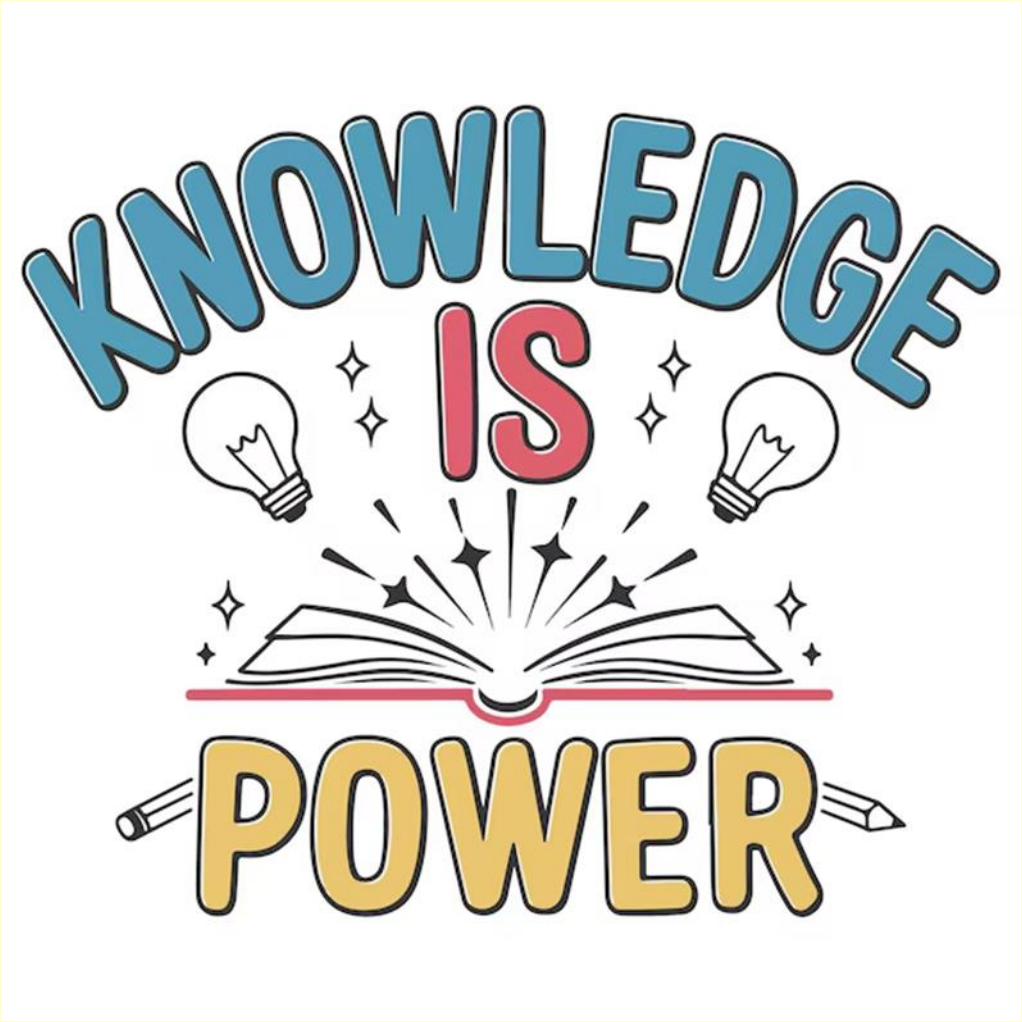
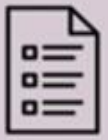
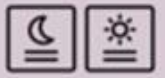
Open Academy Year 8 Knowledge Organiser

Summer Term 1



Contents Page

How to use you 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: Sea Sculpture

Sea Sculpture

This summer term year 8 study artwork with a theme of the sea. They look at ceramic artist Heather Knight and how she uses sea creatures and shells as inspiration.

They design their own sea sculpture vessel and make it in air drying clay. They then paint it using natural sea colours.

Task:

Create <u>two</u> designs showing **applied** textures.

Create two designs showing **incised** textures.

Use the next page of resources to help you

Year 8 Computer Science : Internet and Data

Data is stored as 1s and 0s in a format called Binary. Characters such as letters, punctuation and symbols are also stored as 1s and 0s but are decoded via ASCII

Sound and images are also stored with 1s and 0s. We use bitmap images and quantification to assign values.

The internet is made up of various networks all linked together through connections. Different files have different sizes. Networks can also have different connection speeds

Base Exponent	2^7	2^6	2^5	2^4	2^3	2^2	2^1	2^0
Place Value	128	64	32	16	8	4	2	1
Example: Binary Number	1	0	1	1	1	0	0	1
Decimal Number Total: 185	128	0	32	16	8	0	0	1

1 0 1 1 1 0 0 1 = (128 * 1) + (64 * 0) + (32 * 1) + (16 * 1) + (8 * 1) + (4 * 0) + (2 * 0) + (1 * 1)
1 0 1 1 1 0 0 1 = 128 + 0 + 32 + 16 + 8 + 0 + 0 + 1
1 0 1 1 1 0 0 1 = 185

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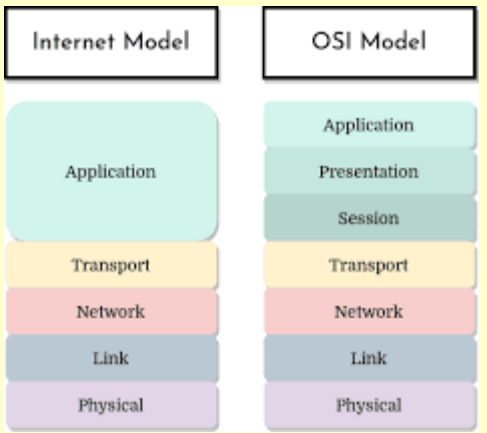


Key Vocabulary
Binary
Denary
ASCII
Conversion
Bitmap
Quantification
Network
Transmission

Key Questions:
- What is 1011 in denary?
- What value does ‘A’ hold?
- How many megabytes are in a Gigabyte?
- Why don’t we send large files?

Year 8 Drama: Topic 1 – Devising Drama

Theatre companies who perform devised performances:

Complicite uses extreme movement and surrealist imagery.

Their work combines text, music, images and action to create surprising and disruptive theatre.

The company are famous for long research and development periods and they bring together **performers, designers, writers, artists and specialists**.

The Paper Birds are a devising theatre company with a **social and political agenda.** This means they create drama which raises awareness about issues in today's world.

They work using **verbatim theatre** meaning they uses the words of real people without changing them.

The Paper Birds
Theatre Company

Complicité

Task: Have a look at the websites and find 3 facts about each theatre company and the way that they work.

https://www.complicite.org/

https://www.thepaperbirds.com/

Key Vocabulary

Devising is working collaboratively to create original drama.
The devising process will start with a **stimulus** – something which stimulates or gives you ideas to create drama about.

You will then need to do **research** to get more ideas about what to include in your performance.

Devised theatre is often built around a **theme** or **issue** that the drama is built around.

You will need to work **collaboratively** with a variety of people in your group so that you can get a variety of ideas.

You will need to be brave and be able to **experiment** with ideas, you are unlikely to have the perfect idea straight away.

When devising you will need to keep your **creative intentions** in mind, what are you trying to show the audience?

Year 8 English: Topic – Adventure

Summary

One of the classic genres of literature; adventure. In this genre, protagonists often have to overcome great obstacles and challenges, usually finding themselves equipped with some new knowledge or understanding. Across this course, we'll practice our descriptive writing, use of linguistic devices and our skill of evaluation.

Why am I learning this?

Across Year 8, we've covered a range of analysis and language skills that help us communicate with the world around us and prepare us for study in KS4.

This course also invites us to think about how we live our lives. Should we be prepared to take more risks, or should we live more cautious and careful lifestyles?

Tasks:

1. Research famous adventures and write a short story based on their experience.
2. Create your own follow-ups to the extracts you've read.
3. Create a glossary of language you learned or discovered in your extracts.

Be ambitious:

When writing persuasively, your writing is more compelling and convincing if you can connect with your audience. To do this, we use anecdotes. Think about relatable stories you might share when writing persuasively.

Technical Vocabulary

Imagery – A vivid or clear picture created by language. Look for sensory language.

In media res – Where a text starts in the middle of action. This can be used to create intensity in writing.

Plosive – A combination of specific consonants that create an explosive effect as they are spoken.

Zoomorphism – Giving non-animal things animal qualities. This can be used to create an animated and lively environment.

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

Ambitious Vocabulary

Apathy – A sense of being unmoved or unbothered.

Isolation – Being cut off or distanced from a community.

Monotony – A sense of boredom, often because of a repeated routine.

Perseverance – A determination and commitment to overcoming challenges and obstacles.

Petrified – A sense of overwhelming terror or fear. Often results in being unable to behave or move in a normal way.

Thrilling – A sense of immense excitement.

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

Year 8 Food Technology – Topic: Seasonal produce and Airmiles

Seasonal produce

Seasonality of **food** refers to the times of year when the harvest or the flavour of a given type **food** is at its peak. This is usually the time when the item is the cheapest and the freshest on the market. The **food's** peak harvest time usually coincides with when its flavour is at its best.

Advantages of local, seasonal foods foods

- Often cheaper as it is not imported and there is a larger quantity of the food available
- Fresher as it has taken less time to travel and less storage time.
- High in nutrients – fruit and vegetables lose nutrients over time after being picked. With less travel and storage time, they lose less nutrients.
- Tastes better as it is fresher and higher in nutrients.

Disadvantages of local, seasonal foods

- There is a smaller range of foods available
- Not importing foods means not supporting farmers in developing countries.

Example exam questions

Explain the term 'air miles'.
Explain the term 'seasonal produce'.
What are the advantages of eating seasonal produce?
Create a leaflet promoting seasonal produce.
List 5 imported foods.
List 5 seasonal foods.
Create an eatwel Guide but fill each section with UK only foods.

Key Vocabulary

Advantages
Air miles
Climate change
Disadvantages
Distance
Imported
Seasonal produce
Workers conditions

Food miles

If were not eating fresh seasonal produce, we import food from abroad. Food miles are clocked up by the fresh fruit and vegetables being flown in or travelling by boat to the supermarkets.

Advantages of importing foods

- A wide range of foods are available in our shops all year round e.g. strawberries at Christmas.
- Less energy is used growing certain crops in poorer countries as there is no need for heating glasshouses etc. (less damage to the environment)

Disadvantages of importing foods

- Workers could be working in poor conditions
- Some farmers don't get a pair price for their products
- Local UK farmers don't make as much money
- Environments can be destroyed to make space for farms e.g. the amazon rainforest
- Food isn't as fresh and therefore doesn't contain as many nutrients.

Examples of UK grown produce

Autumn	Winter	Spring	Summer
Apples Mushrooms Beetroot Pears Potatoes Pumpkin Garlic	Cauliflower Sprouts Suedes Sweet potato Broccoli Oranges Cabbage	Strawberry Carrot Lettuce Leeks Asparagus Peas Spring onion	Cucumber Aubergine Tomato Raspberry Courgette Onion Corn on the cob

Year 8 Geography – Topic: Africa

What is Africa?

Africa is the second largest continent on earth. It is 30million km2 in area.
There are 54 different recognised countries within its territory. The largest in area is Algeria, North Africa.

Where is Africa?

Africa is located between South America, Europe, Asia and Antarctica.

Africa's physical landscapes

Africa includes some of the worlds most famous landscapes including the Sahara Desert, the Congo Rainforest Basin, the Savannah, Mount Kilimanjaro and the Ethiopian Highlands and many more. There are several Biomes within the continent and temperatures vary from below zero to over 50c.

