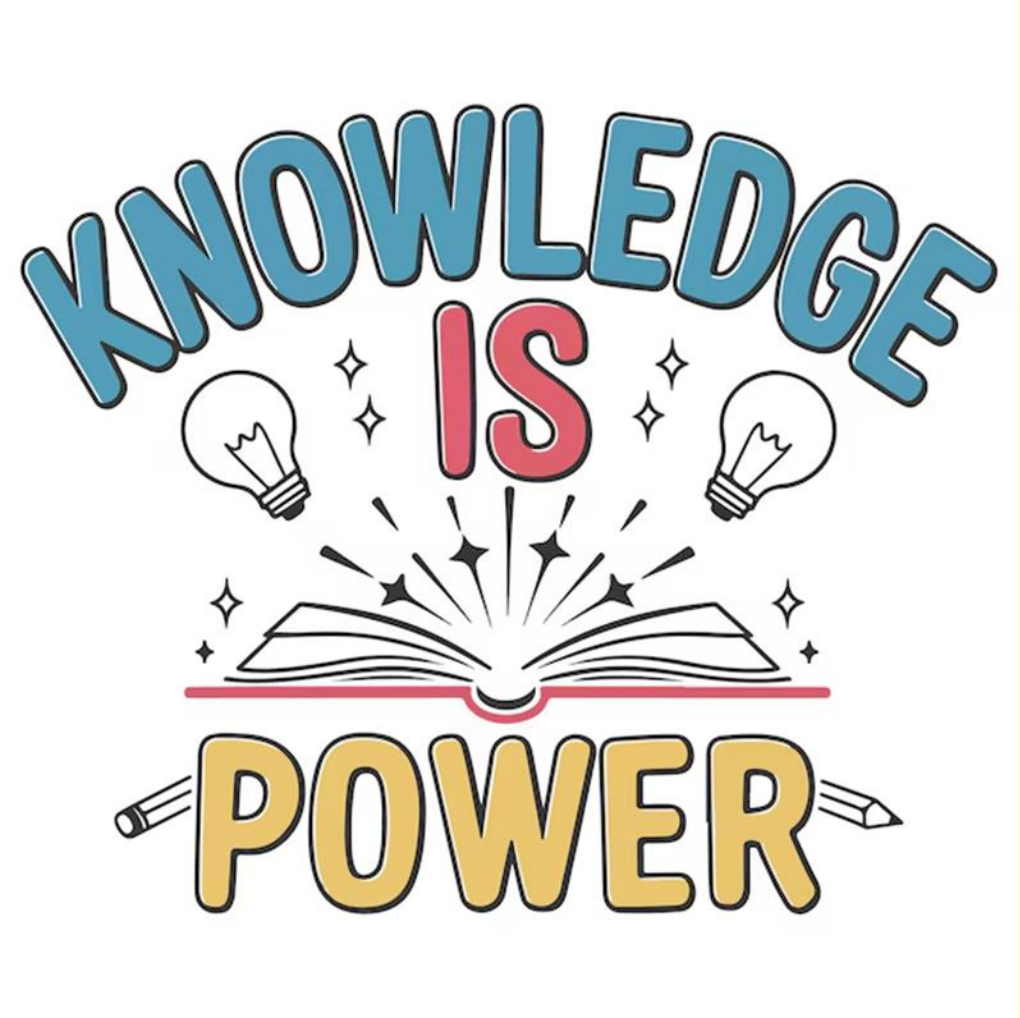
Open Academy Year 8 Knowledge Organiser

Autumn Term 1



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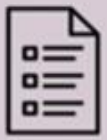
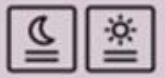
How to use your Knowledge Organiser: Step by step guide

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

Year 8- Art: Topic – Van Gogh

We study the artist Vincent Van Gogh after half term in Year 8 and his use of mark making and pen and ink to inspire our own landscapes. The tasks below link with the work in school.

How would you describe 'Starry Night' to someone who can't see it?

How is this picture different from real life?

In the box below make a study of Van Gogh's 'Starry night'. Make a study of just one part of the image but try and add as much detail as you can. It is suggested that you should draw out the basic shapes of the landscape with pencil then add the detail with ink.

You should aim to spend at least 30mins on this drawing.

Choose a view from somewhere around your home – this could be:

- A view through a window
- A view through a door
- A view of your garden

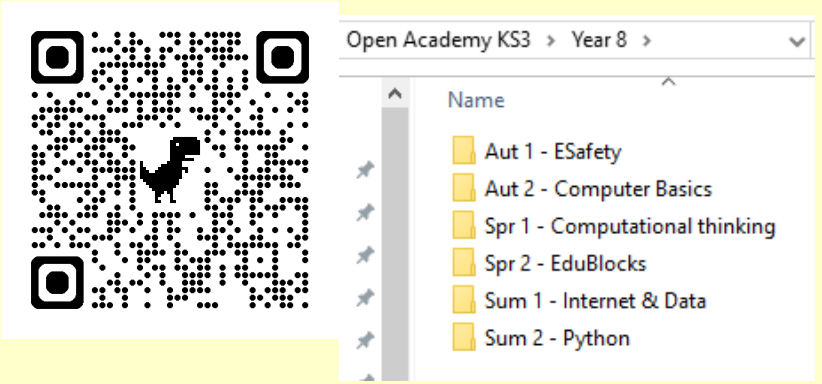
Make a detailed drawing of the scene using pencil or pen to show the different textures and surfaces.
Try to work in a style similar to the one Van Gogh has used in this drawing of a garden. He has used his pen to create many different marks.

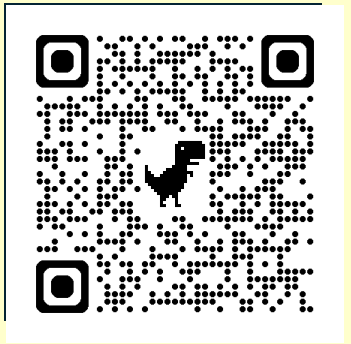
Year 8 Computer Science: Topic - E-Safety

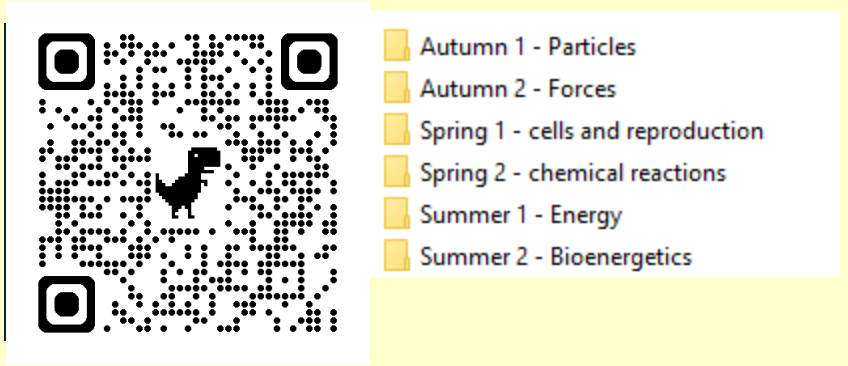
Trolling and Bullying – Don't reply to bullies, try and be aware of posts which are designed to *flame* the readers. Report and screenshot where possible.

E-safety and digital footprint. Be aware of what content you are posting online and how this can affect you in the future. All digital content is saved!

File management – Save files in correct places called folders and give them appropriate names so you can find them in the future





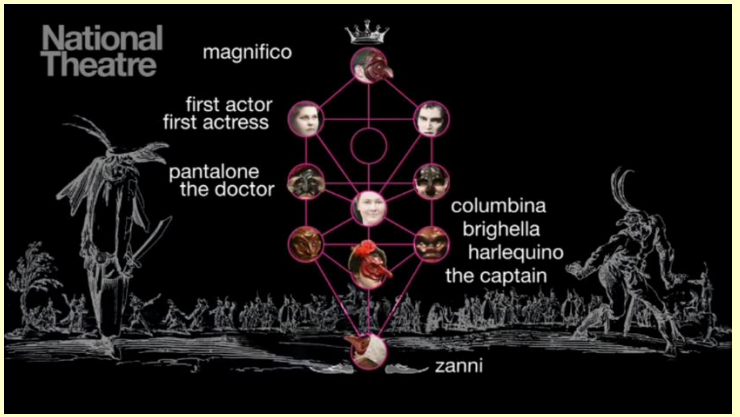


Key Vocabulary:
Trolling
E-safety
Report
CEOPS
Digital Footprint
Cookies
Cyberbulling

Key Questions:
How can you help a friend who is being cyberbullied?
What is the best way to silence an internet troll?

Year 8 Drama: Topic 1 – Commedia Dell'Arte

Commedia dell'arte began in the 16th century. It was a popular from of street theatre based on improvised scenarios between stock characters. These characters were universal types of masters, servants and lovers



Commedia dell'arte is a very physical as many of the characters wear masks their facial expressions can't be seen be the audience. As a result the actors must rely more on their bodies to be understood.

Stock Character(s)	Status	Costume
Arlecchino/ Harlequino	Servant (sometimes to two masters)	Colorful tight-fitting jacket and trousers
Il Dottore/ The doctor	Head of the household	Black scholarly robe
Il Capitano	Indigent loner	Military uniform
Innamorati	High-class hopeless lovers	Nicely dressed on par with the time
Pantalone	Older wealthy man	Dark capes and red trousers
Colombina	Perky maid / servant	Can be colourful on par with Arlecchino or black and white

Key Vocabulary

Improvisation – Making it up on the spot.
Clocking the audience – Stopping and looking straight at the audience.
Slapstick Comedy – Mild violence for comic effect.
Stock characters – Instantly recognisable characters
Lazzi- an improvised scene added for comic effect..
Gromalot – Nonsense babble speech

Year 8 English: Topic – Lord of the Flies

Summary

Year 8 starts with a classic novel, Lord of the Flies. A group of boys are stranded on an island without adults. Initial optimism and excitement gives way to fear, suspicion and violence.

Like Animal Farm last year, we read the novel as an allegory. Golding explores what happens to human behaviour when moral codes and society's rules are absence. Written against a backdrop of war, his suggest savagery is innat in humankind.

Why am I learning this?

As we saw with Animal Farm, our great novels ask questions about society and humankind. As we develop our exploration of language and abulity to use context, we are encouraged to consider how different audiences might respond to texts. Written over 70 years ago, how has our response to the events in the story changed? Where we find similarities, we are encouraged to question the world around us.

Tasks:

1. As we develop analysis, it helps to keep track of themes in the novel. Read a chapter and list quotes that relate to that theme.
2. Read a chapter before making a prediction for the next one. Explain and justify your reasons.

Be ambitious:

This course is a good opportunity to revisit psychoanalysis. The super-ego is based on society's codes of behaviour. This novel is set in a world where those rules have been removed and changed. How can you see the character's influenced by their id, ego and super-ego?

Technical Vocabulary

Exposition – The early stage of a story where key themes, characters and genre is established.

Dystopia – A setting or world which is a bad place, often ruled as a dictatorship.

Juxtaposition – The deliberate placing of two things next to or near each other to compare.

Symbolism – Using symbols or icons to represent an idea.

Zoomorphism – Giving animal qualities to non-animal things. Can create a wild or unsettling effect.

Use these in analysis to show awareness of the author's methods. Remember to explain their effects.

Ambitious Vocabulary

Anarchy – Living outside of rules, amongst chaos.

Corrosion – The breakdown of something, for instance behaviour.

Irrational – Unexplained or illogical behvaiour or responses.

Morality – A question of behaviour and distinction between right and wrong.

Nihilism – The rejection of moral and religious principles.

Tribalism – A policy of being loyal to your group leading to division and conflict.

Voracious – An intense need or appetite.

Try to use the ambitious vocabulary in your writing and analysis.

Year 8 Food Technology – Topic: Health and Safety

Micro organisms need 5 conditions to grow and multiply:

1. A warm temperature
2. Plenty of moisture (water)
3. Plenty of food
4. The right PH level (not too acidic or alkaline
5. Enough time (bacteria split every 10-20 minutes)

High risk foods

- High risk food have ideal conditions for bacteria
- High risk foods are ready to eat foods that could grow harmful bacteria
- They are moist and high in protein which is food for bacteria.
- High risk foods have a short shelf life – you can't keep them for long or the bacteria might multiply to dangerous levels.

Examples of high-risk foods:

Cooked meat, fish and poultry, dairy products (eggs, cheese etc.), gravies, stocks and sauces, shellfish, cooked rice.

Wash your hands after:

- Coughing/ Sneezing
- Blowing your nose
- Tying shoelaces
- Going to the toilet
- Touching hair or face
- Touching pets
- Touching the bins

Preparing self for cooking

- Tie hair back to prevent hair and dandruff falling in food
- Take off coats and blazers
- Wear an apron to prevent bacteria transferring from our clothes to our food
- Wash hands with hot soapy water to kill bacteria

Preparing the room for cooking

- Sanitise all work surfaces
- Check equipment is clean and dry
- Tuck all stools in as they can be a trip hazard
- Put all high-risk foods in the fridge to slow bacteria growth

Key Vocabulary

Apron
Bacteria
Chilling
Cooking
Danger
Equipment
Freezing
Hazard
Hygiene
Prepare
Sanitise
Temperature
Wash

Example exam questions

What are the five conditions that bacteria needs to multiple? (5 marks)
Explain the term danger zone. (2 marks)
Explain why chicken must be stored in the fridge or freezer (3 marks)
List 5 times you must wash your hands during cooking. (5 marks)
How can you safely prepare and cook a chicken burger and salad. (4 marks)

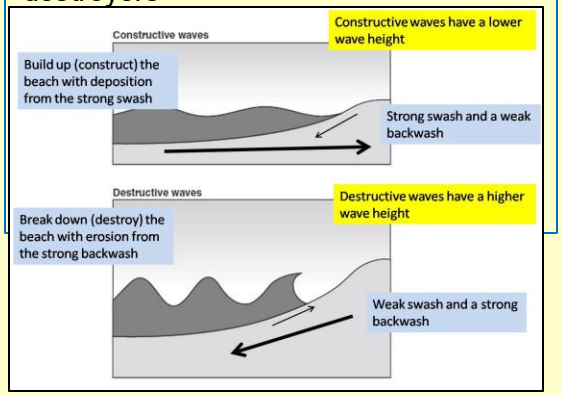
Year 8 Geography – Topic: Coasts

Coastal landscapes

The UK has an amazingly diverse coastline, from huge port cities to empty golden sandy beaches. Norfolk has an incredibly beautiful lowland coastline which attracts a number of tourists, wildlife watchers, fishermen, wind farm companies etc.

