# The Royal Sutton School

# Year 8 Knowledge Organiser

## SUMMER TERM

‘Potential into Reality’

# TRSS
# Year 8
# Knowledge Organisers
# Contents

## Year 8 Subjects

# Art and Design: Birds and Bugs

## 1. Artist Inspiration – Jenny McCabe

## Art media

Media in art terms refers to the painting and drawing materials used to make a work of art, these may include:

Pencil and graphite
Collage
Pen, Fine Liner
Charcoal
Watercolour paints
Acrylic paints
Soft pastels, Oil pastels

Mixed media in art is when you combine any number of media together for creative effect

## 2. Insects and bugs

https://www.rspb.org.uk/birds-and-wildlife/wildlife-guides/other-garden-wildlife/insects-and-other-invertebrates/

All insect species possess, (in the adult stage), three pairs of jointed legs and three main body parts - head, thorax and abdomen. Examples of insects include beetles, bugs, bees, butterflies, moths, flies, grasshoppers, crickets, wasps, dragonflies, ants, caddisflies, earwigs, and lacewings, but just to confuse things, there are also some tiny creatures with six legs that are not classed as insects.

## Entomology is the study of insects

More than one million different species of insect have been described to date. They are the most abundant group of animals in the world and live in almost every habitat. Insects have lived on earth for more than 350 million years. Entomology is crucial to our understanding of human disease, agriculture, evolution, ecology and biodiversity

Entomologists are people who study insects, as a career, as amateurs or
both.

## 3. Videos to watch

https://www.youtube.com/watch?v=ZZcYUQhk4R0
**Insects for Kids | Have fun learning all about different kinds of bugs! | Parts of an insect**

https://www.youtube.com/watch?v=[illegible]
**Insects | Educational Videos for Kids**

## WOW WORDS

- Entomology
- acarid
- bug
- insect
- nit
- parasite
- Tick
- metamorphosis
- organism
- invertebrate

Explain how you have used the formal elements.

Line: Straight, curved, continuous, diagonal, bold, light, parallel, flowing, dotted, delicate, thick, thin, short.

Tone: Contrast, tint, shade, graduated, highlight, harsh, subtle, varied, light, dark, varied, dramatic

Texture: bumpy, flat, rough, smooth, fine, course, uneven, shiny, jagged, scratched, pitted, furry, raised

Shape/Form: symmetrical, geometric, solid, proportional, curvaceous, elongated, angular, bulbous

Pattern: Criss-cross, repeating, ornate, linear, tessellated, spaced, simple, broken, even, striped

Colour: vibrant, subtle, pale, opaque, neutral, complementary, contrasting, harmonious, translucent

Mark making describes the different lines, dots, marks, patterns, and textures we create in an artwork. It can be loose and gestural or controlled and neat.

Invent an original idea
Record your ideas by drawing, annotating, experimenting etc
Continually review and refine and develop your ideas

Inspiration
Who has inspired you? (artist, image, object etc)
How have they inspired you? Explain.
How have you links your work to the artist?

Techniques and processes
Have you used a variety of materials, techniques and processes?
Have you refined and controlled your media?
What skills have you developed?

Have you explored a variety of media? Create an artwork of a bug/insect in a media of your choice

Have you explored scale and size? Create a layered drawing of a moth or butterfly using a range of scales in your drawing.

Explain the artists style/technique:
How does the artists work link to the theme? How have you used the work of an artist to inspire your own work?
Write a paragraph to explain the work of the artist and how you can/have used them as inspiration in your own work.

Experiment with a range of materials
Dry materials; pencil, oil pastel, marker, pen, collage
Wet materials; ink, watercolour, acrylic paint
Printing; mono printing, press printing
3D materials; clay, wire, paper etc

Create an artwork inspired by the artist in a media of your choice.

# BIRDS AND BUGS

# Drama: Script performance skills

## 1. Audience Etiquette

This term we will be rehearsing a short scripted scene, then performing it in front of our peers. When watching a performance, it is very important that we follow some key rules:

1. We are silent, still and respectful
2. We are supportive and friendly
3. We do not discuss or comment on the performances without being asked

## 2. Rehearsal Time

Rehearsal time: You will be given rehearsal time to learn, develop and ready your performance for an audience. During rehearsal you will need to:

| Stay with and helped my group |
|---|
| Work well with my group |
| Stay on task and followed instructions |
| Use simple rehearsal techniques with my group |
| Select appropriate rehearsal technique |
| Use rehearsal techniques to develop others |
| Use feedback from my teacher to improve |
| Use feedback from others in my group to improve |
| Learn from successes & challenges of other groups |
| Demonstrate how to effectively use rehearsals |

## 3. Rehearsal Strategies

There are many rehearsal strategies you can use to improve your drama performance. It depends on what performance element you feel needs the most focus.

