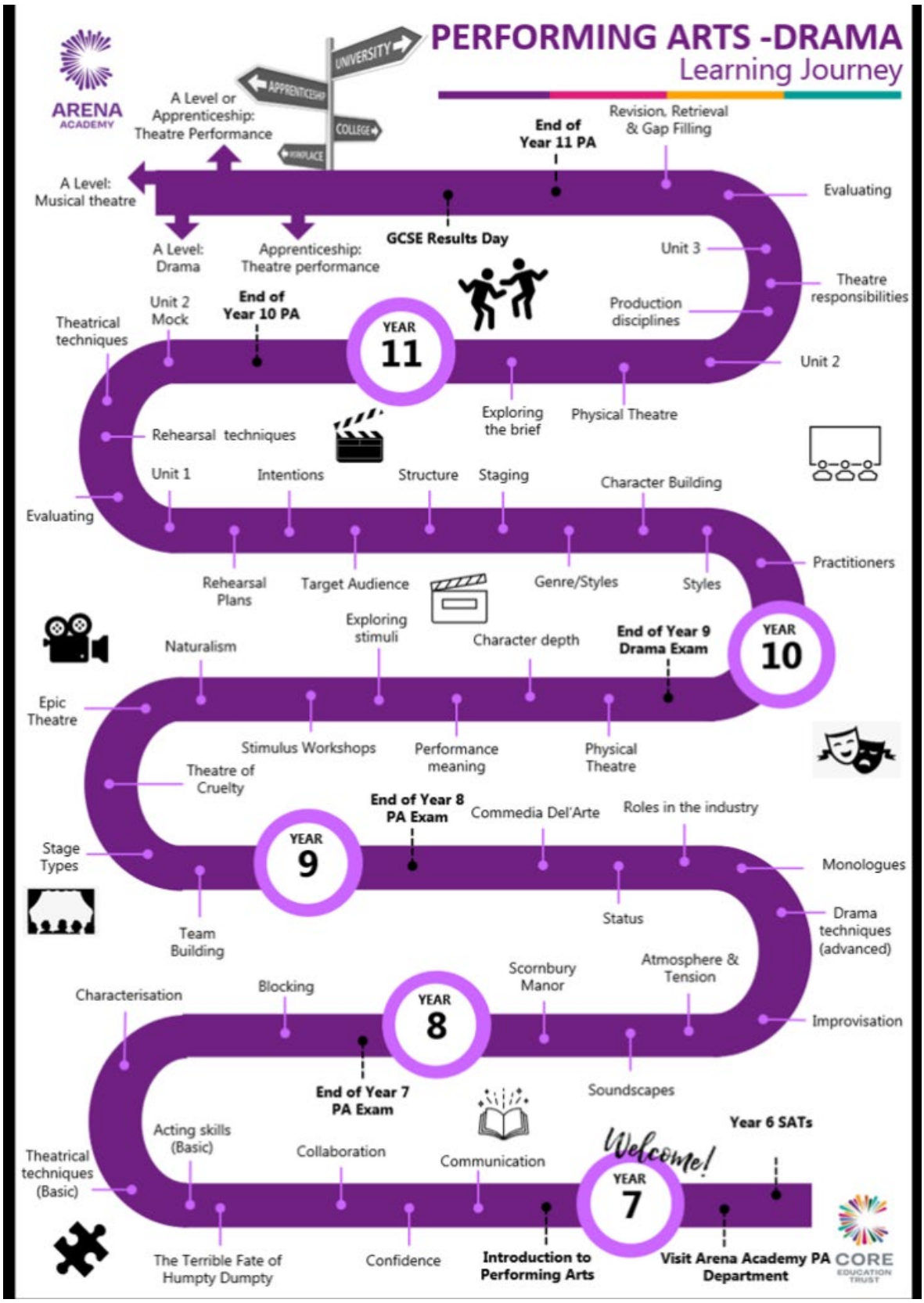
AUT 2:

Drama

4. The Terrible fate of Humpty Dumpty
5. Basic Acting Skills

Music

4. Melody/Harmony
5. Voice/Projection


PERFORMING ARTS -DRAMA
Learning Journey
ARENA ACADEMY
UNIVERSITY
APPRENTICESHIP
COLLEGE
WORKPLACE
A Level or Apprenticeship: Theatre Performance
A Level: Musical theatre
A Level: Drama
Apprenticeship: Theatre performance
GCSE Results Day
End of Year 11 PA
Revision, Retrieval & Gap Filling
Evaluating
Unit 3
Theatre responsibilities
Production disciplines
Unit 2
Physical Theatre
Exploring the brief
YEAR 11
Unit 2 Mock
End of Year 10 PA
Theatrical techniques
Rehearsal techniques
Unit 1
Intentions
Structure
Staging
Character Building
Evaluating
Practitioners
Styles
Genre/Styles
Target Audience
Rehearsal Plans
YEAR 10
End of Year 9 Drama Exam
Character depth
Exploring stimuli
Naturalism
Epic Theatre
Physical Theatre
Performance meaning
Stimulus Workshops
Theatre of Cruelty
YEAR 9
End of Year 8 PA Exam
Commedia Del'Arte
Roles in the industry
Stage Types
Monologues
Status
Drama techniques (advanced)
Team Building
Scornbury Manor
Atmosphere & Tension
Characterisation
Blocking
YEAR 8
Improvisation
End of Year 7 PA Exam
Soundscapes
Year 6 SATs
Acting skills (Basic)
Collaboration
Communication
Welcome!
Theatrical techniques (Basic)
YEAR 7
The Terrible Fate of Humpty Dumpty
Confidence
Introduction to Performing Arts
Visit Arena Academy PA Department
CORE EDUCATION TRUST

Overview of Topic

You will study a complete play script, and look at how a playwright uses format and structure to convey character, plot and theme. You will work practically to portray the characters and scenes and will also devise and adapt your own scenes.

The Plot

Terry Dumpton is the victim of a deadly gang, where each character has a different status and role within his death. The play uses the technique of flashback and flash-forward to explore the events leading up to Terry's death. It explores the themes of friendship, bullying, peer pressure and responsibility.

"We killed him. It was us. We did that!" Sammy

"Tragic accident, or deliberate killing? It's going to make a good story."

Key Characters

Terry Dumpton – New boy in school
Stubbs – Gang Leader
Jimmy – Stubb's second in command
Sammy – Terry's friend – also in the gang

Drama Techniques

Thought Tracking

Performers freeze during a key moment in the drama, and say the character's inner thoughts aloud. It helps the audience to understand the character's motivations.

Monologue

Character's speak alone and 'aside' to the audience to express their feelings or opinions about a key moment or event. It is an extended version of thought tracking.

Hot Seating

A character is questioned about any aspect of the play and his or her role within the plot.

Key Words

Act – A part of a play which shows a key change in mood or time period. Plays are most often split into 2 Acts.
Antagonist – The character who works against the protagonist, to upset or damage events in the play
Character– A person in a play, novel or film
Dialogue – The words or speech that a character says
Playwright – The person who writes and creates a play script
The rank or importance of a
Protagonist – The central character or hero of the play
Character
Scene – A sequence of action within an Act.
Stage Directions – instructions in the script for both the actor and designer that indicates movement, vocal tone and technical effects
Tension – The build-up of action in the plot.