2 main Wave types

Constructive – low waves 'beach builders'
Destructive – high waves 'beach destroyers'

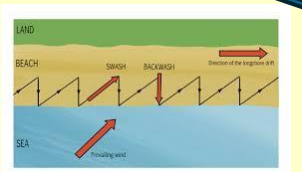


Coastal erosion

Coasts are under attack at the base from wave erosion and at the top from processes like 'weathering'. This impacts on people and the environment.
Erosion includes 4 main types:
Hydraulic Action – wave power
Abrasion – wave sediment is thrown at cliffs
Corrosion – sea water corrodes some rock types
Attrition – rocks bash together and become smaller and rounder over time

Headlands and Bays

Stronger, more resistant rocks erode slowly, weaker less resistant rocks erode quickly. This produces 'Headlands' and 'Bays'.



Spits

Constructive waves are blown in at an angle, Longshore drift occurs. This zig-zag movement deposits sediment along the beach, producing spits at river mouths and bays made up of sand and shingle.

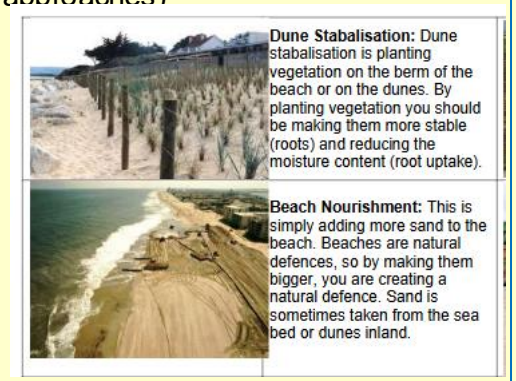
Coastal management and defence

Coastlines are being eroded by storm action from destructive waves and rising sea levels.

Humans can defend the coastline from erosion in 2 main ways:

Hard engineering: (Man-made, large structures)

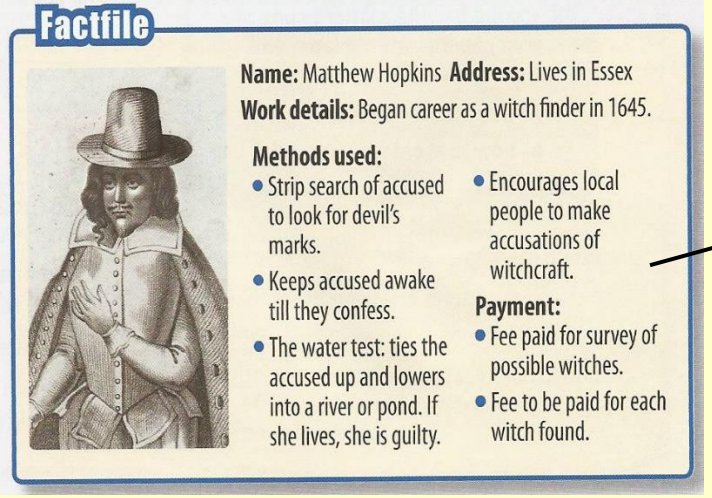
Soft engineering: (Natural approaches)



Key Vocabulary

- ❑ Erosion
- ❑ Hydraulic Action
- ❑ Abrasion
- ❑ Weathering
- ❑ Geology
- ❑ Destructive Waves
- ❑ Constructive Waves
- ❑ Stacks
- ❑ Longshore Drift
- ❑ Insurance
- ❑ Compensation
- ❑ Homelessness
- ❑ Tourism
- ❑ Revetments
- ❑ Nourishment
- ❑ Managed Retreat
- ❑ Gabions
- ❑ Breakwater
- ❑ Tidal Barrage

Year 8 (History): Topic – Tudor Society & Witches



The Elizabethans passed Poor Laws to give help to the sick and the old but there were harsh punishments for 'sturdy beggars'; Physical mutilation and execution by hanging!

Many people, mainly women, were accused and executed for witchcraft in the 16th and 17th centuries. People struggled to understand the world around them. Religious and superstitious beliefs influenced ideas that "witches" were to blame for bad things that happened to them.

During the 16th century the living standards of many people improved. Many farmers were able to sell their produce at higher prices than before and could afford to rebuild their farmhouse and even amongst those less well off, the fear of famine was less. By 1600 this had changed and there were more poor people than ever before:

- Population: This went up quickly and there was less food
- Inflation: Prices started to go up
- Unemployment: There were less jobs as the farming industry changed from crop to sheep farming
- Henry VIII had shut the monasteries so there was less help for the poor

This led to increased begging and a divide between the 'impotent poor' (deserving poor; wanted to work but couldn't as too old or sick) and those who were poor and were turning to crime (the Tudors nicknamed these people Vagabonds)

Key Vocabulary

Vagabond/sturdy beggar - A person who wanders from place to place without a home or job
Class - A group of people with the same economic or social statues
Familiar - A demon, in the form of an animal that accompanies a witch
Superstitious - Someone who believes in omens and ghosts
Reformation - The action or process of changing something
The English reformation - the Church of England breaks away from the authority of the Pope and the Roman Catholic Church

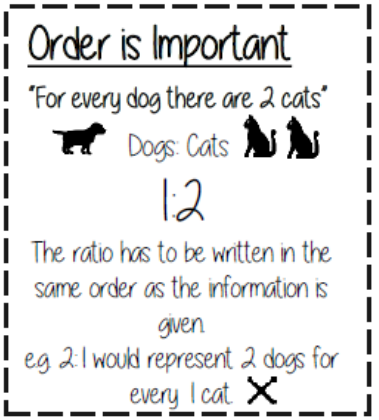
Year 8 Unit 1 – Ratio

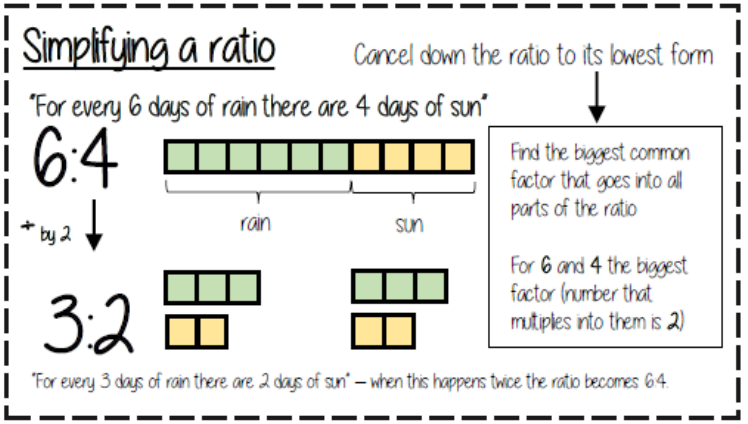
What do I need to be able to do?

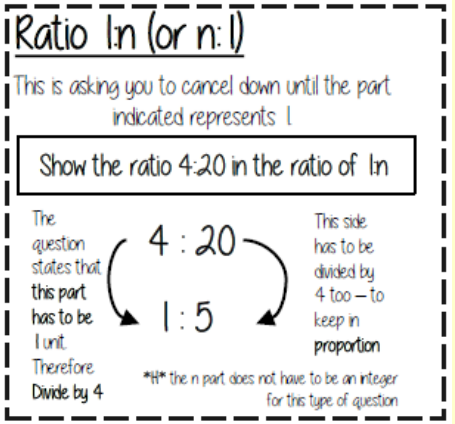
- Simplify any given ratio
- Share an amount in a given ratio
- Solve ratio problems given one part
- Express ratio in the form 1:n
- Convert between ratios and fractions.
- Calculate circumference of circles using pi as a ratio

Vocabulary

Circumference: the distance around the outside of a circle
Diameter: the distance from one side of a circle to the other passing through the centre
Equal Parts: all parts have been shared equally in the same proportion
Equivalent: of equal value
Factors: numbers that multiply together to make the original number
Part: a section of a whole, represented as a box in a ratio
Proportion: a statement that links two ratios
Radius: the length from the centre of a circle to the edge
Ratio: a statement of how two numbers compare in size
Scale: the comparison of something drawn to its actual size.







Simplifying Ratio

Sharing in a Ratio

Ratio given one value

Units are important:

When using a ratio – all parts should be in the same units

Useful Conversions

mm ×10 cm ×100 m ×1000 km (÷10, ÷100, ÷1000)

g ×1000 kg (÷1000)

ml ×1000 L (÷1000)

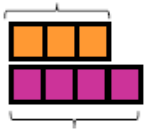
Sharing a whole into a given ratio

James and Lucy share £350 in the ratio 3:4
Work out how much each person earns

Model the Question

James : Lucy

3 : 4



Find the value of one part

Whole: £350
7 parts to share between
(3 James, 4 Lucy)

£350 ÷ 7 = £50

□ = one part
= £50

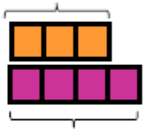
Put back into the question

James : Lucy

(×50) 3 : 4 (×50)

£150 : £200

James = 3 x £50 = £150



Lucy = 4 x £50 = £200

Finding a value given 1:n (or n:1)

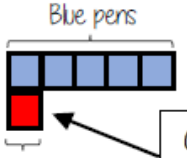
Inside a box are blue and red pens in the ratio 5:1
If there are 10 red pens how many blue pens are there?

Model the Question

Blue : Red

5 : 1

□ = one part
= 10 pens



One unit
= 10 pens

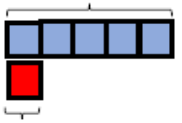
Put back into the question

Blue : Red

(×10) 5 : 1 (×10)

50 : 10

Blue pens = 5 x 10 = 50 pens



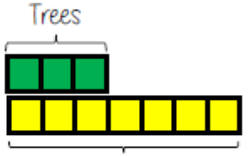
Red pens = 1 x 10 = 10 pens

There are 50 Blue Pens

Ratio as a fraction

Trees : Flowers

3 : 7



Ratio

There are 3 parts for trees

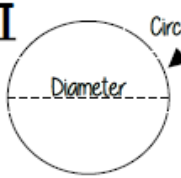
Fraction of trees

Number of parts of in group / Total number of parts = 3 / 10

Fraction

Tree parts 3 + Flower parts 7 = 10

Pi π



The ratio of a circles circumference to its diameter

Ratio/Fractions

Unit Conversion

Problem Solving

Circumference

A job that relies on Ratio and Proportion

Nutritionist

Nutritionists provide information on food and healthy eating and can work in a range of areas, including in public health, in education and research. They work with people who are ill or who suffer from allergies, malnutrition or diabetes, but they also work with people who are healthy. They often work in Hospitals. ,Schools, Universities, Food manufacturers and in the Sports industry

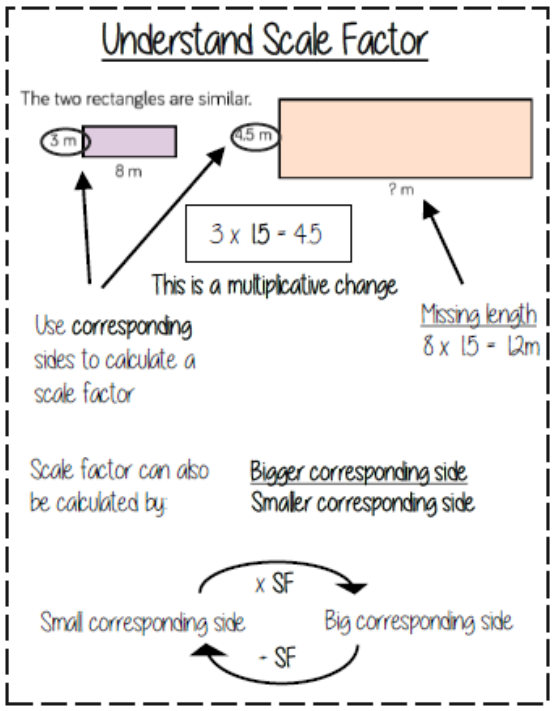
Year 8 Unit 2 – Multiplicative Change

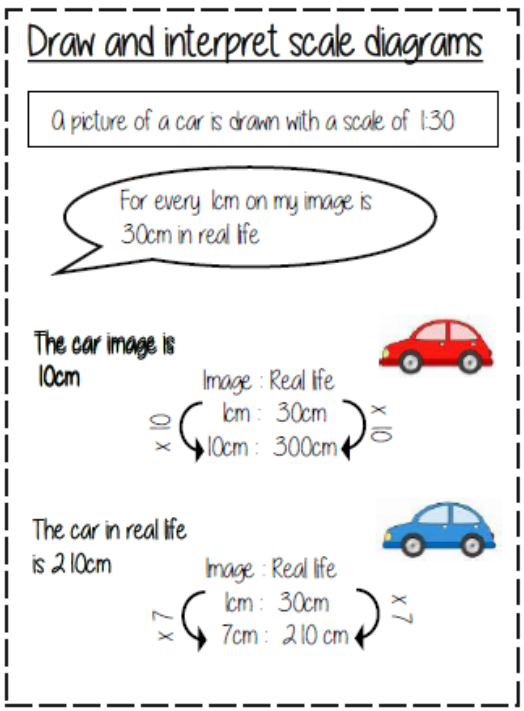
What do I need to be able to do?

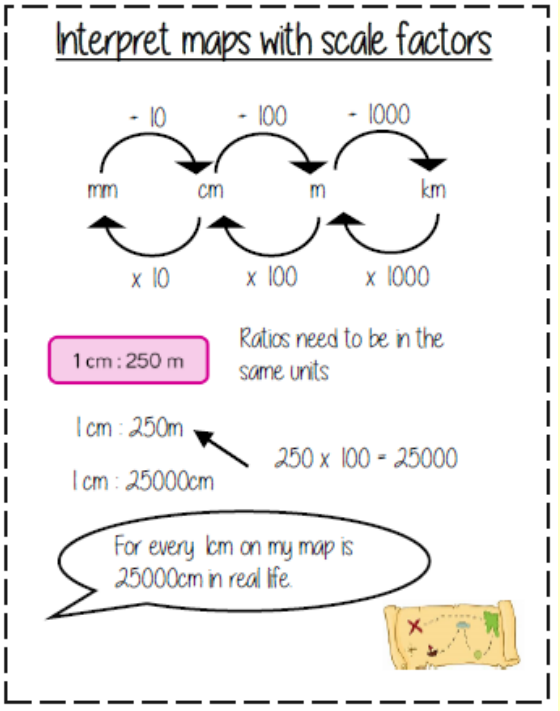
- Solve proportion problems using the unitary method to find the price of one item
- Use conversion graphs
- Use scale factors for similar shapes
- Use exchange rates to convert between different currencies
- Use scale diagrams

Vocabulary

Approximation: an estimate for a value, not calculated exactly
Axes: horizontal and vertical lines that a graph is plotted around
Conversion: the process of changing one variable into another
Currency: the system of money used in a particular country
Exchange Rate: the multiple used to turn one currency into another
Proportion: a statement that links two ratios
Scale: the comparison of a drawing compared to its real size
Scale Factor: the multiple that increases/decreases a shape in size
Variable: something that's value can be changed
Unitary Method: the process of finding the cost for one item to help you find the cost of more items.