- Still images, sculpting and mime can help Posture, gesture & facial expression
- Thought tracks, diary entries and role on the wall can help understanding of character
- Role swap, action narration or ranking can help an actor choose specific performance elements.

## 4. Performance

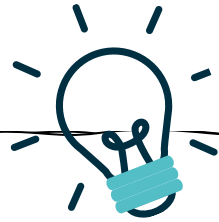
What we are looking for in your performance

| Tried my hardest to perform well with my group |
|---|
| Stayed in character |
| Faced the audience |
| Learned a role for performance |
| Showed an understanding for the style or genre |
| Kept my feet planted and didn't sway |
| Reacted to others in character |
| Changed my position on stage during a performance |

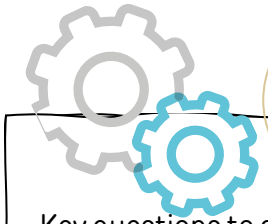
## 5. Assessment

How am I assessed? You are assessed in rehearsal, performance and then following a reflection on your piece.

| Used effective posture to show a character |
|---|
| Used effective gestures to show actions |
| Used facial expression to show emotions |
| Used effective movement showing character |
| Used effective voice on stage (Volume, pitch, pace, pause, tone) |
| Created a realistic or detailed character |
| Create detailed relationships & scenes on stage |

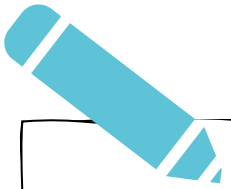


- We start and finish each performance with a Still Image
- We stay in character throughout a performance, acting and reacting in character
- Posture shows our characters status and power
- Gesture shows our character's actions
- Facial expression can show emotion
- Movement and voice can show status, power, situation, relationship and emotions.
- Naturalism is where a performance, character and relationships look to be as close to reality as possible on stage



Key questions to ask yourself when preparing a performance:

- Where is my audience?
- Will they be able to see the key moments?
- What impact do we want to have on our audience?
- How will I change my posture to create my character?
- How will I change my gestures to show what I am doing?
- What type of facial expressions and voice might my character use?
- How might my character move?
- What is my characters objective? What do they want to achieve in this scene?
- What relationships should be shown on stage? Are there particular characters who I would have strong feelings about?
- What key moment in the performance could I look to make an impact on the audience?



You will need to rehearse to get this performance ready. This can take a number of different forms.

- You could run the lines together, in person or over the phone
- You could block the scene, working out who moves where, when and how
- You could mime the scene, focusing on your physical performance elements
- You can run the scene's moments of transition, focusing on creating slick, silent movements between them
- You can speed run through, making a game of getting as much correct as you can
- You can replace the language with nonsense words, which helps you focus on the tone, pitch, pace, rhythm and pace of the speech used
- You can swap roles with a partner, watching how they would perform differently and steal their good bits!

# Scripted Performance

# English: ANIMAL FARM

**Chapter 1:** The animals gather to listen to old Major. He gives them a vision of a life without man.
**Chapter 2:** The animals rebel and overthrow Jones. The commandments are written.
**Chapter 3:** The animals' first harvest is a success. The pigs keep the milk and apples to themselves.
**Chapter 4:** The Battle of the Cowshed: Jones attempts to reclaim the farm.
**Chapter 5:** Snowball and Napoleon debate the windmill. Napoleon uses dogs to chase Snowball from the farm. Napoleon makes himself leader.
**Chapter 6:** Work begins on the windmill. The pigs move into the farmhouse. Winds destroy the windmill.
**Chapter 7:** Work on the windmill starts again. Napoleon demands eggs from the hens. Napoleon slaughters animals at the show trials.
**Chapter 8:** Napoleon betrays Mr. Pilkington and sells timber to Mr. Frederick. Frederick pays with counterfeit money. Frederick attacks the farm. The animals suffer losses in the Battle of the Windmill. The windmill is destroyed.
**Chapter 9:** Boxer is sold to the knacker's yard. Squealer convinces the animals that he died in hospital.
**Chapter 10:** The pigs are leaders on the farm. They start walking on two legs and carrying whips. There is no difference between the pigs and the humans they sought to overthrow at the start of the novel.