'I think there's no world without theatre' – Edward Bond

Terminology and Techniques

Text/ Script	The written drama piece/script.
Tableux	A 'frozen picture' that tells a story. Costume and props are needed, and physicality used to show emotion.
Technical	Technical equipment and systems for example sound, lighting and computer generated effects.
Protagonist	The main character in a piece of drama.
Thought Tracking	An exercise that allows the inner thoughts of a character or role to be heard out loud. The participant is asked to say their characters thoughts and feelings at specific points during their acting.
Plot	The storyline of a piece of drama.
Scene	A sequence of continuous action in a play.
Rehearse/ Rehearsal	A practice or trial performance of a play.
Flashback	Enacting a moment from a character's remembered past, this can help gain an understanding of the character and provide a 'back story'.
Entrances & Exits	Where a character enters and exits their scene.
Level(s)	How the actors sit, kneel or stand on stage, to show status.
Multi-role	When an actor plays more than one role

Physical Skills

Facial Expressions	Using the face to express that characters feelings and emotions.
Gesture	An expressive movement of the body, or something that is said or done to show a feeling, i.e. a wave.
Body Posture	The position of the body to communicate a character, i.e. standing with a straight back, to show you have higher status than another character.
Body Language	The way in which our bodies communicate our character's attitudes. Using your body to show emotions or hidden feelings.
Movement	The process of moving the body on stage to express feelings, or emotions.
Audience	The spectators who watch the performance.
Off-Stage	The area 'back stage' where the audience can't see the actors
Character	The person/persona an actor wishes to convey.
Status	The level of society a character is in.
Improvisation	To perform quickly in response to something, without previous planning.

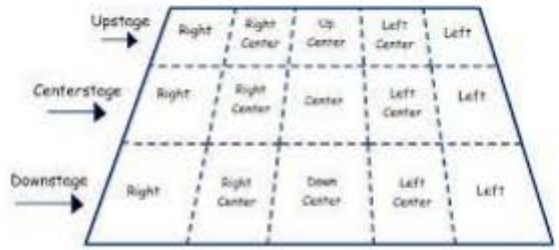
Vocal Skills

Dialogue	The spoken script on stage.
Direct Address	When an actor speaks directly to the audience, e.g. in pantomime.
Communal Voice	A variation on chorus work where a group of performers speaks with 'one voice'.
Intonation	Variation of spoken pitch that is not used to distinguish words, but the attitudes and emotions of the speaker. For example questions, feelings, statements.
Language Register	The level of formality with which you speak. Different people and situations call for different **registers.** For example talking to a teacher and your friends.
Monologue	One person speaking, either delivering a speech or thoughts and feelings to the audience.
Vocal Pace	The speed in which an actor delivers their lines.
Vocal Pause	Pausing lines to create dramatic effect such as tension.
Vocal Tone	The way that you speak, using 'intonation' to add feelings, emotions or sub-text.
Vocal Projection	Using the voice so that all the audience can hear.
Sound	Any music, sound effects or other sound used on stage created by electronics, actor's bodies or instruments. Sound is used to create atmosphere, or mood.
Pitch	The 'highness' or 'lowness' in the tone of the voice.

'Great theatre is about challenging how we think and encouraging us to fantasize about a world we aspire to' – William Dafoe

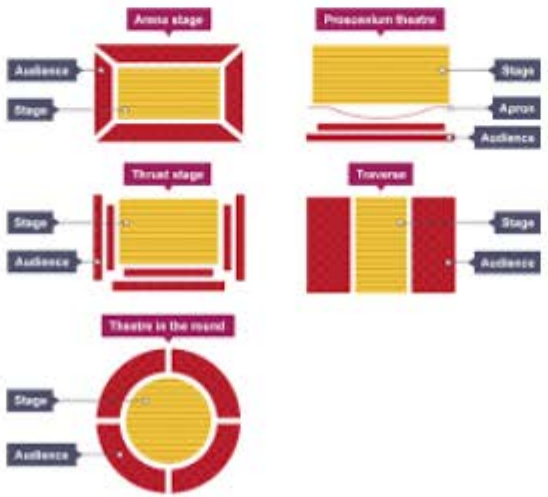
Terminology and Techniques

Numerical variations and formation	The number of dancers on stage and the positioning that is transition from one to the next
Accumulation	Gradually more dancers join in the sequence
Contrast	
Unison	The dancers perform the same movements at the same time
Canon	The movements are performed successively (one after the other)
Re-order	To change the order
Retrograde	To do the sequence in reverse order
Repetition	To repeat moves
Instrumentation	To use a different body part than the one set
Fragmentation	To break up the sequence into sections
Motif	This is repeated use of a movement pattern which has meaning and reminds us of the central theme of the work.
Mime	This usually means stylised movement but can be comparatively realistic.
Gesture	A gesture may be something small but can have emotional impact or it can be a particular movement that defines a character.
Status	This may be executed by use of levels or by distance or strength of contact, or a combination of all of these with voice work.



Physical Skills

Facial Expressions	Using the face to express that characters feelings and emotions.
Gesture	An expressive movement of the body, or something that is said or done to show a feeling, i.e. a wave.
Body Posture	The position of the body to communicate a character, i.e. standing with a straight back, to show you have higher status than another character.
Body Language	The way in which our bodies communicate our character's attitudes. Using your body to show emotions or hidden feelings.
Movement	The process of moving the body on stage to express feelings, or emotions.
Audience	The spectators who watch the performance.
Off-Stage	The area 'back stage' where the audience can't see the actors
Character	The person/persona an actor wishes to convey.
Status	The level of society a character is in.
Improvisation	To perform quickly in response to something, without previous planning.

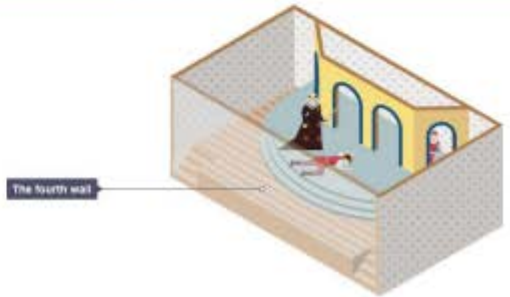


Vocal Skills

Dialogue	The spoken script on stage.
Direct Address	When an actor speaks directly to the audience, e.g. in pantomime.
Communal Voice	A variation on chorus work where a group of performers speaks with 'one voice'.
Intonation	Variation of spoken pitch that is not used to distinguish words, but the attitudes and emotions of the speaker. For example questions, feelings, statements.
Language Register	The level of formality with which you speak. Different people and situations call for different **registers.** For example talking to a teacher and your friends.
Monologue	One person speaking, either delivering a speech or thoughts and feelings to the audience.
Vocal Pace	The speed in which an actor delivers their lines.
Vocal Pause	Pausing lines to create dramatic effect such as tension.
Vocal Tone	The way that you speak, using 'intonation' to add feelings, emotions or sub-text.
Vocal Projection	Using the voice so that all the audience can hear.
Sound	Any music, sound effects or other sound used on stage created by electronics, actor's bodies or instruments. Sound is used to create atmosphere, or mood.
Pitch	The 'highness' or 'lowness' in the tone of the voice.