Maps

Scales

Similar Shapes

Direct Proportion

As one variable changes the other changes at the same rate.

This is a multiplicative change

4 cans of pop = £2.40

4 cans of pop = £2.40 → (x 3) → 12 cans of pop = £7.20

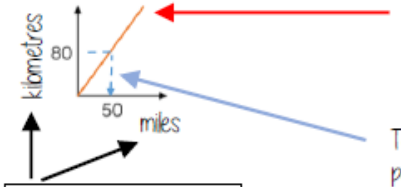
4 cans of pop = £2.40 → (x 0.5) → 2 cans of pop = £1.20

This multiplier is the same in the same way that this would be for ratio

Sometimes this is easiest if you work out how much one unit is worth first
e.g. 1 can of pop = £0.60

Conversion Graphs

Compare two variables



Labelling of both axes is vital

This is always a straight line because as one variable increases so does the other at the same rate

To make conversions between units you need to find the point to compare – then find the associated point by using your graph
Using a ruler helps for accuracy
Showing your conversion lines help as a "check" for solutions

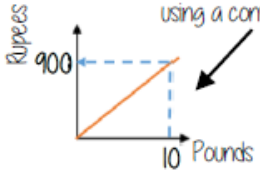
Conversion between currencies

£1 = 90 Rupees ← Currency is directly proportional

For every £1 I have 90 Rupees

£1 = 90 Rupees → (x 10) → £10 = 900 Rupees

Currency can be converted using a conversion graph



Convert 630 Rupees into Pounds

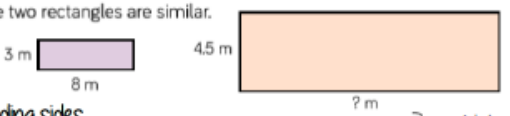
630 ÷ 90 = 7

£1 = 90 Rupees → (x 7) → £7 = 630 Rupees

Ratio between similar shapes

Angles in similar shapes do not change.
e.g. if a triangle gets bigger the angles can not go above 180°

The two rectangles are similar.



Corresponding sides

3m : 4.5m → (÷ 3) → 1 m : 1.5 m

8m : 12m → (÷ 8) → 1 m : 1.5 m

Note
Simplify to the same ratio

Direct Proportion

Conversion Graphs

Exchange Rates

A job that relies on proportion:

Surveyor

Surveyors estimate property boundaries for construction projects. They also provide useful data for mapmaking, mining, and legal purposes. Surveyors measure land features, such as depth and shape, based on reference points. They examine previous land records to verify data from on-site surveys. Surveyors also prepare maps and reports, and present results to clients.

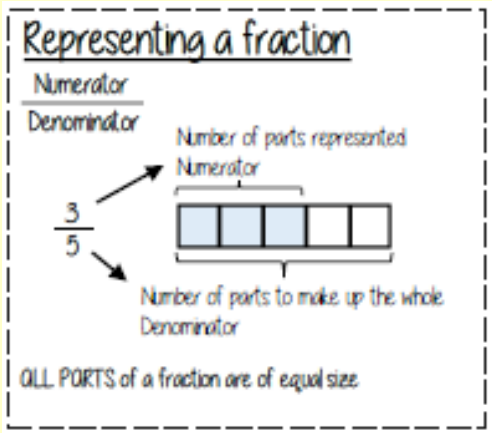
Year 8 Unit 3 – Multiplying and Dividing Fractions

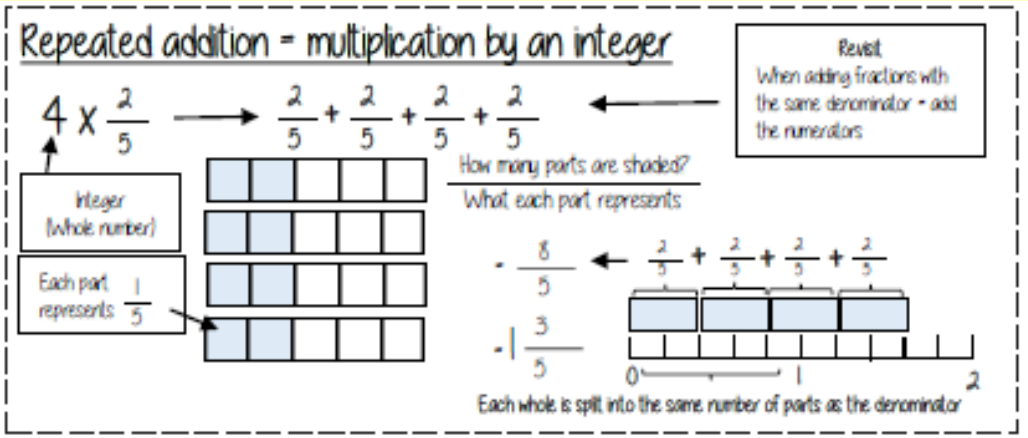
What do I need to be able to do?

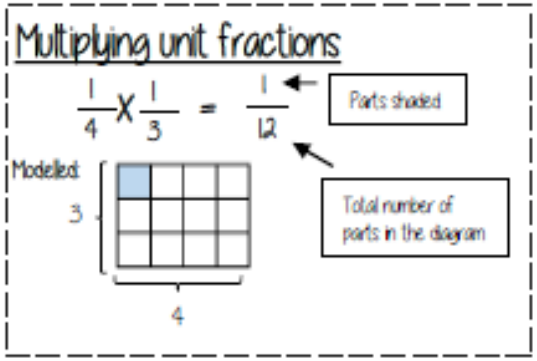
- Multiply two fractions
- Multiply a fraction by an integer
- Divide two fractions
- Divide fractions and integers
- Convert between mixed numbers and improper fractions

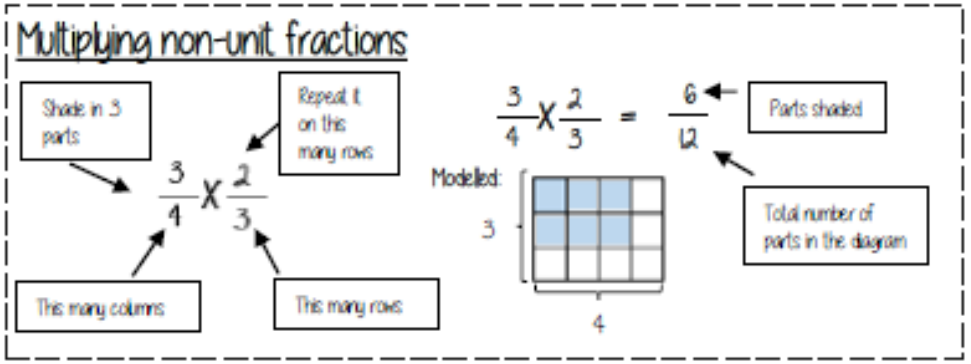
Vocabulary

Commutative: an operation where changing the order does not change the result
Denominator: the bottom number in a fraction
Integer: a whole number without any decimal
Improper fraction: a fraction where the numerator is greater than the denominator
Mixed Number: A number with a whole part and a fractional part
Numerator: the top number in a fraction.
Reciprocal: a pair of numbers that multiply to make one.
Unit Fraction: a fraction where the numerator is one.
Whole: a positive number including zero without any decimal or fractional part









Representing Fractions

Mixed Numbers and Improper Fractions

Multiplying Fractions

Quick Multiplying and Cancelling down

$\frac{1}{\cancel{5}} \times \frac{4}{\cancel{4}\ 3} = \frac{4}{15}$

The 5 and the 4 have a common factor and can be simplified

Quick Solving

Multiply the numerators

Multiply the denominators

$\frac{1 \times 4}{5 \times 3} = \frac{4}{15}$

The reciprocal

When you multiply a number by its reciprocal the answer is always 1

$3 \times \frac{1}{3} = 1$

$\frac{1}{3} + \frac{1}{3} + \frac{1}{3} = 1$

The reciprocal of 3 is $\frac{1}{3}$ and vice versa

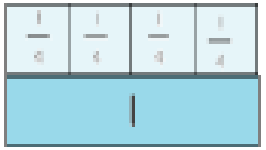
Reciprocals for division

e.g. $5 \div \frac{1}{4} = 20$

$5 \times 4 = 20$

Multiplying by a reciprocal gives the same outcome

Dividing an integer by an unit fraction



$1 \div \frac{1}{4} = 4$

How many quarters are in 1?

"There are 4 quarters in 1 whole. Therefore, there are 20 quarters in 5 wholes"

$5 \div \frac{1}{4} = 20$

Dividing any fractions

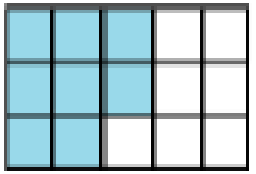
Remember to use reciprocals

$\frac{2}{5} \div \frac{3}{4}$

$\frac{2}{5} \times \frac{4}{3}$

Multiplying by a reciprocal gives the same outcome

Represented



$= \frac{8}{15}$

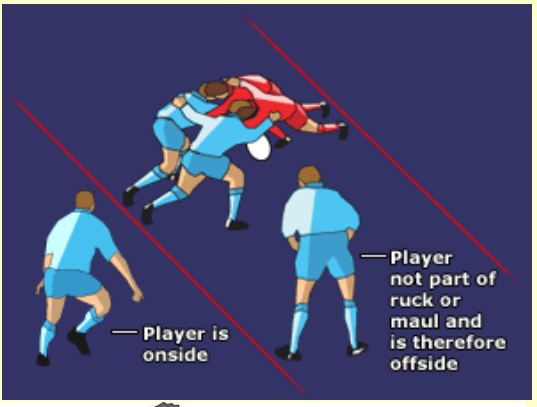
A job that relies on number: **An accountant**

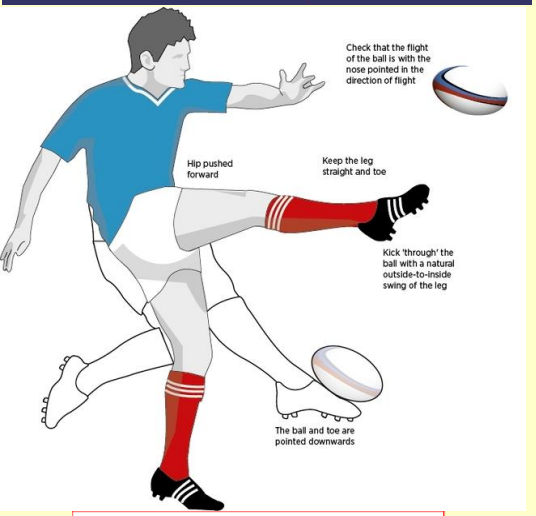
An accountant is someone who studies and keeps track of financial information. Businesses and other organisations need accounting systems to know if they are making money. Sometimes, individuals also need accountants to help them manage their money. Accountants prepare financial statements, study costs, calculate taxes, and provide other information to help make decisions about how to spend and save money. Accountants need to be very good at math, have strong organisational skills, and pay close attention to details.

Reciprocals

Dividing Fractions

Year 8 Physical Education – Topic – Rugby





Rules of The Game

Key skills

Developing passing

Is being able to understand and accurately replicate the scissors & miss pass, and how to receive it and to create and develop varying strategic ways of getting passed defenders. Performing skills in a small sided game with pressure from opposition.

Develop tackling technique

Is being able to develop an understanding & knowledge of tackling technique and safely replicating the correct technique on advancing opposition and understanding the rules regarding tackling within the game.

Kicking

Is being able to perform the correct kicking technique from the ground and out of hand with control and accuracy. This includes beginning to combine the use of passing and kicking to outwit opponents and understanding when to use the kick and the advantages gained from it.

Tactical play/outwitting opponents

Is developing knowledge and understanding of strategic play used to outwit opponent and to be able to change and refine tactics based on the analysis of certain plays and opposition.

Ruck

A ruck typically evolves from a tackle situation and can develop into an effective method of retaining or contesting possession. A ruck can commit defenders, therefore creating an opportunity to create space. On formation of the ruck, offside lines are created.

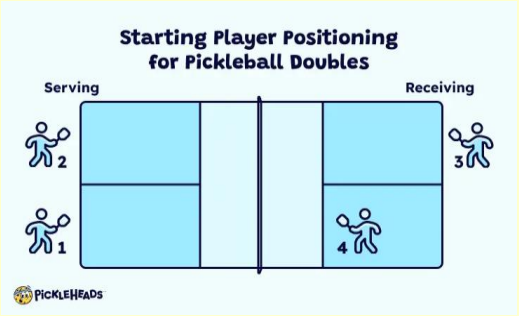
Key Vocabulary

Advantage
Backwards
Conversion
Kicking
Offside
Pass
Penalty
Ruck
Tackle
Tactical
Try

Year 8 Physical Education – Topic: Pickleball

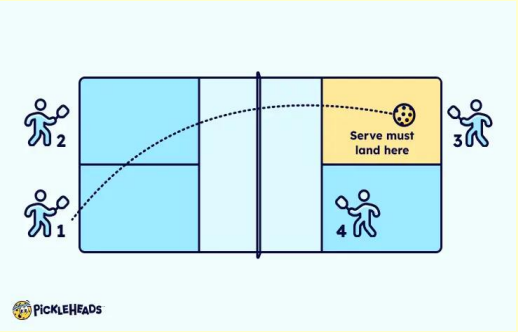
The pickleball court and serve:

first team to 11 points wins—but you must win by 2.



The pickleball game starts with a serve. The player on the right side of their court always starts the serve. You serve diagonally to your opponent.

The serve in pickleball is underarm.