Africa also contains the River Nile the longest in the world and the Okavango Delta. There are also huge lakes such as Lake Victoria and Lake Tanganika and coastal reefs.

Below the Sahara is known as the 'Sahel' region which receives little rain.

Africa's development

Africa today is a rapidly developing continent with some very wealthy fast growing cities within poorer surrounding rural areas.
Africa is currently trading its mineral wealth including rare earth minerals such as lithium and cobalt for investment in its road infrastructure. It also exports vast amounts of agricultural produce such as fruit, flowers and vegetables. 'Cash crops' such as coffee, sugar, bananas and cacao (chocolate) are exported. Some countries in Africa contain large fossil fuel reserves such as Nigeria.

Africa's population

Africa has the largest proportion of children for its total population on Earth. Life expectancy and birth rates are growing and death rates (including infants) have fallen. There are a growing number of people of 'working ages' in Africa. The largest populations are found in Nigeria, Ethiopia, Egypt and DR Congo.

Africa's Colonial past

European countries controlled large parts of Africa and exploited its mineral wealth and people through the slave trade. Many African countries retain colonial links such that South Africa has links to Belgium/ Netherlands and the UK, Morocco and Algeria to France, Libya to Italy, Kenya and Egypt to the UK, DRC and Namibia to Germany.

Africa's Culture

Africa has a range of religions, ethnicities and nationalities. This has sometimes caused conflicts and civil-wars which can devastate the countries progress with development.

Africa's future

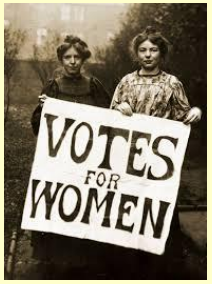
Africa has arguably the greatest interest to potential investors of anywhere on Earth due to its low wages and vast resources.
Cities in Africa contain technology but also vast slums.
As the countries develop it is predicted that Birth Rates will drop and wealth will increase.

Key Vocabulary

Sahel
Sahara
Congo Basin
Savannah
Rare Earth minerals
Cash crops
Infant Mortality Rates
Fertility Rates
Life expectancy
Colonialism
Slavery
Civil-War
Development
Slums
Poverty

Year 8 History – Topic: The Suffrage Movement

Timeline of Key Events	
1897	NUWSS formed. Millicent Fawcett is leader.
1903	WSPU formed by Emmeline Pankhurst and daughters.
1905	Militant Campaign begins
1908	Mass rally in London – 300,000 to 500,000 activists attend. Window smashing using stones with written pleas on them.
1909	Hunger strike and force feeding starts – Marian Wallace Dunlop becomes the first hunger striker.
1913	Militant bomb and arson campaigns and increasing arrests which results in the passing of the "Cat and Mouse" Act.: hunger strikers temporarily released then rearrested to prevent dying in police custody
1913	Emily Wilding Davison attempts to pin a Suffragette scarf onto the King's Horse at the Derby. She is struck by the horse and dies 4 days later.
1914	WW1 starts – Suffragette leaders urge women to join the war effort. NUWSS continues to campaign for recognition for their work.
1918	The Representation of the People Act is passed, allowing men over 21 and women over 30 to vote.



Emmeline Pankhurst – WSPU	Christabel Pankhurst - WSPU	Emily Wilding Davison - WSPU	Millicent Fawcett - NUWSS
Led the WSPU from October 1903. Took more militant action such as windows smashing, arson and hunger strikes. Arrested numerous times, went on hunger strike and was force fed. Died in 1928.	Became a speaker for the WSPU in 1905. She trained as a lawyer but could not practice as woman. Arrested with her mother. Fled England in 1912 for fear of being arrested again. Unsuccessfully ran for Parliament in 1918.	Joined WSPU in 1906. Became a suffragette full time. Frequently arrested for number of crimes inc. setting fire to post box. By 1911, become increasingly militant.	Leading suffragist and led NUWSS. Played a key role in getting women the vote. Dedicated to using constitutional means, and argued that militancy was counter-productive.

Key Vocabulary

Women's Suffrage - Women having the right to vote

NUWSS - National Union of Women's Suffrage Societies.

WSPU - Women's Social and Political Union.

Militant - Confrontational or violent methods in support or a political or social cause.

Representation of the People Act - This Act widened suffrage by abolishing almost all property qualifications for men and by enfranchising women over 30 who owned property.

Institutionalised sexism - Discrimination, prejudice or stereotyping based on gender.

Gender Equality - The sate in which access to rights or opportunities is unaffected by gender.

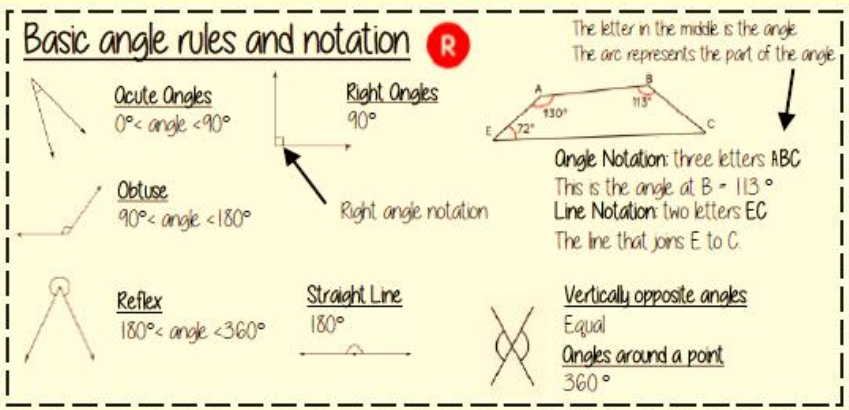
Year 8 Maths - Unit 13 – Angles Facts

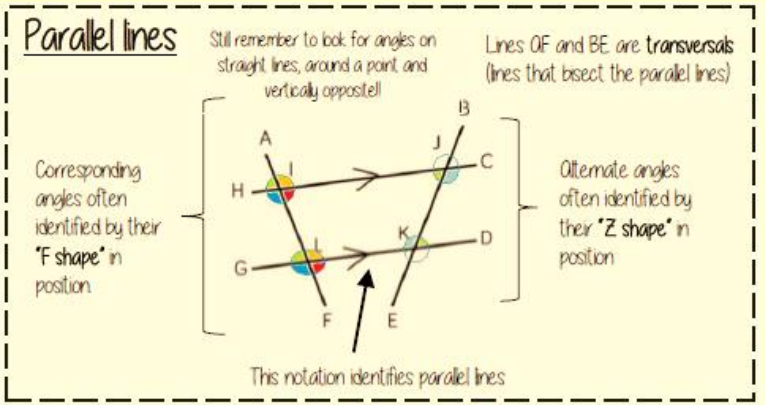
What do I need to be able to do?

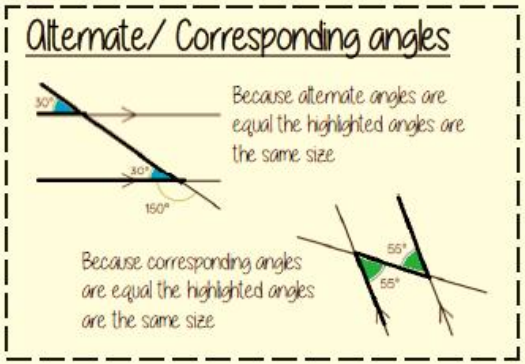
- Identify alternate angles
- Identify corresponding angles.
- Identify Co-interior angles
- Find the sum of interior angles
- Find the sum of exterior angles
- Find the size of each angle in a regular polygon

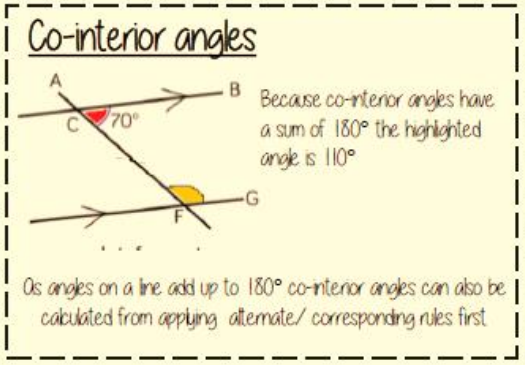
Vocabulary

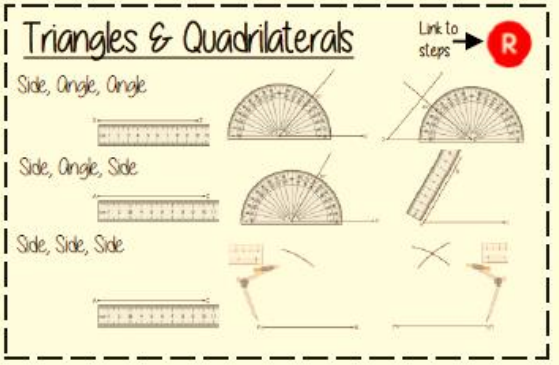
Angle: the space formed between two straight lines
Irregular: a polygon with differing lengths and angles
Isosceles: a triangle with two equal lengths and two equal angles
Parallel: straight lines that will never meet
Perpendicular: two lines that meet at a right angle
Polygon: a 2D shape made of only straight lines
Regular: a polygon that has all equal lengths and equal angles.
Sum: the result of adding the given values together
Transversal: a straight line that crosses over two or more parallel lines











Parallel Lines

Triangles

Properties of Quadrilaterals

Square
All sides equal size
All angles 90°
Opposite sides are parallel

Rectangle
All angles 90°
Opposite sides are parallel

Rhombus
All sides equal size
Opposite angles are equal

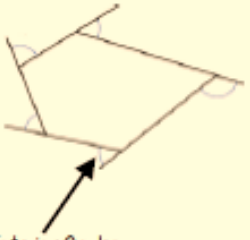
Parallelogram
Opposite sides are parallel
Opposite angles are equal
Co-interior angles

Trapezium
One pair of parallel lines

Kite
No parallel lines
Equal lengths on top sides
Equal lengths on bottom sides
One pair of equal angles

Sum of exterior angles

Exterior angles all add up to 360°



Exterior Angles
Are the angle formed from the straight-line extension at the side of the shape

Using exterior angles

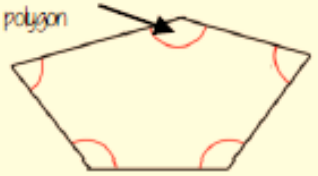
Interior angle + Exterior angle = straight line = 180°
Exterior angle = 180 – 165 = 15°

Number of sides = 360° ÷ exterior angle
Number of sides = 360 ÷ 15 = 24 sides

Sum of interior angles

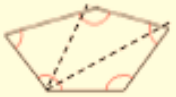
(number of sides – 2) x 180

Interior Angles
The angles enclosed by the polygon



This is an irregular polygon – the sides and angles are different sizes

Sum of the interior angles = (5 – 2) x 180



This shape can be made from three triangles
Each triangle has 180°

Sum of the interior angles = 3 x 180
= 540°

Remember this is all of the interior angles added together

Missing angles in regular polygons

Exterior angle = 360 ÷ 8 = 45°

Interior angle = $\frac{(8-2) \times 180}{8} = \frac{6 \times 180}{8}$ = 135°

Exterior angles in regular polygons = 360° ÷ number of sides

Interior angles in regular polygons = $\frac{(\text{number of sides} - 2) \times 180}{\text{number of sides}}$

Sum of Interior Angles

Properties of Quadrilaterals

A job that relies on geometry: **CAD Engineer**

A CAD engineer, or computer aided design engineer, creates construction plans for cars, bridges, skyscrapers or other buildings using software systems. Their main responsibilities include designing 2D or 3D images for construction workers to accurately present complex projects, establishing budgets and timelines and analysing the data of certain projects to develop creative solutions to any design issues.