Practitioners and Companies

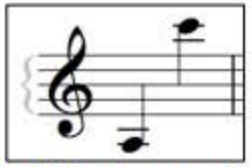
Stanislavski	Naturalism, emotion memory, magic 'if', super objective, subtext, through line, given circumstance
Bertolt Brecht	Epic theatre, verfremdungseffekt, emotional investment
Frantic Assembly	Theatre company – physical theatre, story telling with movement




PERFORMING ARTS - Music
Learning Journey
ARENA ACADEMY
Music Apprenticeship: in music performance and production, event management and games art.
UNIVERSITY
APPRENTICESHIP
COLLEGE
WORKPLACE
A Level: Music
BTEC Music Diploma
GCSE results day
Rehearsal logs
Presentational skills
Unit 3
Unit 1 and 2 retrieval and gap filling
YEAR 11
Unit 2 mock
Responding to a brief
End of Year 10 Assessment
Unit 2
Responding to a brief
Intention
Tonality
Create and refine original work
Feedback
Evaluation
Unit 1
Solo Performance
Stage Presence
Styles/Genres
Vocal projection
Learning Unit 1 Content
Practitioners
Performance Techniques
Target Audience
Ensemble
Rehearsal techniques
Song structure
YEAR 10
Responding to a stimulus/brief
Compositional Techniques
Planning using storyboards
Battle of the Bands
Careers in music
Independent Music Research Project
Soundtracks
Sound effects/Mickey Mousing
Ensemble performance
Remix
Practitioners
End of Year 9 Assessment
Leitmotif
End of Year 8 Assessment
Riffs
Lyrics
Hooks and riffs
Composition techniques
Introduction to logic (DAW)
YEAR 9
Film Music
Bassline
Chords
Song structure
Songwriting
DAW techniques
Musical Manipulation
Audience and stage presence
Rhythm and Pulse
Polyrhythms
Identifying musical features
Listening, appraisal and music analysis
Singing and ensemble vocal work
YEAR 8
World Music
Singing in unison and harmony
Ensemble skills
End of year 7 assessment
Reggae
Blues
Latin/Samba
Indian
Themes and Variations
Introduction and building bricks of music
Welcome!
Keyboard skills
Playing techniques
Melody/Harmony
Pitch
Year 6 SATs
YEAR 7
Sonority City (all about the orchestra)
Voice/Projection
Communication
Confidence
Baseline Assessment
Visit Arena Academy PA Department
CORE EDUCATION TRUST

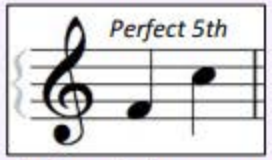
Melody – Knowledge Organiser

Pitch



How high or low a note is

Interval



The distance between any two notes.

Motif

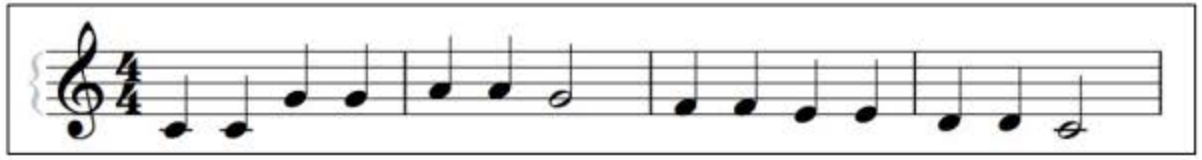
A fragment of a melody.

Range

The difference between the lowest and highest notes

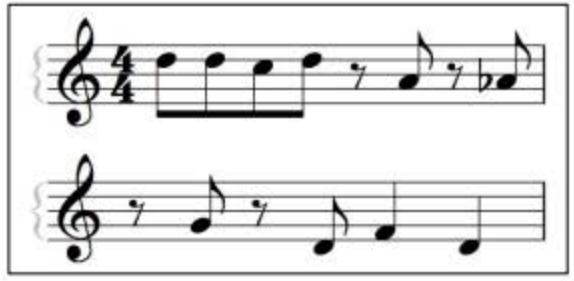
Phrase

A longer melodic idea. Musical "sentences" are constructed from phrases.



Hook/riff

A memorable repeated melodic idea designed to catch the ear of the listener.



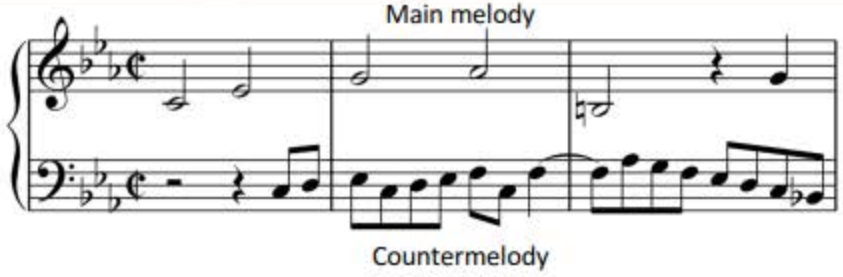
Melodic movement

Steps – movement between notes that are next to each other in the scale
Skips – movement equal to two steps. You "skip" over a note in the scale
Leaps – `any movement that is larger than a skip
Scalic – when a section of a melody moves along using notes in scale order
Chromatic – movement using steps including notes that are not in the key
Passing note – notes which link chord tones

Scale/mode

A group of notes which a melody is based on e.g. major, minor, blues, chromatic, dorian

Countermelody



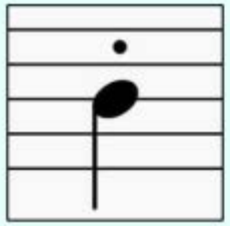
Compositional devices

Repetition – repeat a melodic idea
Sequence – repeat a melodic idea but starting on a different note
Imitation – repeat a melodic idea in another instrument
Variation – change the melodic idea slightly
Ostinato – constant repetition of a melodic idea
Inversion – turn the melodic idea upside down
Retrograde – play the melodic idea backwards

Articulation – Knowledge Organiser

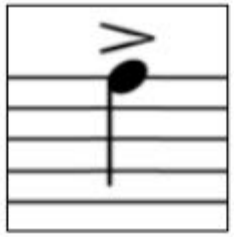
ARTICULATION means *how* you play or sing a note. It is an important part of performing music **EXPRESSIVELY**.

Staccato



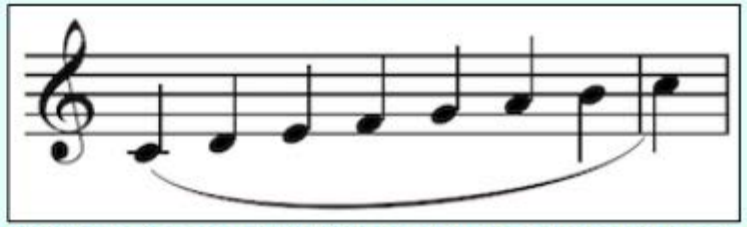
Performed short and briefly. Notes sound detached from each other.

Accent



Emphasise a note so that it sounds louder than others.

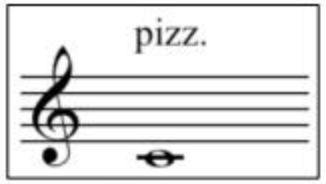
Legato



Perform the notes smoothly. Notes sound connected to each other.
A smooth articulation between two notes is called a **SLUR**.

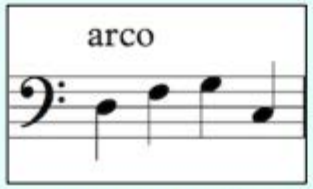
Orchestral Strings

Pizzicato



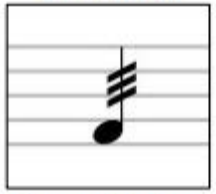
Perform the notes by plucking them with the fingers.

Arco



Perform the notes by using the bow.

Tremolo



Continuously play the note with the bow rapidly to produce a trembling effect.

