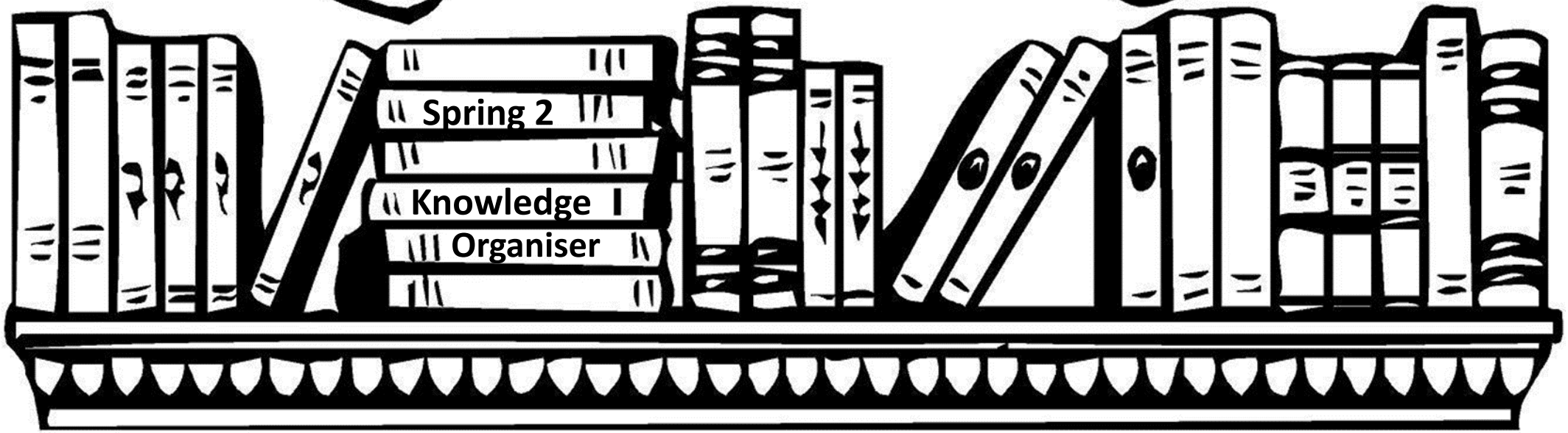
Knowledge

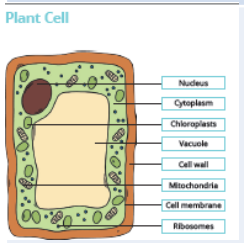
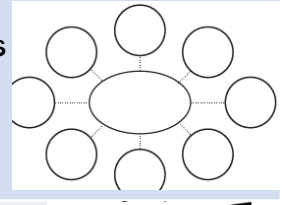
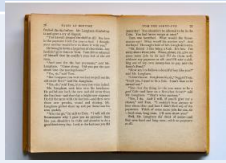


is power

Just reading through your books or a knowledge organiser is not always an effective way to revise. Instead, you should do something with the information. Choose an example of the revision methods on the pages or see if you can come up with another method.

The knowledge is evolutionary not revolutionary. Approximately half the knowledge is new and half helps you revise. Many of the activities are changing. We hope you enjoy them.

In SKL you will be continuing to think about making choices. You will also move into a topic that relates to maths. What is a personal budget and how will I manage my finances? It is great opportunity to play monopoly and Game of Life.

Idea	Explanation
Make some flash cards or PowerPoint slides. Make top trumps. 	Write down key words, quotation, questions or equations on one side of a card. On the other side, write the definition or answer. Use them to test yourself.
 Make a poster.	Turn your notes into posters with lots of colour and illustrations. Summarising the key information in a different way is an effective way of learning and your brain will remember the colours more easily. Do the title last!
Draw spider diagrams, or for the adventurous mind maps. 	Write the topic/keyword in the centre of your page. Add everything you know in subtopics. Then explore each subtopic in turn adding more ideas. Colour/pictures help you recall.
Write a song or a rap. 	Are there songs that stick your head. Change the lyrics to the information you want to learn. If you record and listen back it will be a more fun way of revising.
 Plan a lesson	If you teach something to someone else the chance of recalling it is really high. This has been found to be the most effective way of learning something for the long term.
Write a story or comic strip. 	Take the keywords or facts that you need to learn and turn them into a story or a cartoon. The sillier the story the more likely you are to remember it.
Write a quiz. Design a game. 	Playing is how we learn as young children and it is a very powerful way of learning throughout life. If we enjoy the game it helps us remember.

Open Academy DARES students to leave their devices!

» Aspiration
There are no barriers to your ambition
» Leadership
Live your own life
» Teamwork
Together we achieve more
» Humility
Put others first
» Courage
Handle your fear
» Hard work
We need to make the most of our talents
» Respect
Treat others as you would like to be treated yourself
» Service
It is better to give than to receive
» Integrity
Be true to yourself
» Forgiveness
Forgiveness is a friendship preserver
» Thankfulness
Appreciate others; appreciate what you have
» Perseverance
Never give up

Core Values

www.open-academy.org.uk

Directed Activities Related to Everyday Situations / (Stuff)

ThursDares Afternoon

We will all leave our devices on Thursday afternoon to maintain our mental health

Purposes

Increase well-being by:

- Try to reduce workload in the long term for staff
- Try to reduce screen time for all staff
- Support more flexible working for staff who are multitasking
- Try to reduce screen time for students
- Enable the curriculum to still work effectively
- Increase engagement with all learners
- Bring joy into learning
- Share best practice reducing workload

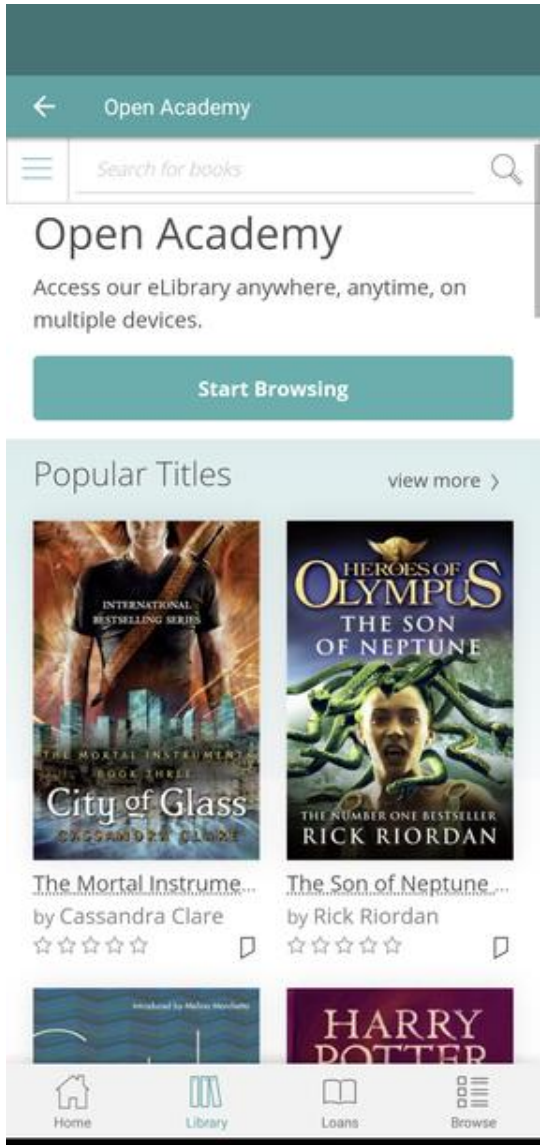
Stuff in Rooms

1. Projects on i.e. estimating… volumes of rooms, furniture, other items – then checking by measuring
2. Finding and counting things – angles, colours, shapes or patterns in a given room ie the living room – then graphing / comparing to other rooms / describing
3. Eye spy – with curriculum links – as usual but student has to say where it connects to current lessons…
4. Exercise using living room 'equipment'
5. Time lapse photo story what happens in a room – or out of the window as the story of what can be see outside – e.g. over an hour, day or week…
6. Meditation introduction
7. Beginners yoga exercises e.g. from YouTube
8. Beginners Tai Chi exercises from YouTube
9. Relaxation techniques and time
10. Sorting / categorising / counting / graphing / objects in the room
11. Listen to a documentary / science prog / history etc on radio 4
12. Listen to your favourite album / playlist / radio prog for 30 mins – try to think about why you like it so much – what does it make your feel

GoggleBox Stuff

1. Watch a documentary with someone else and discuss it. Try to summarise THEIR view of it at the end
2. Create an animated version of a film story using playdoh, Lego mini-figures or stick people
3. Watch a football/ cricket match on TV and try to work out where the cameras are situated – draw them on a sketch of the stadium
4. Watch a specific BBC Learning broadcast program and write a summary – (Weekly Secondary Program guide available her) https://bam.files.bbci.co.uk/bam/live/content/zmbyp4j/pdf
5. Exercise (Jump /jog, sit-ups etc) every time adverts appear on the tv
6. Watch their favourite show and try to watch it like a critic might – what could be improved
7. Watch something they wouldn't usually watch like a news program or documentary on something outside their interest
8. Plan a family viewing diary for the week – then get everyone to rate their shows after they watch them – they could then try to analyse those plans with charts and graph
9. When watching an interview on TV pretend they are answering the question or interview those around they to see what they think of what they are watching
10. Complete workouts with a TV trainer or follow a TV chef recipe

READING AT HOME



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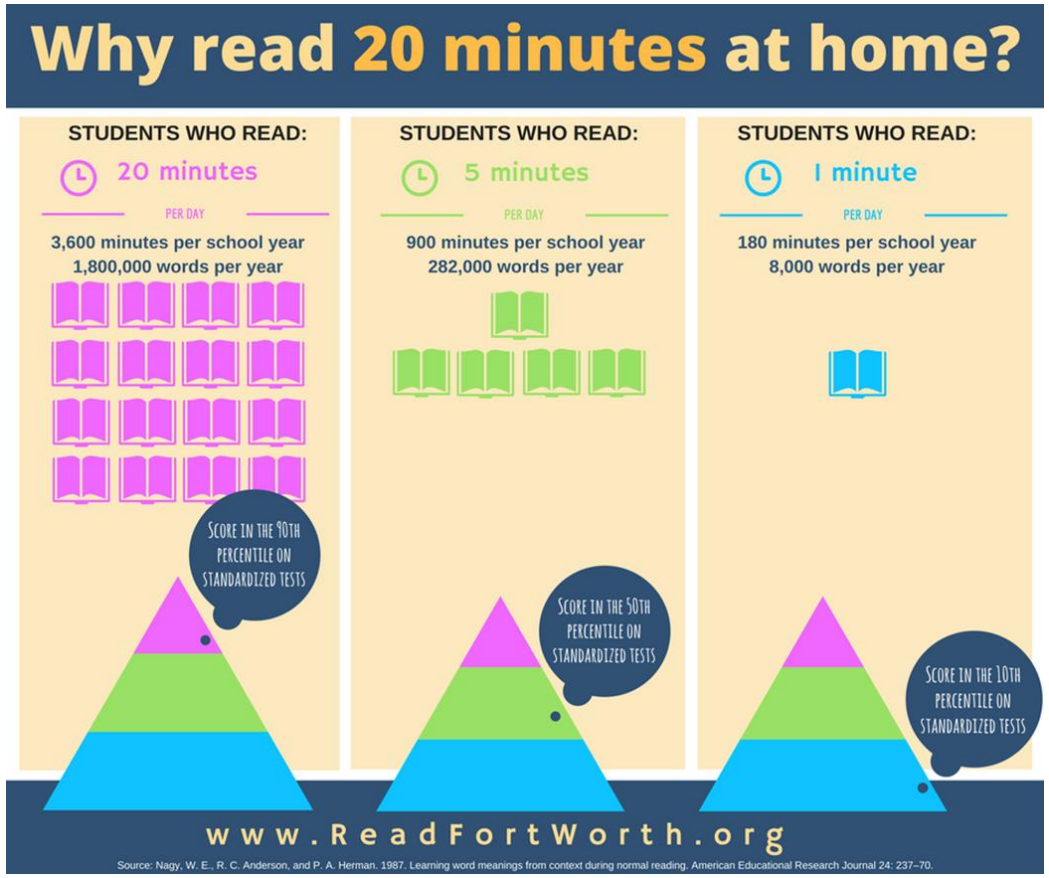
https://openacademy.eplatform.co/



Reading has a number of benefits:

- Success at school
- Mental health & wellbeing
- Better sleep
- Develop empathy
- Escapism (books can take you anywhere)

...and more!

ReadFit

A workout for your brain!

Read More ● Build Reading Stamina ● Make Reading a Daily Habit

To be a good reader, much like a marathon runner, you need to put in time and practice to be successful. Runners train over time, gradually increasing the difficulty by increasing the amount of time they run, the distance they run and the speed at which they run.

You can apply a similar idea to reading. To train to be a great reader, you can start by reading easier books, for a short period of time, and by breaking your book into small chunks (i.e. a few pages at a time). As you continue your reading training, you can gradually build up to reading more difficult texts, reading for longer and reading bigger sections of your book in one go.

ReadFit is a programme designed to help you on your reading journey. With beginner and hero challenges, each week there will be daily "reading workouts" to help you read more and reach 20 minutes of daily reading. Complete the "workouts" to unlock digital badges and rewards.

WEEK 1 ReadFit LOG

Title of the book I am reading:

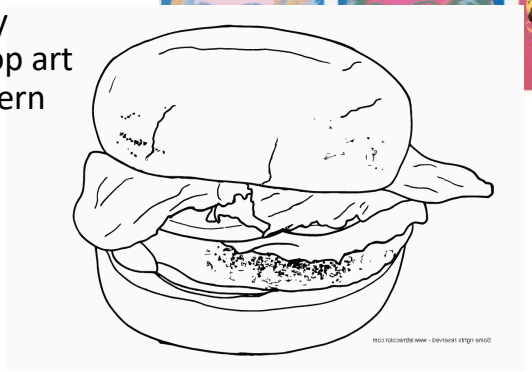
Day 1 Page to	Day 2 Page to	Day 3 Page to	
Day 4 Page to	Day 5 Page to	Main characters	Tricky words
I thought the book was (what are you enjoying or disliking about the book, share your thoughts here):		I found the book: Easy Okay Hard Very Difficult I would recommend this book to others: Yes No	

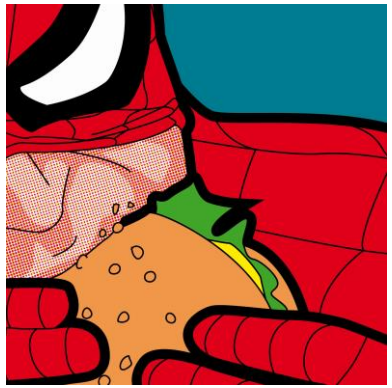
View the weekly challenges in Teams, or scan the QR code to take part

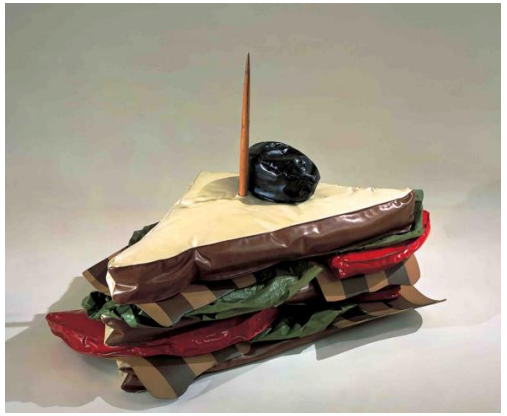
Pop Art and Food

Year 9

- After Christmas Year 9 begin to study the movement “Pop Art” which is Art that uses items from popular culture as it’s subject…e.g. Fast food, celebrities, video game characters.
- They find out about it’s origins and eventually produce a piece of pop art using an item of modern day food.







Claes Oldenberg/Coosje Van Bruggen

- Born 1929
- **American sculptor** – best known for public art installations typically very **large** replicas of everyday objects.
- Another theme in his work is **soft sculpture** versions of everyday objects.
- Collaborate with his wife, **Coosje Van Bruggen**, who died in 2009


Campbell's
CONDENSED
TOMATO
SOUP

Campbell's
CONDENSED
TOMATO
SOUP


Campbell's
CONDENSED
TOMATO
SOUP

Campbell's
CONDENSED
TOMATO
SOUP


Coca-Cola
ANDY WARHOL


MARMITE
YEAST EXTRACT
RICH IN B VITAMINS • 100% VEGETARIAN

Andy Warhol

Task:

- Write the artists' name in the middle of double page (Small sketchbook)
- Write about the following:

- **Subject matter** (What is it?)
- **Colour**
- **Scale**
- **Shape**
- **Give your opinion about the art work with a reason**

- Draw 4 image of the artworks in each corner of the page – **Add colour**

Construction

Scan here

Unit G4

What do I need to be able to do?

By the end of this unit you should be able to:

- Construct
  - Angles with a protractor.
  - Triangles with a protractor.
  - Triangles with a compass.
  - Angles with a compass.
  - Perpendicular bisectors.
  - Angle bisectors.
- Work with loci.

Keywords

Construct: To draw a shape, line or angle accurately using a compass and ruler or a protractor and ruler.

Angle: a measure of a turn, measured in degrees or °.

Protractor: a tool used to measure angles.

Vertex: a point where two or more curves, lines, or edges meet (corners). The plural is vertices or vertexes.

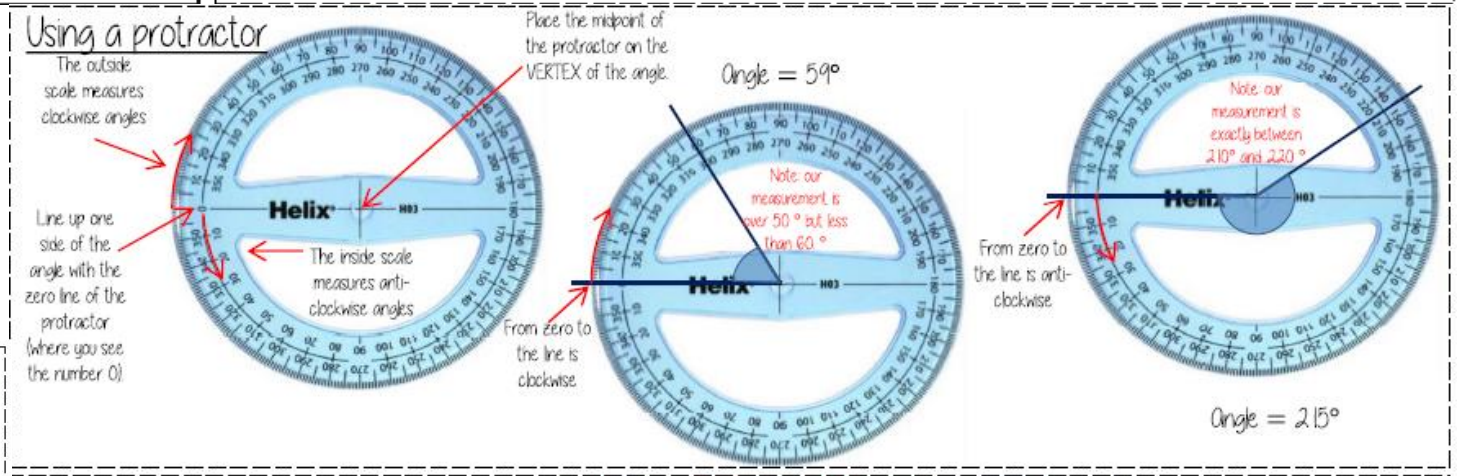
Compass: an instrument with two arms, one sharp and one with a pencil that can be used to draw circles or arcs.

Perpendicular: a line meeting another at a right angle, or 90°.

Bisector: a line that splits an angle into two equal angles.