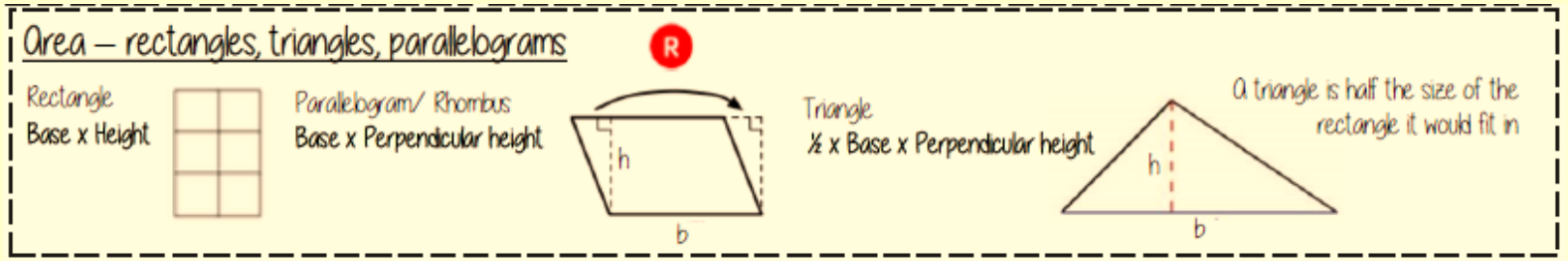
Year 8 Maths - Unit 14 – Area of 2D shapes

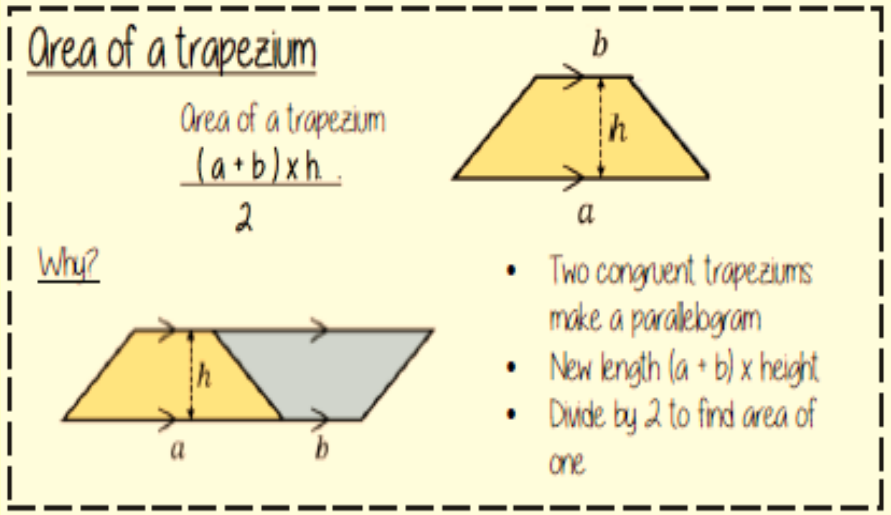
What do I need to be able to do?

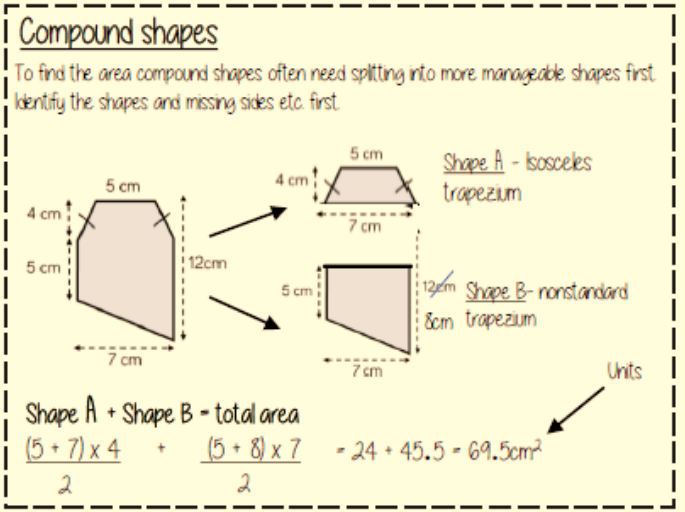
- Find the area of rectangles, triangles and parallelograms.
- Find the area of a trapezium
- Find the area of a circle
- Find the area of compound shapes
- Find the perimeter of compound shapes

Vocabulary

Area: the space inside a 2D object
Congruent: two shapes that are the same
Formula: a mathematical rule give in symbols
Infinity: a number without a given ending, too great to count.
Perpendicular: Two lines that meet at a right angle
Perimeter: the length around the outside of a 2D object
Pi: The ratio of a circles circumference to its diameter
Sector: a part of circle cut off by two radii (the shape of a slice of pizza)







Parallelograms

Triangles

Trapezium

Compound Shapes

Area of a circle (Non-Calculator)

Read the question – leave in terms of π or if $\pi \approx 3$ (provides an estimate for answers)

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

Diameter = 8cm
∴ Radius = 4cm

$\pi \times \text{radius}^2$
$= \pi \times 4^2$
$= \pi \times 16$
$= 16\pi \text{ cm}^2$

Find the area of one quarter of the circle

Radius = 4cm

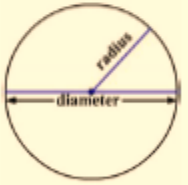
Circle Area = $16\pi \text{ cm}^2$
Quarter = $4\pi \text{ cm}^2$

Area of a circle (Calculator)

SHIFT ×10ˣ

How to get π symbol on the calculator

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



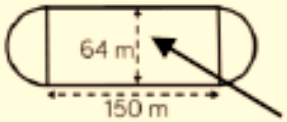
It is important to round your answer suitably – to significant figures or decimal places. This will give you a decimal solution that will go on forever!

Compound shapes including circles

Circumference
$\pi \times$ diameter

Compound shapes are not always area questions. For Perimeter you will need to use the circumference

Spotting diameters and radii



This dimension is also the diameter of the semi circles

Arc lengths = $\pi \times 64$
$= 64\pi$

Don't need to halve this because there are 2 ends which make the whole circle

Arc lengths + Straight lengths = total perimeter

$= 64\pi + 150 + 150$
$= (300 + 64\pi)$ m
OR = 501.1 m

Still remember to split up the compound shape into smaller more manageable individual shapes first

Area of a Circle

A job that relies on geometry: **Interior Designer**

An interior designer builds plans for living or working spaces from start to finish. Their main duties include sketching design plans according to clients' needs, goals and preferences, sourcing products or materials to use in the space, deciding on prices to complete projects and using computer applications to conduct the design process.

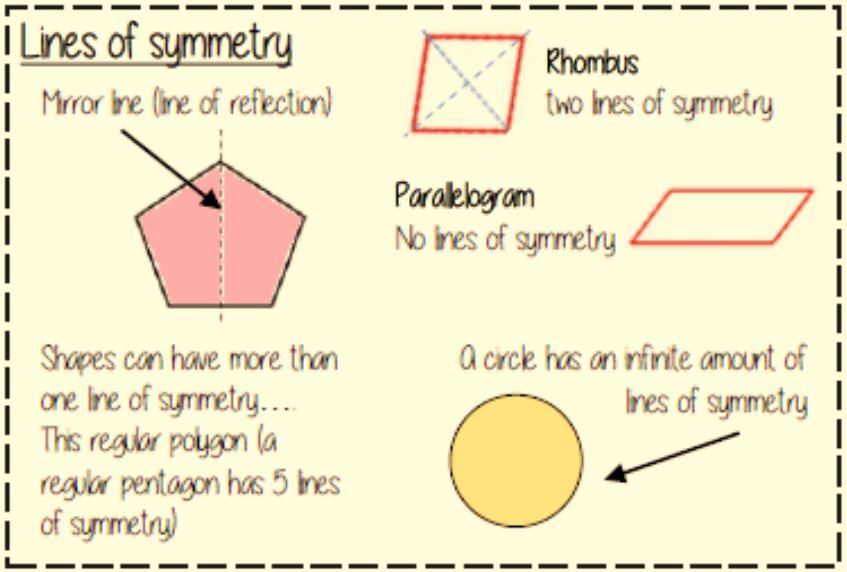
Year 8 Maths - Unit 15 –Reflection and Symmetry

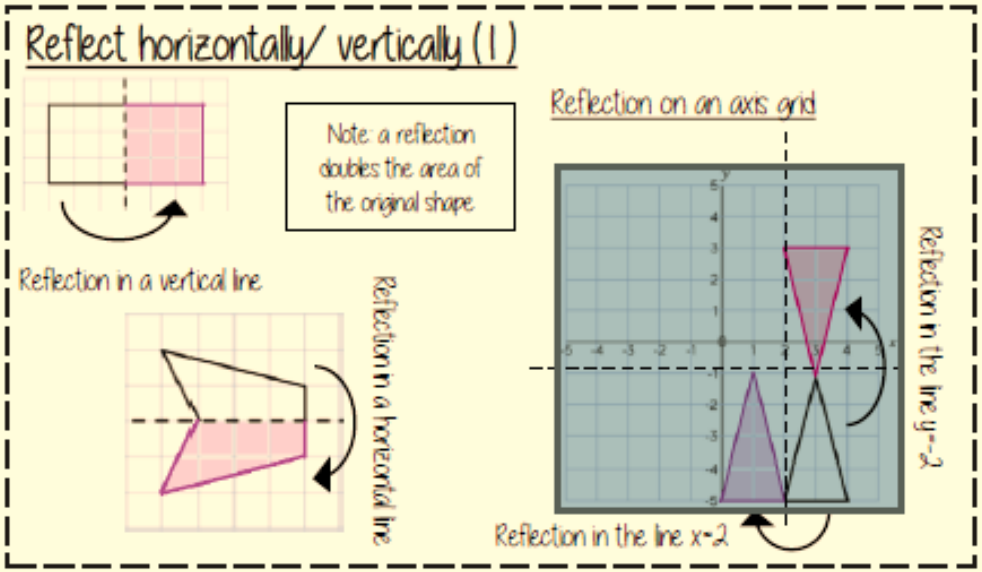
What do I need to be able to do?