## 6. Themes

Corruption
Social Class
Naivety
Manipulation of Language
Animal Exploitation
Military Ritual
Power & Control

## 3. Key Words

Russian Revolution
Allegory
Tyrant
Rebellion
Harvest
Corrupt
Propaganda
Cult of Personality
Treacherous
Moral

Influence
Authority
Literal
Inspired
Commandment
Communism
Animalism
Privileges
Failure
Anthropomorphism

## 1. Character List

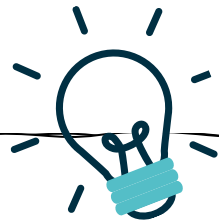
**The Pigs:**
Old Major – a boar who fuels the rebellion (Rep. Karl Marx)
Napoleon – A fierce-looking boar (Rep. Joseph Stalin)
Snowball – Napoleon's rival (Rep. Leon Trotsky)
Squealer – Napoleon's second in command (Rep. Vyacheslav Molotov)
Minimus – A poet pig who writes for Napoleon
**The Humans:**
Mr Jones – The owner of Animal Farm (Rep. Tsar Nicholas II)
Mr Fredrick – The owner of Pinchfield
Mr Pilkington – The owner of Foxwood
Mr Whymper – A man hired by Napoleon
**The Horses:**
Boxer – A loyal, kind and dedicated cart horse
Mollie – A self-centred vain mare
Clover – A gentle, caring female horse
**Other Animals:**
Benjamin – An old and wise donkey
Moses – A tame raven who spreads stories of Sugarcandy Mountain (animal heaven)
Muriel – A white goat who helps Clover to read the Seven Commandments
Jessie and Bluebell – The dogs who give birth to the puppies that Napoleon takes away to rear as his guards
The Puppies – Napoleon's guard dogs (Rep. Secret Police)

## 5. Social & Historical Context

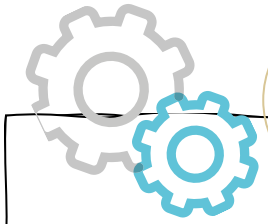
* George Orwell is the pseudonym (false name) of Eric Arthur Blair. He wrote 'Animal Farm' which is an allegory for the Russian Revolution.
* The Bolsheviks were a Russian political party, committed to the communist ideas of Karl Marx.
* They believed that the working classes would free themselves from the control of the ruling classes.
* Lenin, who led the Bolshevik party, decided to try to overthrow Russia's government in 1917. He and his supporters succeeded.
* Lenin was supported by Trotsky, who created a loyal military force for the revolution.

## 4. The Seven Commandments

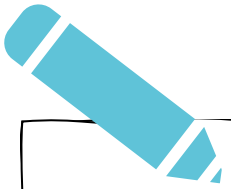
hatever goes upon two legs is an enem
hatever goes upon four legs, or has ngs, is a friend.
animal shall wear clothes.
animal shall sleep in a bed.
animal shall drink alcohol.
animal shall kill any other animal.
animals are equal.



1. Give a definition of each key word.
2. List all the characters in the text.
3. List all the figurative language techniques that you can recall.
4. How are the characters related to each other?
5. Can you summarise the plot in 50 words?
6. Can you list the 10 most important plot points?
7. Can you put the main plot points into chronological order?
8. Which 5 words best describe the protagonist?
9. Which 5 words would you use to describe other key characters?
10. What are the main themes in the text?
11. What are the social and historical links to the text?



1. Why is the context of a play/novel important?
2. How do the main themes link to the protagonist?
3. How do the main themes link to other characters in the text?
4. Is the author challenging, endorsing, or simply reflecting the dominant ideas and assumptions of the time and place in which they are writing?
5. Do you think it's right to challenge leaders? Write one paragraph stating why and one paragraph stating why not.
6. Imagine that you are a journalist for a newspaper in Willingdon and write an article about the goings on at 'Animal Farm'. How do you want the human beings who live near Animal Farm to feel when they read your story? Fear? Anger? Curiosity?



1. What is the impact of the opening of the text?
2. What is the impact of figurative language use within the text?
3. Why are the key themes important for the reader/audience to understand?
4. How does colonialism link to the text?
5. Why might a modern-day audience or contemporary reader criticise the author's intended message?
6. Research: Find out more about '1984' and why George Orwell wrote it.
7. Research: Each of the seven commandments originates from Old Major's speech. Which parts of old Major's speech are **not** made into commandments? Why do you think this is?