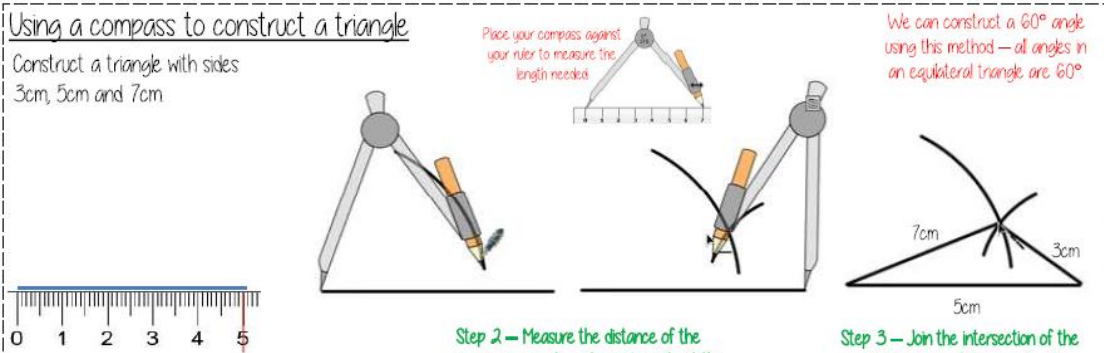
Locus: a locus is a path formed by a point which moves according to a rule. The plural is loci.

Using a protractor



Using a compass to construct a triangle

Construct a triangle with sides 3cm, 5cm and 7cm



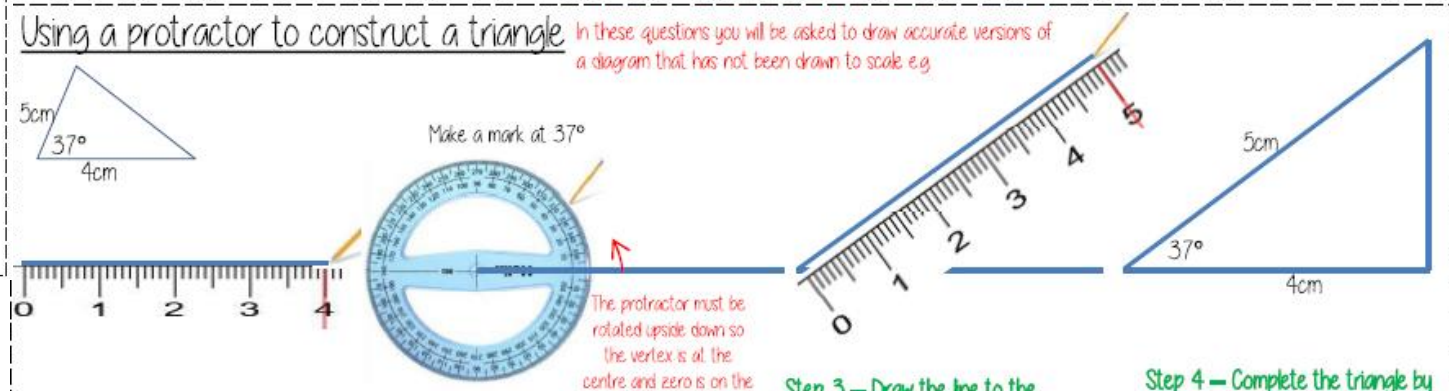
Step 1 — Draw the base line (pick any line).

Step 2 — Measure the distance of the compass against a ruler and construct the 3cm and 7cm arcs

Step 3 — Join the intersection of the arcs to the ends of the base line to complete the triangle and label.

Using a protractor to construct a triangle

In these questions you will be asked to draw accurate versions of a diagram that has not been drawn to scale e.g.



Step 1 — Draw the base line

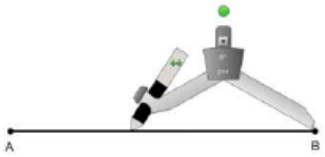
Step 2 — Measure the angle

Step 3 — Draw the line to the angle at the correct length

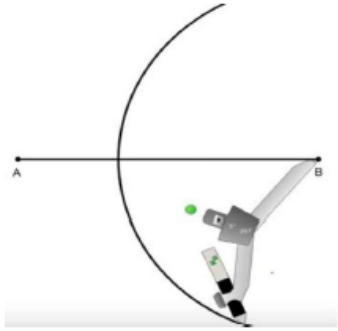
Step 4 — Complete the triangle by joining the 2 sides and labelling

Constructing a perpendicular bisector

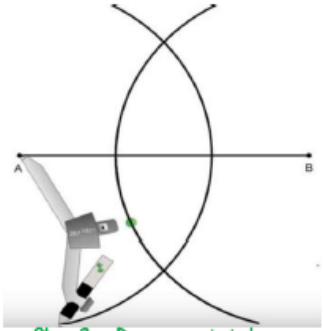
Also known as: constructing a 90° angle and bisecting a line.



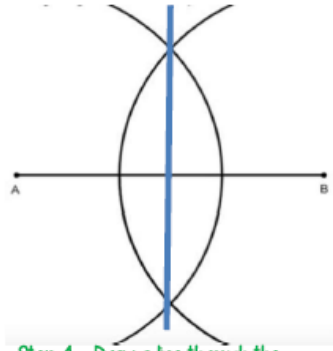
Step 1 – Open the compass so it is wider than half of the line given



Step 2 – Draw a semi-circle arc from one end



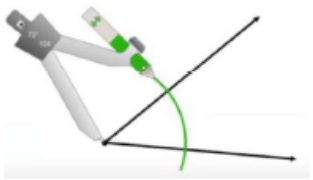
Step 3 – Draw a semi-circle arc from the other end



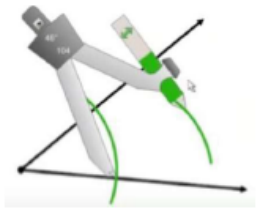
Step 4– Draw a line through the intersections of the arcs

Constructing an angle bisector

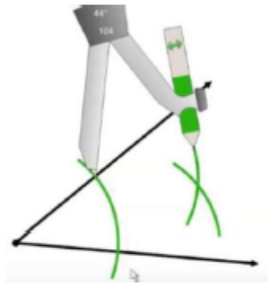
Also known as: constructing a 45° angle (bisecting a 90° angle) and 30° angle (bisecting a 60° angle)



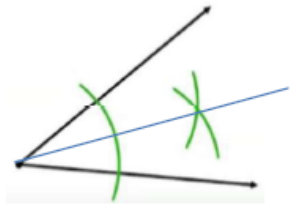
Step 1 – Place the tip of the compass in the vertex of the angle and draw an arc.



Step 2 – Place the tip of the compass at one of the intersections and draw another arc.



Step 3 – Keeping the same opening of the compass, place the tip of the compass at the other intersection and draw another arc.



Step 4– Draw a line through the intersections of the arcs

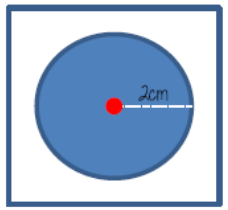
Scan here

Decoding loci questions

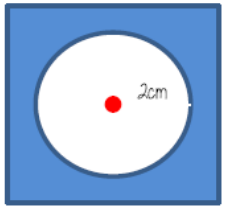
Be prepared to combine multiple constructions to determine the region needed for a question

Distance from a point

Think radius of a circle



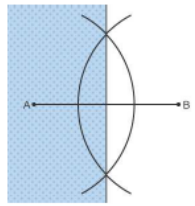
The shaded region represents the region within 2cm of the point



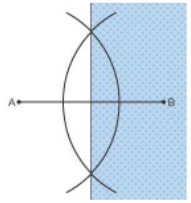
The shaded region represents the region further than 2cm from the point

Distance between two points

Think perpendicular bisector



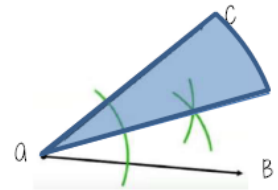
The shaded region represents the region that is closer to point A than point B



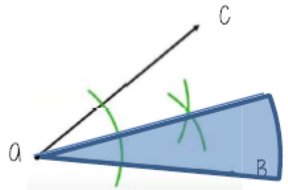
The shaded region represents the region that is closer to point B than point A

Distance between two lines

Think angle bisector



The shaded region represents the region that is closer to AC than AB



The shaded region represents the region that is closer to AB than AC

Scan here

Transformations

Unit G5

What do I need to be able to do?

By the end of this unit you should be able to:

- Plot and read coordinates
- Translate shapes
- Reflect shapes
- Rotate shapes
- Enlarge shapes

Higher Tier only:

- Enlarge shapes by a negative scale factor

Keywords

Quadrant: refers to the four quarters of the coordinate plane.

Coordinate: a pair of numbers: the first number shows the distance along, and the second number shows the distance up or down.

Transformation: movement of objects in the coordinate plane.

Translate: moves a shape up, down or from side to side but it does not change its appearance in any other way.

Reflect: a transformation where each point in a shape appears at an equal distance on the opposite side of a given line - the line of reflection.

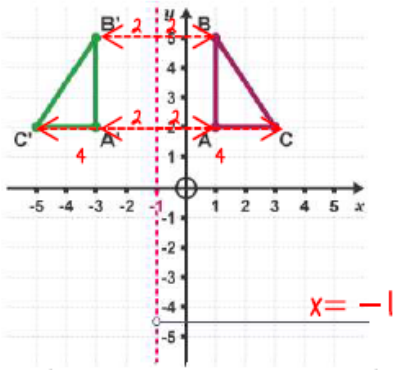
Rotate: a transformation that turns a figure about a fixed point called the centre of rotation.

Enlarge: a type of transformation that involves making a shape larger or smaller by a scale factor.

Reflection

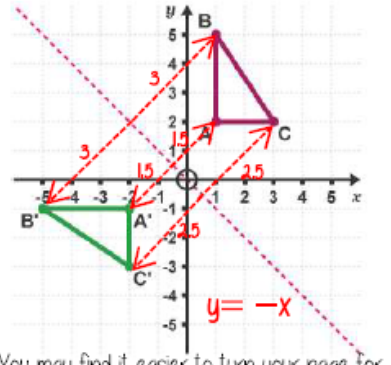
You will need to draw in the line given in the question as described above.

Reflect triangle ABC in $x = -1$



The reflection is exactly the same number of squares from the mirror line as the image.

Reflect triangle ABC in $y = -x$



You may find it easier to turn your page for this type of reflection. This time we count the diagonal steps.

Translation

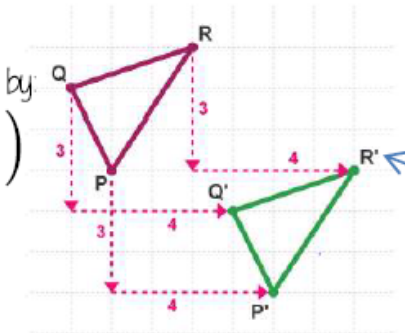
We need to be able to read vectors when we work with translations.

$$\begin{pmatrix} x \\ y \end{pmatrix} = \begin{pmatrix} \text{movement right (+) and left (−)} \\ \text{movement up (+) and down (−)} \end{pmatrix}$$

Translate triangle PQR by:

$$\begin{pmatrix} 4 \\ -3 \end{pmatrix} = \begin{pmatrix} 4 \text{ right} \\ 3 \text{ down} \end{pmatrix}$$

All vertices are translated in the same way. The transformed shape is congruent to the original.



Notation for transformed vertex

Rotation

You will need to plot the centre of rotation as described in the coordinates section

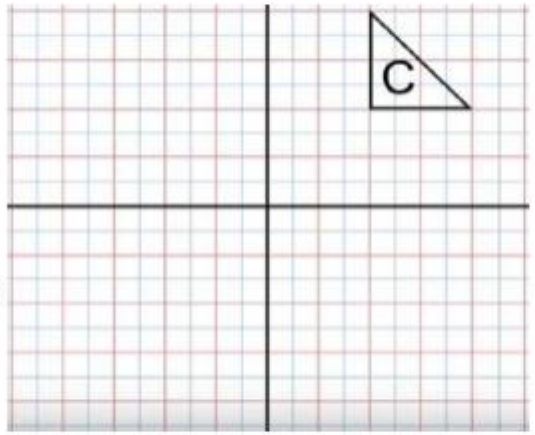
There are 3 steps to rotations:

1. Angle of rotation
2. Direction of rotation
3. Centre of rotation

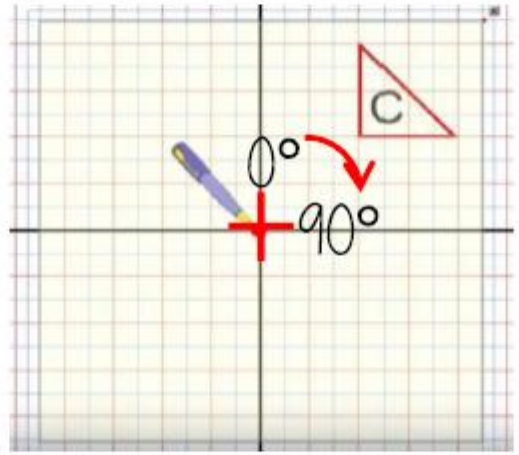
These will either be given as instructions or you will be expected to describe a rotation and include all 3 steps in the description

Rotate the triangle 90° clockwise about the origin

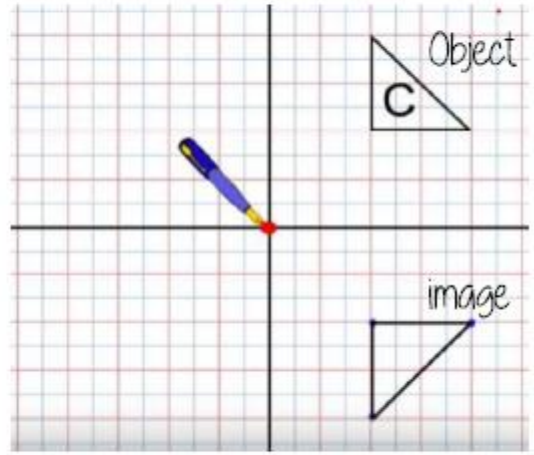
Origin = (0, 0)



Step 1 — Read the instructions carefully and underline key parts



Step 2 — Trace the image and mark the centre of rotation. Mark at the centre to help with the rotation

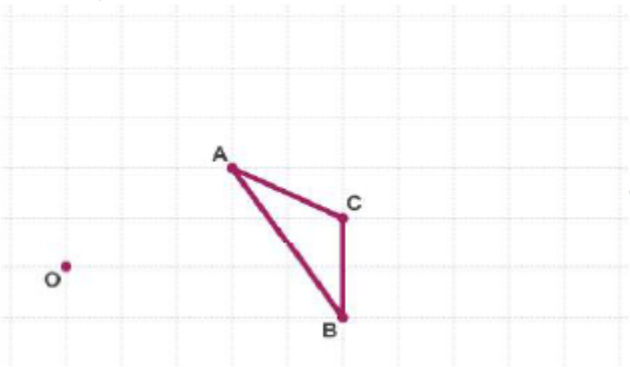


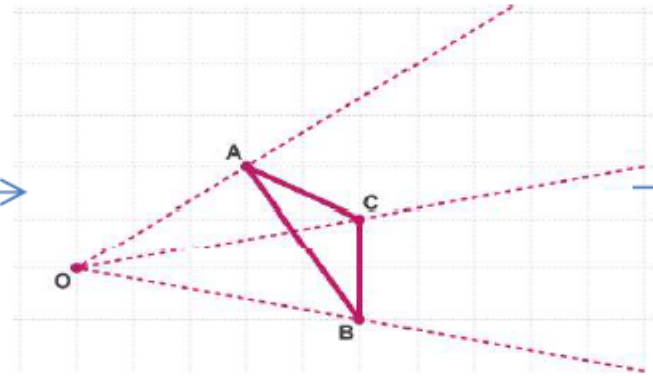
Step 3 — Rotate the tracing paper and mark out the image location under the tracing paper

Enlargement

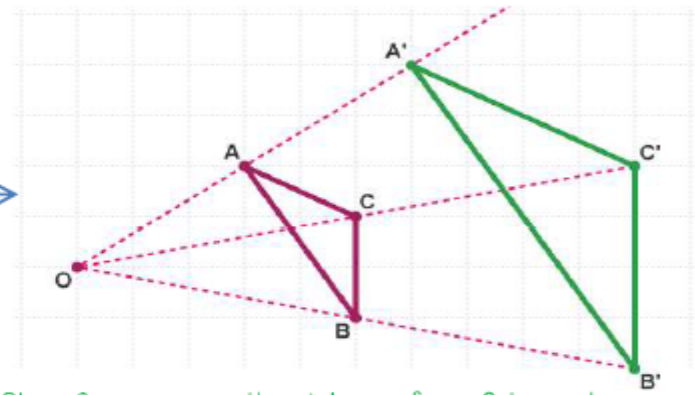
Enlarge the following shape by a scale factor of 2 about O.

This will double the size of every side





Step 1 — First, draw ray lines from O to each corner of the triangle and extend them



Step 2 — measure the distance from O to each corner of ABC. Multiply this distance by the SF and plot the points O', B', and C'. Join the point O', B', and C'.

Properties of shapes

Unit G2

What do I need to be able to do?

By the end of this unit you should be able to:

- Name 2D and 3D shapes
- Identify parts of a circle
- Understand the term tessellate
- Identify line symmetry
- Work with rotational symmetry
- Recall the angle properties of shapes
- Identify the properties of parallel lines
- Calculate with angles in polygons
- Work with similar shapes
- Recall circle theorems

Higher Tier only

- Identify congruent triangles
- Work with similar shapes in 2d and 3D

Keywords

2D: having only two dimensions, such as width and height but no thickness.

3D: a solid figure or an object or shape that has three dimensions — length, width and height.

Regular shape: all the sides are equal and all the inside angles are equal.

Irregular shape: doesn't have equal sides or equal angles.

Tessellate: a pattern created with identical shapes which fit together with no gaps.

Quadrilateral: a polygon with four edges (sides) and four vertices (corners).

Line of symmetry: a line that cuts a shape exactly in half.

Rotational symmetry: when a shape still looks the same after some rotation (of less than one full turn).

Parallel: lines on a plane that never meet. They are always the same distance apart.

Perpendicular: the relationship between two lines which meet at a right angle (90 degrees).

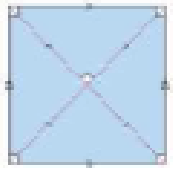
Polygon: a two-dimensional shape with straight sides.

Congruent: shapes that are identical in size and shape.

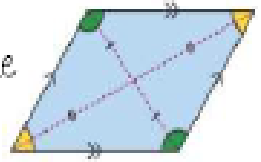
Similar: the corresponding angles of a shape are equal, and the lines are in proportion.

Circle theorem: angle properties of circles.