- Recognise lines of symmetry
- Plot lines horizontal and vertical to the axes
- Reflect in a horizontal line
- Reflect in a vertical line
- Reflect in a diagonal line
- Reflect given the equation of the mirror line

Vocabulary

Horizontal: a straight line going from left to right (parallel to the x-axis)
Line of Symmetry: another word for the mirror line
Mirror Line: a line passes through the centre of a shape with a mirror image either side
Perpendicular: two lines that cross to make a right angle
Reflect: mapping of one object from one position to another
Vertical: a straight line going from top to bottom (parallel to the y axis)
Vertex: a point where two or more line segments meet





Reflective Symmetry

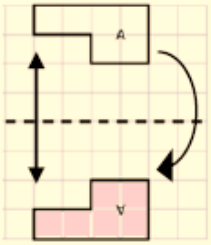
Rotational Symmetry

Vertical Lines

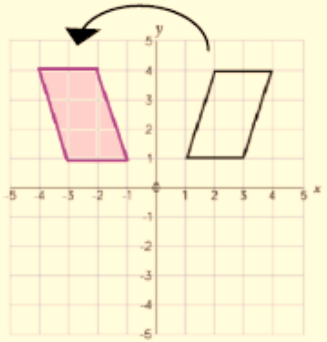
Horinzontal Lines

Reflect horizontally/ vertically (2)

All points need to be the same distance away from the line of reflection



Reflection in the line y axis – this is also a reflection in the line x=0



Lines parallel to the x and y axis

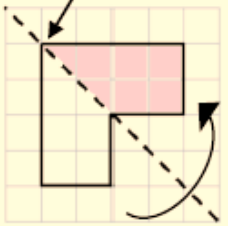
REMEMBER

Lines parallel to the x-axis are y = ____

Lines parallel to the y-axis are x = ____

Reflect Diagonally (1)

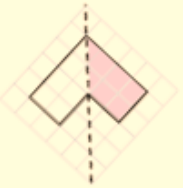
Points on the mirror line don't change position

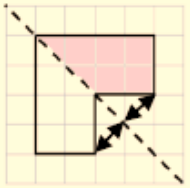


Fold along the line of symmetry to check the direction of the reflection

Turn your image

If you turn your image it becomes a vertical/ horizontal reflection (also good to check your answer this way)



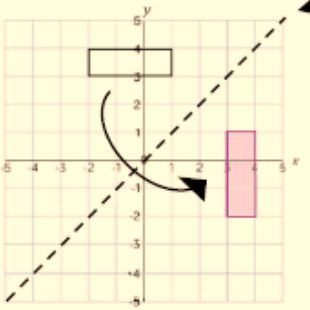


Drawing perpendicular lines

Perpendicular lines to and from the mirror line can help you to plot diagonal reflections

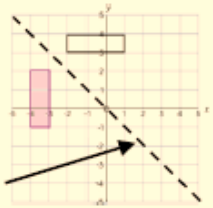
Reflect Diagonally (2)

This is the line **y = x** (every y coordinate is the same as the x coordinate along this line)



This is the line **y = - x**

The x and y coordinate have the same value but opposite sign



Turn your image

If you turn your image it becomes a vertical/ horizontal reflection (also good to check your answer this way)

Reflections

Perpendicular Lines

Parallel Lines

A job that relies on geometry:

Fashion Designer

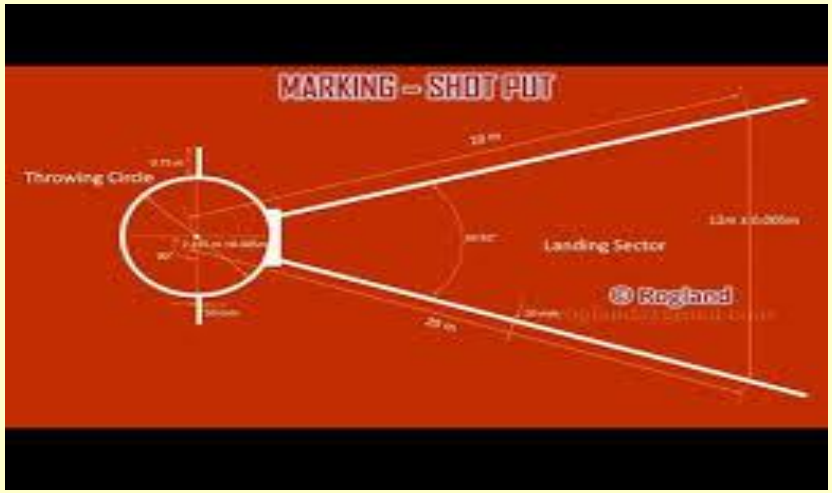
Fashion designers create and assist in producing different clothing items, shoes and accessories. Their main duties are choosing fabrics, materials, styles, prints and colors, identifying upcoming fashion trends, traveling to fashion shows and deciding on seasonal themes for new product lines.

Year 8 Physical Education - Topic: Athletics

Running, Sprinting – 200m
•Explosive **start** from crouch position
• Increase speed out of the bends and hug the curve.
•Upright running – high knees, relaxed shoulders, dip at the line.
Rules
False starts result in disqualification.
Must stay in your own lane.
Running, Relay 4x 100m
Rules:
Baton must be exchanged inside the zone.
Dropping the baton can lead to disqualification.
You must stay in your lane

Jumping – High Jump
Take-off: Plant take-off foot firmly, drive opposite knee up.
Flight: Arch back over the bar (head first, then hips and legs).
Rules:
3 attempts per height. A failed attempt occurs if you knock the bar down or don't clear it.

Key Vocabulary
Sprinting
Speed,- the ability to move the body from point A to B
Reaction time – the time taken for a sports performer to respond to a stimulus and the initiation of the response
Distance Running
Aerobic endurance – the ability of the cardiorespiratory system to provide oxygen to the working muscles
High Jump, Fosbury flop
Shot
Javelin
Power- The ability to apply speed and strength



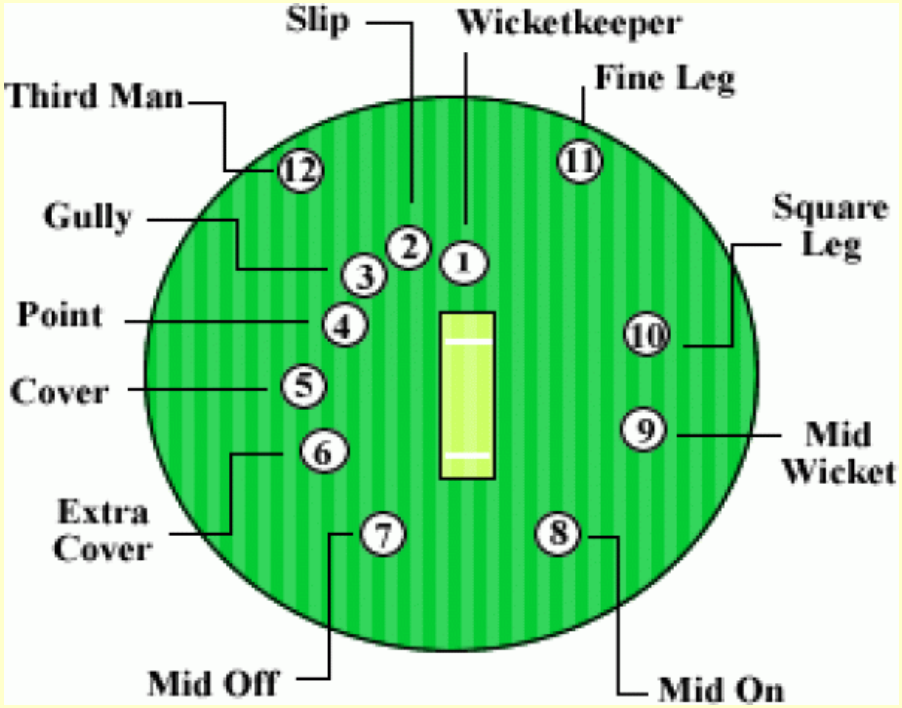
Throwing – Javelin
•Grip: Hold javelin at grip point, fingers under.
•Throw: Strong push from back leg, release at 45°
Rules
•Javelin tip must hit ground first even if it doesn't stick in.
Throwing -Shot Put
•Grip: Shot rests at base of fingers, not palm.
•Stance: Start in low position, weight on back leg.
•Push, not throw! – Extend arm, drive forward.
Rules:
•Must stay inside the circle.
•Shot must land in marked area

Year 8 Physical Education – Topic: Cricket

Basic Skills
Batting: Grip, stance, shot selection (e.g., drive, cut, pull).
Bowling: Run-up, delivery technique, line and length (fast or spin).
Fielding: Catching, throwing, backing up, and stopping the ball.
Wicketkeeping: Quick reflexes for catching and stumping behind the stumps.

Health & Fitness Benefits
- Improves hand-eye coordination
- Builds teamwork and communication skills
- Develops cardiovascular endurance and agility
- Enhances concentration and strategic thinking

Tactical Concepts
- **Running Between Wickets**: Communication and speed to maximize runs.
- **Field Placements**: Changing fielders' positions based on the batter's strengths.
- **Bowling Strategies**: Varying pace, length, and line to outwit the batter.



Equipment
- Cricket bat (usually made of willow)
- Hard leather cricket ball
- Stumps and bails (3 stumps, 2 bails)
- Batting pads and gloves
- Helmet with face guard
- Wicketkeeping gloves and pads (for wicketkeepers)

Rules of The Game

Year 8 Physical Education – Topic - Rounders

Types of throwing:

Underarm Throw

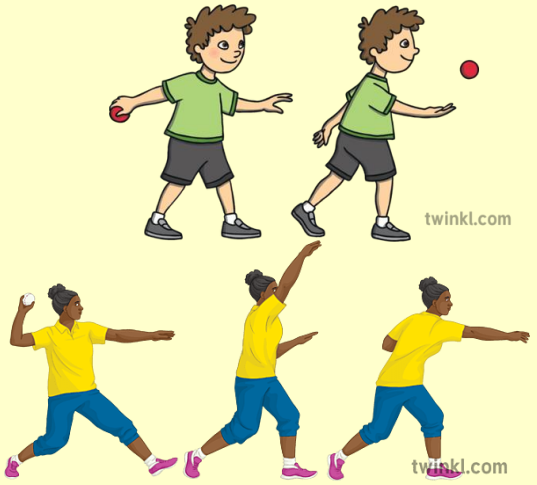
•**How it's done:** This is the most common and basic throw. The player holds the ball in one hand, swings their arm under their body, and releases the ball while their arm is low.

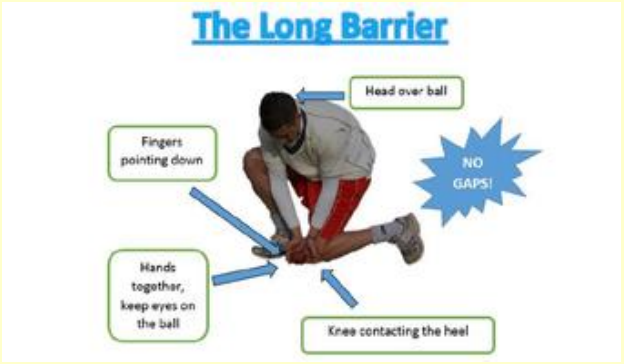
•**When to use it:** Underarm throws are great for accuracy and control. They're often used when the ball needs to be thrown over a short distance, like when a fielder is throwing the ball to a base to try and get the batter out.

2. Overarm Throw

•**How it's done:** For this throw, the player raises their arm above their shoulder and then throws the ball with their arm going in a high arc. The ball is released over the top of their body.

•**When to use it:** Overarm throws are usually used when a player needs to throw the ball farther, especially when trying to get the ball to a teammate at a distant base. It's faster but can be harder to control.





Short and long barrier:

•**Short barrier**: Fielders are closer to the batter, ready to stop short hits. They're in positions like **shortstop** and **backstop**.

•**Long barrier**: Fielders are farther away, covering the deeper areas of the field for long hits, such as the **outfielders**.

Rounders position:	What is their role?
Bowler	Stand with one-foot infront of the other. Step forward with the opposite foot to throwing up to stay balanced. Use your non throwing arm to point in the direction that you want the ball to go. The bowler should bowl the ball underarm. Point fingers at target as you release.
Backstop	In rounders, a backstop is the person who stands behind the batter. Their job is to catch any balls that are missed or that get past the batter. This helps to make sure the ball doesn't roll too far away, so the game can keep going without losing the ball. The backstop also tries to stop the batter from running to the next post by getting the ball back to the players quickly.
Fielders	In rounders, fielders are players who stand in different positions around the field to stop the batter from running to the posts. They try to catch the ball or get it to the posts quickly to get the batter out.