Other Articulations

Vibrato – a slight "wobbling" of the pitch of a note for expression. An important vocal technique as well as for instruments.

Tonguing – the technique used by brass and wind players. Faster rhythms often require the technique of double or triple tonguing.

Bend – guitarists can use their fingers to bend the string from one note to another. Brass and wind players can also do this with different mouth shape and air pressure.

Sforzando

A sforzando is a type of accent. The note should be played with a sudden, strong emphasis.

Slides

Glissando – a dramatic slide between a wide range of notes. For example, running the fingers along the strings of a harp.

Portamento – a smooth slide between two notes. Used frequently by singers.

Harmony – Knowledge Organiser

HARMONY – how chords are used in a piece of music.

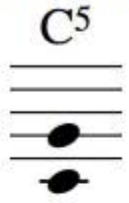
Triad

A basic type of chord made up of three notes

Inversion

Rearranging the order of the individual notes of a chord

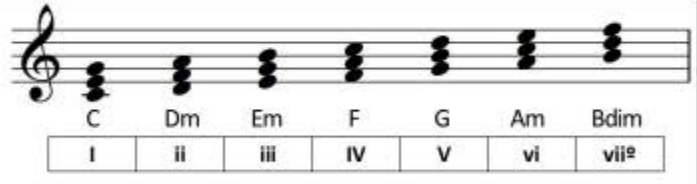
Power Chord



A chord using only the 1st and 5th scale degrees; no 3rd

Arpeggio – playing the individual notes of a chord one after another
Cadence – a movement between two chords at the end of a phrase
Chromatic – music that uses chords that are not naturally found in the key
Diatonic – music that use only chords that belong to the key
Dominant – the fifth chord (V) of a key
Harmonic rhythm – the rate at which the chords change in a piece
Modulation – when the harmony shifts to a new key
Primary triads – chords I IV and V in a key
Progression – a sequence of chords put together
Seventh – adding the 7th degree of the scale to a triad
Tonic – the first chord (I) in a key

Chord Functions in a Key – Roman Numeral System

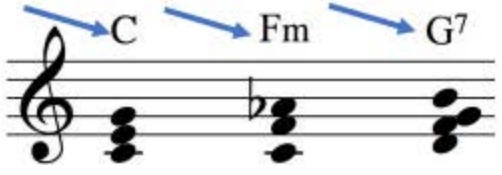


Building Chords Using Scale Degrees

C	D	E	F	G	A	B
1	2	3	4	5	6	7

Example: Minor triads are built using the 1 b3 and 5 degrees of a scale so a C minor triad contains the notes C Eb G

Major Triad	Minor Triad	Major 7th chord	Minor 7th chord	Dominant 7th chord
1 3 5	1 b3 5	1 3 5 7	1 b3 5 b7	1 3 5 b7

Perfect Cadence "The strongest one"	Plagal Cadence "The Amen one"	Imperfect Cadence "The cliffhanger one"	Interrupted Cadence "The hidden twist one"	Chord Symbol
				

Physical Education

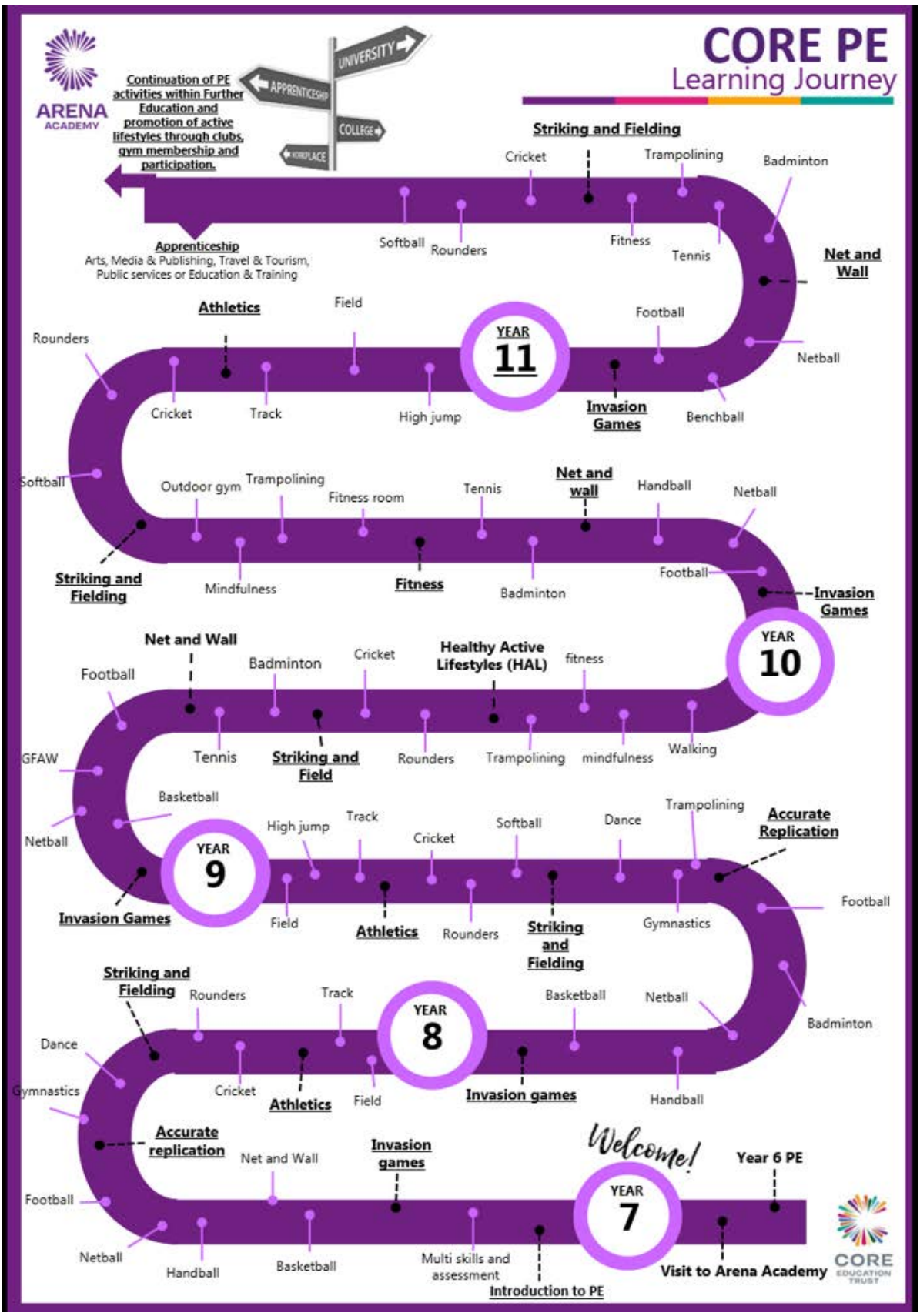
Topics covered from the beginning of the academy year to the end of this half-term.