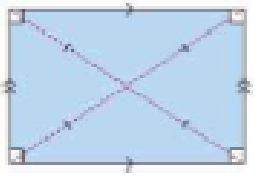
Properties of quadrilaterals



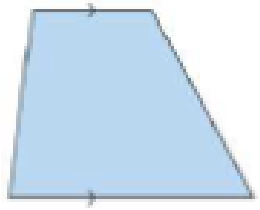
Square
Sides – all equal. Opposite sides are parallel
Angles – all 90°



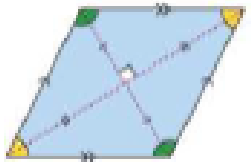
Parallelogram
Sides – Opposite sides are equal and parallel
Angles – opposite are equal



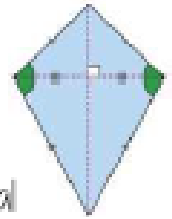
Rectangle
Sides – opposite are equal and parallel
Angles – all 90°



Trapezium
Sides – one pair of parallel sides



Rhombus
Sides – all equal. Opposites are parallel
Angles – opposites are equal



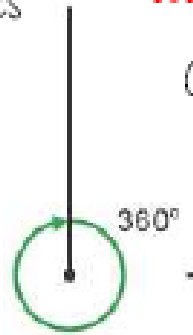
Kite
Sides – equal Lengths at top. Equal lengths at bottom
Angles – one pair of equal angles

Angle properties

You will need to remember the following facts and use them to perform calculations

Circles, full turns and angles about a point = 360°

360°



Adjacent angles that share a common point on a straight line = 180°

Angles in quadrilaterals = 360°

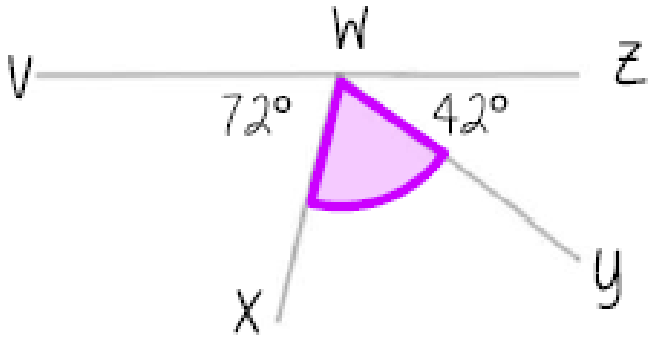
360°

Angles in Triangles = 180°

180°

Sum of angles on a straight line

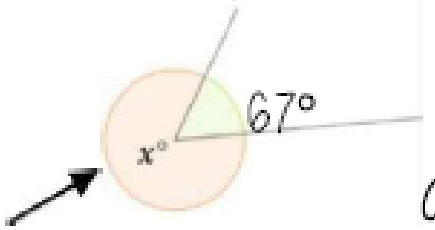
Adjacent angles that share a common point on a straight line = 180°



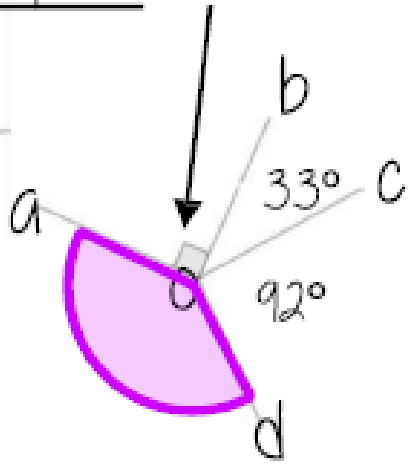
Angle XWY
180 – (72+42)
= 180 – 114
= 66°

Sum of angles at a point

Angle notation = 90°

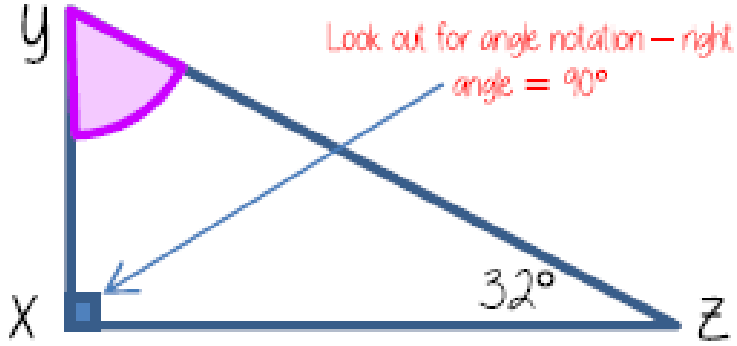


Angle x
360 – 67
= 293°



Angle BOE
360 – (90+33+92)
= 360 – 215°
= 145°

Sum of angles in a triangle



Angle xyz

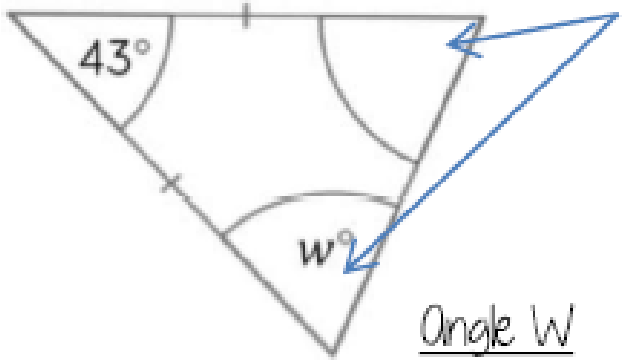
180 – (90+32)

= 180 – 122

= 58°

Isosceles triangle

The angles that are opposite the equal length sides are equal



Angle W

180 – 43

= 137 ÷ 2

= 68.5°

Sum of angles in a quadrilateral

We can only find an unknown angle in a quadrilateral if we know the three other angles

Step 1 – Calculate angle b using straight line angle facts

Angle b

180 – 132 = 48°

Step 2 – Calculate angle a using quadrilateral angle facts

Angle a

360 – (118+98+48)

= 360 – 264°

= 96°

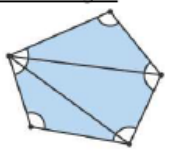
Remember the diagram is not drawn to scale. It does not matter that angle a does not look like an obtuse angle.

Polygons

You will need to remember these method if you are asked to prove tessellations

Sum of the interior angles

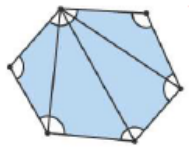
Pick a corner and make triangles – remember each triangle is = 180°



Pentagon

180 x 3

= 540°

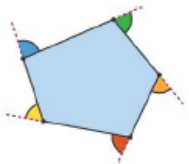


Hexagon

180 x 4

= 720°

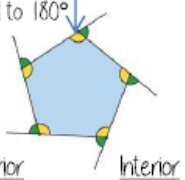
Interior and exterior angles



360°

The sum of the exterior angles of any polygon = 360°

Interior and exterior angles form a straight line so are equal to 180°



Pentagon

Exterior

360 ÷ 5

= 72°

Interior

180 – 72

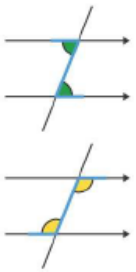
= 108°

Parallel lines

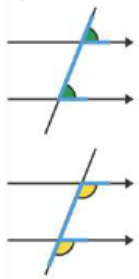
You will be expected to combine these rules to calculate missing angles. They can be any orientation

Vertically opposite angles – are equal

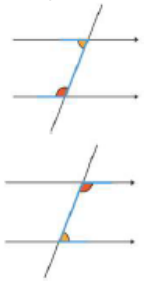
Alternate angles – are equal



Corresponding angles – are equal



Co-interior angles add up to 180°



Vocabulary to learn

Afghanistan
Province
Shellshock
Battalions
Battle
Trench warfare
Bayonet
Declaration
Frontline
Military
Segregation
Hysteria
Suffrage

Structure analysis checklist:

- Zoom in/out
- Repetition of an image/idea
- Links and connections between paragraphs
- Shifts:
  - inside to outside (and vice versa)
  - focus
  - time
  - topic
  - setting/place
  - mood/atmosphere
  - description to dialogue (and vice versa)

Language analysis checklist:

- Link to task
- Relevant quote
- Meaning of quote
- Method named
- Effects explained
- Word zoomed in on
- Meaning of word
- Implied meanings
- Aim higher: layers of meaning

Evaluate

- The impressions you have of the text in relation to a statement
- The methods the writer has used to create these impressions
- How the particular **methods** create these impressions

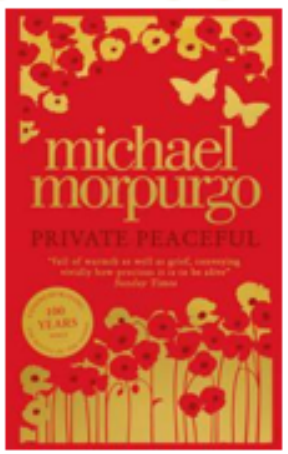
Methods

- **Linguistic devices** – *simile, metaphor, personification, repetition, rhetorical question etc.*
- **Word choices** – *nouns, adjectives, verbs, adverbs etc.*
- **Sentence forms** – *fragment, simple, compound, complex*

Example GCSE question:

Compare the ways poets present ideas about power in ..... and in one other poem from 'Power and conflict' (anthology given in KS4).

Reading suggestions



Literary devices and word class

- Metaphor – a literal comparison – *she was a monster*
- Personification – human qualities – *the grass danced in the wind*
- Simile – as/like/as if – *he was like a man possessed*
- Onomatopoeia – the sound words – *bang, pop, sizzle*
- Alliteration – same starting sounds - *really rather raucous*
- Lists – to emphasise many reasons
- Verbs – doing words
- Adjectives – describing words
- Nouns – objects or abstract things e.g. love
- Adverbs – describe doing words e.g. wrote **neatly**
- connotations of words – associations – night-time = mystery

Dulce et Decorum est (Propatria Mori)

By Wilfred Owen

Bent double, like old beggars under sacks,

Knock-kneed, coughing like hags, we cursed through sludge,

Till on the haunting flares we turned our backs

And towards our distant rest began to trudge.

Men marched asleep. Many had lost their boots

But limped on, blood-shod. All went lame; all blind;

Drunk with fatigue; deaf even to the hoots

Of tired, outstripped Five-Nines that dropped behind.

Gas! GAS! Quick, boys! – An ecstasy of fumbling,

Fitting the clumsy helmets just in time;

But someone still was yelling out and stumbling,

And flound'ring like a man in fire or lime...

Dim, through the misty panes and thick green light,

As under a green sea I saw him drowning.

In all my dreams, before my helpless sight,

He plunges at me, guttering, choking, drowning.

If in some smothering dreams you too could pace

Behind the wagon that we flung him in,

And watch the white eyes writhing in his face,

His hanging face, like a devil's sick of sin;

If you could hear, at every jolt, the blood

Come gargling from the froth-corrupted lungs,

Obscene as cancer, bitter as the cud

Of vile, incurable sores on innocent tongues, --

My friend, you would not tell with such high zest

To children ardent for some desperate glory,

The old Lie: Dulce et decorum est

Pro Patria mori.

Use the purple literary devices and word class box to annotate the poem

'Dulce et Decorum Est Propatria Mori'
Translated means: it is sweet and right/fitting to die for one's country.
Do you think the title shows this, or is the title ironic? Explain using PEE and quotes.

Died March 1945, just weeks before the end of WW2

Anne Frank is one of the most famous J..... victims of the H....., because of the diary she kept during her time in h..... before being captured by the n..... She was only 13 years old when she and her family went into h..... The writing from the two years she spent in such close p..... to her family, was discovered and p..... by her father, Otto Frank.

proximity, Nazis, Jewish, Holocaust, published, hiding (x2)

Extracts from Anne's diary

1. Our little room looked very bare at first with nothing on the walls; but thanks to daddy who had brought my film star collection and picture postcards on beforehand, and with

the aid of a paste-pot and brush, I have transformed the wall into one gigantic picture. This makes it look much more cheerful.

2. Twice they rattled at the bookcase, then there was nothing, the footsteps withdrew, we were saved so far. A shiver seemed to pass from one to another. I heard someone's teeth chattering, no-one said a word.

3. I've only dismal and depressing news for you today. Our many Jewish friends are being taken away by the dozen. These people are treated by the Gestapo without a shred of decency, being loaded into cattle trucks and sent to Westerbrook, the big Jewish camp in Drente.

TASK: Write 1-2 diary entries from Anne, or another child of war's perspective.

- Include descriptions of your particular circumstance e.g. who are you with? Where are you? How did you get here?
- Include your thoughts and feelings about what is happening to you, your family and your country.
- Remember you are still a child, so, like Anne, relatively minor issues and problems will still affect you and will be worth mentioning in your diary entries; this will create realism.

Year 9 – Rise of the Nazis, life in Nazi Germany and the Holocaust

Key words	
National Socialism	A political system in which a strong government rules a country and protects the interest of one racial group.
Adolf Hitler	An Austrian politician who became leader of the Nazi Party in 1921 and led them to power by 1933. Hitler shot himself in 1945.
The SA	Abbreviation of 'Sturmabteilung' or 'Storm Division'. Known as the brown shirts, they were an armed wing of the Nazi Party in its early years
The SS	Abbreviation of 'Schutzstaffel' or 'Protection Squadron'. Known as the black shirts, they took over from the SA as the Nazis' most loyal and committed soldiers. Oversaw much of the Holocaust.
Hitler Youth	A series of youth organisations in Nazi Germany, where young boys would learn practical and military skills and girls would learn how to be 'good' mothers and wives
Anti-Semitism	Hatred of discrimination of Jews. This had existed for centuries but was particularly important in Nazi Germany.
The Holocaust	General term given to the treatment of Jews and other 'undesirables' by the Nazis between about 1938 and 1945.
Eugenics	The belief that it is possible and desirable to improve the human race by selective breeding and by eradicating undesirable elements or 'genetic' traits.

Why did people support the Nazis?

Although the Nazi Party never won an election in Germany, they did have a lot of support in some sections of society. Some historians say that the Nazis won support through 'negative cohesion', which means that their supporters did not always agree with each other, but supported the Nazis because shared a fear of hatred of something/someone else. Some reasons for supporting the Nazis are as follows:

- **The Great Depression of 1929** – led to a lot of unemployment and poverty in Germany. The Nazis promised to end unemployment and also provided aid to many who could not afford food.
- **Fear/hatred of Communism** – Many middle and upper class people saw that if the communists took power they would lose their wealth. The Nazis were one of the most active and vocal groups against communism.
- **Appeal to traditional values** – The Nazis promised a return to 'traditional' German values which many people thought had been forgotten in the 1920s.
- **Propaganda and anti-Semitism** – The Nazis put the blame for many of Germany's problems on the Jews. For desperate people looking for someone to blame this idea could easily become attractive.

The Carrot:

For those who did as they were told and matched the Nazi ideal, there were many benefits for living in Nazi Germany. Propaganda also promised people happiness if they supported the Nazi regime.

The stick:

The Nazis made it very clear that anyone who disobeyed their rules would be punished. This meant prison and execution for many. They also set up 'work and education' camps in Germany.

The Nazis controlled society through the 'carrot and stick method'

The Nazis promised the German people that they would create a 'Third Reich' and bring all true Germans to glory. Although there were some advantages for certain people, they ultimately failed to meet most of their promises and when WWII began they ended many of their policies aimed at helping the German people. On the right are some examples of people did and did not benefit from Nazi rule.

The Holocaust

Although there is historical debate around when the Holocaust started, the word is usually used to describe the mistreatment and murder of over 6 million Jews and millions of others by the Nazis, either because of their race, religion, sexuality, ability or lifestyle.

The Holocaust did not begin suddenly but was a process that arguably begun in 1933 and continued until the Nazis were defeated in 1945.

The most well-known feature of the Holocaust is the concentration and death camp, where prisoners were systematically murdered, overseen by the SS.

Social group	Advantages	Disadvantages
Women	Women were rewarded for marrying and having children through loans and medals. They were also praised in Nazi propaganda.	Women lost many of the freedoms they had enjoyed in the 1920s. They were now pressured into becoming housewives and mothers, and many lost their jobs under the Nazis.
Workers	Unemployment dropped dramatically under the Nazis and workers were usually able to find work. They were also given benefits such as cheaper holidays, cars and activities.	Wages did not rise as much as much as promised, and the employment figures covered up the fact that many were working in conscripted (compulsory) work for very little money. As the war began many of the previous benefits for workers ended.
Young people	Hitler Youth organisations were set up for boys and girls. These were mostly fun and offered opportunities for adventure.	Young people were targeted for propaganda, particularly through school where they learnt national socialist ideas. Any young people who had fun in the 'wrong' way were punished, often being put in camps.
'Undesirables'	There were virtually no advantages to fitting into this category.	Referred to as the 'untermenschen', Jews, eastern Europeans, homosexuals, people with disabilities, Roma/Sinti people, criminals and Jehovah's Witnesses were put in camps and often killed or worked to death.

1933 – The Nazis call for Jewish businesses to be boycotted, Jewish books are banned and Jews are banned from some jobs

→

1935 – Homosexuals can now be arrested, and the Nuremburg Laws make Jewish people non-citizens.

→

1938 – In an event known as 'Kristallnacht' thousands of Jewish businesses, homes and synagogues are looted. 91 Jews are killed.

→

1940 – Auschwitz, the largest concentration camp, is built in Poland.

→

1941 – Mass killing of Jewish and Eastern European people begins

→

1942–45 – Jews from all over Europe are taken to death camps and systematically murdered

KS3 Chemistry

Oxidation **I**s **L**oss (of electrons) **R**eduction **I**s **G**ain (of electrons)

Reactions of acids

HT ONLY: Reactions between metals and acids are redox reactions as the metal donates electrons to the hydrogen ions. This displaces hydrogen as a gas while the metal ions are left in the solution.

Reactions of acids and metals

Reactions with acids	***metal + acid → metal salt + hydrogen***	**magnesium + hydrochloric acid → magnesium chloride + hydrogen** **zinc + sulfuric acid → zinc sulfate + hydrogen**

Acids react with some metals to produce salts and hydrogen.

Oxidation and reduction in terms of electrons (extended only)

Ionic half equations (HT only)

For displacement reactions	***Ionic half equations show what happens to each of the reactants during reactions***	For example: The ionic equation for the reaction between iron and copper (II) ions is: **$Fe + Cu^{2+} \rightarrow Fe^{2+} + Cu$** The half-equation for iron (II) is: **$Fe \rightarrow Fe^{2+} + 2e^-$** The half-equation for copper (II) ions is: **$Cu^{2+} + 2e^- \rightarrow Cu$**

Neutralisation of acids and salt production

Acid name	Salt name
Hydrochloric acid	Chloride
Sulfuric acid	Sulfate
Nitric acid	Nitrate

sodium hydroxide + hydrochloric acid → sodium chloride + water

calcium carbonate + sulfuric acid → calcium sulfate, + carbon dioxide + water

Neutralisation	***Acids can be neutralised by alkalis and bases***	An **alkali** is a soluble base e.g. metal hydroxide. A **base** is a substance that neutralises an acid e.g. a soluble metal hydroxide or a metal oxide.

Metal oxides

Metals and oxygen	***Metals react with oxygen to form metal oxides***	**magnesium + oxygen → magnesium oxide** $2Mg + O_2 \rightarrow 2MgO$
Reduction	***This is when oxygen is removed from a compound during a reaction***	e.g. metal oxides reacting with hydrogen, extracting low reactivity metals
Oxidation	***This is when oxygen is gained by a compound during a reaction***	e.g. metals reacting with oxygen, rusting of iron

Extraction of metals and reduction

Extraction using carbon

Metals less reactive than carbon can be extracted from their oxides by reduction.	For example: **zinc oxide + carbon → zinc + carbon dioxide**

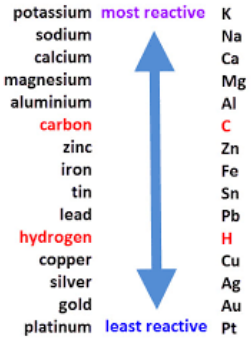
Unreactive metals, such as gold, are found in the Earth as the metal itself. They can be mined from the ground.

Reactivity of metals

	Reactions with water	Reactions with acid
Group 1 metals	***Reactions get more vigorous as you go down the group***	***Reactions get more vigorous as you go down the group***
Group 2 metals	***Do not react with water***	***Observable reactions include fizzing and temperature increases***
Zinc, iron and copper	***Do not react with water***	***Zinc and iron react slowly with acid. Copper does not react with acid.***

The reactivity series

Metals form positive ions when they react	***The reactivity of a metal is related to its tendency to form positive ions***	The reactivity series arranges metals in order of their reactivity (their tendency to form positive ions).
Carbon and hydrogen	***Carbon and hydrogen are non-metals but are included in the reactivity series***	These two non-metals are included in the reactivity series as they can be used to extract some metals from their ores, depending on their reactivity.
Displacement	***A more reactive metal can displace a less reactive metal from a compound.***	Silver nitrate + Sodium chloride → Sodium nitrate + Silver chloride



KS3 Chemistry

Oxidation **I**s **L**oss (of electrons) **R**eduction **I**s **G**ain (of electrons)

Reactions of acids and metals

Acids react with some metals to produce salts and hydrogen.

	metal + acid → metal salt + hydrogen	**magnesium + hydrochloric acid → magnesium chloride + hydrogen** **zinc + sulfuric acid → zinc sulfate + hydrogen**

HT ONLY: Reactions between metals and acids are redox reactions as the metal donates electrons to the hydrogen ions. This displaces hydrogen as a gas while the metal ions are left in the solution.