# Animal Farm

# English: METAPHOR POETRY

## 1. Defining Metaphor

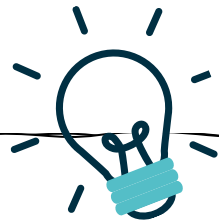
**Literal language:** if something is **literal** it is accurate or precise.
·A **literal** description tells what actually happens.
·Something that is literal reports on events.
·An example would be 'he is lazy'
**Metaphor:** if something is a **metaphor** it is **not literal**.
·A **metaphor** does **not report on what actually happens.**
·A **metaphor compares** one thing to another.
·A **metaphor** tells us more about something by bringing ideas together.
·An example would be 'he is a couch potato'.

## 2. Explaining Metaphor

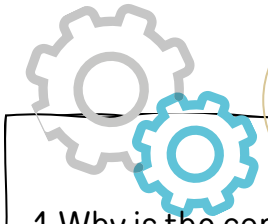
A **metaphor** has three parts:
**The tenor:** The thing you want to try and describe.
**The vehicle:** The imaginative idea you compare it with to help your audience understand it. This is the 'made up' bit.
**The ground:** The thing the tenor and the vehicle have in common.
Here is an example:
'Achilles fought like a lion' (both Achilles and the lion are strong)
**Achilles is the tenor because he is the thing being described.**
**The lion is the vehicle because it is the imaginative idea Achilles is compared to. The ground is that they are both strong. This is what they have in common.**

## 3. Key Metaphors in the Poems

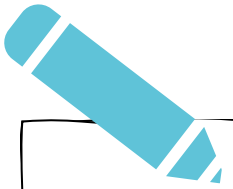
| | |
|---|---|
| **'Fog' – Carl Sandburg, 1878 – 1967**<br>'The fog comes on little cat feet' | Both 'the fog' and the 'little cat feet' are grey, delicate and move gently. |
| **'November Night' – Adelaide Crapsey, 1878 – 1914**<br>'like steps of passing ghosts,/ The leaves, frost –crisp'd, break from the trees and fall' | Both 'the leaves' and 'the steps of passing ghosts' rustle softly. |
| **'Dreams' – Langston Hughes, 1902 – 1967**<br>'… if dreams die/ Life is a broken-winged bird/ That cannot fly' | Both a life without dreams and 'a broken-winged bird/ That cannot fly' are sad and wasteful. |
| **'Sally' – Phoebe Hesketh, 1909 – 2005**<br>'She was a dog-rose kind of girl:/ Elusive, scattery as petals' | Both Sally and 'a dog-rose' are wild and not traditionally beautiful. |
| **'Frogs' – Norman MacCaig, 1910 – 1996**<br>'In mid-leap they are/ parachutists falling/ in a free fall'<br>'… their ballet dancer's/ legs' | Both frogs and 'parachutists' leap into the air and spread out when they fall. Both frogs and ballet dancers have powerful and elegant legs. |
| **'Pigeons' – Richard Kell, 1927 –**<br>'small blue busybodies/ Strutting like fat gentlemen'<br>'their heads like tiny hammers' | Both pigeons and 'busybodies' walk around looking like they think they're important. Both pigeons and fat gentlemen have big bellies but look quite dignified. |
| **'The Eagle' – Alfred, Lord Tennyson, 1809 – 1892**<br>'And like a thunderbolt he falls' | Both the eagle falling and 'a thunderbolt' are fast and dangerous. |
| **'The Tyger' – William Blake, 1757 – 1827**<br>'Tyger, tyger burning bright' | Both the tiger and fire are beautiful and powerful, but also difficult to control. |
| **'A Case of Murder' – Vernon Scannell, 1922 – 2007**<br>'The cat, half-through, was cracked like a nut'<br>'… the wound of fear gaped wide and raw'<br>'… the huge black cat pads out' (the cat turns from tenor into vehicle for the boy's fear) | Both the cat being slammed in a door frame and a nut being broken make a cracking sound. Both 'fear' and a 'wound' can be painful and can get worse. Both fear and a 'huge black cat' are haunting and can sneak up on you. |



1. Explain the difference between literal and metaphorical.
2. Give a definition of the tenor, vehicle and ground. Include an example.
3. What is the key metaphor in each poem?
4. Who is the narrator of each poem?
5. What is the tone of each poem?
6. Can you summarise each poem in 20 words?
7. Can you list the most important points in the narration of each poem?
8. Which 5 words would you use to describe the meaning of each poem?
9. What are the main themes in each poem?