Key vocabulary:

Underarm
Overarm
Short and long barrier
Bowler
Backstop
Fielders

Summer 1 Year 8 Science: Topics: Car Designer and Jeweller

Key Vocabulary:
Newtons
Forces
Resolve
Unbalanced
Balanced
Resultant
Acceleration
Stationary
Velocity
Mass

- Forces are measured in Newtons
- If forces are pointing in the same direction you add them.
- If they are in opposite directions you subtract them.
- We can use Force = Mass x acceleration
- Velocity is speed in a direction
- Mass is measured in Kilograms
- Stationary means to not move.

- Chemicals are made up of different atoms with specific formulas.
- Formulas use notations such as CH_4 this means that here is 1 Carbon and 4 Hydrogen atoms.
- -ate , has oxygen
- -ide, is a non metal,
- Sulphate means SO_2

Key Vocabulary:
Formula
Oxide
Reactivity
Nomenclature
Displacement
Oxidation
Formulation
Word Equation

Key Question:
What is the resultant force on an object with 2 Forces of 15N in the same direction?

Key Question:
What is the name of the following molecules:
H_2S
MgO
H_2O

Summer 1 Year 8 Science: Topic: Horticulturist

- Glucose is made through photosynthesis of water and carbon dioxide.
- Plants use photosynthesis by using their chlorophyll and light.

HORTICULTURIST

- Compare growth in different light conditions and water conditions.
- Light is essential for photosynthesis.
- Variety of life in an area.
- More biodiversity = healthier ecosystems.

Key Vocabulary:

Photosynthesis
Limiting Factors
Starch
Transpiration
Structure
Diffusion
Optimised
Product
Glucose
Protein
Rate of reaction
Chlorophyll
Light intensity
Lumens
Spongey mesophyll
Equilibrium
Rapid

Key Question:
How does amount of sunlight and water affect the rate of photosynthesis?

Year 8 Spanish – Topic: **¿Qué hay en tu ciudad?**

¿Qué hay en tu ciudad?	***What is there in your town?***
Hay…	There is…
un castillo	*castle*
un centro comercial	shopping centre
un estadio	a stadium
un mercado	a market
un museo	a museum
un parque	a park
una piscina	a swimming pool
una plaza	a square
un polideportivo	a sports centre
un restaurante	a restaurant
una tienda	a shop
una universidad	*a university*

En…	*In…*
mi barrio	*my neighbourhood*
mi ciudad	*my town, my city*
mi pueblo	*my village, my town*
No hay museo.	*There isn't a museum.*
No hay nada.	*There's nothing.*
unos museos	*some museums*
unas tiendas	*some shops*
muchos museos	*a lot of museums*
muchas tiendas	*a lot of shops*

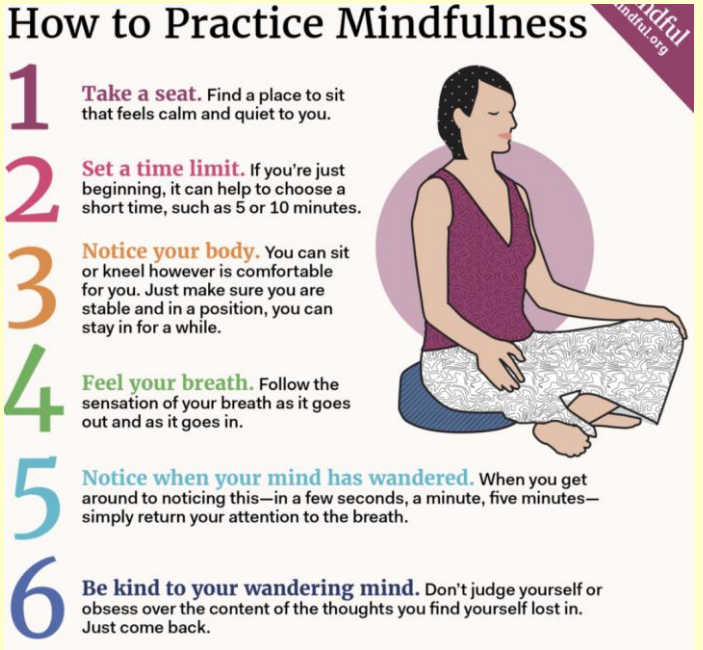
¿Qué haces en la ciudad?	***What do you do in town?***
Salgo con mis amigos.	I go out with my friends.
Voy…	I go…
al cine	to the cinema
al parque	to the park
a la bolera	to the bowling alley
a la cafetería	to the café
a la playa	to the beach
de compras	*shopping*
de paseo	*for a walk*
No hago nada.	*I do nothing.*

¿Qué hora es?	***What time is it?***
Es la una.	It's one o'clock.
Son las dos.	It's two o'clock.
Es la una y cinco.	It's five past one.
Son las dos y diez.	It's ten past two.
Son las tres y cuarto.	It's quarter past three.
Son las cuatro y veinte.	It's twenty past four.
Son las cinco y veinticinco.	*It's twenty-five past five.*
Son las seis y media.	*It's half past six.*
Son las siete menos veinticinco.	*It's twenty-five to seven.*
Son las ocho menos veinte.	*It's twenty to eight.*
Son las nueve menos cuarto.	*It's quarter to nine.*

Son las diez menos diez.	*It's ten to ten.*
Son las once menos cinco.	*It's five to eleven.*
Son las doce.	*It's twelve o'clock.*
¿A qué hora?	*At what time?*
a la una	*at one o'clock*
a las dos	*at two o'clock*

Year 8 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…

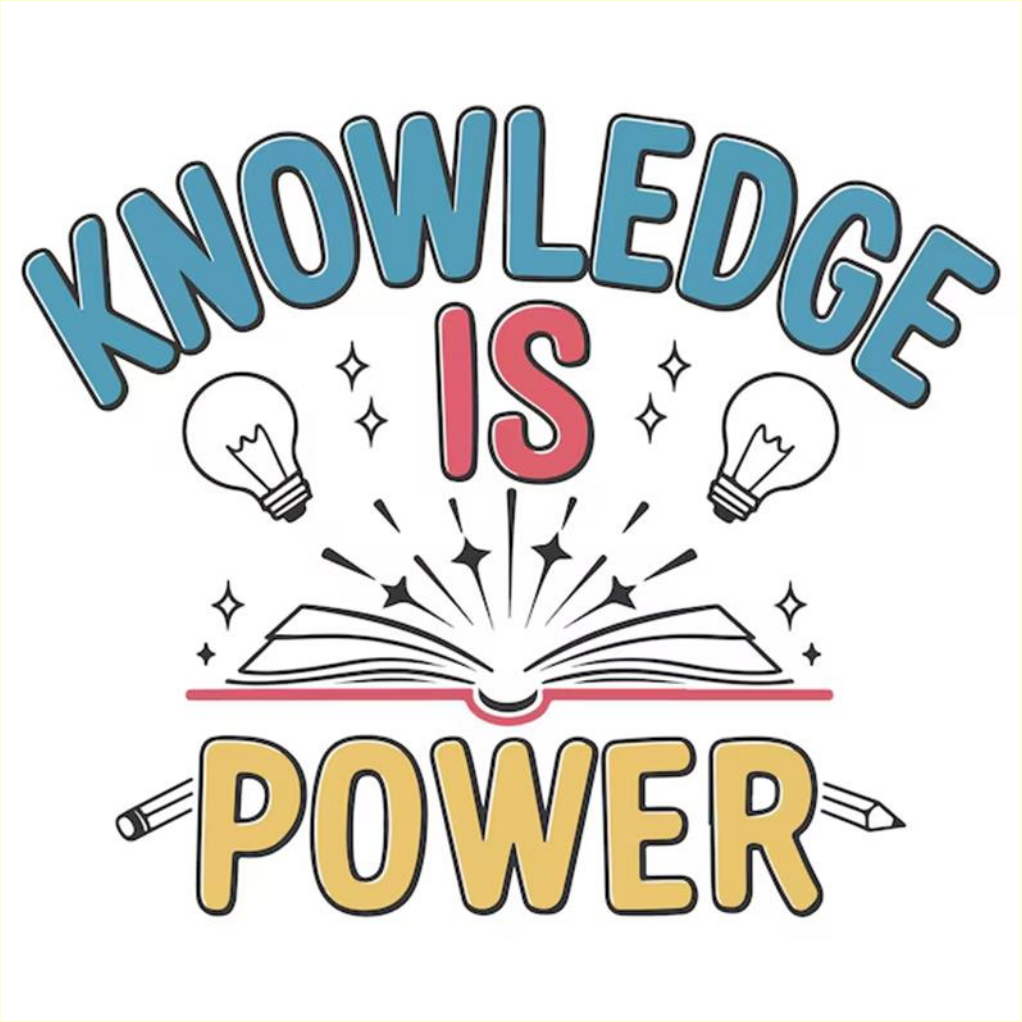


I know it seems way too simple! But this is an ancient practice with traditions in all major religions – including Islam and Christianity!
I know that it will seem odd at first. That is your worrying mind trying to stop you taking control over it!
But stick with it – it will help! Regularly practicing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

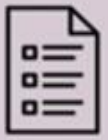
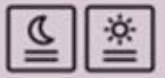
Open Academy Year 8 Knowledge Organiser

Summer Term 2



Contents Page

How to use you 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: Sea Sculpture

Sea Sculpture

This summer term year 8 study artwork with a theme of the sea. They look at ceramic artist Heather Knight and how she uses sea creatures and shells as inspiration.

They design their own sea sculpture vessel and make it in air drying clay. They then paint it using natural sea colours.

Task:

Create <u>two</u> designs showing **applied** textures.

Create two designs showing **incised** textures.

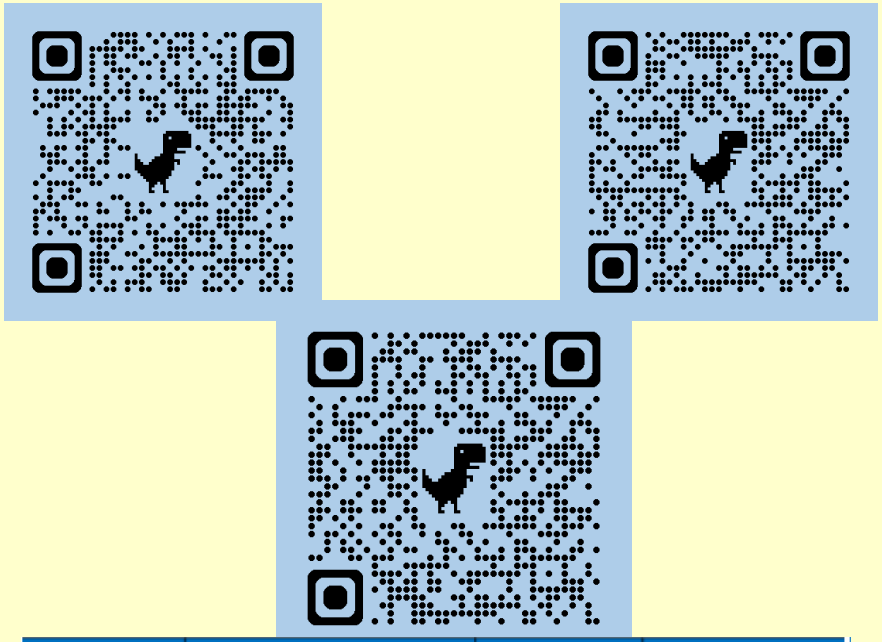
Use the next page of resources to help you

Year 8 Computer Science - Topic: Python

Python's Development Environment Called IDLE – Integrated Development Environment Two Modes: Interactive Mode lets you see your results as you type them. Script Mode lets you save your program and run it again later.