AUT 1:

1. Invasion games
2. Basketball

AUT 2:

4. Net and Wall
5. Handball


CORE PE
Learning Journey
ARENA ACADEMY
Continuation of PE activities within Further Education and promotion of active lifestyles through clubs, gym membership and participation.
UNIVERSITY
APPRENTICESHIP
COLLEGE
WORKPLACE
Apprenticeship
Arts, Media & Publishing, Travel & Tourism, Public services or Education & Training
YEAR 11
Striking and Fielding
Cricket
Trampolining
Badminton
Softball
Rounders
Fitness
Tennis
Net and Wall
Athletics
Field
Football
Rounders
Netball
Cricket
Track
High jump
Invasion Games
Benchball
YEAR 10
Softball
Outdoor gym
Trampolining
Fitness room
Tennis
Net and wall
Handball
Netball
Striking and Fielding
Mindfulness
Fitness
Badminton
Football
Invasion Games
Net and Wall
Football
Badminton
Cricket
Healthy Active Lifestyles (HAL)
fitness
GFAW
Tennis
Striking and Field
Rounders
Trampolining
mindfulness
Walking
YEAR 9
Basketball
Netball
High jump
Track
Cricket
Softball
Dance
Trampolining
Accurate Replication
Invasion Games
Field
Athletics
Rounders
Striking and Fielding
Gymnastics
Football
YEAR 8
Striking and Fielding
Rounders
Track
Basketball
Netball
Badminton
Dance
Gymnastics
Cricket
Athletics
Field
Invasion games
Handball
YEAR 7
Accurate replication
Net and Wall
Invasion games
Welcome!
Year 6 PE
Football
Netball
Handball
Basketball
Multi skills and assessment
Introduction to PE
Visit to Arena Academy
CORE EDUCATION TRUST

PE: Basketball

Key Skills

Dribbling: Touch the ball with your fingertips, not your palm. When you dribble, you want your hands to make contact with the ball so that you have good control over the ball and you don't have to use much arm strength to keep the ball bouncing. Don't slap the ball with your palm. Handle the ball with the tips of your fingers. Spread your fingers out across the surface of the ball for a wider, more balanced contact area

Chest pass: The ball should be held close to your chest. Your fingers should be spread comfortably around it, shielding the ball. Take a step forward as you release the ball and extend your arms sharply as you push the ball towards your team-mate. As your arms straighten, finish the pass with the wrists snapping inward. Aim to keep your thumbs together and pointing downwards. Your fingers should be pointing towards your target.

Bounce pass: The trick is to fake a move which draws the defender one way, then pass the ball underneath their outstretched arms. Bend your knees and extend your arm to the side of your body to give you the space and angle to make the pass. Use your fingers to push the ball downwards to your team-mate. The ball will slow after bouncing, so aim to hit the floor about two-thirds of the way to the receiver. This reduces the risk of your opponent intercepting the ball.

Pivoting: After stopping with the ball, pivoting allows you to change direction and look for a pass or shot. Remember not to move the foot you stopped on - that's against the rules. If you stopped on both feet at the same time you can choose which foot on which to pivot. Moving off one foot means the other one is your pivot foot. To begin the pivot, lift the heel of your turning foot and transfer your weight over it. Lift your non-pivot foot up and use it to turn your body by making short little steps to steady your balance. You can move quite a lot as long as the ball of the pivot foot remains in contact with the court and does not move.

Rules

The game consists of two teams with 5 players on court for each team at one time. The aim is to score as many hoops, shooting through the hoop as you can in the time allocated.

Players cannot travel with the ball. They can move with the ball by dribbling but once they stop and hold the ball with two hands they must pass the ball. If they do not pass the ball and start dribbling again they will be pulled up for 'double dribble'.

Players cannot hold the ball for longer than 5 seconds.

If the ball goes out of play then a side line ball is taken from the opposite team.

Once the offense (attacking team) has brought the ball across the mid-court line, they cannot go back across the line during possession.

Fouls are given for hitting, holding or pushing an opponent. If a player fouls the shooter, then 1-3 free throws can be awarded (each worth 1 point).

Scoring system

3 points are awarded if the ball is successfully shot through the hoop from behind the 3 point line

2 points are awarded if the ball is successfully shot through.

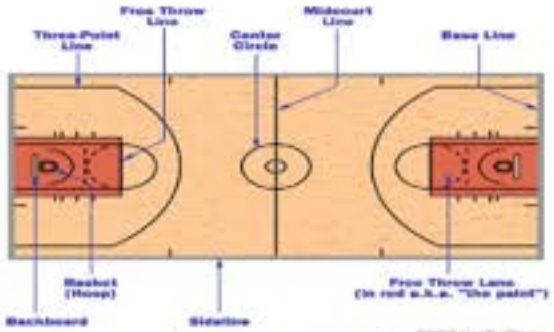
1 point If a foul is committed they have a free attempt to shoot their ball through the hoop. A player is given a point for every successful foul shot.

Positions

Glossary

Offense Defense Double dribble
Foul Travelling Triple threat
position Lay up Free throw
backboard dribble Screening Zone
Bounce pass Pivot Hoops Rebound
Assist Attack Key Guard Shooting

Pictures



PE: Badminton

Physical Education Department – Knowledge organiser – BADMINTON year 7, 8 and 9

Skills and Techniques

Forehand- A forehand shot is where the racket is away from the body, for example if you are right handed the racket will be towards the right side of your body.

Backhand- A backhand shot is where the racket is across the body and towards the opposite side to your strong hand. For example if you are right handed it will be across your body and hitting from the left side.

Serving- There are 4 types of serve: Low, High, Flick and Drive. The low is gently placed over the net to land at the front of the court. The high is opposite, a powerful serve which lands at the back of the court. The flick serve is similar to the high but lands more mid court. The drive serve is a flat, low and powerful serve which is aimed towards the back of the court.

Grip- The grip of the racket is very similar to a hand shake. To test you have the correct grip hold the racket head in your hand, then carefully slide your hand down the racket. Then, wrap your fingers around the handle. You will slightly change your grip when you play a backhand shot as your wrist will turn towards the net.

Footwork- Side stepping will be the majority of the footwork you do, it allows you to move around the court efficiently while still maintaining proper hitting form. Your legs should be square with your body and move side-to-side. Regardless of the direction you are moving, your head should always be facing the net.

Skills and Techniques

Drop shot – A drop shot is a front of court shot, similar to a net shot but from mid court. It travels a long distance but aims to drop to the floor as soon as it goes over the net. The shuttle needs to be hit with a high elbow at the highest point possible to ensure it reaches the opponents court side.

Smash shot – This is a powerful shot which most of the time will win you the point. It is a mid-court shot which moves in a downwards motion very powerfully so it is almost impossible for your opponent to return the shuttle. This is in a downwards motion and power is needed from your shoulder and arm.

Net shot – This is where the shuttle glides just over the net, almost in touching distance. This is a hard shot to return as it is very low to the floor when it goes over the net so the player must be quick to get low and return this. You must lean over the net ensuring you do not touch it and hit the shuttle gently in a downwards motion.

Clear shot – This is a long shot which aims to land in the back tram line of the court. This is helpful if your opposition tends to play close t the net as they will not have much time to get to the back of the court to return the shuttle. To ensure this is successful you must ensure your elbow is high and you make contact with the racket and shuttle at its highest point with a lot of power.

Singles court – short and wide

Doubles court – Long and narrow

Glossary

Shot **Serve** **Net** **Rally** **Smash** **Drop** **Drive**

Forehand **Backhand** **Grip** **Footwork** **Underarm**

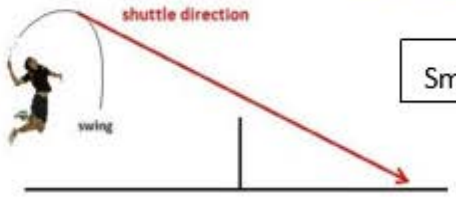
Shuttlecock **Racket** **Overarm** **Tramline** **Flick**

Singles **doubles** **High** **Low** **Short** **Long**

Pictures

Forehand

Backhand



Smash shot

Volley – The volley involves striking a ball that is still in the air. Focus eyes upon the ball. Arms out for balance. Keep eyes focused on the ball as you get into the line of flight. Head still. Non kicking foot on the floor and lead with the kicking leg forward.