Scoring:

In pickleball scoring, you'll hear players announce three numbers, like "0-0-2". Here's what each number means:

First Number	Second Number	Third Number
score of the serving team	score of the receiving team	which player of the team is serving, first server (1) or second server (2)

Let's say the game is tied at 3-3. If you start the serve, you'll announce "3-3-1", so everyone knows you are the first player in rotation serving.

If you lose the rally, the ball doesn't go to your opponents. It goes to your teammate who will announce "3-3-2".

If your partner loses their serve, a "side out" occurs. This means that they've lost their two serves and it's now their opponent's turn to serve. Their opponents then call out "3-3-1" before starting their serve.

Shots:

Dinks
Played closer to the net, these touch shots are hit into your opponent's kitchen and help keep the other team from attacking.

Volleys
These shots are hit out of the air before the ball bounces. They can only be played outside the kitchen.

Forehand/ backhand Drives
These powerful shots are hit off the bounce, often from the baseline. They are played using a forehand or backhand swing.

Key words:
Scoring
Serving
Dinks
Volleys
Forehand
Backhand
Drive

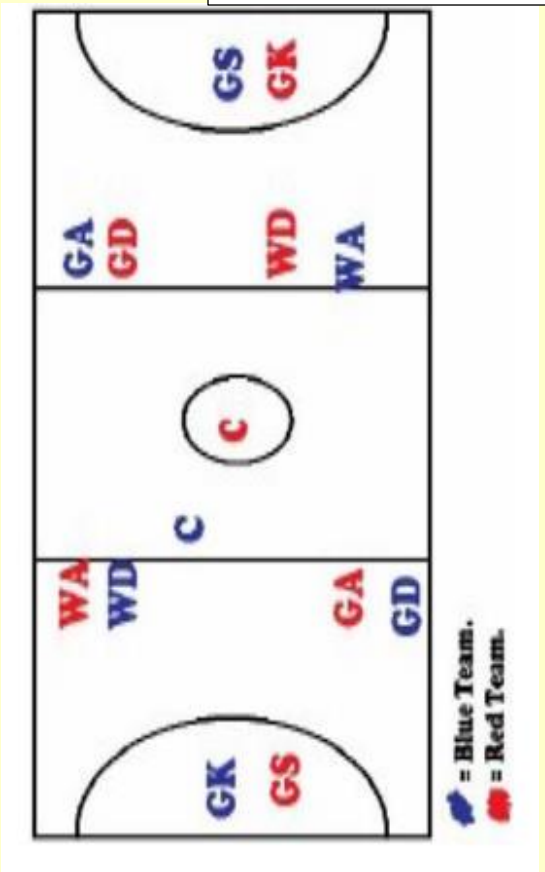
Year 8 Physical Education – Topic: Netball

Key vocabulary:

Contact
Footwork
Obstruction
Centre pass
Repossession
Offside

Penalties = Serious infringement by one player against another.

Contact or Obstruction – A penalty pass or penalty shot (in the circle) is awarded where the infringement occurred. The player who committed the penalty will have to stand out of play next to them until the ball is released.



Rules of the game:

Contact: You can't touch or push any player during the game as it is a non-contact sport, this will result in a penalty pass or if they contact you while you're in the shooting circle, you will get a penalty shot.

Footwork: If the player moves the landing foot or takes 3 steps with the ball, the other team gets a free pass.

Obstruction: You must be 1 metre away from your player you are marking before your arms go up and over the ball. If your defender is obstructing you before you shoot, you get a penalty shot.

3 seconds: You can only hold the ball for 3 seconds before you pass or shoot.

Centre pass: To start the game and after a goal is score you go back to the centre pass and players must receive in the centre third.

Repossession: if a player drops the ball or bounces the ball and picks it back up again the other team gets a free pass.

Offside: If you go into a third you are not allowed in or if any player other than GS, GK, GD, GA go into the shooting circle the other team gets a free pass.

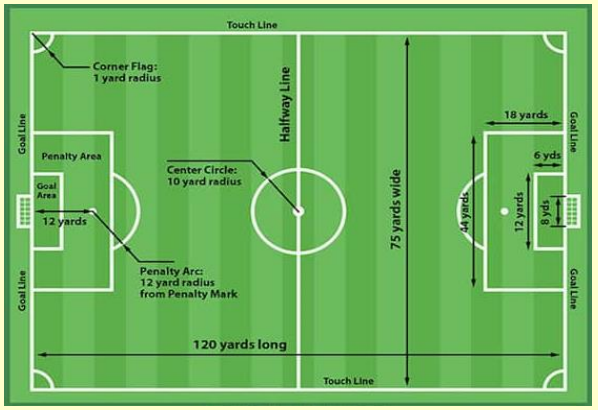
Netball positions and who they mark:

Goal Shooter (GS) – Allowed in the shooting third only – marked by Goal Keeper (GK
Goal Attack (GA) – Allowed in the shooting and centre third – marked by Goal Defence (GD)
Wing Attack (WA) – Allowed in the centre and shooting third but not allowed in circle – Marked by Wing defence (WD)
Centre (C) – Allowed everywhere except the two circle – Marked by Centre (C)
Wing Defence (WD) – Allowed in the centre and defending third but not in the circle – Marked by Wing Attack (WA)
Goal Defence (GD) – Allowed in the defending third and the centre third – Marked by Goal Attack (GA)
Goal Keeper (GK) – Allowed in the defending third only – Marked by Goal Shooter (GS)

Year 8 Physical Education – Topic: Football

Rules of The Game 11-a-side

- A match consists of two 45 minutes halves with a 15-minute rest period in between.
- Each team can name up to 7 substitute players. Substitutions can be made at any time of the match with each team being able to make a maximum of 3 substitutions per side.
- Each game must include one referee and two assistant referee's (linesmen). It is the job of the referee to act as timekeeper and make any decisions which may need to be made such as fouls, free kicks, throw ins, penalties and added on time at the end of each half. The referee may consult the assistant referees at any time in the match regarding a decision. It is the assistant referee's job to spot offside's in the match, throw ins for either team.
- If the game needs to head to extra time as a result of both teams being level in a match, then 30 minutes will be added in the form of two 15-minute halves after the allotted 90 minutes.
- If teams are still level after extra time, then a penalty shootout must take place.
- The whole ball must cross the goal line for it to constitute as a goal.
- For fouls committed a player could receive either a yellow or red card depending on the severity of the foul; this comes down to the referee's discretion.
- If a ball goes out of play off an opponent in either of the side lines, then it is given as a throw in. If it goes out of play off an attacking player on the base line, then it is a goal kick. If it comes off a defending player, it is a corner kick.



Key skills

Developed Passing - To be able to perform a pass using inside and outside of foot and understand the importance of receiving correctly.

Dribbling and Turns - To be able to perform and accurately replicate different types of dribbling with control, speed and fluency.

Develop Attack - To be able to outwit opponents using learnt skills and techniques at speed

Develop Shooting - To perform and replicate an accurate and controlled shot on goal.

Heading - To develop their understanding and knowledge of how to head the ball correctly and safely

Defensive strategies/tactics - To be able to perform and develop defensive strategies.

PRIOR LEARNING
It is helpful if the pupils have:

- Played a variety of conditioned football games
- Worked independently in small groups
- Used and applied football rules
- Some knowledge of tactics and team
- organization in football
- Developed basic football skills

Key Vocabulary

Indirect Free Kick
Direct Free Kick
Pressure
Attack
Defence
Push-up
Goal side
Play-on
Advantage

Year 8 Science: Topic: Microbiologist, Refrigeration Engineer

Key Vocabulary:
Pathogen
Vacuole
Cytoplasm
Cell Membrane
Cell Wall
Mitochondria
Ribosome
Vector
Sterilisation

Microorganisms are too small to see with the naked eye, so we use microscopes. Some microorganisms cause disease, others do not. They have unique cell structures with slime capsules and flagellas.

All matter is made of particles. These particles dictate whether or not they are a solid, liquid or a gas. Different materials melt/boil at different temperatures.

Key Vocabulary:
Particles
Kinetic
Thermal
Celsius
Condensation
Deposition
Vaporisation

Key Question:
What is a pandemic? How can we prevent the spread of malaria?

Key Question:
Why doesn't the temperature increase during a phase change?

Year 8 Science: Topic: Lab Techncian

The periodic table shows us all of the known elements. An element is a type of atom with a specific number of protons. Depending on how many outer electrons an element has depends on the type of reaction it does. We group elements based by their similar chemistry. Such as Halogens, alkali metals, and noble gasses.

Key Vocabulary:
Periodic table
Element
Molecule
Nomenclature
Period
Row
Electron
Proton
Neutron

Key Question:
What is a property of the alkali metals? What happens to the reactivity as you go down the group?

Year 7 Spanish – Topic: Mi tiempo libre – My freetime

- **Qué te gusta hacer? *What do you like to do?***
- Me gusta… *I like…*
- Me gusta mucho… *I really like…*
- No me gusta… *I don't like…*
- No me gusta nada… *I don't like at all…*
- chatear *to chat online*
- escribir correos *to write emails*
- escuchar música *to listen to music*
- jugar a los videojuegos *to play videogames*
- leer *to read*
- mandar SMS *to send text messages*
- navegar por Internet *to surf the net*
- salir con mis amigos *to go out with friends*
- ver la television *to watch TV*
- porque es… *because it is…*
- porque no es… *because it is not…*
- interesante *interesting*
- guay *cool*
- divertido/a *amusing, funny*
- estúpido/a *stupid*
- aburrido/a *boring*

¿Qué haces en tu tiempo libre? *What do you do in your spare time?*
bailo *I dance*
canto karaoke *I sing karaoke*
hablo con mis amigos *I talk with my friends*
monto en bici *I ride my bike*
saco fotos *I take photos*
toco la guitarra *I play the guitar*

Palabras muy frecuentes
High-frequency words
con *with*
cuando *when*
generalmente *generally*
mucho *a lot*
no *no*
o *or*
pero *but*
porque *because*
sí *yes*
también *also, too*
y *and*
¿Y tú? *And you?*

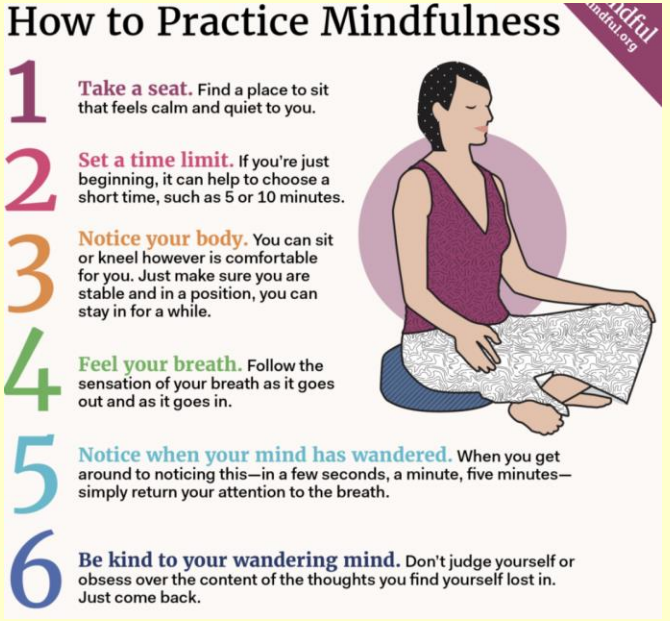
Las estaciones *The seasons*
la primavera *spring*
el verano *summer*
el otoño *autumn*
el invierno *winter*

¿Qué tiempo hace? *What's the weather like?*
hace calor *it's hot*
hace frío *it's cold*
hace sol *it's sunny*
hace buen tiempo *it's nice weather*
llueve *it's raining*
nieva *it's snowing*
¿Qué haces cuando llueve? *What do you do when it's raining?*

Expresiones de frecuencia
Expressions of frequency
a veces *sometimes*
de vez en cuando *from time to time*
nunca *never*
todos los días *every day*

Year 7 Wellbeing – Topic: Meditation

Mindfulness and Meditation can help most people at times!
Our 'everyday mind' can end up full of worries about things which are no longer true or happening or fretting about what MIGHT happen in the future – even though we know it may not!
The idea is that we are more than these conscious thoughts.
Challenging things happen, we cannot avoid that, but what we think about those challenges is very much up to us
To worry and repeatedly think about difficult things can become suffering - a habit it is all too easy to fall in. The good news however is that we can avoid it! How?
When we notice that we are worrying about things - playing through possible futures like a film in our heads or imagining something going wrong, or even remembering difficult things, unpleasant experiences, **we can simply choose to bring ourselves back to the present moment, by thinking about our breathing**.
This practice comes with lots of benefits…

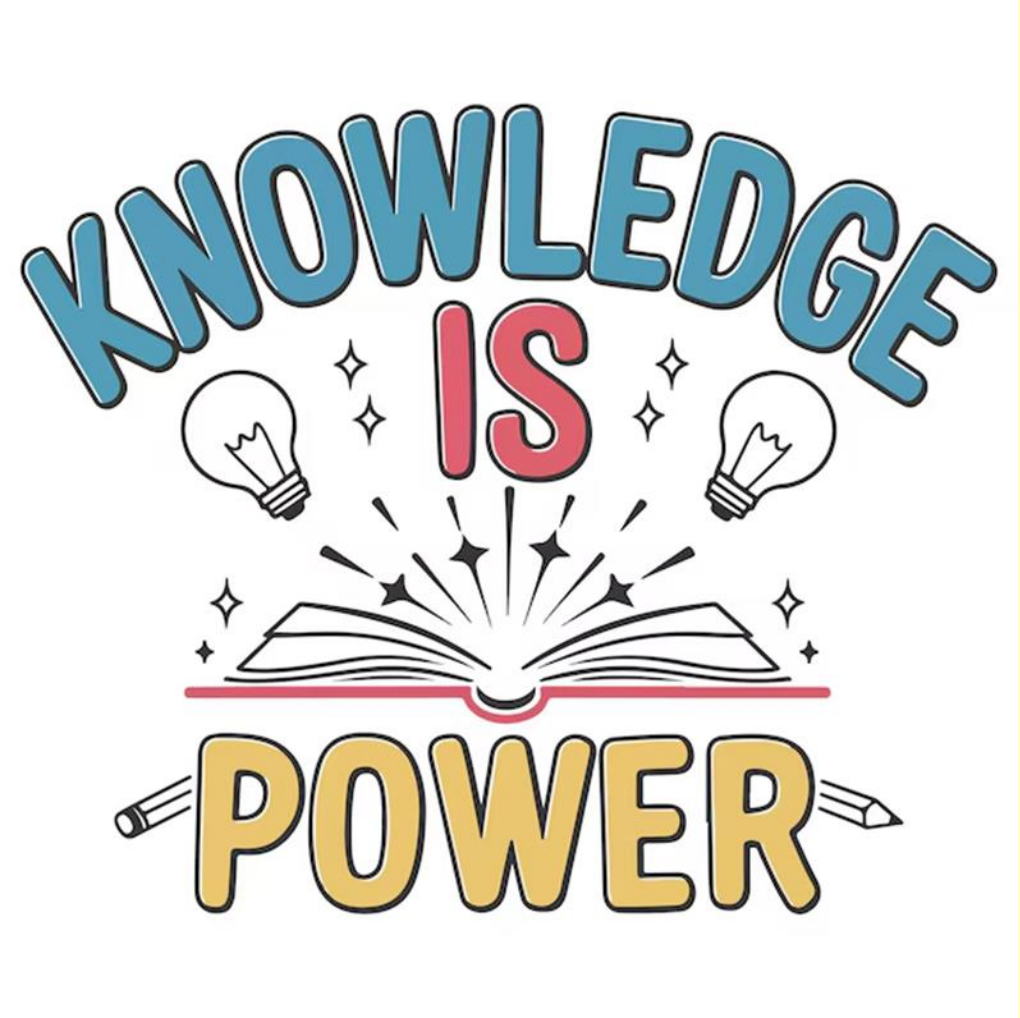


I know it seems way too simple! But this is an ancient practice with traditions in all major religions – including Islam and Christianity!
I know that it will seem odd at first. That is your worrying mind trying to stop you taking control over it!
But stick with it – it will help! Regularly practicing will really help!