Reactions of acids

Neutralisation of acids and salt production

Acid name	Salt name
Hydrochloric acid	
Sulfuric acid	
Nitric acid	

sodium hydroxide + hydrochloric acid → sodium chloride + water

calcium carbonate + sulfuric acid → calcium sulfate, + carbon dioxide + water

	Acids can be neutralised by alkalis and bases	An **alkali** is a soluble base e.g. metal hydroxide. A **base** is a substance that neutralises an acid e.g. a soluble metal hydroxide or a metal oxide.

Oxidation and reduction in terms of electrons (extended only)

	Ionic half equations show what happens to each of the reactants during reactions	For example: The ionic equation for the reaction between iron and copper (II) ions is: **$Fe + Cu^{2+} \rightarrow Fe^{2+} + Cu$** The half-equation for iron (II) is: **$Fe \rightarrow Fe^{2+} + 2e^-$** The half-equation for copper (II) ions is: **$Cu^{2+} + 2e^- \rightarrow Cu$**

Metal oxides

	Metals react with oxygen to form metal oxides	**magnesium + oxygen → magnesium oxide** $2Mg + O_2 \rightarrow 2MgO$
	This is when oxygen is removed from a compound during a reaction	e.g. metal oxides reacting with hydrogen, extracting low reactivity metals
	This is when oxygen is gained by a compound during a reaction	e.g. metals reacting with oxygen, rusting of iron

Extraction of metals and reduction

Metals less reactive than carbon can be extracted from their oxides by reduction.	For example: **zinc oxide + carbon → zinc + carbon dioxide**

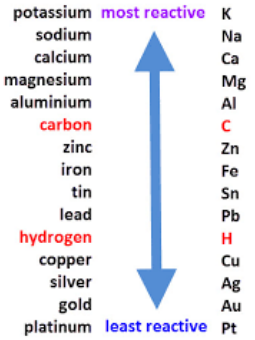
Unreactive metals, such as gold, are found in the Earth as the metal itself. They can be mined from the ground.

Reactivity of metals

Group 1 metals	*Reactions get more vigorous as you go down the group*	*Reactions get more vigorous as you go down the group*
Group 2 metals	*Do not react with water*	*Observable reactions include fizzing and temperature increases*
Zinc, iron and copper	*Do not react with water*	*Zinc and iron react slowly with acid. Copper does not react with acid.*

The reactivity series

	The reactivity of a metal is related to its tendency to form positive ions	The reactivity series arranges metals in order of their reactivity (their tendency to form positive ions).
	Carbon and hydrogen are non-metals but are included in the reactivity series	These two non-metals are included in the reactivity series as they can be used to extract some metals from their ores, depending on their reactivity.
	A more reactive metal can displace a less reactive metal from a compound.	Silver nitrate + Sodium chloride → Sodium nitrate + Silver chloride



KS3 Chemistry

Oxidation **I**s **L**oss (of electrons) **R**eduction **I**s **G**ain (of electrons)

HT ONLY: Reactions between metals and acids are redox reactions as the metal donates electrons to the hydrogen ions. This displaces hydrogen as a gas while the metal ions are left in the solution.

Reactions of acids and metals

Acids react with some metals to produce salts and hydrogen.

magnesium + hydrochloric acid → magnesium chloride + hydrogen

zinc + sulfuric acid → zinc sulfate + hydrogen

Reactions of acids

Neutralisation of acids and salt production

Acid name	Salt name

sodium hydroxide + hydrochloric acid → sodium chloride + water

calcium carbonate + sulfuric acid → calcium sulfate, + carbon dioxide + water

An **alkali** is a soluble base e.g. metal hydroxide.
A **base** is a substance that neutralises an acid e.g. a soluble metal hydroxide or a metal oxide.

Oxidation and reduction in terms of electrons (extended only)

Ionic half equations (HT only)

For example:
The ionic equation for the reaction between iron and copper (II) ions is:
$Fe + Cu^{2+} \rightarrow Fe^{2+} + Cu$

The half-equation for iron (II) is:
$Fe \rightarrow Fe^{2+} + 2e^-$

The half-equation for copper (II) ions is:
$Cu^{2+} + 2e^- \rightarrow Cu$

Extraction of metals and reduction

For example:
zinc oxide + carbon → zinc + carbon dioxide

Unreactive metals

Reactivity of metals

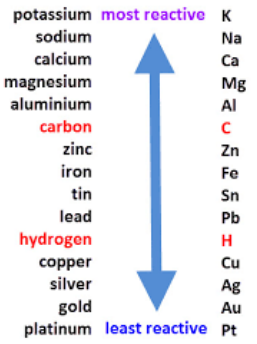
Group 1 metals		***Reactions get more vigorous as you go down the group***
Group 2 metals		***Observable reactions include fizzing and temperature increases***
Zinc, iron and copper		***Zinc and iron react slowly with acid. Copper does not react with acid.***

The reactivity series

The reactivity of a metal is related to its tendency to form positive ions

<u>Carbon</u> and <u>hydrogen</u> are non-metals but are included in the reactivity series

A more reactive metal can displace a less reactive metal from a compound.



Metal oxides

magnesium + oxygen → magnesium oxide

$2Mg + O_2 \rightarrow 2MgO$

e.g. metal oxides reacting with hydrogen, extracting low reactivity metals

e.g. metals reacting with oxygen, rusting of iron

KS3 Chemistry

Oxidation **I**s **L**oss (of electrons) **R**eduction **I**s **G**ain (of electrons)

HT ONLY: Reactions between metals and acids are redox reactions as the metal donates electrons to the hydrogen ions. This displaces hydrogen as a gas while the metal ions are left in the solution.

Ionic half equations (HT only)

For example:
The ionic equation for the reaction between iron and copper (II) ions is:
$Fe + Cu^{2+} \rightarrow Fe^{2+} + Cu$

Reactions of acids

Acids react with some metals to produce salts and hydrogen.

For example:

Oxidation and reduction in terms of electrons (extended only)

Reactions of acids

Acid name	Salt name

Neutralisation of acids and salt production

Extraction of metals and reduction

Unreactive metals

Examples:

An **alkali** is a

A **base** is a

Metal oxides

magnesium + oxygen → magnesium oxide

2Mg + O_2 → 2MgO

e.g.

e.g.

Reactivity of metals

Group 1 metals		
Group 2 metals		
Zinc, iron and copper		

The reactivity series

potassium	most reactive	K
sodium		Na
calcium		Ca
magnesium		Mg
aluminium		Al
carbon		C
zinc		Zn
iron		Fe
tin		Sn
lead		Pb
hydrogen		H
copper		Cu
silver		Ag
gold		Au
platinum	least reactive	Pt

KS3-KS4 Transition module Physics

Energy stores and changes

Mechanical	*Force acts upon an object*
Electrical	*Electric current flow*
Heat	*Temperature difference between objects*
Radiation	*Electromagnetic waves or sound*

Energy pathways

Kinetic energy	*Energy stored by a moving object*	½ X mass X (speed)^2 ½ mv^2
Elastic Potential energy	*Energy stored in a stretched spring, elastic band*	½ X spring constant X (extension)^2 ½ ke^2 (Assuming the limit of proportionality has not been exceeded)
Gravitational Potential energy	*Energy gained by an object raised above the ground*	Mass X gravitational field strength X height mgh

System	*An object or group of objects that interact together*	EG: Kettle boiling water.
Energy stores	*Kinetic, chemical, internal (thermal), gravitational potential, elastic potential, magnetic, electrostatic, nuclear*	Energy is gained or lost from the object or device.
Ways to transfer energy	*Light, sound, electricity, thermal, kinetic are ways to transfer from one store to another store of energy.*	EG: electrical energy transfers chemical energy into thermal energy to heat water up.
Unit	*Joules (J)*	

Work	*Doing work transfers energy from one store to another*	By applying a force to move an object the energy store is changed.	Work done = Force X distance moved W = Fs
Power	*The rate of energy transfer*	1 Joule of energy per second = 1 watt of power	Power = energy transfer ÷ time P = E ÷ t Power = work done ÷ time, P = W ÷ t

	Units
Specific Heat Capacity	*Joules per Kilogram degree Celsius (J/Kg°C)*
Temperature change	*Degrees Celsius (°C)*
Work done	*Joules (J)*
Force	*Newton (N)*
Distance moved	*Metre (m)*
Power	*Watts (W)*
Time	*Seconds (s)*

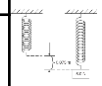
Useful energy	*Energy transferred and used*
Wasted energy	*Dissipated energy, stored less usefully*

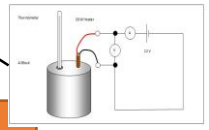
Prefix	*Multiple*	Standard form
Kilo	*1000*	10^3
Mega	*1000 000*	10^6
Giga	*100 000 000*	10^9

Change in thermal energy = mass **X** specific heat capacity **X** temperature change

$\Delta E = m \times c \times \Delta\theta$

Specific Heat Capacity	*Energy needed to raise 1kg of substance by 1°C*	Depends on: mass of substance, what the substance is and energy put into the system.





Can efficiency can be increased using machines? Tough Question!

Efficiency = Useful power output / Total power input

Efficiency = Useful output energy transfer / Total input energy transfer

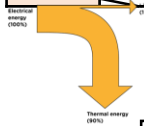
Efficiency	*How much energy is usefully transferred*	

Dissipate	*To scatter in all directions or to use wastefully*	When energy is 'wasted', it dissipates into the surroundings as internal (thermal) energy.

Ways to reduce 'wasted' energy	*Energy transferred usefully*	Insulation, streamline design, lubrication of moving parts.

Principle of conservation of energy	*The amount of energy always stays the same.*	Energy cannot be created or destroyed, only changed from one store to another.

Closed system	*No change in total energy in system*
Open system	*Energy can dissipate*



Energy Conservation and Dissipation

HIGHER: When an object is moved, energy is transferred by doing work.

Work done = Force X distance moved

Frictional forces cause energy to be transferred as thermal energy. This is wasted.

Reducing friction - using wheels, applying lubrication. Reducing air resistance – travelling slowly, streamlining.

	Units
Energy (KE, EPE, GPE, thermal)	*Joules (J)*
Velocity	*Metres per second (m/s)*
Spring constant	*Newton per metre (N/m)*
Extension	*Metres (m)*
Mass	*Kilogram (Kg)*
Gravitational field strength	*Newton per kilogram (N/Kg)*
Height	*Metres (m)*

Global Energy Resources

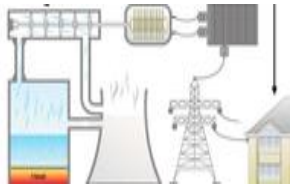
KS3 Energy Generation

National Grid

Transport	*Petrol, diesel, kerosene produced from oil*	Used in cars, trains and planes.
Heating	*Gas and electricity*	Used in buildings.
Electricity	*Most generated by fossil fuels*	Used to power most devices.

Power station – NB: You need to understand the principle behind generating electricity. An energy resource is burnt to make steam to drive a turbine which drives the generator.

Power station	*Generates electricity*	Fuel burnt releasing thermal energy →	Water boils into steam →	Steam turns turbine →	Turbine turns generator →	Generator induces voltage
National Grid	*Transports electricity across UK*	Power station →	Step-up transformer →	Pylons →	Step-down transformer →	House, factory



Using renewable energy will need to increase to meet demand.

Renewable energy makes up about 20% of energy consumption.

Fossil fuel reserves are running out.

Energy demand is increasing as population increases.

Using fuels

Energy resources

Non-renewable energy resource	*These will run out. It is a finite reserve. It cannot be replenished.*	e.g. Fossil fuels (coal, oil and gas) and nuclear fuels.
Renewable energy resource	*These will never run out. It is an infinite reserve. It can be replenished.*	e.g. Solar, Tides, Waves, Wind, Geothermal, Biomass, Hydroelectric

Energy resource	*How it works*	Uses	Positive	Negative
Fossil Fuels (coal, oil and gas)	*Burnt to release thermal energy used to turn water into steam to turn turbines*	Generating electricity, heating and transport	Provides most of the UK energy. Large reserves. Cheap to extract. Used in transport, heating and making electricity. Easy to transport.	Non-renewable. Burning coal and oil releases sulfur dioxide. When mixed with rain makes acid rain. Acid rain damages building and kills plants. Burning fossil fuels releases carbon dioxide which contributes to global warming. Serious environmental damage if oil spilt.
Nuclear	*Nuclear fission process*	Generating electricity	No greenhouse gases produced. Lots of energy produced from small amounts of fuel.	Non-renewable. Dangers of radioactive materials being released into air or water. Nuclear sites need high levels of security. Start up costs and decommission costs very expensive. Toxic waste needs careful storing.
Biofuel	*Plant matter burnt to release thermal energy*	Transport and generating electricity	Renewable. As plants grow, they remove carbon dioxide. They are 'carbon neutral'.	Large areas of land needed to grow fuel crops. Habitats destroyed and food not grown. Emits carbon dioxide when burnt thus adding to greenhouse gases and global warming.
Tides	*Every day tides rise and fall, so generation of electricity can be predicted*	Generating electricity	Renewable. Predictable due to consistency of tides. No greenhouse gases produced.	Expensive to set up. A dam like structure is built across an estuary, altering habitats and causing problems for ships and boats.
Waves	*Up and down motion turns turbines*	Generating electricity	Renewable. No waste products.	Can be unreliable depends on wave output as large waves can stop the pistons working.
Hydroelectric	*Falling water spins a turbine*	Generating electricity	Renewable. No waste products.	Habitats destroyed when dam is built.
Wind	*Movement causes turbine to spin which turns a generator*	Generating electricity	Renewable. No waste products.	Unreliable – wind varies. Visual and noise pollution. Dangerous to migrating birds.
Solar	*Directly heats objects in solar panels or sunlight captured in photovoltaic cells*	Generating electricity and some heating	Renewable. No waste products.	Making and installing solar panels expensive. Unreliable due to light intensity.
Geothermal	*Hot rocks under the ground heats water to produce steam to turn turbine*	Generating electricity and heating	Renewable. Clean. No greenhouse gases produced.	Limited to a small number of countries. Geothermal power stations can cause earthquake tremors.

Year 9 Spring Term Spanish Knowledge Organiser

La ciudad

En la ciudad	***In the city***
¿Qué hay en Barcelona?	*What is there in Barcelona?*
En Barcelona hay muchas cosas:	*In Barcelona there are many things:*
el acuario, el cine IMAX	*the aquarium, the IMAX cinema...*
¿Adónde vas?	*Where are you going to?*
Voy...	*I'm going...*
al acuario	*to the aquarium*
al Camp Nou	*to the Camp Nou football stadium*
al cine IMAX	*to the IMAX cinema*
al monumento a Colón	*to the Columbus Monument*
al museo Picasso	*to the Picasso Museum*
al Tibidabo	*to the Tibidabo funfair*
a la playa de la Barceloneta y el mar	*to Barceloneta beach and the sea*
a la plaza de Cataluña	*to the Plaza Cataluña*
a la Sagrada Familia	*to the Sagrada Familia church*
a la torre Agbar	*to the Agbar Tower*
a la Villa Olímpica	*to the Olympic Village*
a las Ramblas	*to the Ramblas*

Me gusta Barcelona porque...	*I like Barcelona because...*
me encanta...	*I love...*
me gusta mucho...	*I really like...*
ir de compras	*going shopping*
mirar pinturas	*looking at paintings*
montar en las atracciones del parque	*going on the rides at the funfair*
sacar fotos	*taking photos*
tomar el sol	*sunbathing*
ver partidos de fútbol	*watching football matches*
ver películas	*watching films*
ver tiburones	*watching sharks*
Le gusta mucho....	*He/She really likes...*
Le encanta....	*He/She loves...*

De compras	***Shopping***
¿Dónde se puede comprar...?	*Where can you buy....?*
carne	*meat*
comida	*food*
pan	*bread*
ropa	*clothes*
un café	*a coffee*
un regalo	*a present*

Year 9 Spring Term Spanish Knowledge Organiser

La ciudad

¿Dónde se pueden comprar...?	***Where can you buy...?***
pasteles	*cakes*
joyas	*jewellery*
zapatos	*shoes*
libros	*books*
Se puede/pueden comprar...	*You can buy...*
en...	*in...*
un supermercado	*a supermarket*
una cafetería	*a café*
una carnicería	*a butcher's*
una joyería	*a jeweller's*
una librería	*a bookshop*
una panadería	*a baker's/bread shop*
una pastelería	*a cake shop*
una tienda de música	*a music shop*
una tienda de ropa	*a clothes shop*
una zapatería	*a shoe shop*

Las direcciones	***Directions***
Perdón...	*Excuse me...*
¿Dónde está el museo Picasso?	*Where is the Picasso museum?*
¿Dónde están las Ramblas?	*Where are the Ramblas?*
A ver...	*Let's see...*
Bueno...	*Well...*
Pues...	*Well...*
luego	*then*
Sigue todo recto.	*Go straight on.*
Dobla a la derecha.	*Turn right.*
Dobla a la izquierda.	*Turn left.*
Cruza la plaza.	*Cross the square.*
Toma la segunda calle a la derecha.	*Take the second street on the right.*
Toma la segunda calle a la izquierda.	*Take the second street on the left.*
Está al final de la calle.	*It's at the end of the street.*
Está a la derecha.	*It's on the right.*
Está a la izquierda.	*It's on the left.*
Está aquí.	*It's here.*

Year 9 Spring Term Spanish Knowledge Organiser

La ciudad

Soy turista...	***I'm a tourist...***
Hoy...	*Today...*
Estoy en Barcelona.	*I'm in Barcelona.*
Es genial.	*It's great.*
Anteayer...	*The day before yesterday...*
Ayer por la tarde...	*Yesterday evening...*
fui a la playa	*I went to the beach*
comí paella y bebí limonada	*I ate paella and drank lemonade*
descansé un poco	*I had a little rest*
Lo pasé fenomenal.	*I had a wonderful time.*
Me gustó.	*I liked it.*
No me gustó.	*I didn't like it*
Mañana...	*Tomorrow...*
Pasado mañana...	*The day after tomorrow...*
voy a ir al Tibidabo	*I'm going to go to the Tibidabo*
voy a ir de compras	*I'm going to go shopping*
voy a comprar unas camisetas	*I'm going to buy some T-shirts*

Palabras muy útiles	***Very useful words***
a, al	*to, to the*
hay	*there is/there are*
¿dónde?	*where?*
¿adónde?	*where?, to where?*
en	*in, at*
hoy	*today*
ayer	*yesterday*
anteayer	*the day before yesterday*
mañana	*tomorrow*

Knowledge Organiser: Year 9 Spring Term 1 Part 2 Textual Programming—Microsoft Small Basic

Summary

Programming is writing computer code to create a program, in order to solve a problem. Programs consist of a series of instructions to tell a computer exactly what to do and how to do it.

An **algorithm** is a set of instructions that describes how to get something done. It is crucial that the steps in an algorithm are sequenced and performed in the right order - otherwise the algorithm will not work correctly. Algorithms can be designed using **pseudocode** and **flow charts**. They are written using **statements** and **expressions**. There are three basic building blocks (constructs) to use when designing algorithms: **sequencing**, **selection** and **iteration**. We create programs to **implement** algorithms. Algorithms consist of steps, where programs consist of statements.

In programming, iteration is often referred to as '**looping**', because when a program iterates it 'loops' to an earlier step. It is implemented using **FOR** and **WHILE** statements. Selection is implemented in programming

Small Basic Language & Syntax

Variable

Computer programs use variables to store information.