1. Why is the context of a text important?
2. How do the main themes link to each text?
3. Is the author challenging, endorsing, or simply reflecting the dominant ideas and assumptions of the time and place in which they are writing?
4. Find two more poems by Grace Nichols. How do they compare to 'For Forest?' Are they about Guyana or England?
5. A legend is a story that has a part-truth in it. It often has different versions with slightly different details. Find an example of a monster legend with more than one version and compare the difference.



1. What is the impact of the opening of the text?
2. What is the impact of figurative language use within each text?
3. Why are the key themes important for the reader/audience to understand?
4. Research: Find out about idioms that are metaphors and their origin. Find idioms from other languages and explain where they came from.
5. **Research:** Emily Dickinson was a reclusive poet. Find out about her life and how her poems are titled.
6. Write a poem using an extended metaphor with the emotion of *anger* as the tenor.

# Metaphor Poetry

# Food: Diet and Health


Water plays an important role in the body, it is essential for life.

- Hydration as the body looses water from sweating, sleeping, breathing, urinating.
- Water is need for our eyes to prevent dry eye-this would causes our eyes to go red and sore.
- Keep our joints lubricated.
- Carries nutrients and oxygen to cells.
- Helps dissolve minerals and nutrients to make them accessible to your body.
- Lessens burden on the kidneys and liver by flush waste products.

Baguette-France
Bagels-New York
Italy-Panettone
Naan Bread-India
Pitta bread-Turkey
Pretzel-Germany
Crumpet-England
Muffin-England
Brioche Bread-France
Ciabatta Bread-Italy
Sourdough Bread-Egypt

## 5. Bread Making

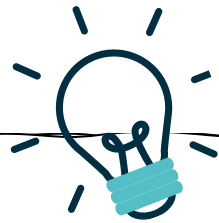
Basic ingredients to make bread:
Strong flour-gluten formation
Yeast-raising agent
Salt-to activate the dough
Sugar-flavouring
Oil-preserve, help to keep the bread soft.
Water/milk-combine the ingredients together
Other raising agents-baking powder, Self-raising flour.

## 2. The Eatwell Guide Explained

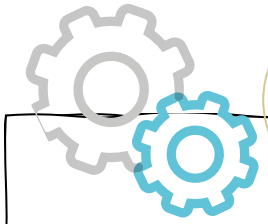
| Section | Sources | Benefits |
|---|---|---|
| Vitamins and minerals | Fruit & Vegetables | Builds your immune system, keeps your blood healthy and helps with your digestive system. |
| Carbohydrates | Pasta, Potatoes, Rice, bread | Provides you with energy<br>Keeps you fuller for longer |
| Protein | Fish, Meat, bean, lentils, nuts, eggs | Needed for growth and repair |
| Dairy & alternatives | Milk, yogurt, soya dairy | Provides calcium, needed for strong teeth and bones<br>Helps the body to heal |
| Fats | Olive oil, Margarine | Helps to protect vital organs, keep us insulated, builds healthy cells and membranes, move vitamins around the body. |

## 6 A third of your diet is based on carbohydrates

Starchy foods are an important source of energy. After they are eaten, they are broken down into glucose, which is the body's main fuel, especially for our brain and muscles. Starchy foods provide important nutrients to the diet including B vitamins, iron, calcium and folate. Starchy foods can also provide fibre which is needed for good digestive health and is associated with a lower risk of heart disease, stroke, type 2 diabetes and bowel cancer.
It is important when we are choosing starchy carbohydrates that we try to choose wholegrain or higher fibre varieties such as wholemeal bread, wholewheat pasta, brown rice and potatoes with skins. Fibre will help to keep you full longer, prevents constipation, good for our digestive system, can help to prevent some cancers and diverticulitis.



1. Why is the Eatwell Guide important?
2. What are the 5 nutrients linked to the Eatwell Guide?
3. What are the functions of these 5 nutrients?
4. What are the two classifications that nutrients come under?
5. Explain why water is important in our daily diet?
6. Explain why fibre is important in our daily diet?
7. Explain why we need fibre in our diet.
8. Why is kneading important when making bread?



1. Why do you think the Eatwell Guide was introduced by the government?

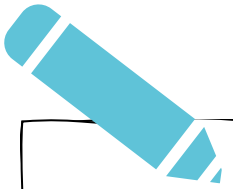
2. Explain the importance of following the Eatwell Guide?