If you are struggling with worries regularly you might want to get some support – you can start with Kooth – go to their website and sign up – it is easy, and they will help! If you need help on a specific aspect of Mental Health you can always start at the excellent FYI website here: https://www.fyinorfolk.nhs.uk/ - it costs nothing to sign up and get help!

Open Academy Year 8 Knowledge Organiser

Autumn Term 2



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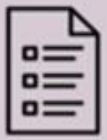
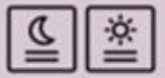
How to use your Knowledge Organiser: Step by step guide

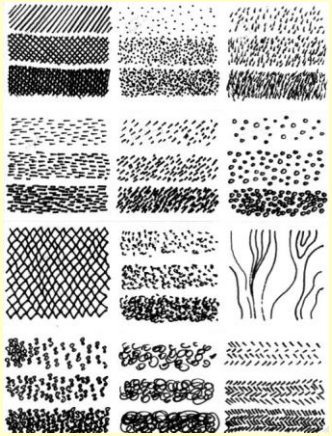
	Look, Cover, Write, Check	Definitions of Key Words	Flash Cards	Self Quizzing	Mind Maps	Paired Retrieval
Step 1	Look at and study a specific area of your KO. 	Write down the key words and definitions. 	Use your KO to condense and write down key facts or information onto flash cards. 	Use your KO to create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

Year 8- Art: Topic – Van Gogh

We study the artist Vincent Van Gogh after half term in Year 8 and his use of mark making and pen and ink to inspire our own landscapes. The tasks below link with the work in school.

How would you describe 'Starry Night' to someone who can't see it?

How is this picture different from real life?



In the box below make a study of Van Gogh's 'Starry night'. Make a study of just one part of the image but try and add as much detail as you can. It is suggested that you should draw out the basic shapes of the landscape with pencil then add the detail with ink.

You should aim to spend at least 30mins on this drawing.

Choose a view from somewhere around your home – this could be:

- A view through a window
- A view through a door
- A view of your garden

Make a detailed drawing of the scene using pencil or pen to show the different textures and surfaces.
Try to work in a style similar to the one Van Gogh has used in this drawing of a garden. He has used his pen to create many different marks.

Year 8 Computer Science: Topic – Computing Basics

Computers are made of various pieces of **hardware** which each have a specific function. Data is stored on memory devices such as a Hard Disk Drive, or Solid State Drive.

Data is stored on these drives as a bunch of 1s and 0s. This system is called Binary and dictates how computers send, receive and write down data.

Key Vocabulary:
CPU
RAM
HDD
SSD
Transmission
Bit map

Key Questions:
What does the CPU do?
What has a higher capacity a SSD or HDD?

Year 8 Drama: Topic 2 – Pantomime

Pantomime is a **genre** of drama which has developed from commedia dell'arte and tends to be humorous and farfetched. It is usually based on well-known fairy or children's stories.

Characters have a series of mishaps, or are faced with a number of challenges that they generally are able to overcome by the show's end.

Costume – A set of clothes worn by an actor in a particular role. The costume will usually communicate the age, status and personality of the character as well as giving clues about when and where the play is set.

Look at the pictures and describe what the costume says about the characters.
What well know children's story do you think it is based on and why?

Key Vocabulary

Genre – from the French meaning kind, or sort and is used to categorise types of drama.

Stock character – Instantly recognisable characters such as the dame, villain, god fairy etc…

Audience interaction - where the audience are encouraged to join in by booing, singing and shouting things like "he's behind you".

Jokes which are often local, topical or have a play on words

Music including current popular songs and sound effects especially for the jokes.

Year 8 English: Topic – Lord of the Flies

Summary

Year 8 starts with a classic novel, Lord of the Flies. A group of boys are stranded on an island without adults. Initial optimism and excitement gives way to fear, suspicion and violence.

Like Animal Farm last year, we read the novel as an allegory. Golding explores what happens to human behaviour when moral codes and society's rules are absence. Written against a backdrop of war, his suggest savagery is innat in humankind.

Why am I learning this?

As we saw with Animal Farm, our great novels ask questions about society and humankind. As we develop our exploration of language and abulity to use context, we are encouraged to consider how different audiences might respond to texts. Written over 70 years ago, how has our response to the events in the story changed? Where we find similarities, we are encouraged to question the world around us.

Tasks:

1. As we develop analysis, it helps to keep track of themes in the novel. Read a chapter and list quotes that relate to that theme.
2. Read a chapter before making a prediction for the next one. Explain and justify your reasons.

Be ambitious:

This course is a good opportunity to revisit psychoanalysis. The super-ego is based on society's codes of behaviour. This novel is set in a world where those rules have been removed and changed. How can you see the character's influenced by their id, ego and super-ego?

Technical Vocabulary

Exposition – The early stage of a story where key themes, characters and genre is established.

Dystopia – A setting or world which is a bad place, often ruled as a dictatorship.

Juxtaposition – The deliberate placing of two things next to or near each other to compare.

Symbolism – Using symbols or icons to represent an idea.

Zoomorphism – Giving animal qualities to non-animal things. Can create a wild or unsettling effect.

Use these in analysis to show awareness of the author's methods. Remember to explain their effects.

Ambitious Vocabulary

Anarchy – Living outside of rules, amongst chaos.

Corrosion – The breakdown of something, for instance behaviour.

Irrational – Unexplained or illogical behvaiour or responses.

Morality – A question of behaviour and distinction between right and wrong.

Nihilism – The rejection of moral and religious principles.

Tribalism – A policy of being loyal to your group leading to division and conflict.

Voracious – An intense need or appetite.

Try to use the ambitious vocabulary in your writing and analysis.

Year 8 English: Topic – Dystopia

Summary

Building on Lord of the Flies, we now move on to consider dystopia as a genre. We read extracts from The Hunger Games, Ready Player One and The Maze Runner, consider how these worlds of disorder, chaos and anarchy have been created and characterised. You'll get opportunities to write descriptively within the genre as well as create your own dystopian stories.

Why am I learning this?

In Year 7 we start to consider the effects of language and why an author makes specific choices. We develop this in Year 8, to consider connotations and layers of meaning behind words. We learn this so that we can consider and interpret deeper meaning of our own language choices as well as those of others. This makes our use of language more impactful and appropriate.

Tasks:

1. As you read each extract, create a glossary of vocabulary you need to clarify.
2. Create your own follow-ups to the extracts you've read.
3. Create a list of questions you have following reading an extract.

Be ambitious:

Using symbolism in your own writing can be challenging. Consider a famous image or speech. Can you use elements of it in your writing, or use imagery to recreate the scene?

Technical Vocabulary

Connotation – An associated idea linked to a word or symbol.

Compound Sentence – A sentence containing two or more independent clauses joined by a conjunctive or semi-colon.

Complex Sentence -.A sentence containing an independent clause and one dependent clause.

Foregrounding – Placing an idea to the foreground so that it is noticeable.

Shift – A move in topic of the story, often used to leave ideas mysterious or with more to uncover.

Use these in analysis to show awareness of the author's methods. Remember to explain their effects.

Ambitious Vocabulary

Autonomy – The ability to make your own choice or decision.

Conformity – Compliance with rules or standards, used to challenge individuality.

Dehumanisation – Making somebody feel less than human.

Repression – The act of holding back or restraining, particularly around free speech or expression.

Subjugation – The act of bringing something or someone under control.

Totalitarian – A government that seeks control of every action.

Try to use the ambitious vocabulary in your writing and analysis.

Year 8 Food Technology – Topic: Nutrition

Carbohydrates

There are two types of carbohydrates, complex and simple. They are also known as starchy (complex) and sugary (simple).

Food sources

Starchy – bread, rice, pasta, potatoes, bagels, oats, flour, cereal and some vegetables.
Simple – fruit, some vegetables, chocolate, sweets, biscuits, cakes

Function

Starchy/complex carbohydrates are digested slowly and provide long term energy.
Sugary/simple carbohydrates are digested slowly and provide short term energy

Protein

Food sources

Animal- beef, pork, lamb, poultry (chicken, turkey, duck), fish, cheese, butter milk
Plant – beans, chickpeas, lentils, peas, nuts, seeds, found in smaller amounts in some vegetables such as spinach and broccoli.

Function

Needed for growth from childhood to adulthood and the growth of nails, hair and muscle mass, repair of muscles, tissues and organs after illness or injury and to make enzymes for digestion and antibodies to stop us getting ill.

Fat

There are two types of fat, saturated and non saturated.
Saturated fats are classed as 'unhealthy fats', they are solid at room temperature and are generally animal based.
Unsaturated fats are classed as 'healthier fats' and are liquid or soft at room temperature and come from plant-based sources.

Food sources

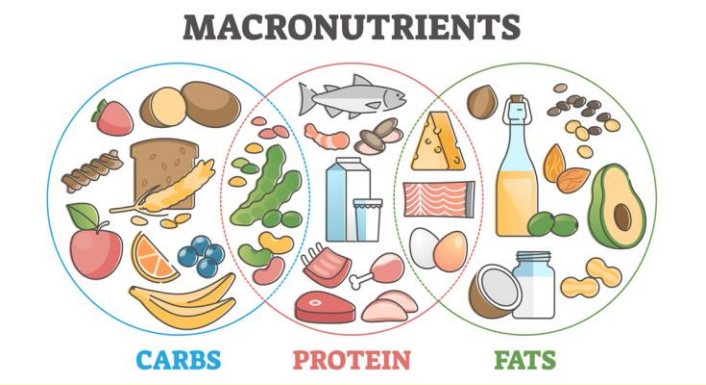
Animal –beef, chicken skin, processed meat (sausages, salami, pepperoni), bacon, butter, cheese, full fat milk
Plant – vegetable oils (sunflower, olive, rapeseed), avocado, nuts, seeds

Function

Keeps us warm (provides insulation), source of energy, protects vital organs and bones.

Key Vocabulary:
Carbohydrates
Fats
Function
Protein
Nutrients
Sources

Exam style questions.
What are two types of carbohydrate?
List 5 sources of starchy carbohydrate.
Give an example of a healthy sugary carbohydrate.
List 5 vegetarian sources of protein.
Who needs extra protein and why?
Which type of fat is healthier a why?
Explain 4 differences between saturated and unsaturated fat.
List 3 functions of fat.

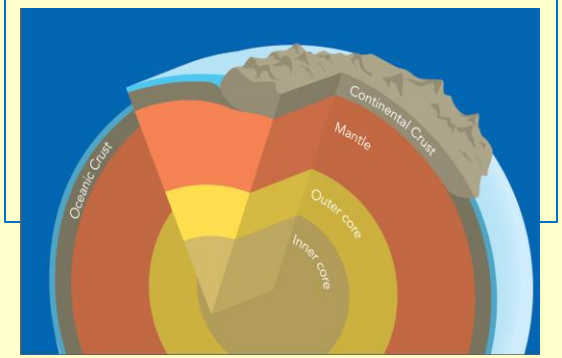


Year 8 Geography – Topic: Natural Hazards

Natural Hazards

The earth is affected by a number of natural hazards affecting people and the environment. Some of these are Atmospheric (in the troposphere) such as hurricanes some are Geo-physical (in the lithosphere) such as volcanoes.

The earth's crust is the outer layer which we live upon. This is divided into 'tectonic plates' or huge slabs of the earth's crust that join together like a jigsaw above. There are 2 types of crust; Continental (thicker but less dense) and Oceanic (thin and dense).

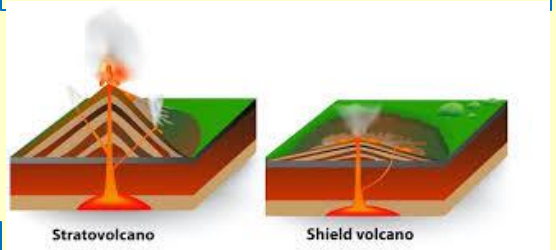


Volcanoes

At 2 types of boundaries; Constructive and Destructive - Volcanoes will form, however their characteristics differ according to which types they formed at:

Constructive volcanoes – erupt fluid lava (basalt). These are gentler eruptions that build new land.

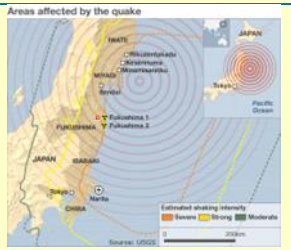
Destructive volcanoes – erupt violently and destroy the surroundings.