Turning with the ball

Cruyff - Great skill for losing your opponent.
Named after the brilliant Dutchman Johan Cruyff.
Shape as if to pass or cross but then drag the ball behind your standing leg with the inside of foot. Turn your shoulders and your hips so that you are back in line with the ball and then race away.

Step over – Skill for sending an opponent in the opposite direction.
Lift your foot over the top of ball to use a 'step over' and this should immediately create you time and space. Then hook the ball away with the outside of the foot and race away.

Inside Hook - You need to keep your body between the ball and your opponent.
Reach round the outside of the ball with your foot so that you can change its direction. Bend your knees so that you can transfer your weight quickly and turn your hips to change your own direction. Then get a positive first touch on the ball that puts it into an area that is comfortable for you to move on to and accelerate away from your opponent.

Outside Hook – This tricks your opponent
Use the outside of the foot to hook the ball back in the direction that you are going to go.

Drag Back - The drag back is a great turn to use when you haven't got a lot of space to work.
Place one foot on top of the ball and staying in contact with it throughout, roll it back and move off in the opposite direction.

Team formation

4-4-2 (4 defenders, 4 midfielders and 2 strikers) a traditional team set up
5-4-1 (5 defenders, 4 midfielders and 1 striker) A more defensive set up.
3-5-1-1 (3 defenders, 5 midfielders, and 2 strikers one in front of each other). A more attacking set up.

Counter attacking – The team withdraws players into their own half but ensuring that one or two players are committed to the attack

Direct long ball football – Often used to deride 'boring' teams, the long-ball style of play is genuine route one football. Rather than spending time on the ball picking up the pass, exploiting small gaps in the opposition's defence or utilising the flanks, the long ball is employed as an opportunistic method of attack.

Wide/Wing plays – The ball is played to the wings. By spreading the ball wide, you allow a different angle of attack and offer several opportunities for the winger; take on the fullback and drag central defenders out of position, cut inside and drive forward at an angle, or whip in a cross from deep for the strikers to attack.

Offside - An attacking player is flagged offside by the assistant referee if there is only one defending player between the player and the goal line at the time the ball is struck. The player should be in active play if the offside offense is to be called.

Throw in - A method of restarting play during the game, when the ball has exited the side of the field of play. Throw in is taken from where it went out. At the moment of delivering the ball, the thrower must face the field of play. The thrower must have part of each foot on the touchline or on the ground outside the touchline and use both hands to deliver the ball from behind and over the head.