Variables could be used to store the score in a game, the number of cars in a car park or the cost of items on a till. They work in a similar way to algebra, where a letter in your code can stand for a number.

```
TextWindow.Write("Enter your Name: ")
name = TextWindow.Read()
TextWindow.Write("Hello " + name + ".  ")
TextWindow.WriteLine("How are you doing " + name + "?")
```

Sequencing

Sequencing is the specific order in which instructions are performed in an algorithm.

Algorithms consist of instructions that are carried out

```
GraphicsWindow.Width = 200
GraphicsWindow.Height = 200
GraphicsWindow.PenColor = "Green"
GraphicsWindow.DrawLine(10, 10, 100, 100)
GraphicsWindow.PenColor = "Gold"
GraphicsWindow.DrawLine(10, 100, 100, 10)
```

Selection

Selection is a decision or question.

At some point, a program may need to ask a question because it has reached a step where one or more options are available. Depending on the answer given, the program will follow a certain step and ignore the others.

```
If (Clock.Hour < 12) Then
  TextWindow.WriteLine("Good Morning World")
EndIf
If (Clock.Hour >= 12) Then
  TextWindow.WriteLine("Good Evening World")
EndIf
```

Iteration

Iteration is the process of repeating steps.

Iteration allows us to simplify our algorithm by stating that we will repeat certain steps until told otherwise. This makes designing algorithms quicker and simpler because they don't have to include lots of unnecessary steps.

```
For i = 1 To 24
  TextWindow.WriteLine(i)
EndFor
```

Microsoft Small Basic

Key Vocabulary

Assignment	Setting the value of a variable in a computer program.
Constant	A value in computer programming that does not change.
Data Type	In computer programming, data is divided up and organised according to type, e.g. numbers, characters and Boolean.
Debug	The process of finding and correcting programming errors.
Execute	To run a computer program.
High-level language	A computer programming language used to write programs. They need to be translated into machine code through a compiler, interpreter or assembler.
Machine code	Also called object-code, this is low-level code that represents how computer hardware and CPUs understand instructions. It is represented by binary numbers.
Runtime	The period when a computer program is executing or running.
Syntax	Rules governing how to write statements in a programming language.

Algorithms

Pseudocode

```
WHILE NotSolved
   .. Instructions here ..
   FOR i ← 1 TO 5
      .. Instructions here ..
   ENDFOR
   .. Instructions here ..
ENDWHILE
```

Flowchart

http://bit.ly/33WS6NC

KEEP CALM AND GO PRACTICE

BBC Bitesize

Year 9 RS: Philosophical beliefs

Religious Teachings

- Genesis (creation)- God created the world in 7 days
- God as transcendent, personal, benevolent and creator
- Christians believe they should be forgiving. The Bible teaches that it is important to settle conflicts. Christians believe that God is forgiving and that he helps them be forgiving to others
- Muslims believe Allah is merciful and forgives people
- Most Muslims believe they should forgive others
- Islam is a religion of peace

The End of God?: A Horizon Guide to Science and Religion

Other Teachings

- Science (big bang)- In the 1920s the Big Bang theory was proposed as a possible scientific explanation for the creation of the universe.
- Atheism- No belief in God, afterlife or higher power
- Agnostic- Unsure about religious ideas, not quote sure if or what they believe
- God referred to as 'he'- is this sexist in the modern world

Key Words

Atheist - non believer
Theist - believes in God
Agnostic - Not sure
Transcendent - beyond human
Benevolent- all loving
Personal - connected personally Science
Miracles- unexplained
Retribution -just deserts
Reparation - pay back
Deterrent- prevention
Reformation - change character
Vindication - clearing guilt
Protection - from harm

Key Quotes

1. All life is sacred and belongs to God.
2. Do not judge, or you too will be judged'. (Matthew 7:1)
3. "...an eye for an eye, a tooth for a tooth" (exodus 21:24)
4. "Thou shalt not kill" (Exodus 20:13)
5. Allah is 'forgiving and merciful.' (Surah 64:14)
6. O you who have believed, be persistently standing firm in justice, witnesses for Allah, even if it be against yourselves...' (Surah 4:135)
7. '...lash each one of them with a hundred lashes, and do not be taken by pity for them in the religion of Allah...' (Surah 24:2) - describing punishment for those who have sex outside of marriage.
8. Surah (4:26-28) says that it is important to give someone a chance to change their behaviour for the better.

Key Themes/Concepts

1. Evidence for and against miracles
2. Questions over the gender of God
3. How people express their beliefs (art and poetry)
4. Religious teachings for and against capital punishment
5. Religious responses to evil and suffering
6. Religion and science
7. The case study of Derek Bentley to apply knowledge and concepts of capital punishment
8. Arguments for and against the existence of God

Key words	
Capital Punishment	The death penalty.
Sanctity of Life	The belief that life is God-given. It is holy and precious.
Quality of life	**The idea that life must have some benefits for it to be worth living**
Justice	Doing the right thing- rewarding the good and punishing the bad.
Victim	Someone who has been affected by a bad thing.
Malicious	Having or showing a desire to cause harm to someone
Perpetrator	A person who commits a crime
Pacifism	Not believing in violence.
Patriotism	A love for your country

Timothy John Evans

Timothy John Evans was one of the last people to be executed in the UK. He was convicted of murdering his daughter. During the trial Evans claimed that he was innocent and that his next door neighbour John Christie was the one who had murdered his daughter. Timothy Evans was executed by hanging in 1950.

Later on, John Christie was found to be a serial killer. Before his own execution in 1966, John Christie admitted to murdering Timothy Evans' daughter. Evans had been wrongly executed. People argue that the death sentence is too permanent a punishment and if you sentence the wrong person, there is no chance to apologise or rehabilitate the person.

The Death Penalty.

Capital Punishment: The death penalty (or capital punishment), is the execution of a criminal by the government. In most countries this happens by lethal injection.

According to Amnesty international, in 2006, 1591 people were executed in 25 countries around the world.

Should the following people be given the death penalty?

Anders Breivik

In 2011 Anders Breivik detonated bombs in Oslo and attacked a political youth camp with an assault rifle. In total, Breivik killed 77 people. He was working by himself.

He was found guilty by a Norwegian high court judge and was sentenced to 20 years in prison (The maximum sentence in Norway.) Many of the families whose relatives were killed by Breivik believe that 20 years in prison is not good enough. Breivik himself said in court 'You either have to kill me or let me go, the law in Norway is a joke!'

Ian Huntley

On 4 August 2004, Ian Huntley persuaded two ten year old girls to come into his house where he murdered them. Huntley's girlfriend lied to the police about where he was.

Huntley was the caretaker at the girl's school. He abused the trust of the girls to persuade them to come into his home. Many people in the UK were disgusted with Huntley's sentence saying that his crime deserved more than a prison sentence. Ian Huntley is now 38 and 7 years into his prison sentence. He has tried to commit suicide twice.

Big Think: Optional work to think about. Can we put a price on Human Life?

Muslim beliefs on the Death Penalty

Muslims follow Shari'ah law.
Everyone is subject to the law,
It is best to forgive a wrong and be charitable if it does not lose your honour. First reason

with wrongdoer.

Justice will always be carried out in public so that justice is seen to be done.
Islam accepts capital punishment, but the victim's family have the right to pardon the offender. Forgiveness is a strong theme in the Qur'an.
Sometimes monetary compensation is authorised instead of death.

Christian Beliefs on the Death Penalty

Teachings of Jesus based on forgiveness and compassion
Many Christians feel that this is the ideal, not the reality.
They focus on reforming the criminal
Many Christian reformers have focussed on ensuring prisoners are treated fairly.

These vary widely, from the pacifist view of the Quakers to the acceptance of capital punishment as allowed by law.
Roman Catholic Church considers it 'lawful slaying'
Anglican Church is opposed to it.

Arguments FOR and Against the Death Penalty

It permanently removes the worst criminals, **protecting** society and making it a safer place.	Only God is in control of life and death. The Bible says that all human lives are valuable.
There are alternatives to the death penalty that offer the opportunity for **reformation**.	The death penalty lowers the value of life in society.
Innocent people could be executed by mistake. What if it was manslaughter rather than murder?	If someone murders someone, it is just to do the same to them – they have given up their human rights.
Genesis 9:6: 'Whoever sheds a man's blood, by man shall his blood be shed.' – After the flood, God said that capital punishment should be used for murderers.	Fear of the death penalty is the best **deterrent**. In Singapore, where capital punishment is legal there is far less serious crime.
It is cheaper than imprisoning someone for the rest of their lives.	It gives the families of murder victim's true **retribution**.
Capital punishment is awful for the families of murderers to have to endure.	It is uncivilized and barbaric.

Knowledge Organiser: Year 9 January – June Design and make a clock

Art Deco

Art Deco is a movement in the decorative arts and architecture that originated in the 1920s and developed into a major style in western Europe and the United States during the 1930s. Its name was derived from the Exposition Internationale des Arts Décoratifs et Industriels Modernes, held in Paris in 1925, where the style was first exhibited. Art Deco design represented modernism turned into fashion. Its products included both individually crafted luxury items and mass-produced wares, but, in either case, the intention was to create a sleek and anti-traditional elegance that symbolised wealth and sophistication.

The art deco style, which above all reflected modern technology, was characterized by smooth lines, geometric shapes, streamlined forms and bright, sometimes garish colours

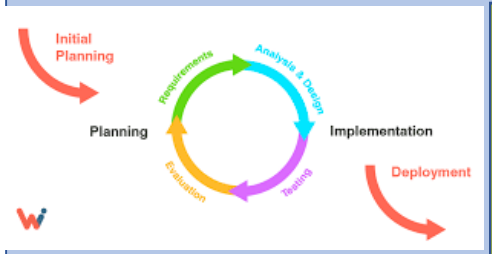





Designers and makers are often influenced by past or current designers and art movements They can start with a design context which leads to a design brief. The context is explored and a design brief is written. The designer needs to carry out research to help them to design and make a successful product.

The Iterative Design Process

This is the process of prototyping, testing and refining your product, acting on feedback from your primary users and stakeholders.



Questions to think about when designing and making?
Who is going to use it? When and where will it be used?
What material(s) could I use to make it? How can I make it so that it is as environmentally friendly as possible? What impact will it have on the users life?
Can it be recycled easily? How long will it last?



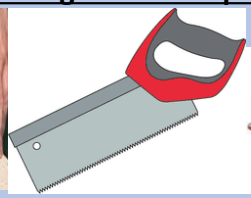


Pine and MDF

Wood comes in 3 categories: soft wood, hard wood and manufactured wood. They have different properties and are used for many things.

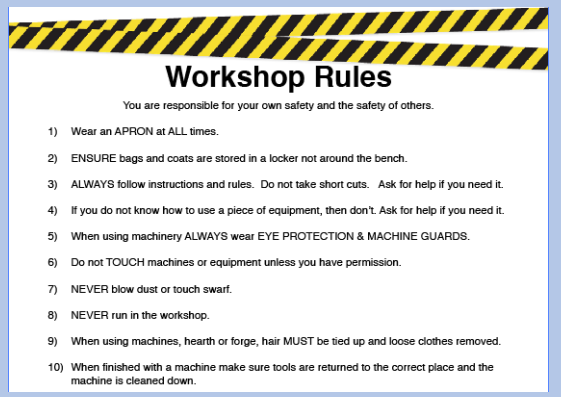
Measuring, marking out and cutting wood and plastic



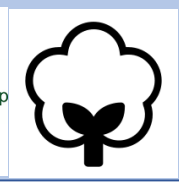


- Use a ruler to measure accurately, use a set square to mark accurate angles, a ruler to draw a straight line and use a tenon saw, coping saw or fret saw to cut wood. Use a junior hacksaw to cut acrylic.
- MEASURE TWICE – CUT ONCE! Why do we say this in D&T?
- Use wood PVA glue to join wood. Use epoxy resin to join wood to plastic.

This is the clock mechanism you will be using. What information do you need from this
to enable you to design and make a successful clock?



When you are in the Academy workshop it is so important you are safe. We will show you what tools to use and how to use them safely. You must listen to and respond first time to all instructions.
Can you think of any more workshop rules? Why is it so important to follow these?
What does COSHH stand for and why is it important in D&T?



What PPE did you wear in the Academy workshop and why?
Can you name and explain the logos on the left?

Dietary related health problems

Diabetes

What is it?
Diabetes lets your blood glucose levels run out of control. Insulin is a hormone that allows glucose to be absorbed by the body. If there is too much glucose in the blood, the pancreas produces insulin to reduce the blood glucose level. Type 2 diabetes is a disorder where blood glucose levels stay too high – the pancreas either can't produce enough insulin or the body resists it.

Causes
- Being over weight or obese
- Excessive sugar in the diet can leave to obesity, increasing the risk of type 2 diabetes – this is affecting more young people.

Health problems
- Poor eye sight, limb numbness, kidney failure and CHD.
- Tired and thirsty
- The body passes out glucose by passing urine more often

Obesity

What is it?
It is very common, it affects roughly 1 in 4 adults in the UK. Body Mass Index (BMI) is often used to check if someone is overweight or obese.

Causes
- An incorrect balance of energy – a person consumes more calories than they burn off.
- Eating lots of foods high in fat and sugar
- Having a sedentary lifestyle (little or no physical activity)

Health problems
- Increases your blood pressure and raises cholesterol levels – this puts you at higher risk of coronary heart disease
- Greater risk of developing type 2 diabetes
- Breathing difficulties, tiredness and low self-esteem are all common

Anaemia – can be caused by an Iron Deficiency

What is it?
Iron is needed to make red blood cells – these cells carry oxygen from the lungs and travel in your blood around your body. People with anaemia have a reduced amount of blood cells.

Causes
- Not eating enough iron-rich foods
- Women lose iron during their periods
- Pregnant women lose iron to their baby during pregnancy

Health problems
Tiredness, pale complexion, heart palpitations, headaches, abnormal fingernails

Coronary Heart Disease (CHD)

What is it?
Your cardiovascular system consists of your heart and blood vessels. CHD is when coronary arteries (which supply the heart with blood fill of oxygen) are narrowed because they are filled with fatty deposits.

Causes
- Eating lots of saturated fats
- Being physically inactive – exercise keeps the heart and cardiovascular system healthy
- Smoking – this damages the lining of arteries
- High blood pressure

Health problems
- Chest pains (angina)
- Blood clots can form which suddenly block flow to the heart, the heart doesn't get enough oxygen which can cause a heart attacked (which can be fatal)

Dietary related health problems

Too much sugar can cause:
1. Weight gain (which can lead to obesity)
2. Tooth decay
3. Diabetes (your body cannot produce enough/any insulin to regulate your blood sugar levels)

Too much salt can cause:
1. High blood pressure (this can increase your risk of heart disease and a stroke).

Too much saturated fat can cause:
1. Weight gain (which can lead to obesity)
2. Raise cholesterol (this narrows arteries making it harder for the blood to travel around, putting you at risk of heart disease).

Skeletal issues

Rickets -Soft and weak bones, this occurs in children with a calcium or vitamin D deficiency. Can cause pain in the bones.

Osteoporosis - It is a bone disease that weakens bones and makes them brittle, increasing the chance of them breaking from simply falls.

Tooth decay - Plaque is a sticky substance that contains lots of bacteria. It builds up on your teeth over time. Bacteria feeds on sugars and create acids that can destroy tooth enamel and cause tooth decay.

Example exam questions:

Explain three causes of obesity (6 marks)
What is the function of sugary and starchy carbohydrates (2 marks)
Why is protein especially important for children? (2 marks)
What are the functions of fat? (3 marks)
List 5 food sources of plant based protein (5 marks)

How does starch thicken a sauce (2 marks)
Give an example of fruit that turns brown due to enzyme browning (1 mark)
Which is the best type of flour to use when bread making and why. (3 marks)

Food Science

Starch gelatinisation

The starch particles absorb the liquid and swell when heated. The starch granules burst open and release their starch into the liquid. This causes the liquid to thicken. The more starch, the thicker the liquid.

Enzyme Browning

Enzymes in fruit cause then to ripen. When you slice fruits, the oxygen in the air turns the fruit brown. Enzymes in the fruit speed up this process. E.g. apples and pears.

Shortening

Shortening gives foods a crumbly texture. When you rub butter into flour you cover the flour particles with fat, this gives the flour a waterproof coating. This prevents the long gluten molecules from forming when the liquid is added to the flour. This means the dough cannot become stretchy and baked goods like shortbread keep a 'short' (firm and crumbly) hence the name shortening.

Bread making

Ingredient	Function
Strong white bread flour	High in gluten to give the bread structure. Bulking ingredient of the dough.
Salt	Gives flavour.
Sugar	Food for the yeast so it can multiply quickly.
Yeast	When given food (sugar) and warmth and moisture (water) it ferments producing co2 and alcohol which helps the dough rise and become light and fluffy.
Warm water	This activates the yeast so it can start to ferment.

Year 9 Knowledge organiser: Explore India

Topics covered

- ✓ India facts/what we know
- ✓ India physical geography
- ✓ India human geography
- ✓ Climate and Monsoon
- ✓ Tourism in India
- ✓ India's changing population
- ✓ Development within India
- ✓ Welcome to Dharavi
- ✓ India and its environment
- ✓ Future India
- ✓ India Report

Key Ideas:

1. I can describe the location of India and its unique character.
2. I can describe the physical landscape variety of India
3. I describe how cities of India have grown and their impacts
4. I can explain how development is changing India and its environment

Skills

- ❑ To research amazing facts using ICT
- ❑ To use mapping to investigate features
- ❑ To understand different cultures and ways of living
- ❑ To draw/label line graphs
- ❑ To write an extended written account
- ❑ To use ICT to research information

Places and Environments

- ❖ Ganges River
- ❖ Kashmir
- ❖ New Delhi
- ❖ Mumbai
- ❖ Goa
- ❖ Ghats
- ❖ Brahmaputra
- ❖ Kerala
- ❖ Thar Desert

Key Terms Used in this Unit

- States
- Colonialism
- Monsoon
- Hinduism
- Independence
- Bollywood
- Population
- Investment
- Aid
- Slums
- Disputes
- Resources
- Poverty
- Pollution
- Economic growth
- Standard of Living
- Exports
- Technology
- Space Race

Kitchen cupboard 'globalisation'

In todays world we are all very much connected to far away places (nothing highlighted this more than the Covid epidemic).

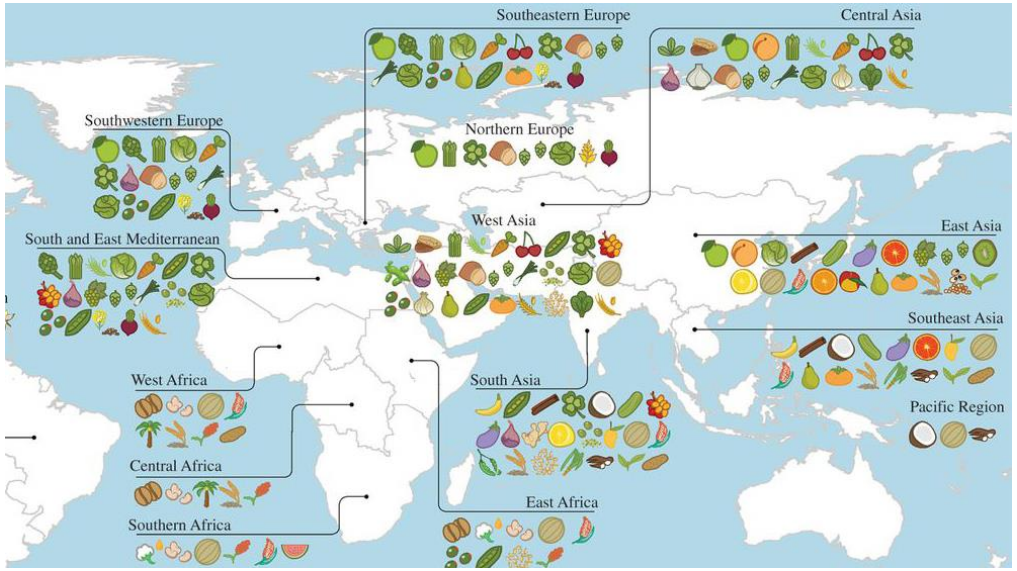
Despite the restrictions on travel, the transport of gooods Remains a top priority.