Earthquakes

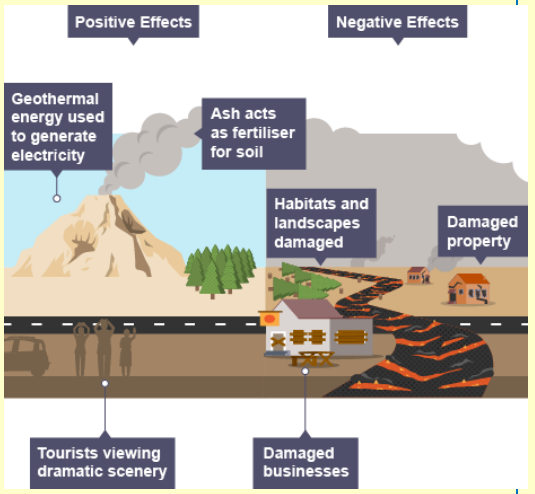
There are 4 types of boundaries and all 4 (Constructive/Destructive/Conservative and Collision) produce earthquakes.

Earthquakes originate deep in the earth's crust (Focus) and produce seismic ripples or 'waves' that hit the earth's surface (epicentre).



Living with volcanoes

Volcanic areas have huge advantages and disadvantages:

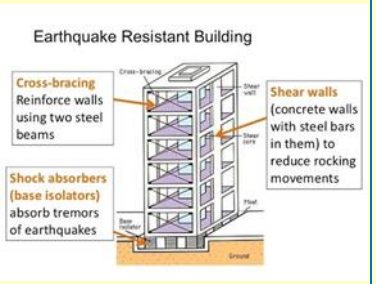


Living with Earthquakes

Some of the worlds largest cities such as San Francisco, Mexico City and Kobe in Japan are located on major 'fault lines' in the crust, this means earthquakes are more likely at any time.

People have adapted their lives through the 3 Ps:

Predicting
Protecting
Preparing



Key Vocabulary

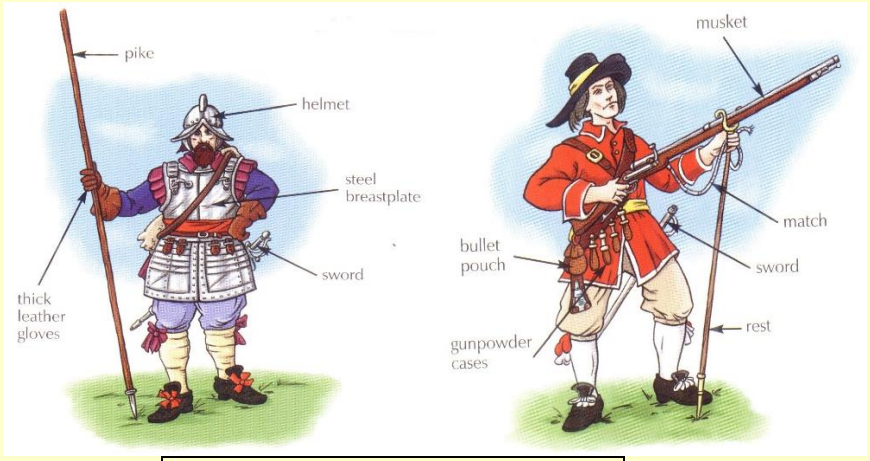
- ❑ Geophysical hazards
- ❑ Atmospheric hazards
- ❑ Core/Mantle/Crust
- ❑ Destructive/ Constructive/ Conservative/Collision plate boundary
- ❑ Seismograph
- ❑ Richter Scale
- ❑ Mercalli Scale
- ❑ Aftershock
- ❑ Magma/Lava
- ❑ Pyroclastic Flow
- ❑ Composite volcano
- ❑ Shield volcano
- ❑ Volcanic Bomb
- ❑ Exclusion Zone
- ❑ Shock absorbers
- ❑ Liquifaction

Year 8 (History): Topic – The English Civil War

Between 1642 and 1646 King Charles I fought a civil war against his enemies in Parliament. He lost in 1646 and was executed by beheading in 1649. Cromwell led England as a Republic between 1653 and 1658. The Monarchy was restored in1660.

Causes of the English Civil War:

- His marriage to the French Princess, Henrietta Maria, worried Protestants about another Civil War (France was a huge Catholic superpower)
- Soon there were religious changes such as to the prayer book which angered Protestants
- Charles spent money on wars with Scotland and Irish rebels. Taxes were raised unfairly and the wars were lost
- Wealthier members of society (Lords and Rich Gentlemen) had more political rights than others
- Charles showed little respect for Parliament; shutting it down when it would not approve his requests for money or laws which were not in the favour of the people (Ship Tax)



Pikeman and Musketeer

Oliver Cromwell as Lord Protector	
A Harsh & Unpopular Ruler (Villain)	A Tolerant Defender of Democracy (Hero)
Cromwell's actions in Ireland, particularly at Drogheda, are still remembered for their cruelty and bloodshed	Cromwell was surprisingly tolerant of other religions and was the first ruler to allow Jews to re-settle
Popular entertainment and hobbies such as gambling, the theatre and even makeup were banned	Prevented the King from destroying Parliament (although he eventually got rid of it himself!)
Most popular aspects of Christmas were banned!	Built England into a formidable military power

Key Vocabulary

Roundhead - Nickname for the parliamentary soldiers (from their haircut)
Cavalier - Nickname for the soldiers in the royalist army
New Model Army - New and improved parliamentary army with excellent training and character
Treason - The crime of betraying your country
Puritan - Protestants who wanted to 'purify' the Church of England from its Catholic ways
Catholic - Christians who believed that the Pope, in Rome, was the head of the church
Protestant - Christians who refused to accept the Pope as the head
Ship Tax - A sum of money, introduced by Charles I paid for people living by the sea

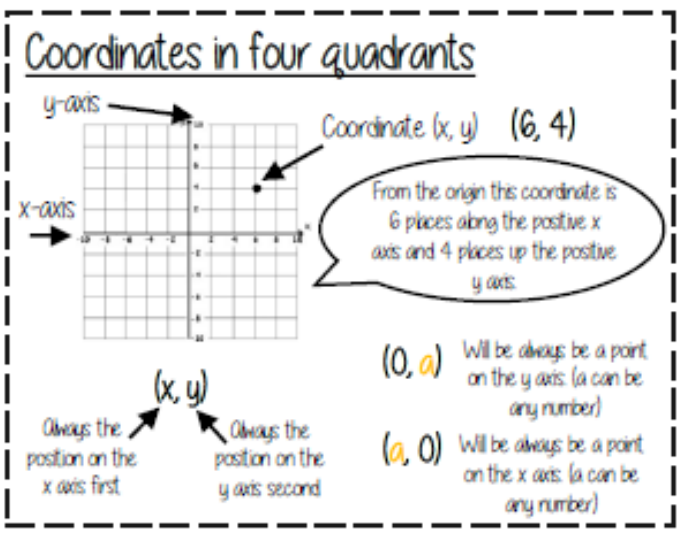
Year 8 Unit 4 – Coordinates and Lines

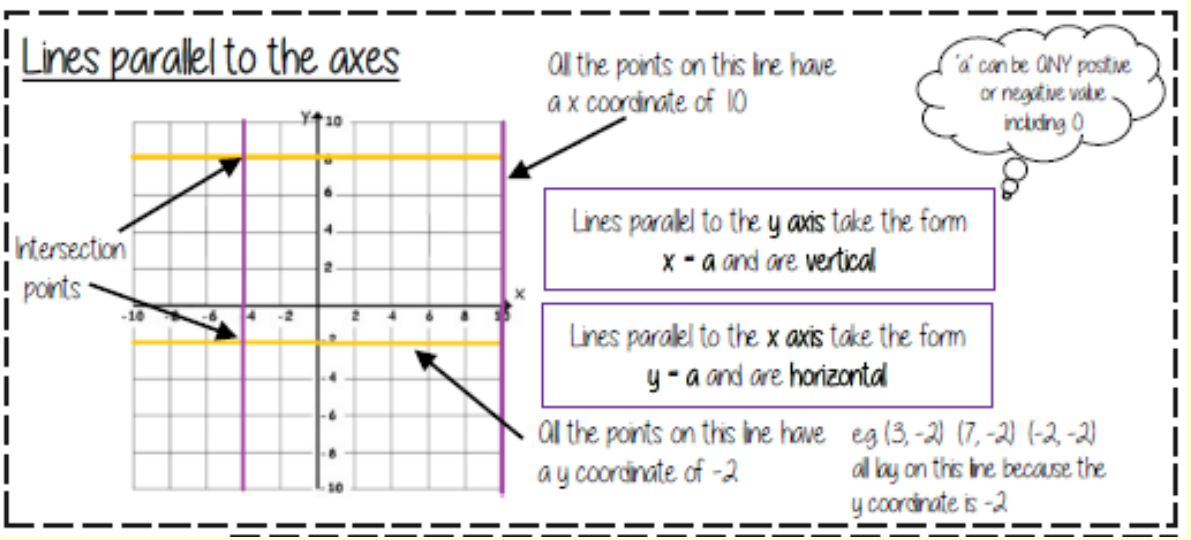
What do I need to be able to do?

- Label and identify lines parallel to the axes.
- Plot and identify coordinates
- Complete xy tables to plot lines using substitution
- Plot lines of the form x+y=a
- Identify positive and negative gradients
- Investigate y=mx + c

Vocabulary

Coordinate: a set of values that show an exact position
Gradient: the steepness of a line
Horizontal: a straight line from left to right (parallel to the x-axis)
Intersect: where two lines cross
Midpoint: the position exactly half way between two coordinates
Origin: the point (0,0) on a graph, where the two axes cross
Parallel: two lines that would never meet
Perpendicular: two lines that meet at right angles
Quadrant: one of the four sections of a coordinate axes
Vertical: a straight line from top to bottom (parallel to the y-axis)
Y-Intercept: the point where a line crosses the y-axis.





Plotting Coordinates

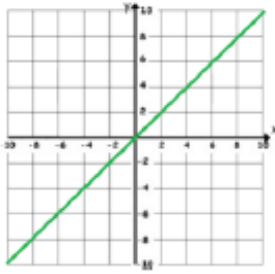
Midpoint of a Line

Lines parallel to the y-axis

Lines parallel to the x-axis

Recognise and use the line y=x

This means the x and the y coordinate have the same value

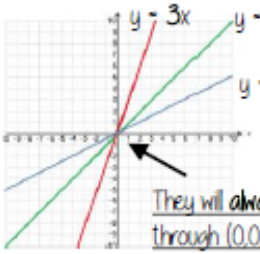


Examples of coordinates on this line: (0, 0) (-3, -3) (8, 8)

The axes **scale is important** – if the scale is the same y = x will be a straight line at 45°

Recognise and use the lines y=kx

The value of k changes the steepness of the line



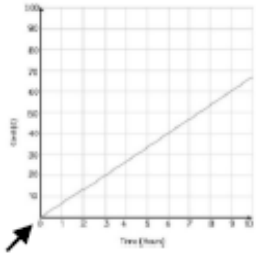
Note: y = -x is the same as y = 1x

The bigger the value of k the **steeper** the line will be.

They will **always** go through (0,0)

The closer to 0 the value of k the closer the line will be to the x axis.

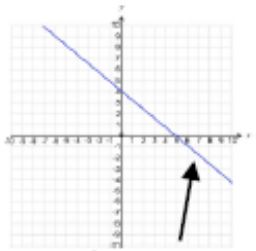
Direct Proportion using y=kx



The line must be straight to be directly proportional – variables increase at the same rate k

Direct proportion graphs always start at (0,0) as they are describing relationships between two variables

Lines with negative gradients

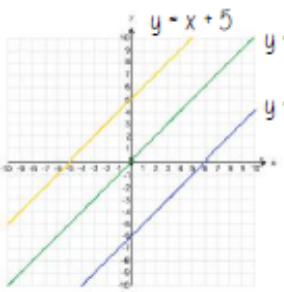


Any straight-line graph with a negative x value has a negative gradient.

Eg y = -2x
y = -x y + x = 12

Direction of all negative gradients

Lines in the form y = x + a



All the lines are parallel because the gradients are the same

y = x + a

This is the line y=x when the y and x coordinate are the same

This shows the translation of that line.
eg y = x + 5 is the line y=x moved 5 places up the graph

5 has been added to each of the x coordinates

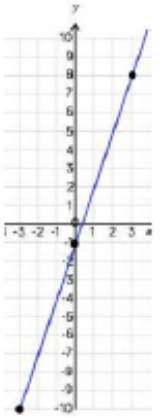
Plotting y = mx + c graphs

y = 3x – 1 → 3 x the x coordinate then – 1

x	-3	0	3
y	-10	-1	8

Draw a table to display this information

This represents a coordinate pair (-3, -10)



You only need two points to form a straight line

Plotting more points helps you decide if your calculations are correct (if they do make a straight line)

Remember to join the points to make a line

xy tables

Gradient

Y=mx+c

Proportion

A job based on line graphs:

A pilot

There are several types of math that pilots need to familiarize themselves with and be able to apply. Basic arithmetic, geometry, trigonometry, interpolation, and mental math are all part of being a pilot. When you are landing or taking off, if there is a wind which is perpendicular to the runway, this is referred to as a crosswind. A crosswind alters the aerodynamics of your aircraft and makes landings and take-offs more difficult. Too strong a crosswind can be dangerous, so it is important to calculate the crosswind and determine if it is safe to take-off or land under those conditions and with your skillsets

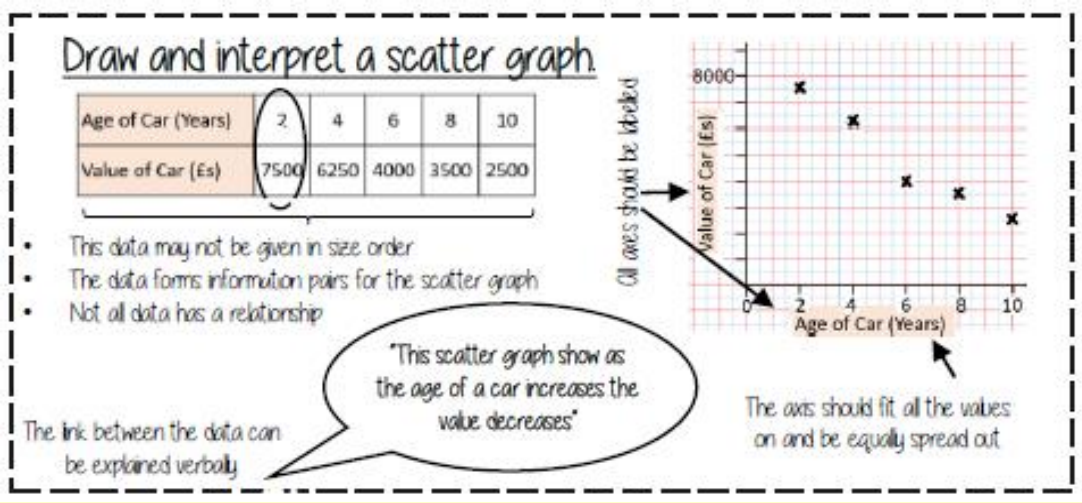
Year 8 Unit 5 – Representing Data

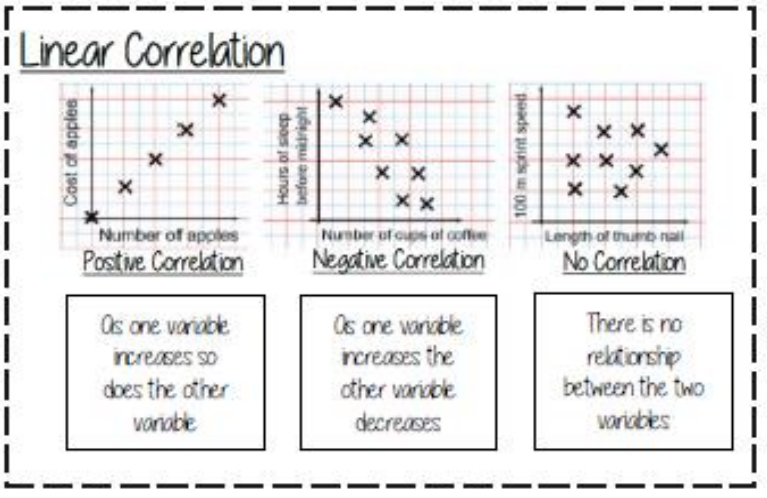
What do I need to be able to do?