3. Why do you think preparing food safely is important?

4. What are the health implications if you are obese?

5. Bread is a stable food, why is this?

6. Find the origin of different breads and recipe to compare with traditional bread making.



1. Draw your favourite meal, label the nutrients to see if it is a balanced meal?

2. How can you improve your meal, think about the Eatwell Guide and what you can add to your drawing?

3. Key spelling, associated with the colours on the Eatwell Guide. Can you use in your own written explanations?
   Carbohydrates
   Protein
   Fats
   Vitamins
   Minerals

4. Breakfast is the most important meal of the day, why is this and what foods should you avoid for breakfast?

5. Make A list of a variety of foods that are healthy for breakfast.

# Diet and Health

# Geography: Changing World

## Key words and definitions

- **Weather -** What is going on outside the window . Temperature, rain/snow and sunshine.
- **Climate –** the average weather conditions of a location over a period of 30 years.
- **Extreme weather-** weather or extreme climate events includes unexpected, unusual, severe, or unseasonal weather.
- **Climate change-** Climate change refers to long-term shifts in temperatures and weather patterns
- **Adaption-** change to an environment in order to survive.
- **Sustainable -** fulfilling the needs of current generations without compromising the needs of future generations.

## Extreme weather events

**Extreme weather** is when whether is significantly different from the usual weather pattern such as: heat waves, flooding and cold spells.

**Australian wildfires 2022**

**Causes of wildfires :** high temperatures, strong winds, lightening and flames e.g cigarette/BBQs.

**When:** July 2020 was the worst month of wildfires in Australian history. At one time there were 50 fires burning at the same time.

**Effects**: 3 billions animals effected – with a large loss of habitats – animals died from dehydration (lack of water), 33 people were killed many of which were firefighters, 2000 homes were destroyed,

**The future:** fires in the future may become more frequent due to climate change. This is because there may be lower rainfall and higher temperatures.

## Animal adaptions

**Seals –** have a layer fat known as blubber, have large eyes to hunt under ice/dark. Seals also have whiskers which are like little antennae that help them home in on their prey, even with their eyes and ears shut.

**Penguins** – have a layer of blubber as well as four different layers of feathers with the outer layer being water proof. They form large huddles, each penguin take turns being exposed to the cold on the outside, gradually moving towards the toasty middle. **Fish -**The blood of Antarctic icefish contains antifreeze proteins, which protect their cells against damage from ice crystals.

## Climate change

**Natural causes** of climate change: changes in the sun, emissions from volcanoes, variations in Earth's orbit.

**Human causes** of climate change: burning of fossil fuels, cutting down trees (deforestation) and farming/agriculture.

**Effects –** increase in global temperature, increase in sea temperature, increase in sea level and increase in severe weather events such as tropical storms/drought.

**Management /mitigation -**

International agreements e.g Kyoto Protocol, increased use of renewable energy, adapting buildings e.g tropical storm proof and planting trees.

## Antarctica

**Climate:** Antarctica is the coldest continent on Earth. The average temperature throughout the year is about -57°C, with the temperature being -90°C during the winter season. Although temperatures can reach a maximum between -2°C and 8°C during the summer.

**Discovering Antartica**: Captain Robert Falcon Scott, was a British Royal Navy officer and explorer who led two expeditions to the Antarctic regions: 1901–1904 and *Terra Nova* expedition of 1910–1913. Scott and his remaining three men died in March 1912 from starvation and hypothermia.

## Threats to Antarctica

Antarctica is at threat from many human activities such as: overfishing, tourism and climate change.

**Tourism –** thousands of tourists visit Antartica each year, travelling by cruise ships. Tourists may drop litter, disturb wildlife and possibly be carrying disease/invasive species.

**Overfishing** – mass fishing. This has impacted food chains within Antarctica and threatened some species with extinction.

**Climate change** – rising sea temperatures due to human activities has caused sea ice to melt. This has meant animals have lost their habitats

1. How is climate different to weather?

2. Give way cause of climate change?

3.How can we reduce the impact of climate change?

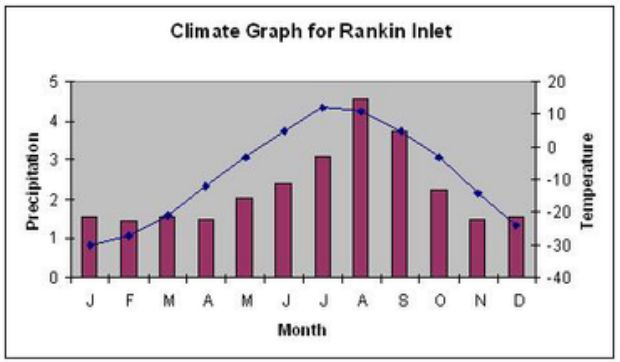
4. Give an example of an extreme weather event.