Today many of our supermarkets whether there is a global pandemic or not will contain foods from all over the world

Look in your food cupboards for the following:
Fruits and vegetables, rice, pasta, breads, sauces, herbs and spices. You may even discover oils and wines. Breakfast cereals may contain wheat or corn. Alcohol barley and wines grapes.

Where did these items come from? You could guess as to which parts of the world they were grown in or you could check the labels yourself.

Are there any places that we do not rely upon for food and drinks? Which parts of the world are our supermarkets most reliant on?



Famous Film Composers!

Listen to a number of their film soundtracks – can you hear similarities? Can you hear the composer's musical signature?

Hans Zimmer:

- Born in Germany.
- Moved to London as a teenager.
- Used to write jingles for adverts.
- Played keyboard in a band called Buggles.
- Composed over 100 film scores including The Lion King, Pirates of the Caribbean and Inception.
- Famous for his use of traditional orchestra instruments mixed with electronic sounds.
- Has won 7 Academy awards & 7 Grammy awards.
- Has also won 9 Golden Globe awards for his film scores.

Danny Elfman:

- American movie composer.
- Has written music for lots of famous movies & TV shows including The Simpsons, Men in Black and Nightmare Before Christmas!
- Grew up in LA.
- Dropped out of high school to travel, went to France & Africa where he caught malaria.
- Was in a Rock band called Oingo Boingo.
- Now has impaired hearing because of the loud Rock music.
- Has won a Grammy, an Emmy & had 4 Academy Award nominations.

John Williams:

- Born in America.
- Started playing music whilst in the US army
- Moved to New York and became a notable jaz pianist
- Composed over 100 film scores including Jaws, Harry Potter and Star Wars.
- Famous for personally conducting his scores and for being a strict and demanding conductor.
- Has won 51 Academy awards & 24 Grammy awards.
- Has also won 34 Golden Globe awards for his film scores.

Year 9 Spring Term Knowledge Organiser

Time	0 - 15 seconds	15 – 30 seconds	30 – 45 seconds
Action & Music			
Time	45 – 60 seconds	1min – 1.15	1.15 – 1.40
Action & Music			

Songwriting

1) Decide on the structure on your song using introductions, verses, choruses and bridges
2) Choose your chord progression for each section
3) Add a single melody line to each section using improvisation before settling on a repeating pattern that can be altered slightly in pitch or reversed to add contrast and interest
4) Add harmony using appropriate intervals
5) Add lyrics
6) Finally, choose which instruments to use in your arrangement

Common Chord Progressions

Major Keys: C, D, F, G & A

I	IV	V
C	F	G
D	G	A
F	Bb	C
G	C	D
A	D	E

I	vi	IV	V
C	Am	F	G
D	Bm	G	A
F	Dm	Bb	C
G	Em	C	D
A	F#m	D	E

ii	V	I
Dm7	G7	Cmaj7
Em7	A7	Dmaj7
Gm7	C7	Fmaj7
Am7	D7	Gmaj7
Bm7	E7	Amaj7

I	vi	ii	V
C	Am	Dm	G
D	Bm	Em	A
F	Dm	Gm	C
G	Em	Am	D
A	F#m	Bm	E

I	V	vi	IV
C	G	Am	F
D	A	Bm	G
F	C	Dm	Bb
G	D	Em	C
A	E	F#m	D

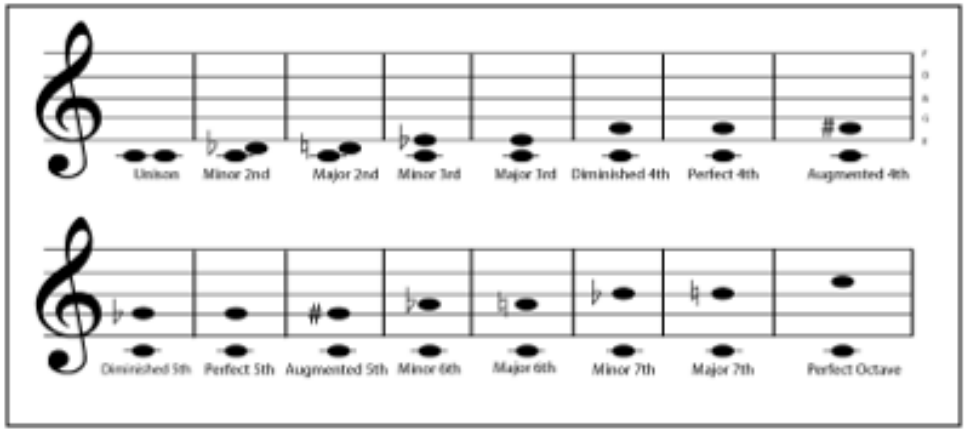
I	IV	vi	V
C	F	Am	G
D	G	Bm	A
F	Bb	Dm	C
G	C	Em	D
A	D	F#m	E

I	iii	IV	V
C	Em	F	G
D	F#m	G	A
F	Am	Bb	C
G	Bm	C	D
A	C#m	D	E

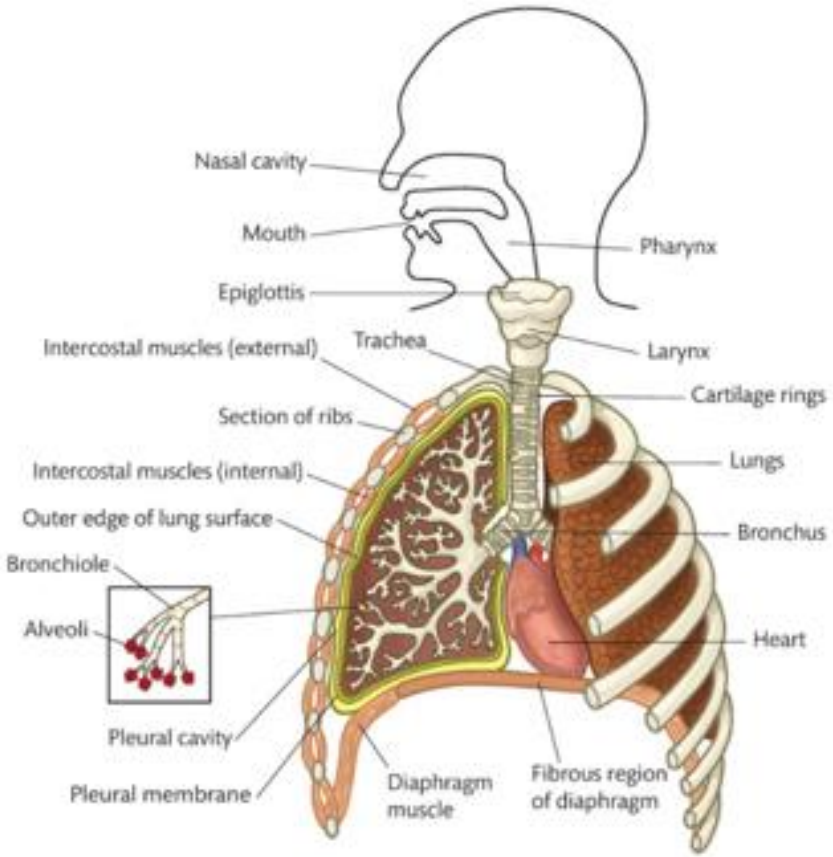
I	IV	I	V
C	F	C	G
D	G	D	A
F	Bb	F	C
G	C	G	D
A	D	A	E

I	IV	ii	V
C	F	Dm	G
D	G	Em	A
F	Bb	Gm	C
G	C	Am	D
A	D	Bm	E

www.piano-keyboard-guide.com

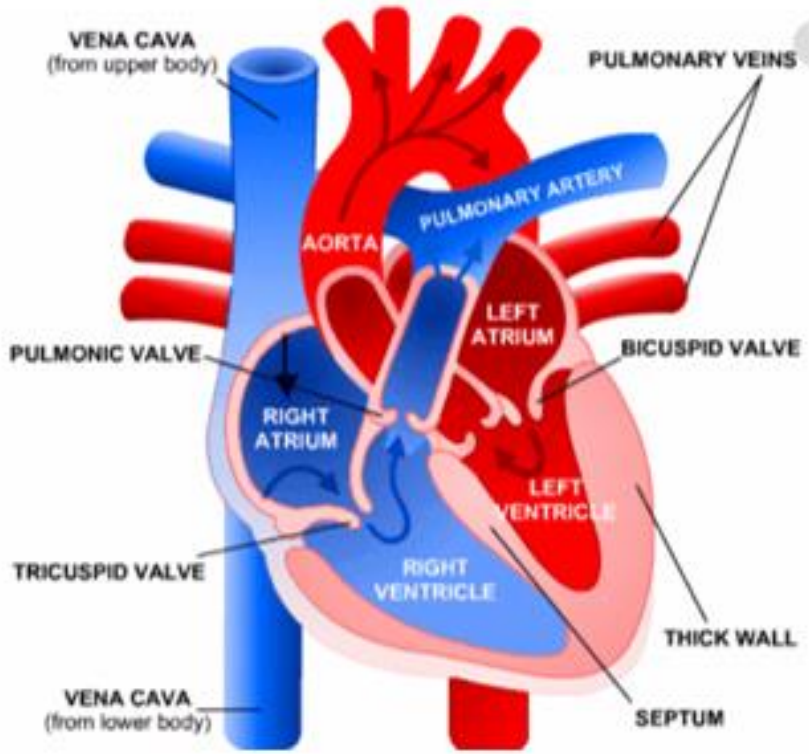


The respiratory system



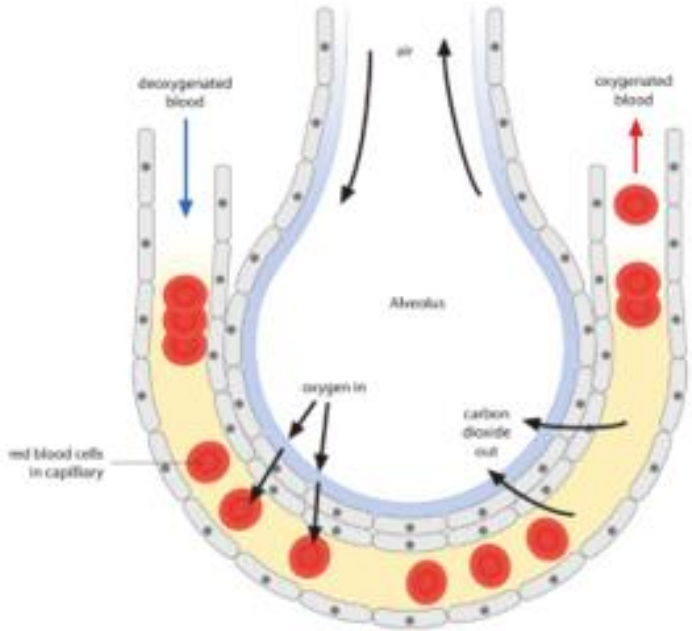
Use the QR code in this box to watch a video on how the respiratory system works and functions. What did you already know and what new knowledge have you picked up?

The cardiovascular system



Task: Find a website or textbook which explains the movement of blood around the body. What did you learn? How does blood travel? What happens when you take part in sport and exercise?

So, how does the respiratory system work with the cardiovascular system after exercise? Read the following passage and insert the correct words into the text.



The body needs to take in oxygen and remove carbon dioxide when we exercise. This allows our muscles to work to their full potential. A process called Gaseous Exchange takes place when Oxygen is breathed ..... and carbon dioxide is breathed ..... As your breathing rate increases your ..... beats faster. After long periods of regular exercise your lungs will be able to delivery ..... to the muscles more effectively. ..... can also be removed more efficiently and the muscles will be able to cope with an increase in exercise. The more exercise you do the more ..... your body will create. This means more oxygen can get into your blood and to the muscles.

Breathing Oxygen Out Heart Carbon Dioxide Blood Vessels In

Katarina Johnson-Thompson is a Team GB athlete and competes in the Heptathlon. Katarina has begun training to improve her fitness to be able to compete in her seven different events in preparation for the next Olympic Games.

Scan the QR s to read the text on BBC Bitesize and answer the following questions.

What would happen to Katarina's cardiovascular system immediately after exercising?

How would her cardiovascular system adapt long term after exercising?

How would her cardiovascular and respiratory systems (Cardio-respiratory) help Katarina to be successful in her Olympic events?

Physical Education – D.A.R.E.S

Exercise is meant to be fun and is essential for your mental and physical well-being. Here is a game with choices on how you stay active and healthy.

Try and do everything on this PE bingo card between now and half-term, leaving feedback in the boxes of when and/or how you did them.

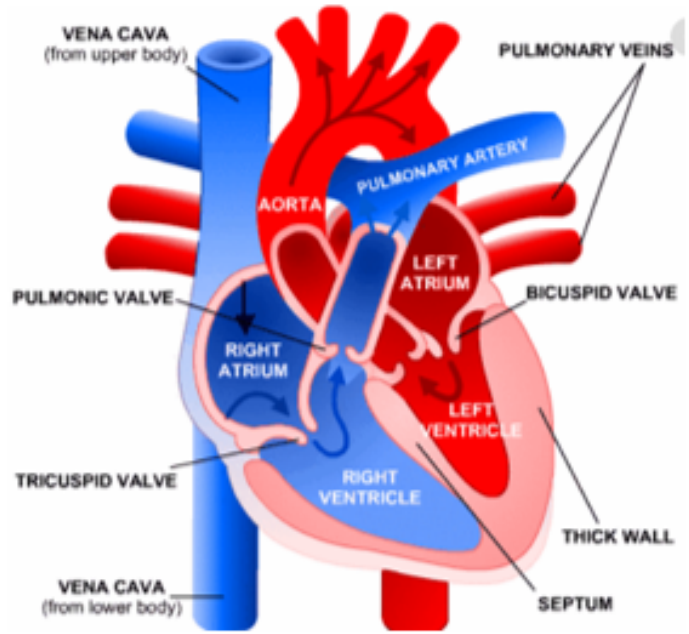
Fill in the mood-o-meter after each session (leave the rating out of 5, which best describes how you feel after completing the activity!!)

1 = Terrible, 2 = Okay, 3 = Good, 4 = Very Good, 5 = Ecstatic

All those who complete all, will be put into a virtual prize draw, and one winner from each year group will win an Amazon voucher of £10!!!! Enjoy.

See how long you can hold a plank for (record your score here) ☐	Lead others in your house through a muscular endurance session. ☐	Buddy up with a friend in your year group. Set them a fitness challenge, and complete the one they set you (Run for 20 mins etc.) ☐	Complete either a gymnastics sequence including balances. OR a stretching sequence to improve mobility! ☐	Find the song that you most like exercising to? What is the song? Now complete a 5 minute exercise whilst listening to this song. ☐
Do 50 squats a day for 5 days running (you should break up by doing sets of 10) Dates completed: ☐	Go on a walk with a family member that lasts at least 45 minutes? How far did you go? ☐	Free choice. Select an activity for you and your family to take part in. List it here and upload a photo to show us what you got up to. ☐	Go for a bike or scooter ride for 30 mins. Stop and take a picture of the most interesting scene you see and post in this square? ☐	Drink 8 glasses of water a day for 7 days in a row Dates completed: ☐
Do an activity of your choice (dance, football, gym, biking etc) What did you do & for how long? ☐	Do a circuit training session with 3 of the following - Lunges, press ups, star jumps, sit ups, burpees, calf-raises. You must do 3 sets. You pick how long you work and rest for? ☐	Do 3 chores around the house to help out: Chore 1 = Chore 2= Chore 3= Date completed: ☐	Eat no chocolate or sweets for 3 days in a row?!?! Dates completed: ☐	See how long you can jog for before you have to stop. Then try and beat that time the next time you try? 1st time before stopping= 2nd time before stopping= ☐

The Cardiovascular System



Functions of the Cardiovascular System

There are 4 main functions of this system. Circulation and transport, protection, clotting and temperature regulation. Complete the paragraph below and add the missing terminology.

Circulates **Transports** **Oxygen** **Protecting** **Platelets** **37°C** **Infections**

The blood ..... and .....carbon dioxide away from the vital organs and muscles. Red blood cells transport ..... to the vital organs and muscles. The blood helps to maintain the body's temperature to a constant .....
White blood cells are essential in .....the body and keeping it healthy. White blood cells helps fight ..... by producing antibodies that destroy harmful microorganisms in the body.
Finally, the cardiovascular system can help prevent the body from losing blood during an injury. Specialised blood cells, called .....form a clot and seal the damaged area.

The blood is made up of Red Blood Cells, White Blood Cells, Platelets and Plasma

https://www.nhsinform.scot/illnesses-and-conditions/heart-and-blood-vessels/about-the-heart/understanding-how-your-heart-functions
https://www.bbc.co.uk/bitesize/guides/z9n6sg8/revision/1

30-DAY PLANK CHALLENGE

Day 1: 20 sec	Day 16: 2 min
Day 2: 20 sec	Day 17: 2 min
Day 3: 30 sec	Day 18: 2.5 min
Day 4: 30 sec	Day 19: Rest
Day 5: 40 sec	Day 20: 2.5 min
Day 6: Rest	Day 21: 2.5 min
Day 7: 45 sec	Day 22: 3 min
Day 8: 45 sec	Day 23: 3 min
Day 9: 1 min	Day 24: 3.5 min
Day 10: 1 min	Day 25: 3.5 min
Day 11: 1 min	Day 26: Rest
Day 12: 1.5 min	Day 27: 4 min
Day 13: Rest	Day 28: 4 min
Day 14: 1.5 min	Day 29: 4.5 min
Day 15: 1.5 min	Day 30: 5 min

30-DAY CRUNCH CHALLENGE

Day 1: 25	Day 16: Rest
Day 2: 30	Day 17: 100
Day 3: 35	Day 18: 105
Day 4: Rest	Day 19: 110
Day 5: 40	Day 20: Rest
Day 6: 45	Day 21: 115
Day 7: 50	Day 22: 120
Day 8: Rest	Day 23: 125
Day 9: 60	Day 24: Rest
Day 10: 65	Day 25: 130
Day 11: 70	Day 26: 135
Day 12: Rest	Day 27: 140
Day 13: 80	Day 28: Rest
Day 14: 90	Day 29: 145
Day 15: 95	Day 30: 150

Extension activities

Find a diagram of the cardiovascular system which shows how blood is moved around the body.

Complete the two 30 day challenges

When playing sport for either an Open Academy team or a team outside of the academy, record your performance and provide a summary of your strengths and areas for development.

Research the BTEC Sport First Award as a potential option to take in Year 10. Please speak to a member of the PE department if you require any advice or information.

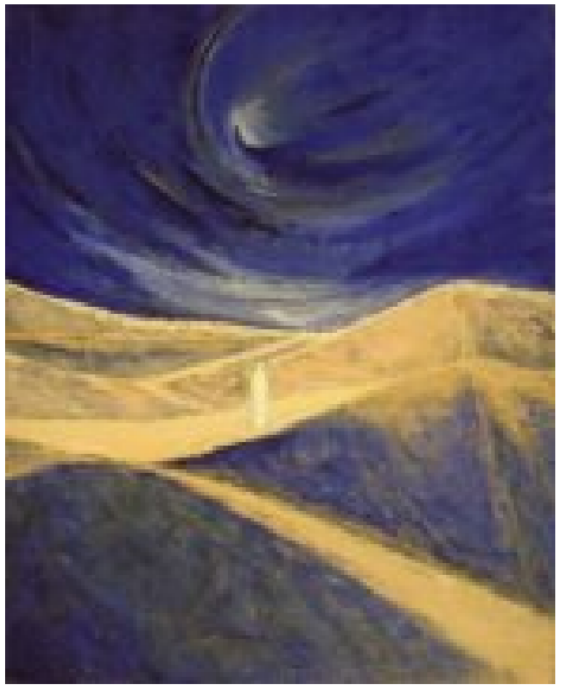
Aim to exercise for at least 30 minutes per day to ensure you help keep your body healthy. This should be in the form of moderate exercise (cycling, walking, jogging or swimming for example)

Does our behaviour really matter? In JK Rowling's book: Harry Potter and the Goblet of Fire, Albus Dumbledore says **"We must all face the choice between what is right and what is easy."**

Lent offers Christians a time to reflect on their behaviour and the choices they have made for example if they have been selfish or if they have taken time to think of others. It is a time to prepare, and rethink. A time to seek reconciliation, a renewal of faith and a new direction. Lent enables Christians re-evaluate their conduct and relationships in all aspects of their life and to look at the direction life is leading them.