Cruyff Turn

Inside Hook

Step over

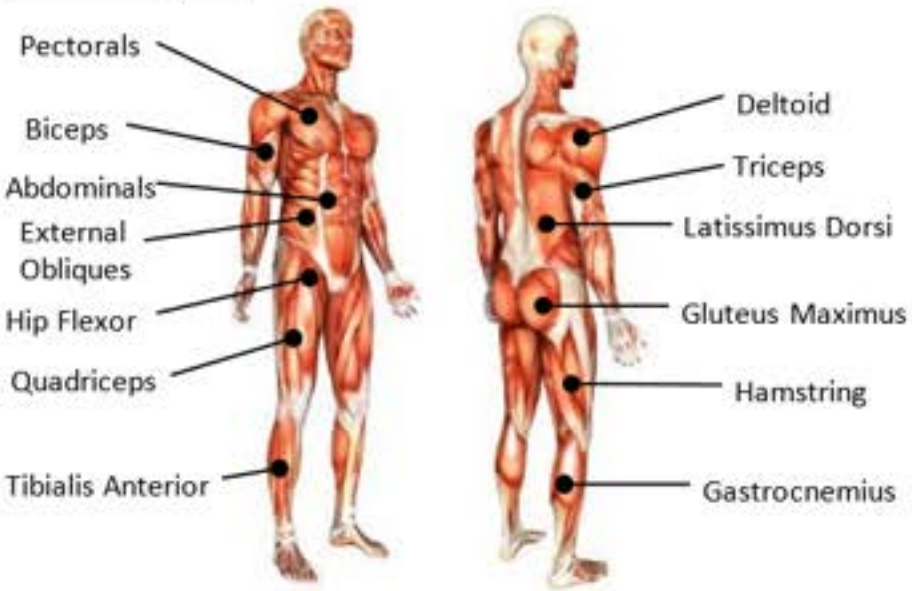
Free Kick

4-4-2 example

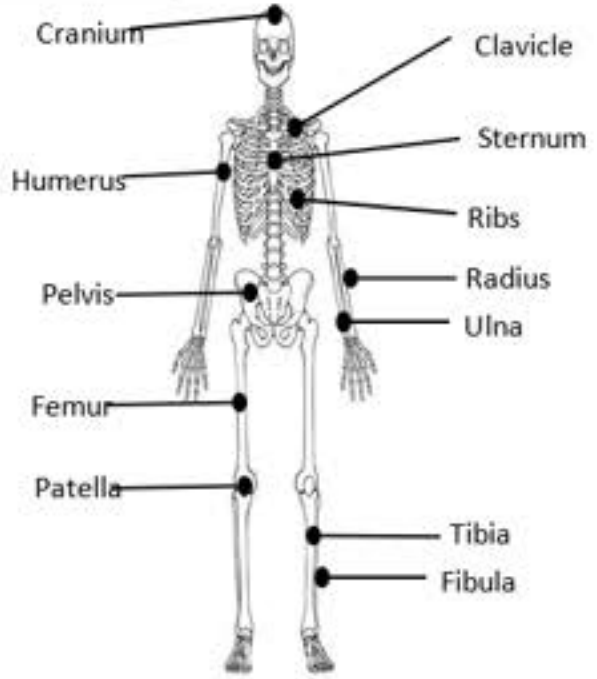
Throw in

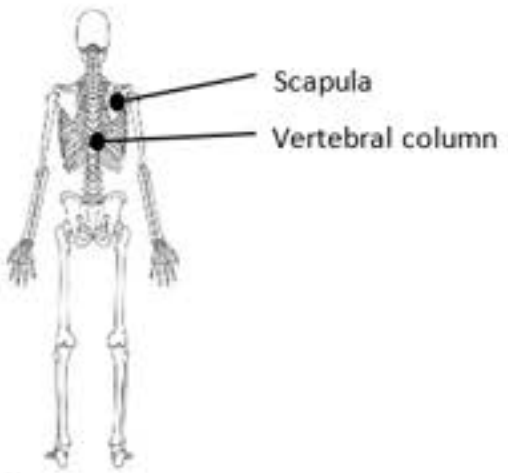
PE: Body Systems

Muscular system

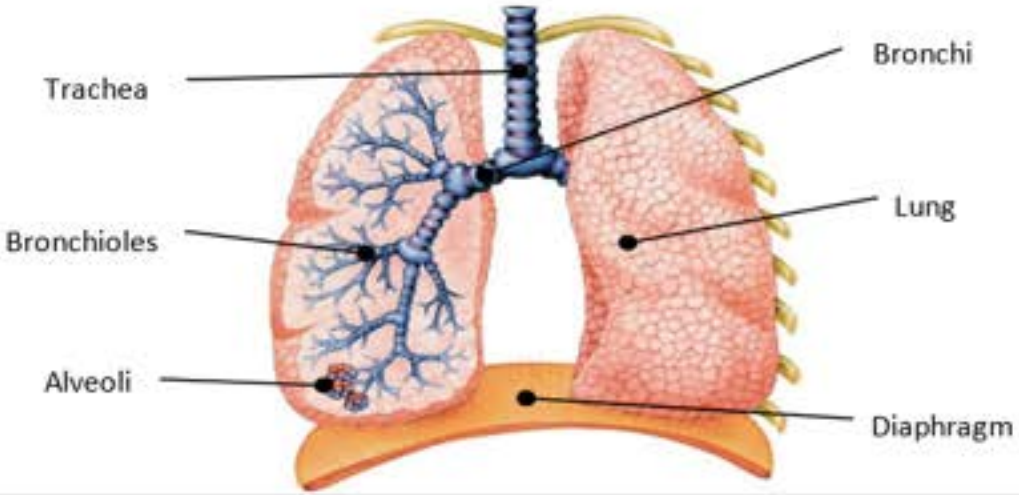


Skeletal System

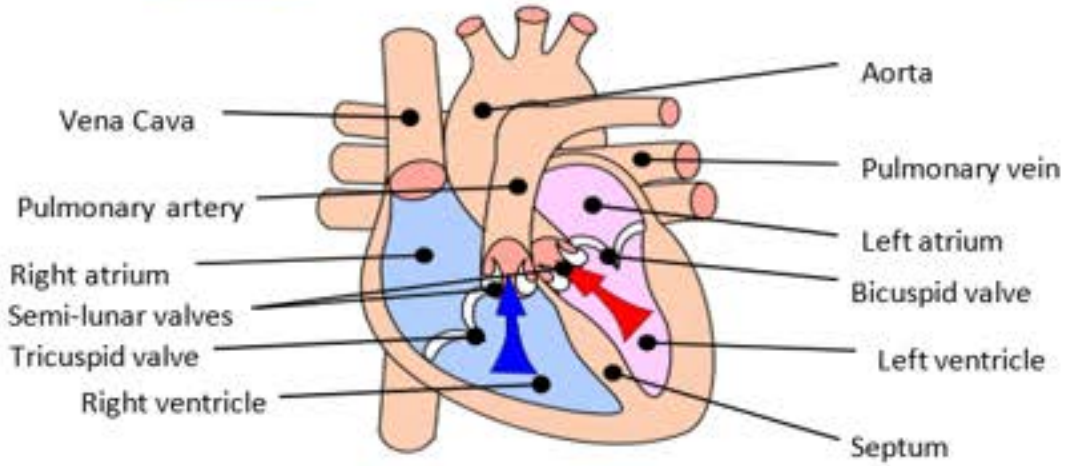




Respiratory system



Circulatory system 'Stroke Volume': The amount of blood pumped by the heart each beat



Design Technology

Year 7 Food Knowledge Organiser: Principals of Nutrition

What is the Eatwell Guide?
The Eatwell Guide is a guide that shows you the different types of food and nutrients we need in our diets to stay healthy.

Why is the Eatwell Guide important?
The Eatwell Guide shows you how much (proportions) of food you need for a healthy balanced diet.

What are the consequences of a poor diet?
A poor diet can lead to diseases and can't stop us from fighting off infections.

What are the sections on the Eatwell Guide?

1. Fruit and vegetables
2. Potatoes, bread, rice, pasta and other starchy food
3. Dairy and alternatives
4. Beans, pulses, fish, egg, meat and other proteins
5. Oils and spreads

Eat 5 portions of Fruit and Vegetables a day. One portion is 80g .

Macronutrients
Needed in **large amounts** to help the body to function properly

Fat

Function:
Energy
Warmth
Protection of organs

Sources

Saturated Fat (Bad Fats)	Unsaturated Fat (Good Fats)
Meat	Avocado
Processed Foods	Nuts
Lard	Olive oil

Saturated Fats - solid at room temperature and are from animal sources. Unsaturated fats are liquid at room temperature and are vegetable sources..

Too much	Too little
• Obesity • Type 2 diabetes • Heart Disease	• Fat soluble vitamin deficiencies

Protein

Function:
Growth and Repair
Energy

Sources:

Plant	Animal
Nuts	Eggs
Quorn	Fish
Beans	Meat
Lentils	

Too much	Too little
• Turns to fat if not turned into energy	• Anaemia • Slow growth in children

Carbohydrates

Function:
Energy

Sources:
Bread
Pasta
Rice
Wheat
Potatoes
Cereals

Sugars:
Cakes
Sweets
Fizzy drinks

We should consume no more than 30g of sugar per day

Too much	Too Much
• Obesity • Type 2 diabetes • Heart Disease	• Tooth decay • Type two diabetes • Obesity

Water
Keeps us hydrated.

Source
Drinks, fruit and vegetables, soup.

Function	Too little
• Controls body temperature. • Gets rid of waste in the body.	• Dehydration leads to headaches, irritability and loss of concentration.

Fibre

Function:
It helps with digestion
It helps to get rid of waste

Source:
Wholegrain,
Whole wheat,
Wholemeal cereals,
Peas and beans

Too Little
- Constipation
- Bowel Cancer

Heat Transfer and Cooking methods

Heat Transfer
The way in which heat energy is passed into food

Conduction - Transferring heat through a solid object into food
e.g. Frying bacon in a pan, using a pan on the hob, a metal spoon in water

Convection - Transferring heat through a liquid or air into food
e.g. Baking a cake, boiling water, cooking in an oven

Radiation - Transferring heat by infra-red waves that heat up what they come into contact with
e.g. grilling sausages or bacon, making toast

Cooking methods		
Dry Heat	**Moist Heat**	**Frying**
Baking	Steaming	Deep fat frying
Grilling	Boiling	Shallow frying
Roasting	Poaching	Stir frying
Barbequing	Stewing	Sautéing
Basting	Simmering	

Useful web links:
http://www.foodafactoflife.org.uk

Micronutrients
Needed in **small amounts** to help the body to function properly

Watch the video to learn more
https://www.youtube.com/watch?v=l5ZLTJHSIYg

Mineral	Sources	Function
Iron	Red meat, spinach, beans and lentils	Helps our red blood cells carry oxygen so that we are not anaemic.
Calcium	Milk, cheese and some cereals	Help us to have strong bones and teeth.
Sodium	Processed foods	Controls the body's water content and helps our nerves

Vitamin	Sources	Function
Vitamin A (fat soluble)	Fish, eggs, oranges	Helps us to see well
Vitamin D (fat soluble)	Eggs, the sun	Helps our bones to grow
Vitamin C (Water soluble)	Oranges, tomatoes, vegetables	Helps to heal cuts, helps the immune system.
B Vitamins (Water soluble)	Cereals, meat, fish	Helps to keep us healthy

Why Food is cooked
Different cooking methods change our food in different ways
Appearance, Texture, Flavour, Smell and Nutritional value

- To improve shelf life
- To make safe to eat
- To develop flavour
- To improve texture
- To improve appearance
- To give variety in diet

Year 7 Food Knowledge Organiser: Food and kitchen hygiene

Bacteria

A micro organism that multiply in certain conditions.

Where can bacteria be found?
Everywhere!

Are all bacteria bad?
No- some are good and essential for normal bodily function.