Syntax errors Syntax is the spelling and grammar of a programming language. In programming, a syntax error occurs when:

- there is a spelling mistake.
- there is a grammatical mistake.



Operator	Meaning	Example	Evaluates to
==	equal to	7==7	True
!=	not equal to	6!=7	True
>	Greater than	7>6	True
<	Less than	5<8	True
>=	Greater than or equal to	6>=8	False
<=	Less than or equal to	7<=7	True

```
print ("What is your name?")
firstname = input()
print ("Hello,",firstname)
```

Key Vocabulary:
Syntax
Variable
Function
Selection
Iteration
Typecasting
IF
ELIF
ELSE

Key Questions

- What is a string?
- What is an iteration?
- Give an example of an IF selection
- When do we use ELIF?

Year 8 Drama: Topic 2 – Metamorphosis

The Metamorphosis adapted by **Steven Berkoff** and based on the 1915 novella by German writer **Franz Kafka.**

It tells the story of Gregor Samsa, a travelling salesman who has his whole life ahead of him, but awakes one morning as a massive insect. The Samsa family have to adjust to Gregor's new state but as time goes on, the family lose hope that Gregor will ever return to his normal state.

Steven Berkoff is a British **actor, playwright** and **theatre practitioner.** He is recognised for staging work with a heightened performance style.

His work combines **physical theatre, total theatre** which combines all elements such as **music, voice, movement and spectacle, together** and **expressionism** which seeks to express the inner world of emotion rather than external reality.

Task: Look at the pictures – what do you think is happening in each of these scenes?

Key Vocabulary

Physical Theatre is a **genre** of theatre where physical movement is used to tell the story rather than dialogue.

Physical theatre shows that you don't have to use words to express ideas.

It uses techniques such as **movement, mime, gesture and dance** and can be used to explore complex **social and cultural issues**.

Physical theatre is often **abstract** in style and uses movement in a **stylised** and **representational** way.

Abstract is the opposite of realistic, a character or concept may be symbolised rather than literal.

Stylised is an attempt to enhance a scene using unnatural methods.

Representational is to represent reality or an aspect of real life rather than show realistically.

Year 8 English: Topic – Conflict

Summary

Literature often plays a role in communicating shared experiences and while many of these are positive, literature has played a role in sharing experiences of war, personal conflict and private challenges. In this way, these stories and extracts in this course help us understand some of the most challenging scenarios a people can face.

Why am I learning this?

While developing our language and analysis skills, this course also supports us in being empathetic and expanding our emotional vocabulary.

It is also an opportunity to consider challenging experiences, some of which are from famous moments of history. In this way, we gain a wider perspective on conflict.

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:

Expand your range of emotive adjectives. Conflict is a challenging topic and likely to evoke strong feelings. When using adjectives in this course, think about whether you can find a more ambitious synonym. Use a thesaurus to help you achieve this!

Technical Vocabulary

Assonance – The agreement between sets of vowel sounds.

Cacophony – Clashing or discordant sounds, often used to create unsettling effects.

Dissonance – A contrasting of conflicting combination of vowel sounds.

Fragment sentence – An incomplete idea expressed as a sentence. Often a single word.

Pathetic fallacy – Where the natural world is matched to the mood or feeling.

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

Ambitious Vocabulary

Determination – A strong desire to overcome or achieve something.

Forgiveness – Making peace after a conflict. Allowing and accepting that people make mistakes.

Manipulation – Controlling behaviour or actions. Often for personal gain.

Psychological – Relating to somebody's mind, feelings and emotions and how these might impact their behaviour.

Resilience – An ability to withstand or overcome setbacks and adversity.

Thrilling – A sense of immense excitement.

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

Year 8 Food Technology – Topic:

Nutrients

Macro nutrients – Needed in large quantities in the diet

1. Protein
2. Fats
3. Carbohydrates

Micronutrients – needed in small quantities in the diet

1. Vitamins
2. Minerals

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

Grown and repair of muscles and cells

Example exam questions

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)

What is the macro nutrient found in the following ingredients – butter, sugar, flour, egg? (4 marks)

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.

Function

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

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

Carbohydrates

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

Function

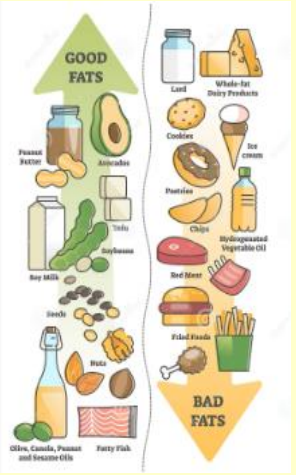
Starchy/complex carbohydrates are digested slowly and provide long term energy.

Sugary/simple carbohydrates are digested slowly and provide short term energy

Food sources

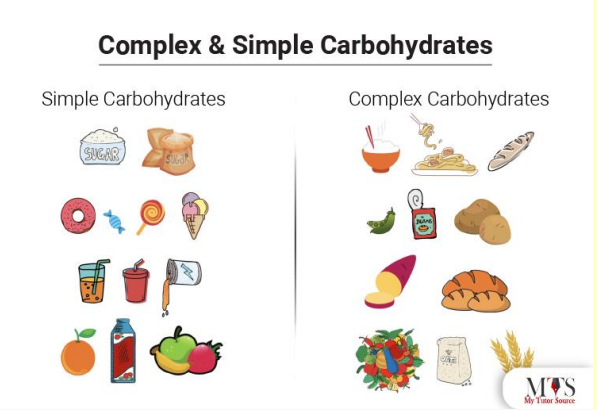
Starchy – bread, rice, pasta, potatoes, bagels, oats, flour, cereal and some vegetables.

Simple – fruit, some vegetables, sugar, honey, syrup, sweets, fizzy drinks



Key Vocabulary

Macro nutrients
Micronutrients
Protein
Fats
Carbohydrates
Vitamins
Minerals
Function
Sources
Types
Saturated
Unsaturated
Plant based
Animal Based



Year 9 Geography - Topic: Local Area project

Local Fieldwork Investigation process

- **Enquiry question**
- **Methods of data collection**
- **Data presentation**
- **Data analysis and conclusions**
- **Evaluation**

Data Collection

Primary Data

Data collected by students themselves. This could be data that is easily graphed with numbers or data that gives information and is not so easily graphed e.g. opinions.

Secondary Data

Geographers can research and even collect information about areas of study before they carry out fieldwork. This means the data collected is from elsewhere or by others.

Data Presentation

Graphs

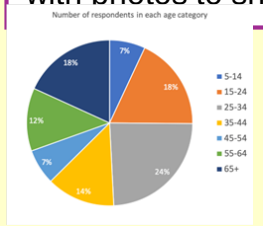
Bar graphs are the simplest way to show results that were collected in categories. Pie graphs are also great ways to compare big and small categories to each-other. Scatter graphs compare 2 sets of data.

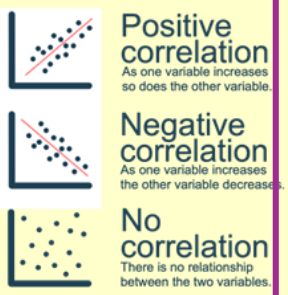
Tables

Data in tables can be useful to then calculate averages etc.

Field-sketch/photos

These can be useful to show how something appeared at a certain time and can be compared with photos to show changes.





Conclusions

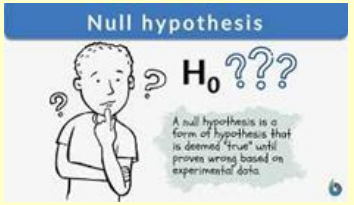
Once data has been analysed it is important to re-visit the original hypothesis. Ideally you will have different types of data as evidence. You must then make summary statements and observations about what this told you.

Evaluation

Finally students weigh up the successes and failures of the fieldwork project.

Key Vocabulary

Primary data
Secondary data
Hypothesis
Transect
Sampling
Bi-polar analysis
Fieldsketch
Pie chart
Scattergraph
Radar graph
Correlation
Proportional symbols
Averages (mean/mode/median)
Conclusion
Judgement
Reliability
Limitations
Evaluation



Summer 2

Year 8 History – Topic: World War I

Long-Term Causes of World War One

Militarism - the arms race between Britain and Germany to build Dreadnaughts resulted in increasing tension and conflict between them
Alliances – the Triple Alliance (Germany, Austria-Hungary and Italy) and Triple Entente (Britain, France and Russia) had agreed to support each other in a war
Imperialism – Britain and France had large empires overseas. Germany wanted an empire too, but most of the available land had already been taken, resulting in tension between the 'great powers'

Trigger Cause of World War One:
Assassination of Franz Ferdinand – Serbian nationalist Gavrilo Princip shot and killed the heir to the Austro-Hungarian throne, along with his wife, while was visiting Sarajevo. This caused Austria to declare war on Serbia, which led to Russia attacking Austria and a domino effect of other nations joining in…

Why did British men want to fight in 1914?	
Patriotism	They had been brought up to love their king and country
Social pressure	Fear of being called a coward or being given a white feather by a woman
Sense of adventure	Many had never travelled abroad before
Propaganda	Propaganda posters used very persuasive techniques
Belief in a quick victory	Many thought the war would be 'over by Christmas'. They didn't want to miss out.

Timeline of key events	
28 June 1914	Assassination of Archduke Franz Ferdinand in Sarajevo.
4 August 1914	Britian declares war on Germany
August to December 1914	Germany's Schlieffen Plan fails to defeat France and Britain quickly; system of trenches is dug from Switzerland to the English Channel: **STALEMATE**
April 1915	Second Battle of Ypres – poison gas used for the first time
31 May – 1 June 1916	Battle of Jutland – the only major sea battle of the war proves inconclusive
1 July – November 1916	Battle of the Somme
6 April 1917	USA declares war on Germany
March 1918	Russia signs the Treaty of Brest Litovsk with Germany after the Bolshevik Revolution. Russia stops fighting Germany.
9 November 1918	Kaiser Wilhelm abdicates
11 November 1918	Germany signs armistice, ending the war

Fighting in World War I

- Soldiers spent time living in trenches. Conditions were often terrible.
- Soldiers tried to attack by crossing 'No man's land' to attack the enemy trenches.
- Machine guns and artillery caused huge numbers of deaths and injuries.
- Britain lost around 880,000 killed and around 1.6 million wounded.
- People hoped that it was 'The war to end all wars', meaning that the casualties had been so dreadful that surely nobody would want to start such a war again...

Key Vocabulary

- Abdicate
- Alliances
- Armistice
- Arms race
- Artillery
- Assassination
- Cause
- Dreadnaught
- Imperialism
- Kaiser
- Long-term cause
- Machine-gun
- Militarism
- Nationalist
- No-man's land
- Propaganda
- Schlieffen Plan
- Trench
- Trigger cause

Year 8 Maths - Unit 16 – The Data Handling Cycle

What do I need to be able to do?

- Set up a statistical enquiry
- Design and criticise questionnaires
- Draw and interpret bar charts
- Draw and interpret line graphs
- Find and interpret the range
- Compare two distributions
- Represent grouped data in different ways

Vocabulary

Average: the general pattern or trend, usually given by the mean
Continuous Data: numerical data that has an infinite number of values
Discrete Data: numerical data that can only take certain values
Hypothesis: an idea or question you want to test
Primary Data: data that you have collected yourself
Proportion: numerical relationship between two things
Sampling: the group of things you want to use to check your hypothesis
Secondary Data: data you have sourced from somewhere else e.g the internet
Spread: how varied the data is, given by the range

Set up a statistical enquiry

Write a suitable hypothesis → Design a data collection sheet → Pros/ Cons of sampling → Pros/ Cons primary or secondary data → Discrete or continuous data?