Jesus is tested in the wilderness: Matthew 4: 1-11 New Revised Standard Version

Jesus in the Desert: Macha Chmakoff



4 Then Jesus was led by the Spirit into the wilderness to be tempted[a] by the devil. 2 After fasting for forty days and forty nights, he was hungry. 3 The tempter came to him and said, 'If you are the Son of God, tell these stones to become bread.' 4 Jesus answered, 'It is written: "Man shall not live on bread alone, but on every word that comes from the mouth of God."'[b] 5 Then the devil took him to the holy city and set him on the highest point of the temple. 6 'If you are the Son of God,' he said, 'throw yourself down.

For it is written: "'He will command his angels concerning you,
and they will lift you up in their hands,
so that you will not strike your foot against a stone."'[c]

7 Jesus answered him, 'It is also written: "Do not put the Lord your God to the test."'[d] 8 Again, the devil took him to a very high mountain and showed him all the kingdoms of the world and their splendour. 9 'All this I will give you,' he said, 'if you will bow down and worship me.' 10 Jesus said to him, 'Away from me, Satan! For it is written: "Worship the Lord your God, and serve him only."'[e] 11 Then the devil left him, and angels came and attended him.

Lent is a key Christian festival where people reflect on their lives. Jesus was tested in the wilderness. People often set themselves challenges ahead of Holy Week culminating in Easter Sunday. They try to be kinder or give something up.

The film Hail Caesar! follows a day in the life of Eddie Mannix, a Hollywood fixer for Capitol Pictures in the 1950s, who cleans up and solves problems for big names and stars in the industry. At times Eddie's life is filled with the dilemma of making the right choices and decisions:

https://www.youtube.com/watch?v=UILLd-uBMk4

Reflect/think about a time: In the clip the Eddie has gone to talk through things with a priest, his lifestyle choices and behaviour.

Why do you think Eddie felt the need to talks things through?

What impact had Eddies choices had on him?

When Eddie talks about a decision he has to make, the Priest talks about the inner voice and listen to the voice until you hear what is right.

Have you ever had an experience like Eddie's?

EXPERIENCES that can help us ENCOUNTER:

How might choices and random acts of kindness and generosity help us grow?
Watch this video clip from the film the Fight Within and hear how a chance decision to act generously to a stranger, leads to an unexpected exploration about making decisions and choices.

https://www.youtube.com/watch?v=fOzp6IplsNY

What do you think prompted the man to buy and share pizza? What other things were shared other than pizza? Who benefitted from the encounter?

In the Christian tradition the word stone or rock has many symbolic meanings. The word stone and rock are used over 400 times in the bible and signify strength, steadiness, protection and durability. 'So I will call you Peter, which means "a rock." On this rock I will build my church, and death itself will not have any power over it.' (Matthew 16:18) Peter had followed Jesus but he had not always behaved well or made good choices in his life. However, Peter was the first to recognise Jesus as the Messiah. Jesus knew that Peter would go onto betray him but did not give up on Peter. He could see how in the future, he could trust Peter and how Peter would ensure that the message of salvation for God's people would spread across the world. Read the account (Matthew 19:13-18)

Draw a stone and cut it out or find a small stone from the garden wash and dry it and use an indelible Sharpie) or glitter glue pen. Think about all the good habits, actions and behaviours you want to develop or improve e.g. kindness, selflessness, faithful generosity etc. Then place your 'stone'/'rock' somewhere in your room where you will see it every morning and evening as a reminder of your intention.

Norfolk County Council

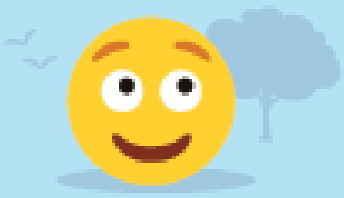
Five Ways to Wellbeing

Activity Sheet

Use the challenges on this sheet to help your child feel better and find ways of managing their own mental wellbeing.

Why not cut them all out and encourage them to choose one or two per day to do. Once they have tried them all they can pick their favourites to do regularly.

Be active

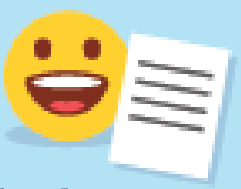


Do a half an hour walk around the local area and write about what you saw when you get back including how it made you feel.

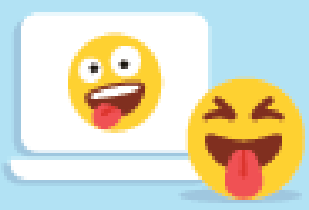
Set up an indoor obstacle course to get your heart rate up

Have a kitchen disco with your household – each pick your favourite songs and do your most energetic dancing together.

Connect



Write a letter to someone that you haven't seen for a long time. Ask how they are and tell them how you have been feeling. Draw pictures or take photos to print and go with it.

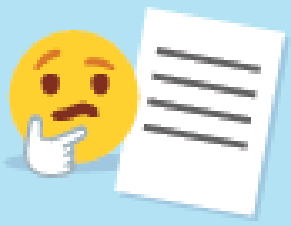


Make contact with a friend from school – ask a parent to help you set up a video call so that you can see each other and talk.

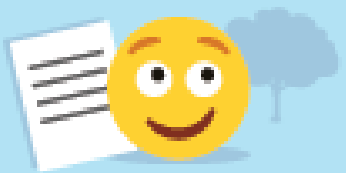
Connect with those you live with by spending time playing a board game together.

Take notice

Sit outside and listen to the birds sing, and notice what other sounds you can hear.



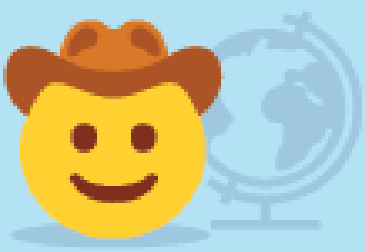
Write a list of the three things you look forward to doing the most when we are allowed to do them again.



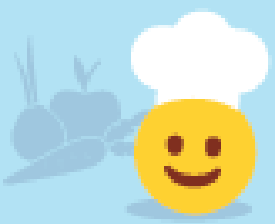
Go for a walk in your local park and look at the trees around you noticing what colour the leaves are. Write about what you see and how it made you feel.

Learn

Choose something you are interested in and spend some time reading about it and learning interesting facts to tell people.



Choose a country you might like to visit one day and learn five words from the language



Learn to cook a meal with the person in the household that usually cooks. Help them with the preparation and the clearing up.

Give

Make a homemade card to send to a friend or family member that you can't see at the moment.

Write a list of the things you appreciate most about the people you live with and let them see it.

Help with some of the chores around the house whether it's doing the hoovering or pairing the socks.

If you are worried about a child or young person or would like more information advice and guidance about their mental health and wellbeing visit: https://www.justonenorfolk.nhs.uk/mentalhealth or call 0300 300 0123

KS3 Football

Rules and regulations of the game

Each game consists of **90 minutes** (45 minutes in each half) with **11 players on each team.**
The game is controlled by a referee, assistant referee and other officials to ensure the games are played fairly and within the rules.
The team who scores most goals at the end of the game wins.

Penalty - This happens when a direct foul is committed in the penalty area of either side of the pitch.
Direct Foul - This happens when a player makes illegal contact with an opposing player without winning the ball. A free kick is awarded and the opposition player must stand 10 yards away.
Indirect Foul - An indirect free kick is awarded for less serious fouls such as handball, offside, and the goalkeeper picking up a back pass. An opposing player must still be 10 yards away but the ball must touch another player before a shot can be had.
Offside - A player is in an offside position if, when the ball is played by a team- mate, they are nearer to the opposition's goal line than both the ball and the second last opponent. An indirect free kick is then awarded to the other team.
Players and Substitutes - A team can field only 11 players at any one time. Their squad can consist of 7 substitutes from which only 3 can be fielded. A team cannot substitute a player who has been shown a red card.
http://www.thefa.com/football-rules-governance/lawsandrules

Key positions

Goalkeeper - This person guards the goal and is able to use their hands to stop and catch shots and crosses.

Defender - This person helps to protect the goal by marking and tackling opposition as they approach. The main job is to protect the Goalkeeper.

Midfielder - This person works between defending and attacking. They often win the ball and try and create attacks. They play in the middle of the pitch.

Attacker -This person works on scoring goals for their team.

The image above shows the variety of positions, most common on the field of play.

Tactics

Tactics in football can vary from team to team and can be determined by the formations each team plays. **Common formations can include 4-4-2, 4-1-4-1, 4-2-3-1, 3-5-2 and 4-3-3.**

Each formation and tactic has a style of play. The following are used most frequently:
High-Press – This involves chasing the ball from the opposition higher up the pitch. This tactic works on the precedent that the higher up the pitch you win the ball, the short distance you have to go to get into a goal scoring position. The attackers defend first and the midfield aim to win the ball in the opposition half.
Tiki-Taka – This requires intricate passing and fluid movement between every player on the field, the key to its success is overloading the midfield area with technically skilful players who can retain possession of the football.
Counter-attack – A counter-attack starts when a team steals the ball and launch into an attack at speed. The tactic involves dropping deep, allowing the opposition to have the ball and come forward with it, committing players forward and leaving gaps in behind as they go.

https://blog.pitchero.com/football-tactics-explained

Playing between the lines is another tactic which teams try to use. This is the space between each area of the team. I.e. the defence and the midfield. Playing the ball in this area can make defending more difficult for a team.

Key Skills

Passing – There are many ways to pass a football. Using the instep of your foot, outside of the foot and top (laces) part of the foot.

- Place the non-kicking foot next to the ball
- Using flexion, lift the kicking foot back ensuring the part of the foot you aim to use has been angled correctly.
- Keep your eye on the ball
- Ensure your head and upper body are placed over the ball to provide better control and balance.

Shooting – Just like passing, there are a number of ways to shoot.

- Observe the goalkeeper's position.
- Put your non-kicking foot alongside the ball
- Keep your head down and your eyes on the ball
- Keep your body over the ball.
- Make contact with the side of the foot for accuracy and top of the foot for power.

Dribbling – It is important to keep the ball under close control to outwit your opponent when dribbling.

- Keep the ball close to you to ensure better control.
- Use the inside and outside of both feet.
- Take quick, small steps.
- Dribble with your head up to see spaces and opponent.

Control – Having the ball under control helps to prepare and perform your next move with in the game.

- Keep your eye on the ball to monitor the speed and direction of the balls movement.
- Move your body behind the ball to cushion it and slow the ball down

https://grassroots.fifa.com/en/for-coach-educators/technical-elements-for-grassroots-education/the-basic-techniques/the-basic-techniques.html

Definitions and Key terminology

Corner Kick: A kick taken from the corner of the field by an attacker. The corner kick is awarded when the ball has passed over the goal line after last touching a defensive player.
Cross: A pass played across the face of a goal.
Dribble: Keeping control of the ball while running.
Foul: Any illegal play.
Free Kick: A kick awarded to an opposition player when a player has committed a foul.
Give and Go: (also known as a 1-2) When a player passes the ball to a teammate, who immediately one-touch passes the ball back to the first player.
Goal Kick: A goal kick is awarded to the defending team when the ball is played over the goal line by the attacker.
Man to Man Marking: A defensive system where defenders are designated one attacking player to track continuously.
Offside: A player is in an offside position if he is nearer to his opponent's goal line than both the ball and the second-to-last opponent. This does not apply if the players is on their half of the field.
Penalty Spot: The marked spot 12 yards from the goal line from which a penalty kick is taken.
Penalty: A penalty kick is awarded when a foul has been committed inside the penalty area in front of the goal.
Tackle: To take the ball away from the opponent using the feet.
Through Pass: A pass played past defenders into free space to allow a teammate to run onto the ball.
Throw-In: The ball is thrown in after the ball has crossed the touch line. A player taking a throw in must have both feet on or behind the touch line and must use a two-handed throw made from behind the head.
Zonal Marking: A defensive system where defenders mark a designated area of the field of play instead of tracking players across the pitch.

KS3 Netball

Rules and regulations of the game

1. Obstruction – a player attempting to intercept or defend the ball must be at least 3ft (0.9m) away from the player with the ball. This distance is measured from the landing foot of the player in possession of the ball.
2. Footwork – the landing food cannot be moved, other than to pivot on the spot, whilst the other foot can be moved in any direct. If a player lands on two feet simultaneously, you may take a step in any direction with one foot.
3. Contact – contact occurs when a player's actions interfere with an opponent's play whether these are accidental or deliberate. Interference may occur through physical contact, placing hand(s) on the ball held by an opponent and while holding the ball, pushing it into an opponent.
4. Replayed ball – a player may not replay the ball. Specifically you cannot; lose control of the ball and pick it up again, catch a rebound from a shot on goal if the ball has not touched the post or another player, toss the ball into the air and catch it again without it being touched by another player.
5. Offside – a player with or without the ball cannot move into an area of the court that is not designated for their position.
6. Held ball – when a player has possession of the ball for more than three seconds without passing it.

https://www.englandnetball.co.uk/
https://www.englandnetball.co.uk/make-the-game/officiating/rules-updates/

Key positions

Goal shooter – to score goals and to work in and around the circle with the GA
Goal attack – to feed and work with GS and to score goals
Wing attack – to feed the circle players giving them shooting opportunities
Centre – to take the centre pass and to link the defence and attack
Wing defence – to look for interceptions and prevent the WA from feeding the circle
Goal defence – to win the ball and reduce the effectiveness of the GA
Goal keeper – to work the GD and to prevent the GA/GS from scoring goals

NETBALL POSITIONS

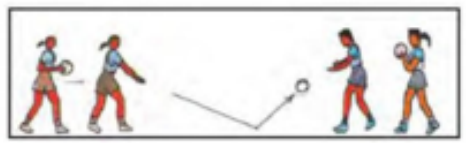
Tactics

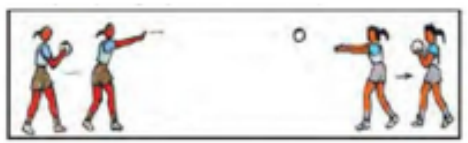
Reading the play – good netball players have the ability to be able to read the play and immediately react to it and predict what will happen.
Positioning – good netball players are able to position themselves between their player and the ball or in the goal area between the shooter and the ring. Good players are also able to position themselves so as not to crowd one area of the court, and have the awareness to move out of a crowded area and into space.
Timing – timing is an essential part of netball and all good netball players have the ability to time their movements to near perfection. Good netballers also have the ability to time their pass of the ball so it is just in front of the player that they are passing to in order for the player to run onto the ball, and not have to stop and turn to get the pass.
Communication – in a game of netball, communication is a key area, and good netballers have the ability to communicate with their team mates on and off the court in the most effective ways.
Skill selection – skill selection is a major reason for good players being successful, this is due to the players having the decision making skills to know when to use what type of pass, who to pass to and where they need to be on court.

Introduction to tactics - https://www.youtube.com/watch?v=WvRNenTQ9rk
Defensive tactics - https://www.youtube.com/watch?v=4c-bMycWm2A
Attacking and passing ideas - https://www.youtube.com/watch?v=P9qu84KmWv4

Key Skills

Bounce pass *Stage one;* feet shoulder width apart in opposition, with knees bent. Place hands each side and slightly behind the ball, with the fingers comfortably spread. Hold the ball at waist level, with elbows tucked in. *Stage two;* step in the direction of the pass, through extending your legs, back and arms. The wrist and fingers should be forced through the ball releasing it off the first and second fingers of both hands. Follow through with the arms fully extended, fingers pointing at the target and thumbs pointing to the floor.
Chest pass *Stage one;* stand with feet shoulder width and on the balls of your feet, with back straight and knees slightly bent. Place hands on the sides of the ball with the thumbs directing behind the ball and fingers comfortably spread. *Stage two;* the ball should be held in front of the chest with the elbows tucked in. Step in the direction of the pass, by extending their legs, back and arms. Push the ball from the chest with both arms (not from one shoulder). Fingers are rotated behind the ball and the thumbs are turned down. *Stage three;* the back of the hands face one another with the thumbs straight down. Make sure the ball is released off the first and second fingers of both hands. Follow through to finish up with the arms fully extended, fingers pointing at the target and thumbs pointing to the floor.
Shoulder pass *Stage one;* player's feet should be shoulder width apart in opposition. Opposite foot forward to throwing arm. Stand on balls of feet with toes pointing toward target, and knees slightly bent. Hold the ball at head height, slightly behind your head. Elbow should be at a 90degree angle. Fingers spread behind the ball. *Stage two;* step in the direction of the pass by transferring your body weight from back foot to front foot. Pull the arm through with the elbow leading. To follow through, fully extend your arm and wrist. Point your fingers in the same direction as the pass, with palms facing down.





Shooting *Stage one;* stand with feet shoulder width apart on the balls of your feet, keep the body straight in a forward-facing position. *Stage two;* place non-shooting hand on the side of the ball and the shooting hand at the back of the ball. Fingers are slightly open, with the ball resting in the fingers, holding the ball high above the head. Elbows slightly flexed, lined in the direction of the post. Flex knees and elbows, not allowing the ball to drop behind your head. *Stage three;* extend the ankles, knees and elbows. Flex the wrists as the ball is released off the fingers. Straighten your legs by extending the knees at the same time as you release the ball. End the shot standing on tiptoes with your arms extended and fingers pointing towards the ring.
Pivoting *Stage one;* run towards the ball and jump by extending the legs and ankles. Keep your eyes firmly fixed on the ball. Bring your hands out in front of your body at chest height with fingers spread open and pointing up. *Stage two;* in the air catch the ball with thumbs an inch or two apart making a 'W' shape. Land on the ball of one foot on the group. Flex your knee and ankle as your foot hits the floor. *Stage three;* stand with knees slightly bent and your feet shoulder width apart. Bring the ball into your body to protect it. Pivot by rotating yourself on the ball of your landing foot. Keep your upper body straight and head up. Make sure the hip of your pivoting leg is pointing in the direction you are aiming to pass the ball in. You can move or step with the other foot any number of times. You are not allowed to lift the foot you are pivoting on before you release the ball.

Definitions and Key terminology

Bounce pass; a bounce pass is a short pass that enables the player to find a teammate in a crowded area. The height of the ball makes it difficult for the opposition to reach and intercept.
Centre circle; is the circle in the middle of the court. It is where the centre starts the game after a goal.
Chest pass; a chest pass is a very fast and flat pass. This enables a team to move quickly up a court in a precise and accurate fashion.
Contact; when a players physical action interferes with their opponents ability to play whether accidental or deliberate.
Dodging; a quick change in direction aimed at losing your opponent to get the ball.
Feeding; when a player passes the ball into the goal circle from outside the ring.
Shoulder pass; a shoulder pass is a very dynamic, fast and long pass. This enables a team to switch positions on court very quickly to find a player in space or break defensive screens.
Pivoting; the pivoting action is a swivel movement that allows the player to move on a fixed axis to either pass or shoot.
Rebound; jumping to recover the ball in the goal area after a missed shot.
Spatial awareness; a player's ability to understand their place in a space without running into or crowding other players.