- Draw and interpret scatter graphs
- Describe correlation and relationships
- Interpret grouped frequency tables
- Know the difference between discrete and continuous data
- Represent data in two-way tables and frequency trees.

Vocabulary

Continuous: quantitative data that has an infinite number of possible values
Correlation: the mathematical definition for the type of relationship between variable
Discrete: quantitative data that only takes certain values
Frequency: the number of times a particular data value occurs.
Line of Best Fit: a straight line on a graph that represents the data on a scatter graph
Outlier: a point that lies outside the trend of a graph
Origin: where two axes meet on a graph (0,0)
Qualitative Data: Data that is given in words
Quantative Data: Data that is given in numbers
Relationship: the link between two variables, e.g sunny days and ice creams sold
Variable: a quantity that may change with the context of a problem





Scatter Graphs

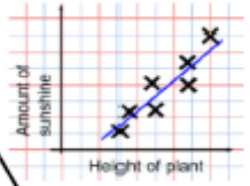
Frequency Trees

Two-Way Tables

Frequency Tables and Tallies

The line of best fit

The Line of best fit is used to make estimates about the information in your scatter graph



It is only an estimate because the line is designed to be an average representation of the data

It is always a straight line.

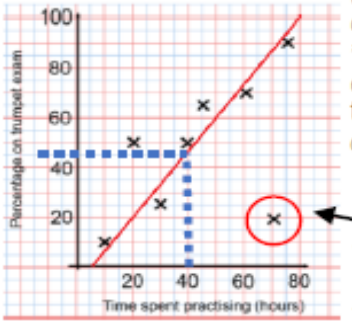
Things to know

- The line of best fit DOES NOT need to go through the origin (The point the axes cross)
- There should be approximately the same number of points above and below the line (It may not go through any points)
- The line extends across the whole graph

Using a line of best fit

Interpolation is using the line of best fit to estimate values inside our data point.

e.g 40 hours revising predicts a percentage of 45



Extrapolation is where we use our line of best fit to predict information outside of our data

This is not always useful – in this example you cannot score more that 100%. So revising for longer can not be estimated

This point is an "outlier"
It is an outlier because it doesn't fit this model and stands apart from the data

Ungrouped Data

The number of times an event happened

The table shows the number of siblings students have. The answers were
3, 1, 2, 2, 0, 3, 4, 1, 1, 2, 0, 2

2 people had 0 siblings. This means there are 0 siblings to be counted here

Number of siblings	Frequency	
0	2	0
1	3	3
2	4	2 + 2 + 2 + 2 OR 2 x 4 = 8
3	2	3 + 3 OR 3 x 2 = 6
4	1	4

2 people have 3 siblings so there are 6 siblings in total

Best represented by discrete data (Not always a number)

OVERALL there are
0 + 3 + 8 + 6 + 4
Siblings = 21 siblings

Grouped Data

If we have a large spread of data it is better to group it. This is so it is easier to look for a trend. Form groups of equal size to make comparison more valid and spread the groups out from the smallest to the largest value.

Discrete Data
The groups do not overlap

Cost of TV (£)	Tally	Frequency
101 – 150	𝍸 | |	7
151 – 200	𝍸 𝍸 |	11
201 – 250	𝍸	5
251 – 300	| | |	3

We do not know the exact value of each item in a group – so an estimate would be based to calculate the overall total (Midpoint)

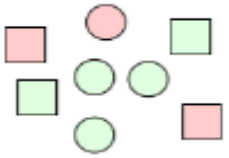
Continuous Data
To make sure all values are included inequalities represent the groups

x Weight(g)	Frequency
$40 < x \leq 50$	1
$50 < x \leq 60$	3
$60 < x \leq 70$	5

e.g this group includes every weight bigger that 60Kg up to and including 70Kg

Representing data in two-way tables

Two-way tables represent discrete information in a visual way that allows you to make conclusions, find probability or find totals of sub groups



There are 2 green squares

There are 5 green shapes

	Squares	Circles	Total
Green	2	3	5
Red	2	1	3
Total	4	4	8

There are 8 items in total

Using your two-way table

To find a fraction
e.g What fraction of the items are red? 3 red items
but 8 items in total = $\frac{3}{8}$

Interleaving Use your fraction, decimal percentage equivalence knowledge

A job based on data:

Statistician

Statisticians use data—raw numbers and results—to form conclusions, make predictions, and solve problems. Statistics is one of the fastest growing fields and offers a huge number of options for careers. You can probably find a job in almost anything that interests you. Google, for example, uses statistics to determine what websites come up when you search for something. Amazon uses statistics to determine what products you might like. Researchers use statistics to solve big problems—like hunger in developing countries or to cure diseases..
To be a statistician, you need to understand and enjoy math. You need to be able to analyse information and see patterns.

Year 8 Unit 6 – Tables and Probability

What do I need to be able to do?

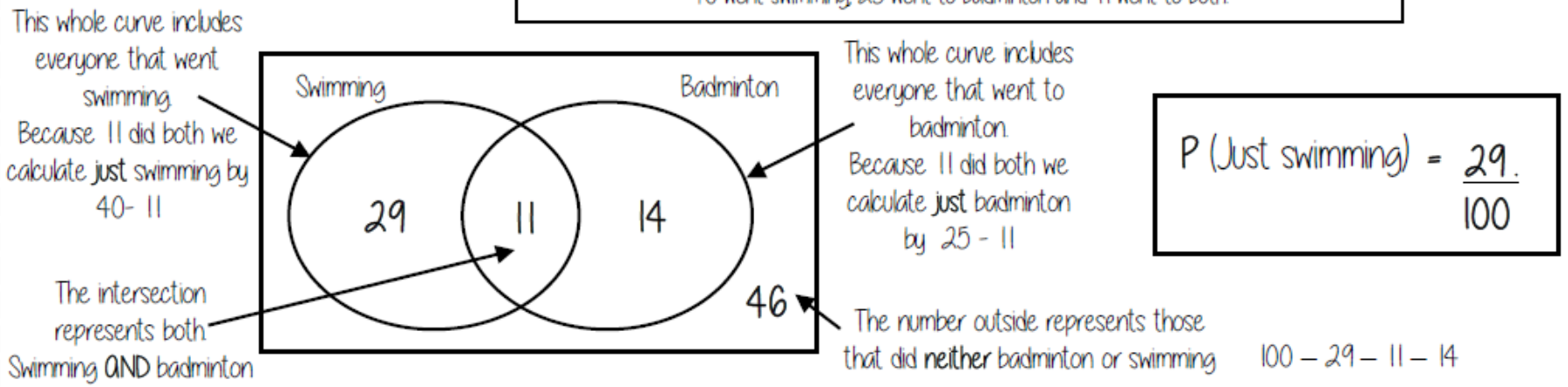
- Finding the probability of an event.
- Knowing the probability scale.
- Understanding and using the fact that probabilities sum to 1
- Strategically listing all outcomes
- Find probabilities from sample spaces
- Find probabilities from two-way tables.
- Find probabilities from venn diagrams
- Complete venn diagrams from given information.

Vocabulary

Biased: an experiment in which one outcome is more likely than another.
Certain: an event that will definitely happen.
Chance: the likelihood of a particular outcome
Event: the outcome of a probability – a set of possible outcomes
Impossible: an event with probability 0
Outcomes: the result of an event that depends on a probability
Probability: the chance that something will happen
Sample Space: a table used to show all of the possible outcomes of an event
Set: a collection of objects

Probability from Venn diagrams

100 students were questioned if they played badminton or went to swimming club.
40 went swimming, 25 went to badminton and 11 went to both.



Probability Basics

Sample Spaces

Venn Diagrams

Product Rule

Construct sample space diagrams

Sample space diagrams provide a systematic way to display outcomes from events

The possible outcomes from rolling a dice

The possible outcomes from tossing a coin	1	2	3	4	5	6
H	1,H	2,H	3,H	4,H	5,H	6,H
T	1,T	2,T	3,T	4,T	5,T	6,T

This is the set notation to list the outcomes S =

In between the { } are all the possible outcomes

S = { 1H, 2H, 3H, 4H, 5H, 6H, 1T, 2T, 3T, 4T, 5T, 6T}

Probability from sample space

The possible outcomes from rolling a dice

The possible outcomes from tossing a coin	1	2	3	4	5	6
H	1,H	2,H	3,H	4,H	5,H	6,H
T	1,T	(2,T)	3,T	(4,T)	5,T	(6,T)

What is the probability that an outcome has an even number and a tails?

This is the set notation that represents the question P

P (Even number and Tails) = $\frac{3}{12}$

There are three even numbers with tails

There are twelve possible outcomes

Numerator: the event

Denominator: the total number of outcomes

In between the ( ) is the event asked for

Probability from two-way tables

	Car	Bus	Walk	Total
Boys	15	24	14	53
Girls	6	20	(21)	47
Total	21	44	35	(100)

P (Girl walk to school) = $\frac{21}{100}$

The event

The total in the set

The total number of items

Product Rule

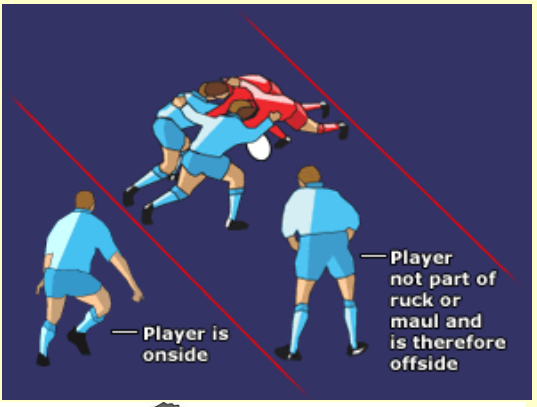
The number of items in event a **x** The number of items in event b

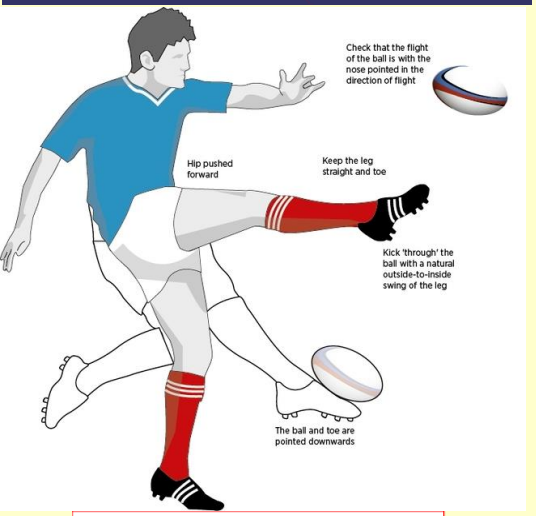
A job based on probability:

Meteorologist

Meteorologists are weather scientists, they study the sky and understand patterns that can predict weather.They use specialised equipment to analyse what kind of weather to expect. Some meteorologists get high-profile jobs as weathermen or weather women on television news stations. Other meteorologists work behind the scenes. They might do research for government agencies or universities, or work for the military. Some meteorologists help develop new equipment for forecasting the weather. Others are working to understand climate change. Meteorologists need a bachelor's degree in science or math. Some travel to do field work. Meteorologists typically earn £100,000 a year. People working for news stations can earn much more.

Year 8 Physical Education – Topic – Rugby





Rules of The Game

Key skills

Developing passing

Is being able to understand and accurately replicate the scissors & miss pass, and how to receive it and to create and develop varying strategic ways of getting passed defenders. Performing skills in a small sided game with pressure from opposition.

Develop tackling technique

Is being able to develop an understanding & knowledge of tackling technique and safely replicating the correct technique on advancing opposition and understanding the rules regarding tackling within the game.

Kicking

Is being able to perform the correct kicking technique from the ground and out of hand with control and accuracy. This includes beginning to combine the use of passing and kicking to outwit opponents and understanding when to use the kick and the advantages gained from it.

Tactical play/outwitting opponents

Is developing knowledge and understanding of strategic play used to outwit opponent and to be able to change and refine tactics based on the analysis of certain plays and opposition.

Ruck

A ruck typically evolves from a tackle situation and can develop into an effective method of retaining or contesting possession. A ruck can commit defenders, therefore creating an opportunity to create space. On formation of the ruck, offside lines are created.