5.What were the impacts of the Australian wildfires?

6. Explain how animals have adapted to living in Antarctica.

7. Why is Antarctica so valuable?

8. If human activity continues in Antartica – what will its future hold? ?




1. What does the bar chart represent?
2. What is the coldest month
3. Describe the pattern of temperature of Antarctica.
4. What is the average temperature of this continent.

Design an information guide on : 'Threats to Antarctica'

- Why is Antarctica a unique environment?
- Why do people want to visit Antarctica?
- What are the problems tourists cause Antarctica?
- What is over –fishing and its impacts?
- How is Antarctica at risk from climate change?

# Changing World

# History: The Second World War

At the end of WW1, Germany was forced to sign the **Treaty of Versailles**. This was very unpopular in Germany and by promising to ignore the treaty, Hitler persuaded people to vote for him. Hitler wanted to **get land back** that was lost in WW1 and make Germany powerful again. Hitler started **rearmament in Germany** 1933 (building up the army). He then invaded (took over) the Rhineland, Austria, Sudetenland, Czechoslovakia and finally Poland. Britain followed a policy of **appeasement** in which they let Hitler take over the land in the hope of preventing a war. However, when Hitler took over Poland – War was **declared.**

## 4. Key Words

**Rearmament:** When a country makes lots of weapons for their country.

**Appeasement:** When politicians try to avoid war by giving people a compromise.

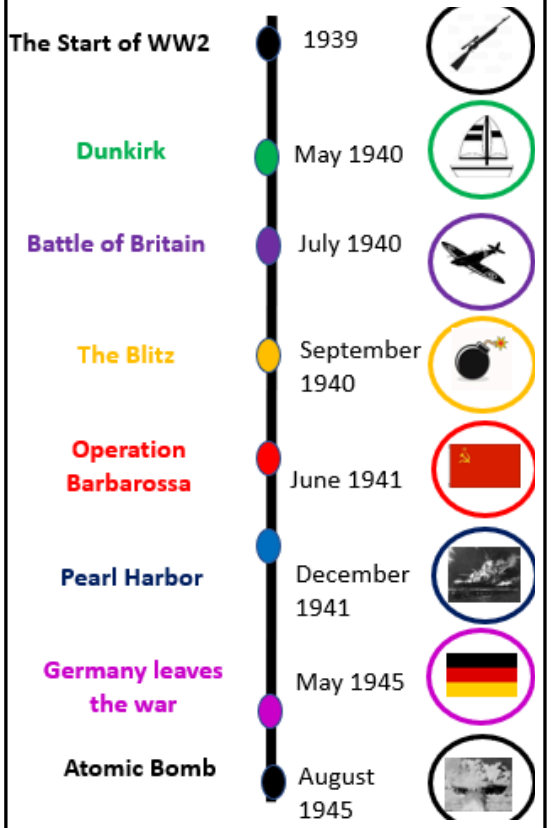
**Propaganda:** Information or images that are released to the public to persuade people to think a certain way.

The **Blitz** was the Germans nightly bombing of British cities.
In British newspapers the **Blitz Spirit** was used as **propaganda** to show the determination of the British people during this difficult and dangerous situation to carry on as normal, It was to boast the **morale** on the Home front during the war.
However, historians have questioned the Blitz Spirit as could life really be carrying on as normal during these times.

## 5. Dunkirk

The Germans used **Blitzkrieg** 'lightning war' as their tactic. This was successful in taking over countries quickly and driving the French and British troops back. On the 24th May 1940 the BEF and 10,000 French troops had retreated to the **beaches of Dunkirk**. On the 26th May, 340,000 soldiers had to be taken back to Britain in boats. 34,000 were left behind and became **prisoners.** Dunkirk was a defeat but British newspapers showed the **British heroes.**

## 3. Key Events



1.How did Hitler persuade people to vote for him?

2.What does rearmament mean?

3.Name the countries that Hitler had invaded?

4.What does appeasement mean?

5.What does Blitzkrieg mean?

6.How many soldiers did the British leave behind at Dunkirk?

7.Why as Dunkirk a failure for the British?

8.What was Blitz Spirit?

1.What is happening in this picture?

2.How is the picture showing 'Blitz Spirit?'

3.Why would the government want this released in 1940?