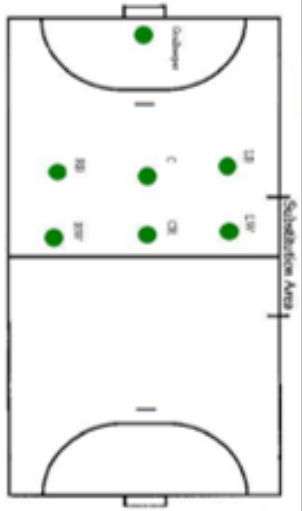
KS3 Handball

Rules and regulations of the game

Each match consists of **two periods of 30 minutes** each.
Each team consists of **7 players; a goalkeeper and 6 outfield players.**
There is semi-circle area around each goal area. There is also a dashed semi-circle line which lies 9 metres from goal, which is the free throw line.
Outfield players can touch the ball with any part of their body that is above the knee.
Once a player receives possession, they can pass, hold possession or shoot.
If a player holds possession, they **can dribble or take three steps** for up to **three seconds** without dribbling.
Only the goalkeeper is allowed to come into contact with the floor of the goal area.
Goalkeepers are allowed out of the goal area but must not retain possession if they are outside the goal area.
To win in handball you must score more than your opponent.
If the game is drawn then there must be a winner; then periods of overtime with a maximum of 2x 5 minute periods are played. If the scores are still level, a shoot-out is used to determine the result of the game.

https://www.englandhandball.com/

Key positions



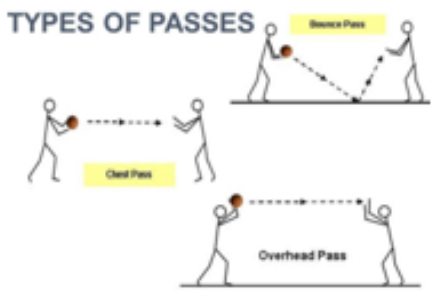
Goalie: This player defends the team goal against the opposition who are attempting to score goals. The goalkeeper is the player permitted to field inside the goal area and the only player who can use his legs to kick the ball.
Left and Right backs: When defending, these players will block the shots and pass to the centre. This players also attack and will usually shoot from longer distances.
Centre: Both an attacking and defensive player which is also called a 'playmaker'. They are positioned largely around the midcourt area and their role is to initiate the offensive play, shoot, or try to penetrate the opponent's defence.
Left and Right wingers: These players will be aiming to score the goals to win the game from difficult angles. Every player can act as an attacker during the game and these players will use pace to create openings to score.
Circle player/runner: The main player in attack who helps defend from the front and creates openings for teammates and gets into shooting positions.

Definitions and Key terminology

Block (blocking the ball): This relates to the body of a player interfering with the normal shot of the receiver.
Bounced Shot: This is a when a player is shooting at the goal with the ball hitting the floor on its way.
Corner Throw: The handball corner throw is given when the ball is played over the goal line (or either side of the goal) by a defending player.
Court Player: All outfield players are called court players. This does not include goal-keepers.
Court Referee: The court referee stays behind the attacking team. He watches for any defensive or offensive fouls or possession violations committed by the court players.
Dive Shot: It is a way of shooting by jumping above the floor towards the goal. It is done without touching the d-line.
Exclusion: Exclusions occur for assault. The excluded player's team has to play with one player less for the rest of the game.
Faking: This is a tactic used to trick the opponent with a hand or body movement e.g. fake pass, fake shot etc.
Goal Area: A D-shaped area six metres from the goal that is used only by the goalkeeper.
Man Marking: A defensive strategy where a defender marks a specific opposition player to guard in the game.
Rebound: The term referring the way the ball bounces backwards after hitting the bars of the goal post.
Zone Defence Systems: A handball zone defence system means a team marking the area of the pitch instead of marking an individual player.

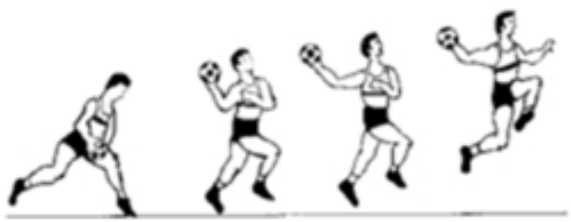
Key Skills

www.bbc.co.uk/bitesize/guides/z32qmnb/revision/5



Catching – Stand shoulder width part, facing the direction of the ball. Move towards the ball and move hands towards the ball and once caught, close fingers around the ball and flex your elbows to bring the ball into your chest.

Shoulder / Overhead pass – Stand shoulder width apart and sideways on. The throwing arm should be behind your head at a 90° angle and the non-throwing arm should be pointing towards your intended target. Finally, transfer your weight from your back foot to your front foot, rotating your hips towards the target. Follow through the pass with your throwing arm pointing towards the target.
Bounce pass – Hands should be in a W shape on the ball with your elbows out. Pass is made from chest and should be bounced just over ½ way between the passer and the retriever. As the ball is released, step forward to ensure more power is given.
Chest pass – Holding the ball at the chest, keep two hands behind the ball with elbows out. Push the ball in a horizontal motion and step forward as the ball is released.



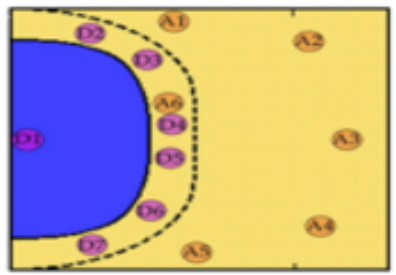
Vertical Jump Shot – This is a power and speed shot towards goal. Face the target and be on your toes. Extend your knees, transferring your body weight from low to high. Release the ball at its highest point of the jump and throw sharply downwards towards the goal.

Dribbling – Be on your toes and stand shoulder width apart. Using your fingertips, push the ball downwards, extending the shoulder and elbow and flexing the wrist. Keep your head up and the ball a maximum of 1m in front of you. Bounce the ball at waist level and repeat the technical skill to maintain the bounce.

Tactics

The most common formations can be 6:0 (six players on the goal area line), 5:1 (5 players on the goal area line, one player in front of them), 4:2, 3:2:1 (open defence), or 3:3, 1:5 (open defence).

Zone Defence is a standard tactic to ensure a team protects their area and goal. When a team loses possession, the aim to retreat and form a barrier around the area to avoid conceding a goal. Each defender protects one area of the court.



Sidestepping is a skill which can be both tactical and technical. It is an element of the attacker's basic movement. They will perform a side-step by continually moving sideways mainly across the width of the handball court dimensions to create a space for a pass or dribble.

KS3 Rugby

Rules and regulations of the game

Each game consists of **80 minutes** (40 minutes in each half) with **15 players on each team.** The aim of the game is simple - use the ball to score more points than the other team. You can run with the ball, kick it and pass it, but passing forwards is not allowed. Rugby union is a contact sport, so you can tackle an opponent in order to get the ball, as long as you stay within the rules.

There is a referee, aided by two touch judges (one on each side of the pitch), to decide how the rules should be applied during a game.

There are several ways to score points.

A try - five points are awarded for touching the ball down in your opponent's goal area.

A conversion - two points are added for a successful kick through the goalposts after a try.

A goal kick - three points are awarded for a penalty kick or drop goal through the posts.

Penalty – is given if there is an infringement of the rules

Offside - If a player is in front of a team-mate in possession of the ball, or in front of a team-mate who last played the ball, they will be offside if they:

Actively try to play the ball

Do not retreat within 10m of an opponent who is waiting for the ball

Move towards the opponents or the place where the ball lands without first coming back onside

The referee will award a penalty at the place where the offence took place.

Players and Substitutes - A team can field only 15 players at any one time. Their squad can consist of 8 substitutes/replacements- Some can come off the bench due to injuries, while others are substitutions are for tactical reasons. A team cannot substitute a player who has been shown a red card.

https://www.englandrugby.com/governance/rules-and-regulations/regulations

Key positions

Front row –a long with the hooker, the loose-head and tight-head props make up what is known as the front row.

Second row - the second row forwards (also known as locks) are the engine room of the scrum and the target men in the lineout.

Flankers - Out of all the rugby positions, they are more often than not at the centre of the action – winning balls at the ruck and maul, collecting short passes from tackled players and making their own big tackles in open play

Number eight -Support play, tackling and ball-carrying are the No.8's areas of expertise, making his or her duties similar to the two flankers. Together the trio forms a unit called the back row.

Scrum half -Acting as the link between the forwards and the backs, the scrum-half is the key rugby positions when it comes to building attacks

Fly half -The heartbeat of the side and arguably the most influential player on the pitch. Almost every attack will go through the fly-half.

Centres - The inside centre is often the more creative in a centre pairing and should be able to pass and kick nearly as well as the fly-half. Meanwhile, the outside centre tends to be the faster of the two and the ability to offload the ball quickly to the wingers is also vital.

Wingers - laying out wide on the side of the pitch, the winger is a team's finisher in the attack.

Full back -Lining up behind the entire back line, the fullback is the closest thing that rugby has to a sweeper in defence.

The image shows the variety of positions, most common on the field of play.

https://www.ruck.co.uk/rugby-positions-roles-beginners/

Tactics

Developing tactics requires a thorough understanding of your team's strengths. These tactics will be in part forward dominated and power based, and also reliant on the creation of space and use of pace. As important, is an awareness of the team and individuals you're up against - and the tactics they are likely to employ.

Using power

Using the physical strength of the forwards, in scrums and rolling mauls, can result in significant territory gain. Forward players can 'pick and drive' (gather the ball and take it forward with the support of team mates) until the moment is right to release it to the backs.

Creating space

For all its many complexities, Rugby remains a simple game in essence. Points will be scored when a player is put into space and when an attacking team out-numbers those in defence. As such, Rugby's holy grail lies in the creation of space. There are many tactics geared towards this, but primarily it's about winning quick ball to move the passage of play away from a concentration of players whilst injecting pace and creativity in attack to make space for a player to score.

https://passport.worldrugby.org/?page=beginners&p=18

Key Skill

Passing - Hold the ball in front of your body in two hands with fingers spread on either side.

- To pass left– right hand for power (towards back of the ball) and left for aim (towards front of the ball). Keep power arm high (elbow up) for accuracy and distance.
- Fluid motion to release the ball with arms swinging like a pendulum in front of the body, first away from then towards the intended target. Follow through with the hands pointing towards the receiver at point of release.
- Players should nearly always look to carry the ball in two hands, ready to pass to supporting players either side of him/her.
- Receivers should always have their hands up which is the target for the passer.

Rucking - ruck is a phase of play where one or more players from each team, who are on their feet, in physical contact, close around the ball on the ground

- Get low by dropping the hips when approaching the ruck.
- Keep your head up and back straight, and look at the target.
- Drive into the target, forward and up.
- Shorten your stride as you approach the ruck
- Drop your hips to get low, don't bend your back.
- Keep your eyes on the target and drive beyond the ball.

Tackling - A rugby tackle is quick, simple, and safe if you keep your head up and lead with your shoulder. A good tackle has several components, and mastering them will prevent injuries and bring down opponents with ease:

- Start in an athletic position, on your toes to adjust to the attacker's movement.
- Lead with your shoulder, driving it into their thigh or stomach.
- Keep your head up, tucking it along the butt of the attacker.
- Wrap your arms around their thighs, squeezing in to take them off balance.
- Let your momentum carry your shoulder through them, using your arms to squeeze" them to the ground with you.

Maul - A maul occurs when three or more players, including the ball carrier and at least one other player from either side, are in contact together.

- What makes the maul different to the ruck is that the ball is not on the ground but in hand.
- Players joining the maul must have their heads or shoulders no lower than their hips and must have at least one arm bound to a team-mate.

Definitions and Key terminology

Attack - move the ball forwards in order to score
Conversion - kick for goal after scoring a try, for two extra points
Drop goal - drop kick through the goalposts during normal play, worth three points
Drop kick - kick in which the ball is dropped to the ground before being struck with the foot
Forward pass - illegal pass thrown to a position ahead of the player who threw it
Foul - an infringement of the laws; illegal play
Try line - line at each end of the pitch on which the goalposts are erected
Knock-on - foul of knocking the ball forward, towards one's own goal
Line-out - formation of forwards into which the ball is thrown to restart play after the ball goes into touch
Maul - convergence of players around a ball carrier to push him and the ball forward
Obstruction - foul of obstructing a player by blocking, tripping, shirt-pulling, etc.
Pass - throw of the ball to a team-mate
Penalty kick - free kick awarded by the referee that can be used to kick for goal
Place kick - kick taken by placing the ball on the pitch, stepping back and then moving in and kicking it
Ruck - pack of linked players that forms over a ball to push the opposing team backward and gain control of the ball
Scrum - players from one team link arms, bend over and push forward against a similar group from the opposing side
Tackle - stop a player from running with the ball by wrapping arms around him and bringing him to ground
Touch - area outside the two touchlines
Touchline - one of two lines that form the long sides of the playing area
Try - act of taking the ball over the try line and grounding it to earn five points
Try line - line at each end of the pitch on which the goalposts are erected
Yellow card - card shown to a player being cautioned and sent off the pitch for ten minutes

KS3 Badminton

Rules of the game

1. The shuttle cock must be served diagonally.
2. The side that wins the rally is awarded the point.
3. If server wins point they continue to serve until a point is lost.
4. Serving is alternated between opponents when server loses a point.
5. First to 21 points wins, if 20-20, the side that gets 2 clear points wins, if 29 all first to 30 wins.
6. The shuttle must always be served diagonally and the serving side will depend on you own score. If your score is an odd number you serve from the left, if it is an even number you will serve from the right.
7. A point will be given to the opposing side if the net is touched by the racket or person.

Key positions

To always position yourself in the middle of the court after you make your shot (dominate the T)

In doubles you need to make a decision whether you are playing front and back or side to side. With front and back, when serving stay front and when receiving stay where the opposition has aimed the shuttle cock e.g. stay back if long serve or front for short serve.

https://web.mst.edu/~ima/rules/Badmintonrules.html
Rules of the game video - https://www.youtube.com/watch?v=UyLli-TbcFc

Court markings

Below shows where you must serve from and what parts of the court are in and out on serve.

It also shows what parts of the court are in and out during a rally (after serve) in singles and doubles.

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

Tactics

The basic strategy is to apply maximum movement pressure to your opponent.

The central base position – always take the central position after each shot

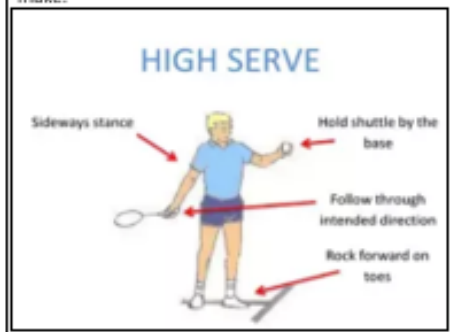
Hitting the corners – aim for corners on side of the court to get opponent out of position.

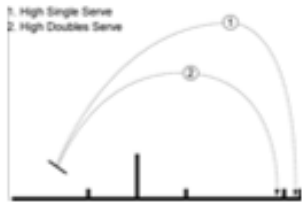
Hitting to the body – make it difficult for opponent to return an effective shot.

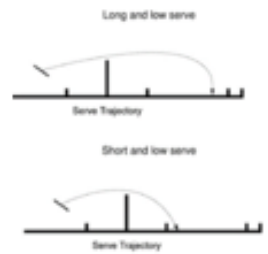
Building shots – don't try and win the point straight away, get your opponent out of position on the court to allow you to attempt a winning shot.

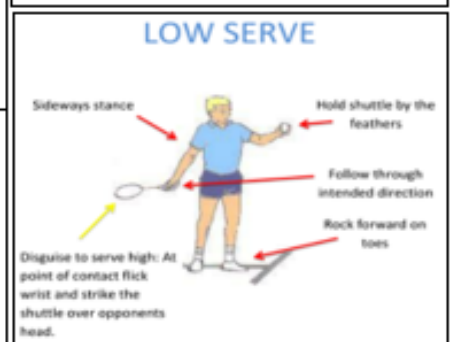
Winning shots – use when appropriate during a rally.

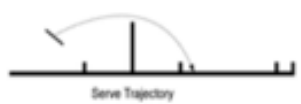
Using deception – to outwit your opponent so they don't know what shot you are going to make.











Key Skills

Serving - Stroke used to put the shuttlecock into play at the start of a rally either long or short.

Overhead clear - A shot hit deep to the opponents back boundary line. The high clear is a defensive shot.

Underarm clear - A shot hit deep to the opponents back boundary line. The high clear is a defensive shot.

Overhead smash - Hard-hit overhead shot that forces the shuttle sharply downward. Badminton's primary attacking stroke.

Drop shot - A shot hit softly and with finesse to fall rapidly and close to the net on the opponent's side.

Positioning – be able to put you opponent to a certain area of the court to open the area to win with your next shot e.g. overhead clear to back of the court then use a drop shot at the front.

Definitions and Key terminology

Fault- A violation of the playing rules, either in serving, receiving, or during play.
Let- A legitimate stoppage of play to allow a rally to be replayed.
Rally- Exchange of shots while the shuttle is in play.
Shuttlecock - Official name for the object that the players must hit.
Clear – A high and deep shot to the back of the court.
Love – The score at the start of the game or where a player has not scored a point.
Smash – A fast and hard shot from above the head to force the shuttle downwards to the floor.
Singles – Game involving 2 players in a 1v1 match
Doubles – Game involving 4 players with 2v2 on the court.

Links to other sports and transferable skills

Teamwork, Leadership, Resilience, Respect, Spatial awareness, Verbal communication, Coordination, Agility, Reaction time

Going the extra mile activities.
Here are some great ideas to do with family to avoid boredom that go above and beyond during the next half term.

The Arts	IT	DT	English and Drama	Humanities	PE
Create a Christmas play for you and your friends to work on over the internet. Make it hilarious.	Can you create a piece of spreadsheet art?	Research what different kinds of materials plumbers use. Why is copper used for some pipes and plastic for others? What sort of plastic is used?	Watch one of the briefings by the government. What makes a good information giving speech? How is it being delivered? Make your own.	Create a detailed plan to make the world more economically equal when we are all back to normal. Share it with anyone you can get to listen.	Create a new lockdown Olympic Sport. With the cancellation of Tokyo, your sport needs a name, at least 3 rules and a list of equipment needed.
Develop an observational humour stand up show. Watch how comedians tell a story. Think about their delivery and how they make it look like they have just had that thought. Try it.	Advise your family members on how to keep safe on line. Explain to them how scammers try to steal their money.	Design a meme. One that is informative but also can make someone laugh.	Devise a political protest speech outlining your objection to something political e.g. children's suffrage or the tyranny of schooling.	In 1917 Russia had a great revolution. What would a great revolution look like in 2027? What would be the similarities and differences if Year 9 were in charge?	Get family members to play even by TEAMs or Zoom! Send it to the organisers of the Quarantine Olympics to include it in the next games!
Watch a performance by an artist you love – many are on Instagram or YouTube. Evaluate the difference between a live performance and a studio edit.	Write out all the instructions required by a human to get up and ready for home school each day. Be as specific as you would be with a computer.	Make an interesting paper model. Do some origami research to find something fascinating to attempt.	Think about the points that agree and disagree with the following statement: There should be no democracy. We should have an overlord who makes all the decisions.	Why are we fascinated by crime? What makes Jack the Ripper such an interesting topic? Find out why if you can!	Create a diary of your physical activity each week. This could be a simple grid or list of activities.
Make a playlist that means something to you. Share it with friends and explain why it matters to you.	Think about how we can avoid mental health problems and remain connected online. Explain it to your family and make a plan.	Invent a new recipe and test it. Evaluate it compared to commercial products.	Think about a film you have watched recently. Imagine you had control of the story from half way through. How would you develop it?	How can we be greener as a society using technology? Create an infomercial advertising a product.	Think about what exercise or activity you completed, how long did you exercise for and how you felt during and after the activity.