How can you reduce the risk of bacteria?
- Storing food separately
- Storing and cooking foods at the correct temperatures

The 4 C's

Cleaning – wash your hands properly

Cooking – make sure you cook food properly or you could make someone very ill

Chilling – keep it chilly silly

Cross contamination – keep raw meat and cooked food apart

Key Terms	
Hygiene	Keeping the workplace and food workers clean which ensures food is safe to eat
Hygiene procedure	The steps you would go through to ensure that a product is produced in a safe and hygienic way
Contamination	Presence in food of harmful substances or bacteria. To spoil or dirty something
Physical contamination	The presence of a foreign body in a food product for example a plaster that has fallen off the food workers hand
Chemical contamination	The presence of unwanted or unsafe chemicals in food
Biological contamination	The presence of harmful microorganisms in food
Danger zone	A temperature of between 5°C and 63°C when bacteria will grow most rapidly
Cross contamination	Safe food being contaminated by unsafe food
Food poisoning	Chilled foods should be stored at between 1°C and 5°C to slow the growth of bacteria Illness caused by food being contaminated by microorganisms. Food poisoning occurs if harmful microorganisms contaminate food and are then allowed to grow
Symptoms	The physical signs that are shown when someone is unwell

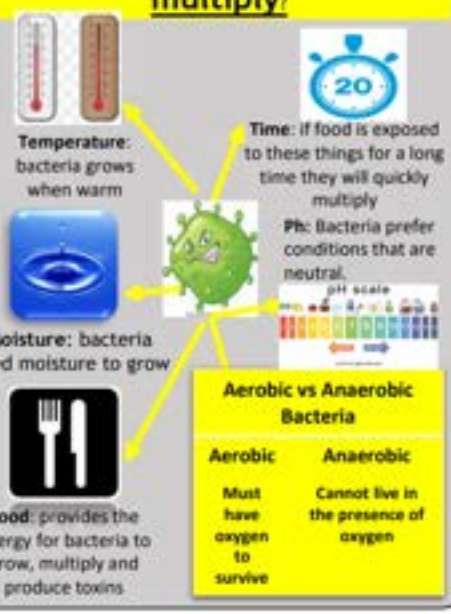
Storing Food

Temperature is really important to keep food safe. The following temperatures should be used:

Refrigeration	Fridges should run at **4°C** or below.
Freezing	Freezing of food at **-18°C** or below will stop bacteria multiplying.
Cooking	Temperatures of **75 °C** or above kills almost all types of bacteria.
Danger Zone	The temperature range where bacteria is most likely to reproduce: **5°C-63°C**

High risk foods - ready-to-eat food that will support the growth of pathogenic bacteria easily and does not require any further heat treatment or cooking". Such foods are usually high in protein and moisture require strict temperature control and protection from contamination and include: cooked meats , cooked shellfish.

What do bacteria need to multiply?



Common Food poisoning Pathogens

Pathogen	Sources	Symptoms
E coli	Raw meat, untreated milk and water.	Vomiting, blood in diarrhoea, kidney damage or failure
Listeria	Soft cheese, pate, unpasteurised milk, under cooked meat	Mild flu, meningitis and pneumonia
Campylobacter	Meat (chicken) shellfish, untreated water.	Diarrhoea, headache, fever, abdominal pain.
Salmonella	Raw meat , eggs, seafood, dairy products	Diarrhoea, vomiting and fever.
Bacillus cereus	Cooked rice, pasta, and cereal foods	Nausea, vomiting, diarrhoea
Staphylococcus Aureus	Anything touched by hand, Dairy product	Nausea, vomiting, diarrhoea

Watch video to confirm knowledge
https://www.youtube.com/watch?v=flxmB8NKMzE

Storage

To prevent cross contamination (the spreading of bacteria), foods must be stored separately. Follow the rules of food storage within a fridge:

Most bacteria grow rapidly at body temperature (37°C), but can grow between 5°C and 63°C. This is known as the danger zone. The more time food spends in the danger zone the greater the risks of harmful bacteria growing. Therefore it is vitally important that we try to keep food out of the danger zone during the production processes.

ARENA ACADEMY

Personal Development

1	**Why do you need to Know British Values?** Understanding British values is an important way to enable you to embrace the key values that you need to be equipped for life in modern British society. There are 5 fundamental British Values. **Through understanding the British values of Democracy, the Rule of Law, Individual Liberty, Mutual Respect, and Acceptance for those with different faiths and beliefs**, you will develop self-knowledge, be better able to make the right choices and make contributions to the school and the wider community.		
Democracy			
2	**Democracy**	8	Examples of Political Parties: Liberal Democrats, Labour, Green Party, Conservatives
3	In the United Kingdom we vote (age 18 +) for the people we want to run our councils and Government.		
4	We vote for Members of Parliament (MP's). Elections take place at least once every 5 years.		
5	In our democracy there are political parties. At the time of writing the political party who has the majority of MP's in Parliament is the Conservative Party. Labour are currently the opposition Party.	9	When elections take place for Members of Parliament, the public go to vote. Traditionally this happens on a Thursday, and people vote in a secret ballot. People only know who you vote for if you decide to tell them – it is rude to ask!
6	The Leader of the Conservatives and our current Prime Minister is Theresa May. The Leader of the Opposition is Jeremy Corbyn.	10	Where can I see British Values at School? Democracy – School Council / Form Representatives / Student Executive. We hold mock elections and in PSHE you will learn more about politics. We participate in the MAT debating competition, held in the council chamber at the Town Hall.
7	MP's debate in the Palace of Westminster, in the House of Commons. On the opposite side of the Building is the House of Lords. The House of Lords (unelected members) ratify law and policies put forward by parliament.		
The rule of law			
11	In the UK, we have laws which determine what is legal and illegal. You are expected to know the difference between right and wrong.	14	There are consequences for making the wrong choice or taking illegal actions. We all take responsibility for our actions.
12	The rule of law is a principle that individuals and institutions are subject and accountable to, which is fairly applied and enforced.	15	Where can I see British Values at School? Rule of Law – Our Behaviour Systems and Behaviour Policy. We have agreed rules and expectations so that our school is a safe and happy place where all differences are reconciled peacefully. We have a PCSO that comes into school to educate you in the law.
13	Those who commit crimes will ultimately be brought to justice through the legal system including Police officers, courts and lawyers. The rule of law acts as a deterrent, to deter people from criminal acts.		
Individual liberty			
16	In the UK you are free to have an opinion (unless it is extremist) and believe in what you want without discrimination.	18	Where can I see British Values at School? Mutual Respect – Our academy ethos, antibullying and assemblies. Boundaries are used to ensure you are safe.
17	You have the freedom to make choices and decisions without being judged.		
Mutual **respect** for and **tolerance** of those with different faiths and beliefs and for those without faith.			
19	Mutual Respect and Tolerance are the proper regard for an individuals' dignity, which is reciprocated, and a fair, respectful and polite attitude is shown to those who may be different to ourselves.	21	We should all actively challenge students, staff or parents expressing opinions contrary to the values we hold in society and as a school and those that underpin the fabric of a democratic Britain. This is crucial to us to protect one another and to tackle 'extremist' views and prevent people from being radicalised.
20	Differences in terms of faith, ethnicity, gender, sexuality, age, young carers and disability, are differences that should be respected, tolerated and celebrated.	22	Where can I see British Values at School? Acceptance of Faith – RE Lessons and Assemblies. We give you messages of tolerance and respect for others no matter what their ethnicity, beliefs, sexuality, gender or disability.

Democracy	**Rule of Law**	**Individual Liberty**	**Mutual Respect**	**Tolerance**