Features of a data collection sheet

Grouped or ungrouped categories →

Data Title	Tally	Frequency

← Total number of that group observed

Design and criticise a questionnaire

The Question - be clear with the question - don't be too leading/ judgemental

e.g How much pocket money do you get a week?

Responses – do you want closed or open responses? – do any options overlap? – Have you an option for all responses?

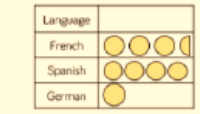
Zero option → ☐ £0 ☐ £0.01 - £2 ☐ £2.01 - £4 ☐ more than £4 ← More option

NOTE: For responses about continuous data include inequalities $< x \leq$

Pictograms, bar and line charts (R)

Represents quantitative data

Pictogram



- Need to remember a key
- Visually able to identify mode

Bar Chart

- Gaps between the bars
- Clearly labelled axes
- Scale for the axes
- Title for the bar chart
- Discrete Data

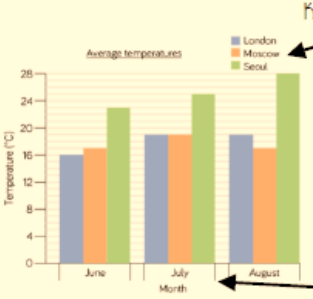
Line Chart

- Gaps between the lines
- Clearly labelled axes
- Scale for the axes
- Discrete Data

Multiple Bar chart

Compares multiple groups of data

- Clearly labelled axes
- Scale for axes
- Comparable data bars drawn next to each other



Key/ Colour code for separate groups of information

Gap between different categories of data

Bar Charts

Questionnaires

Pictograms

Draw and interpret Pie Charts (R)

Remember a circle has 360°

Type of pet	Dog	Cat	Hamster
Frequency	32	25	3

There were 60 people asked in this survey (Total frequency)

$\frac{32}{60}$ "32 out of 60 people had a dog"

This fraction of the 360 degrees represents dogs

$\frac{32}{60} \times 360 = 192°$

Use a protractor to draw This is 192°

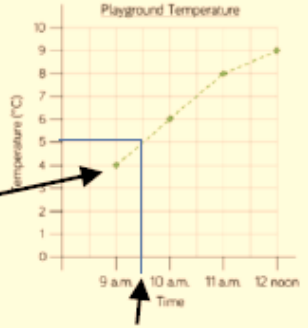
Multiple method
Os 60 goes into 360 – 6 times.
Each frequency can be multiplied by 6 to find the degrees (proportion of 360)

Represents quantitative, discrete data

Draw and interpret line graphs

- Commonly used to show changing over time
- The points are the recorded information and the lines join the points

Line graphs do not need to start from 0



More than one piece of data can be plotted on the same graph to compare data

It is possible to make estimates from the line e.g. temperature at 9.30am is 5°C

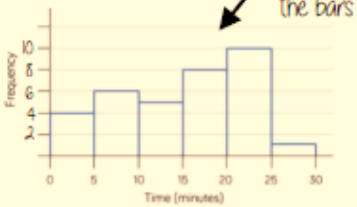
Grouped quantitative data

Time (minutes)	Frequency
$0 \le t < 5$	4
$5 \le t < 10$	6
$10 \le t < 15$	5
$15 \le t < 20$	8
$20 \le t < 25$	10
$25 \le t < 30$	1

"More than or equal to 25 and less than 30 minutes"

The use of inequalities shows that this will be a frequency diagram

This is a frequency diagram There are no gaps between the bars



Grouping the data is useful if there is a large spread of data to begin with

Find and interpret the range

The range is a measure of **spread**

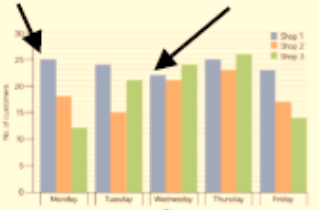
Difference between the biggest and smallest values

A smaller range means there is less variation in the results – it is more consistent data

A range of 0 means all the data is the same value

Shop 1 highest value

Shop 1 lowest value



Shop 1 has the smallest range – this indicates it has a more consistent flow of customers each week

Range of customers = 25 – 22 = 3 (Shop 1)

Line Graphs

The Range

Pie Charts

Grouped Data

A job that relies on the Data Handling Cycle:

Statistician

A statistician gathers numerical data and then displays it, helping companies to make sense of quantitative data and to spot trends and make predictions.

They work in a range of sectors, including:
Education ,The Environment, Finance, Forensics, Government, Market Research, Sport and Transportation.

Statisticians design and manage experiments and surveys and deal with the initial collection of data. They process and analyse the data in context, looking for patterns to help make decisions. They then advise on findings and recommend strategy.

Year 8 Maths - Unit 17 – Measures of Location

What do I need to be able to do?

- Understand and use the mean, median, mode and range
- Choose the most appropriate average
- Identify any outliers from data
- Compare Distributions using averages and the range

Vocabulary

Average: an indication of the general pattern, a typical value for all of the data
Consistent: a set of data that is similar and doesn't change very much.
Frequency: the total number of times the data value occurs
Outlier: a value that stands apart from the rest of the data set
Represent: something that shows the value of another number
Spread: how varied the data is, given by the range
Total: all the data added together

Identify outliers

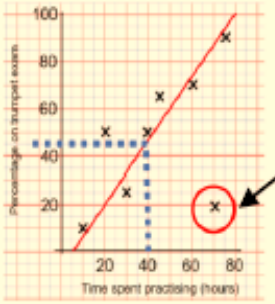
Outliers are values that stand well apart from the rest of the data

Outliers can have a big impact on range and mean
They have less impact on the median and the mode

Sometimes it is best to not use an outlier in calculations

Height in cm
152 150 142 158 182 151 153 149 156 160 151 144

Where an outlier is identified try to give it some context.
This is likely to be a taller member of the group.
Could the be an older student or a teacher?



Outliers can also be identified graphically e.g. on scatter graphs

Comparing distributions

Comparisons should include a statement of average and central tendency, as well as a statement about spread and consistency.

Here are the number of runs scored last month by Lucy and James in cricket matches
Lucy: 45, 32, 37, 41, 48, 35
James: 60, 90, 41, 23, 14, 23

Lucy
Mean: 396 (1dp), Median: 38 Mode: no mode, Range: 16

James
Mean: 418 (1dp), Median: 32, Mode: 23, Range: 76

James has two extreme values that have a big impact on the range

"James is less consistent that Lucy because his scores have a greater range. Lucy performed better on average because her scores have a similar mean and a higher median"

The Mode

The Mean

The Median

Mean, Median, Mode

The Mean

A measure of average to find the central tendency… a typical value that represents the data

24, 8, 4, 11, 8,

Find the sum of the data (add the values) 55

Divide the overall total by how many pieces of data you have $55 \div 5$

Mean = 11

The Median

The value in the center (in the middle) of the data

24, 8, 4, 11, 8,

Put the data in order 4, 8, 8, 11, 24

Find the value in the middle 4, 8, **8**, 11, 24

Median = 8

NOTE: If there is no single middle value find the mean of the two numbers left

The Mode (The modal value)

This is the number OR the item that occurs the most (it does not have to be numerical)

24, 8, 4, 11, 8,

This can still be easier if it the data is ordered first

4, 8, 8, 11, 24

Mode = 8

Choosing the appropriate average

The average should be a representative of the data set – so it should be compared to the set as a whole - to check if it is an appropriate average

Here are the weekly wages of a small firm

£240	£240	£240	£240	£240
£260	£260	£300	£350	£700

Which average best represents the weekly wage?

The Mean = £307

The Median = £250

The Mode = £240

Put the data back into context

Mean/Median – too high (most of this company earn £240)

Mode is the best average that represents this wage

It is likely that the salaries above £240 are more senior staff members – their salary doesn't represent the average weekly wage of the majority of employers

Retail Management

Management in shops need to analyse different pieces of data so they can optimise profits. Averages they analyse include:

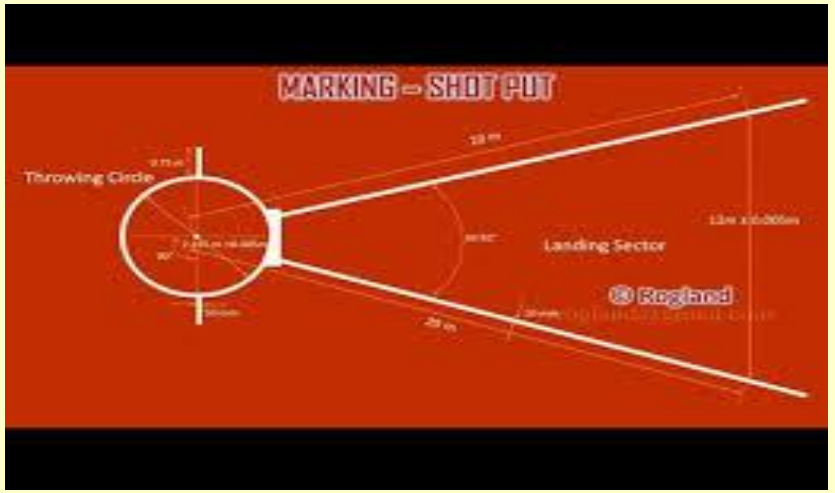
- Stock Sales (How much of each item is sold)
- Employee Performance
- Patterns in peak times and seasons
- Averages profit per item

Year 8 Physical Education - Topic: Athletics

Running, Sprinting – 200m
•Explosive **start** from crouch position
• Increase speed out of the bends and hug the curve.
•Upright running – high knees, relaxed shoulders, dip at the line.
Rules
False starts result in disqualification.
Must stay in your own lane.
Running, Relay 4x 100m
Rules:
Baton must be exchanged inside the zone.
Dropping the baton can lead to disqualification.
You must stay in your lane

Jumping – High Jump
Take-off: Plant take-off foot firmly, drive opposite knee up.
Flight: Arch back over the bar (head first, then hips and legs).
Rules:
3 attempts per height. A failed attempt occurs if you knock the bar down or don't clear it.