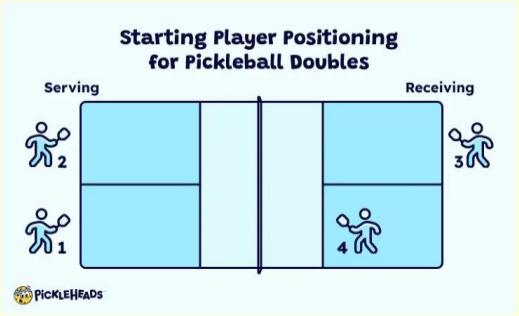
Key Vocabulary

Advantage
Backwards
Conversion
Kicking
Offside
Pass
Penalty
Ruck
Tackle
Tactical
Try

Year 8 Physical Education – Topic: Pickleball

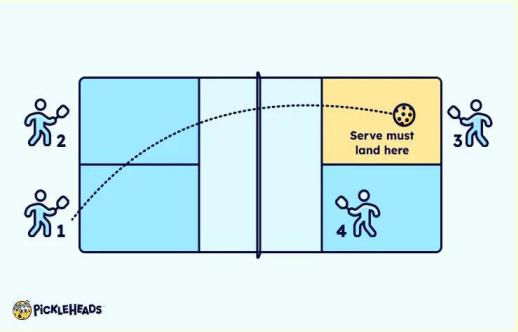
The pickleball court and serve:

first team to 11 points wins—but you must win by 2.



The pickleball game starts with a serve. The player on the right side of their court always starts the serve. You serve diagonally to your opponent.

The serve in pickleball is underarm.



Scoring:

In pickleball scoring, you'll hear players announce three numbers, like "0-0-2". Here's what each number means:

First Number	Second Number	Third Number
score of the serving team	score of the receiving team	which player of the team is serving, first server (1) or second server (2)

Let's say the game is tied at 3-3. If you start the serve, you'll announce "3-3-1", so everyone knows you are the first player in rotation serving.

If you lose the rally, the ball doesn't go to your opponents. It goes to your teammate who will announce "3-3-2".

If your partner loses their serve, a "side out" occurs. This means that they've lost their two serves and it's now their opponent's turn to serve. Their opponents then call out "3-3-1" before starting their serve.

Shots:

Dinks
Played closer to the net, these touch shots are hit into your opponent's kitchen and help keep the other team from attacking.

Volleys
These shots are hit out of the air before the ball bounces. They can only be played outside the kitchen.

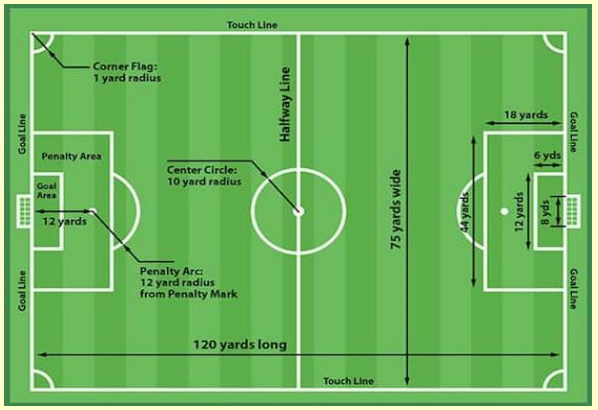
Forehand/ backhand Drives
These powerful shots are hit off the bounce, often from the baseline. They are played using a forehand or backhand swing.

Key words:
Scoring
Serving
Dinks
Volleys
Forehand
Backhand
Drive

Year 8 Physical Education – Topic: Football

Rules of The Game 11-a-side

- A match consists of two 45 minutes halves with a 15-minute rest period in between.
- Each team can name up to 7 substitute players. Substitutions can be made at any time of the match with each team being able to make a maximum of 3 substitutions per side.
- Each game must include one referee and two assistant referee's (linesmen). It is the job of the referee to act as timekeeper and make any decisions which may need to be made such as fouls, free kicks, throw ins, penalties and added on time at the end of each half. The referee may consult the assistant referees at any time in the match regarding a decision. It is the assistant referee's job to spot offside's in the match, throw ins for either team.
- If the game needs to head to extra time as a result of both teams being level in a match, then 30 minutes will be added in the form of two 15-minute halves after the allotted 90 minutes.
- If teams are still level after extra time, then a penalty shootout must take place.
- The whole ball must cross the goal line for it to constitute as a goal.
- For fouls committed a player could receive either a yellow or red card depending on the severity of the foul; this comes down to the referee's discretion.
- If a ball goes out of play off an opponent in either of the side lines, then it is given as a throw in. If it goes out of play off an attacking player on the base line, then it is a goal kick. If it comes off a defending player, it is a corner kick.



Key skills

Developed Passing - To be able to perform a pass using inside and outside of foot and understand the importance of receiving correctly.

Dribbling and Turns - To be able to perform and accurately replicate different types of dribbling with control, speed and fluency.

Develop Attack - To be able to outwit opponents using learnt skills and techniques at speed

Develop Shooting - To perform and replicate an accurate and controlled shot on goal.

Heading - To develop their understanding and knowledge of how to head the ball correctly and safely

Defensive strategies/tactics - To be able to perform and develop defensive strategies.

PRIOR LEARNING
It is helpful if the pupils have:

- Played a variety of conditioned football games
- Worked independently in small groups
- Used and applied football rules
- Some knowledge of tactics and team
- organization in football
- Developed basic football skills

Key Vocabulary

Indirect Free Kick
Direct Free Kick
Pressure
Attack
Defence
Push-up
Goal side
Play-on
Advantage

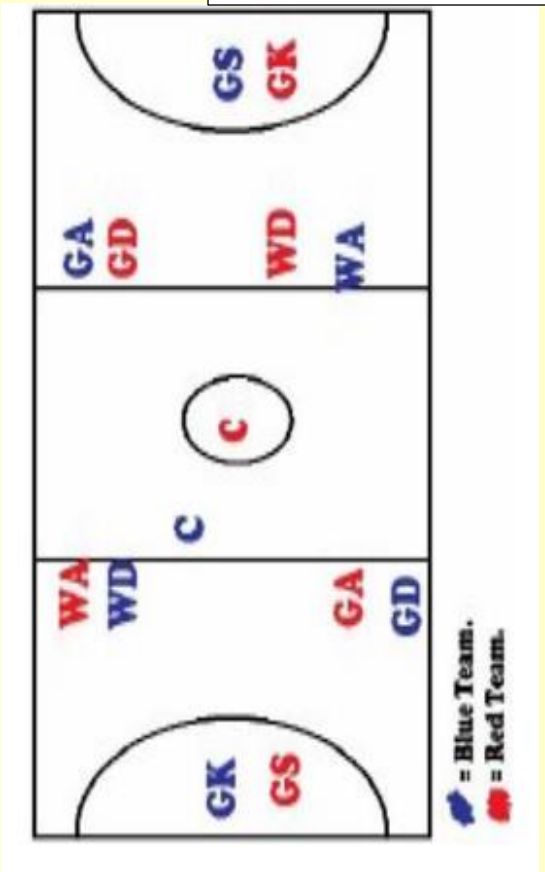
Year 8 Physical Education – Topic: Netball

Key vocabulary:

Contact
Footwork
Obstruction
Centre pass
Repossession
Offside

Penalties = Serious infringement by one player against another.

Contact or Obstruction – A penalty pass or penalty shot (in the circle) is awarded where the infringement occurred. The player who committed the penalty will have to stand out of play next to them until the ball is released.



Rules of the game:

Contact: You can't touch or push any player during the game as it is a non-contact sport, this will result in a penalty pass or if they contact you while you're in the shooting circle, you will get a penalty shot.

Footwork: If the player moves the landing foot or takes 3 steps with the ball, the other team gets a free pass.

Obstruction: You must be 1 metre away from your player you are marking before your arms go up and over the ball. If your defender is obstructing you before you shoot, you get a penalty shot.

3 seconds: You can only hold the ball for 3 seconds before you pass or shoot.

Centre pass: To start the game and after a goal is score you go back to the centre pass and players must receive in the centre third.

Repossession: if a player drops the ball or bounces the ball and picks it back up again the other team gets a free pass.

Offside: If you go into a third you are not allowed in or if any player other than GS, GK, GD, GA go into the shooting circle the other team gets a free pass.

Netball positions and who they mark:

Goal Shooter (GS) – Allowed in the shooting third only – marked by Goal Keeper (GK
Goal Attack (GA) – Allowed in the shooting and centre third – marked by Goal Defence (GD)
Wing Attack (WA) – Allowed in the centre and shooting third but not allowed in circle – Marked by Wing defence (WD)
Centre (C) – Allowed everywhere except the two circle – Marked by Centre (C)
Wing Defence (WD) – Allowed in the centre and defending third but not in the circle – Marked by Wing Attack (WA)
Goal Defence (GD) – Allowed in the defending third and the centre third – Marked by Goal Attack (GA)
Goal Keeper (GK) – Allowed in the defending third only – Marked by Goal Shooter (GS)

Year 8 Science: Topic - Chemist

When reactions take place, they either release energy (Exothermic) or take in energy (endothermic). This can make the container feel colder or hotter depending on what type of reaction it is.
We can show reactions with either the chemical names in a word equation or by a symbol equation.

Key Vocabulary:
Exothermic
Endothermic
Rate of Reaction
Energy
Joules
Word Equation
Symbol Equation

Key Question:
Devise an experiment where you can find out if a reaction is endothermic or exothermic

Year 8 Science: Topic: Electrician, Nutritionist

Key Vocabulary:
Parallel
Series
Ammeter
Voltmeter
Resistor
Current
Potential-Difference
Grounded

Nearly every modern device uses electricity. Circuits can be made in singular loops called Series or in multiple loops called parallel circuits. For a circuit to work it needs 3 requirements: Power; Fully connected; and a device.

Food is made up of macromolecules, different food groups have different nutritional values. We can use chemicals to find out what macromolecules they contain.

Key Vocabulary:
Macromolecule
Micro molecule
Protein
Carbohydrate
Lipid
Fat
Starch
Iodine
Biuret Solution
Emulsification

Key Question:
What happens to current in a parallel circuit? What happens to Potential Difference in a parallel circuit

Key Question:
How can I test to see if a food has sugar? Do I use benedict's solution or Biuret?

Year 7 Spanish – Topic: Mi tiempo libre – My freetime

- **Qué te gusta hacer? *What do you like to do?***
- Me gusta… *I like…*
- Me gusta mucho… *I really like…*
- No me gusta… *I don't like…*
- No me gusta nada… *I don't like at all…*
- chatear *to chat online*
- escribir correos *to write emails*
- escuchar música *to listen to music*
- jugar a los videojuegos *to play videogames*
- leer *to read*
- mandar SMS *to send text messages*
- navegar por Internet *to surf the net*
- salir con mis amigos *to go out with friends*
- ver la television *to watch TV*
- porque es… *because it is…*
- porque no es… *because it is not…*
- interesante *interesting*
- guay *cool*
- divertido/a *amusing, funny*
- estúpido/a *stupid*
- aburrido/a *boring*

¿Qué haces en tu tiempo libre? *What do you do in your spare time?*
bailo *I dance*
canto karaoke *I sing karaoke*
hablo con mis amigos *I talk with my friends*
monto en bici *I ride my bike*
saco fotos *I take photos*
toco la guitarra *I play the guitar*

Palabras muy frecuentes
High-frequency words
con *with*
cuando *when*
generalmente *generally*
mucho *a lot*
no *no*
o *or*
pero *but*
porque *because*
sí *yes*
también *also, too*
y *and*
¿Y tú? *And you?*

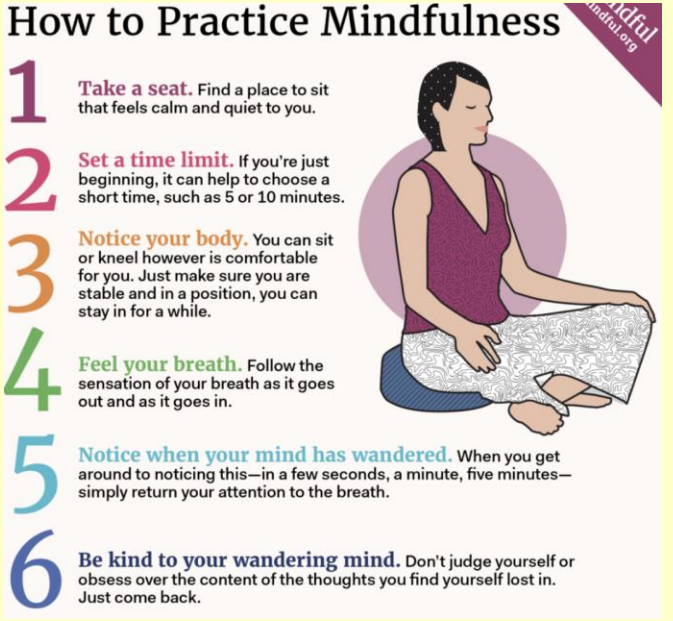
Las estaciones *The seasons*
la primavera *spring*
el verano *summer*
el otoño *autumn*
el invierno *winter*

¿Qué tiempo hace? *What's the weather like?*
hace calor *it's hot*
hace frío *it's cold*
hace sol *it's sunny*
hace buen tiempo *it's nice weather*
llueve *it's raining*
nieva *it's snowing*
¿Qué haces cuando llueve? *What do you do when it's raining?*

Expresiones de frecuencia
Expressions of frequency
a veces *sometimes*
de vez en cuando *from time to time*
nunca *never*
todos los días *every day*

Year 7 Wellbeing – Topic: Meditation

Mindfulness and Meditation can help most people at times!
Our 'everyday mind' can end up full of worries about things which are no longer true or happening or fretting about what MIGHT happen in the future – even though we know it may not!
The idea is that we are more than these conscious thoughts.
Challenging things happen, we cannot avoid that, but what we think about those challenges is very much up to us
To worry and repeatedly think about difficult things can become suffering - a habit it is all too easy to fall in. The good news however is that we can avoid it! How?
When we notice that we are worrying about things - playing through possible futures like a film in our heads or imagining something going wrong, or even remembering difficult things, unpleasant experiences, **we can simply choose to bring ourselves back to the present moment, by thinking about our breathing**.
This practice comes with lots of benefits…



I know it seems way too simple! But this is an ancient practice with traditions in all major religions – including Islam and Christianity!
I know that it will seem odd at first. That is your worrying mind trying to stop you taking control over it!
But stick with it – it will help! Regularly practicing will really help!

If you are struggling with worries regularly you might want to get some support – you can start with Kooth – go to their website and sign up – it is easy, and they will help! If you need help on a specific aspect of Mental Health you can always start at the excellent FYI website here: https://www.fyinorfolk.nhs.uk/ - it costs nothing to sign up and get help!