Key Vocabulary
Sprinting
Speed,- the ability to move the body from point A to B
Reaction time – the time taken for a sports performer to respond to a stimulus and the initiation of the response
Distance Running
Aerobic endurance – the ability of the cardiorespiratory system to provide oxygen to the working muscles
High Jump, Fosbury flop
Shot
Javelin
Power- The ability to apply speed and strength



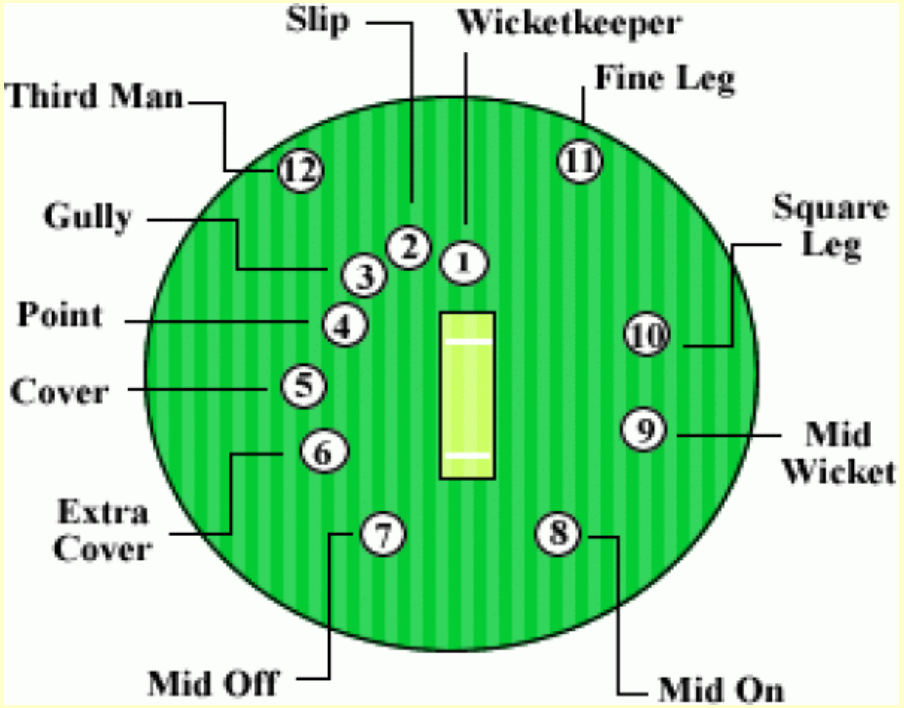
Throwing – Javelin
•Grip: Hold javelin at grip point, fingers under.
•Throw: Strong push from back leg, release at 45°
Rules
•Javelin tip must hit ground first even if it doesn't stick in.
Throwing -Shot Put
•Grip: Shot rests at base of fingers, not palm.
•Stance: Start in low position, weight on back leg.
•Push, not throw! – Extend arm, drive forward.
Rules:
•Must stay inside the circle.
•Shot must land in marked area

Year 8 Physical Education – Topic: Cricket

Basic Skills
Batting: Grip, stance, shot selection (e.g., drive, cut, pull).
Bowling: Run-up, delivery technique, line and length (fast or spin).
Fielding: Catching, throwing, backing up, and stopping the ball.
Wicketkeeping: Quick reflexes for catching and stumping behind the stumps.

Health & Fitness Benefits
- Improves hand-eye coordination
- Builds teamwork and communication skills
- Develops cardiovascular endurance and agility
- Enhances concentration and strategic thinking

Tactical Concepts
- **Running Between Wickets**: Communication and speed to maximize runs.
- **Field Placements**: Changing fielders' positions based on the batter's strengths.
- **Bowling Strategies**: Varying pace, length, and line to outwit the batter.



Equipment
- Cricket bat (usually made of willow)
- Hard leather cricket ball
- Stumps and bails (3 stumps, 2 bails)
- Batting pads and gloves
- Helmet with face guard
- Wicketkeeping gloves and pads (for wicketkeepers)

Rules of The Game

Year 8 Physical Education – Topic - Rounders

Types of throwing:

Underarm Throw

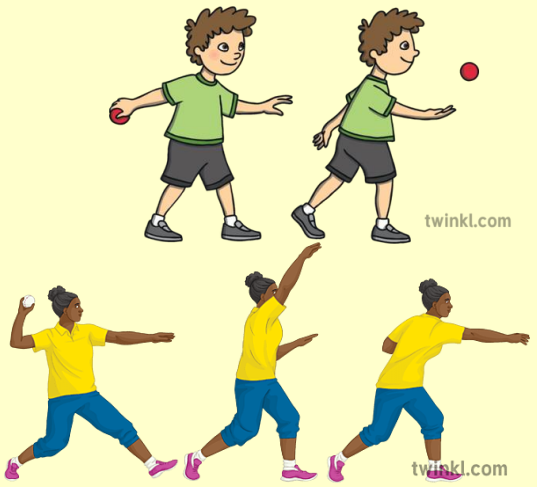
•**How it's done:** This is the most common and basic throw. The player holds the ball in one hand, swings their arm under their body, and releases the ball while their arm is low.

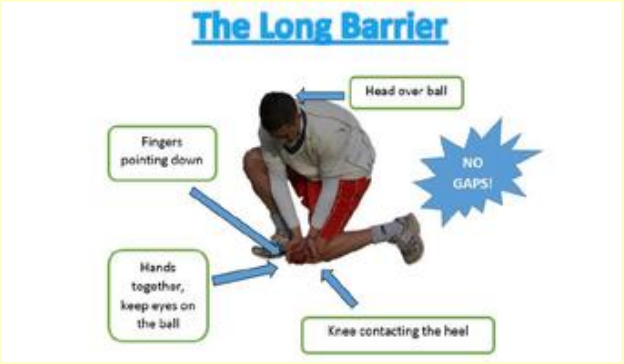
•**When to use it:** Underarm throws are great for accuracy and control. They're often used when the ball needs to be thrown over a short distance, like when a fielder is throwing the ball to a base to try and get the batter out.

2. Overarm Throw

•**How it's done:** For this throw, the player raises their arm above their shoulder and then throws the ball with their arm going in a high arc. The ball is released over the top of their body.

•**When to use it:** Overarm throws are usually used when a player needs to throw the ball farther, especially when trying to get the ball to a teammate at a distant base. It's faster but can be harder to control.





Short and long barrier:

•**Short barrier**: Fielders are closer to the batter, ready to stop short hits. They're in positions like **shortstop** and **backstop**.

•**Long barrier**: Fielders are farther away, covering the deeper areas of the field for long hits, such as the **outfielders**.

Rounders position:	What is their role?
Bowler	Stand with one-foot infront of the other. Step forward with the opposite foot to throwing up to stay balanced. Use your non throwing arm to point in the direction that you want the ball to go. The bowler should bowl the ball underarm. Point fingers at target as you release.
Backstop	In rounders, a backstop is the person who stands behind the batter. Their job is to catch any balls that are missed or that get past the batter. This helps to make sure the ball doesn't roll too far away, so the game can keep going without losing the ball. The backstop also tries to stop the batter from running to the next post by getting the ball back to the players quickly.
Fielders	In rounders, fielders are players who stand in different positions around the field to stop the batter from running to the posts. They try to catch the ball or get it to the posts quickly to get the batter out.

Key vocabulary:

Underarm
Overarm
Short and long barrier
Bowler
Backstop
Fielders

Summer 2

Year 8 Science: Topic Ecologist

Key Vocabulary

Sampling
Biotic
Abiotic
Competition
Predator
Prey
Distribution
Variation
Average

- Abiotic factors are non living factors like Temperature, acidity and rainfall.
- Biotic factors are living organisms.
- Animals are intertwined in a series called a food chain.
- The food chain is very sensitive.
- Plants adapt to survive e.g., cacti store water, large leaves catch light.
- Animals adapt for survival: camouflage, hibernation, etc.

Ecologist

Key Question: What happens to the rabbit population if the foxes were wiped out from a disease?

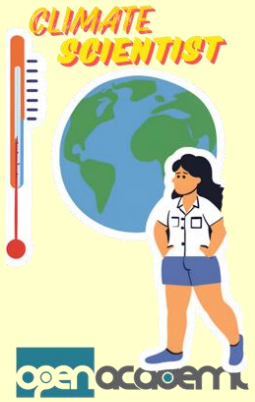
Key Question: What is the difference between photosynthesis and respiration?
Why is starch a useful test for photosynthesis?
How does energy transfer through food chains?
What adaptations help plants survive in dry environments?
Why is biodiversity important?
How do we classify living organisms?
How do we protect endangered species?

Summer 2 Year 8 Science – Topics: Climate Scientist and Engineer

Key Vocabulary:
Combustion
Products
Greenhouse gas
Global Warming
Climate Change
Abiotic
Affect
Evidence
Bias

Key Question:
How does Carbon Dioxide levels keep the Earth warmed?
What happens when we have excess carbon dioxide?

Climate is a mixture of weather patterns and temperature a habitat has over the seasons.
Some climates have changed because of human activity.
Abiotic factors can therefore be changed.



Pressure occurs when **force** is exerted over an **area.** Pressure is measured in Pascals (Pa).
Moments from a force causing a turning effect.
Moments can be used on door handles and other objects

Key Vocabulary:
Pressure
Hydraulic
Pascal
Force
Area
Lever
Moments
Equilibrium

Key Question:
What is 1000mm^2 in m^2?
What is the pressure when 14 Newtons is applied over a space of 2m^2?
What is the moment about a force when 10N is applied at 0.5m from the pivot?

Year 8 Spanish – Topic: **¿Qué hay en tu ciudad?**

¿Qué haces en la ciudad?	***What do you do in town?***
Salgo con mis amigos.	I go out with my friends.
Voy…	I go…
al cine	to the cinema
al parque	to the park
a la bolera	to the bowling alley
a la cafetería	to the café
a la playa	to the beach
de compras	*shopping*
de paseo	*for a walk*
No hago nada.	*I do nothing.*

¿Qué haces en la ciudad?	***What do you do in town?***
Salgo con mis amigos.	I go out with my friends.
Voy…	I go…
al cine	to the cinema
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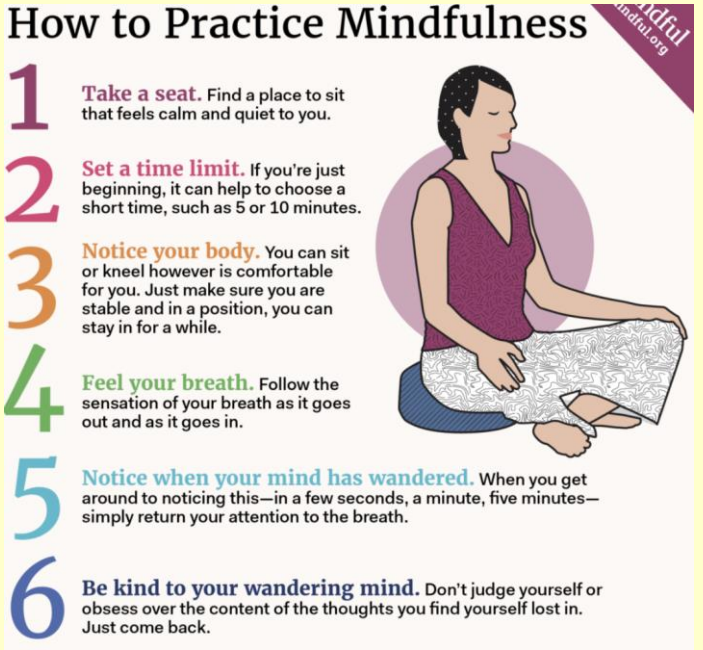
a la playa	to the beach
de compras	*shopping*
de paseo	*for a walk*
No hago nada.	*I do nothing.*

¿Te gusta vivir en…?	***Do you like living in…?***
Me gusta mucho vivir en…	I like living in… a lot.
No me gusta nada vivir en… porque hay/es…	I don't like living in… at all. because there is/it is…

En la cafetería	***In the café***
Yo quiero…	*I want…*
bebidas	*drinks*
un batido de chocolate/de fresa	*a chocolate/strawberry milkshake*
un café	*a coffee*
una Coca-Cola	*a Coca-Cola*
una Fanta limón	*a lemon Fanta*
un granizado de limón	*an iced lemon drink*
un té	*a tea*
raciones	*snacks*
calamares	*squid*
croquetas	*croquettes*
gambas	*prawns*
jamón	*ham*
pan con tomate	*tomato bread*
patatas bravas	*spicy potatoes*
tortilla	*Spanish omlette*
¿Algo más?	*Anything else?*
No, nada más.	*No, nothing else.*
¿Y de beber?	*And to drink?*
¿Cuánto es, por favor?	*How much is it, please?*
Son cinco euros setenta y cinco.	*That's 5,75 €.*

Year 8 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!