Design an information guide on 'What happened during WW2' to be given to people in a museum. You need to explain:

-Why WW2 started?
-What happened during the battles of WW2?
-Why German and Japan were defeated?
-What was the impact of the Atomic bomb?

# The Second World War

# Information Technology: Programming

## 1. Data Types

| Data Type | This indicates how the data will be stored. The most common data types are integer, string, and float/real. |
|---|---|
| String | A collection of letters, numbers or characters. (eg, Hello, WR10 1XA) |
| Integer | A whole number. (eg. 1, 189) |
| Float/Real | A decimal number, not a whole number. (eg. 3.14, -26.9) |
| Boolean | 1 of 2 values. (eg. True, False, Yes, No) |

## 2. Code Examples

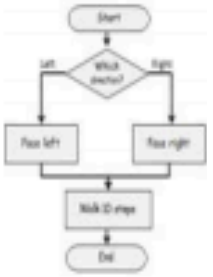
| | |
|---|---|
| print('hello') | Print values on the screen(in this case 'hello) |
| Input('') | Inputs a value into the computer |
| x=input('')) | Inputs a value and stores it into the variable x |
| x=int(input('')) | Inputs a value into x, but converts it into a string first |
| print(str(x)) | Prints the variable x but converts it to a string first |
| if name="Fred" | Decides whether the variable 'name' has a value which is equal to 'Fred' |
| else | The other option in the conditions for an if statement are not met ( e.g. name='Bob' when it should be Fred |
| elif name=="Tim" | elif (short for else if) id for when the first condition is not met, but you want to specify another option |

## 3: Sequence, Selection, Iteration

### Selection

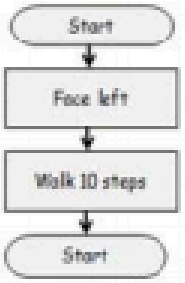
A choice or decision in an algorithm.

Gives different paths that could be followed.



### Sequence

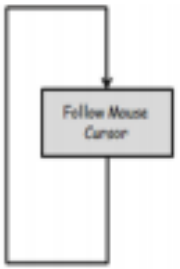
Instructions placed one after another.



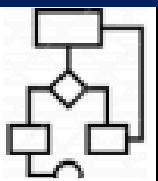

### Iteration

A loop in an algorithm.

The process of repeating instructions.




## 4: Keywords



**Algorithm:** A step by step of instructions to carry out a task.

**Flowchart:** A visual representation of an algorithm, using key symbols.

**Process:** An action, calculation or data that is saved.

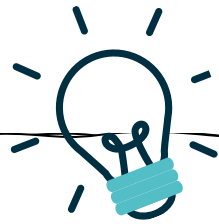
**Input:** data that is put into a computer.

**Output:** Data that is produced by a computer.

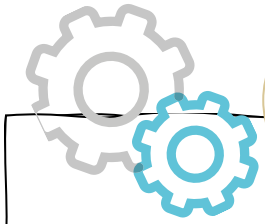

**Variable:** Allows us to save data that changes.

## 5.Relational Operators

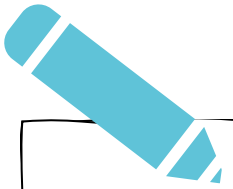
| | |
|---|---|
| == | Equal to |
| != | Not equal to |
| > | Greater than |
| < | Less than |
| >= | Greater than or equal to |
| <= | Less than or equal to |



1. What is an Algorithm ?
2. What shape do you use for a process?
3. What shape is used for input/output?
4. What shape is used to make a decision ?
5. What is a sequence



1. Explain what a selection is
2. What is iteration?
3. Explain what an input is used for
4. Give an example of an input
5. Explain what an output is used for
6. Give an example of an output



1. Explain the purpose of designing algorithms as flowcharts?
2. Detail what 'if' is used for
3. Explain what 'else' is used for
4. Is the process described by ‘if and else’ a sequence, selection or iteration? Explain why

# Programming

Mathematics

# YEAR 8 - DEVELOPING GEOMETRY...

@whisto_maths

# Angles in parallel lines and polygons

## What do I need to be able to do?

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

- Identify alternate angles
- Identify corresponding angles
- Identify co-interior angles
- Find the sum of interior angles in polygons
- Find the sum of exterior angles in polygons
- Find interior angles in regular polygons

## Keywords

**Parallel:** Straight lines that never meet
**Angle:** The figure formed by two straight lines meeting (measured in degrees)
**Transversal:** A line that cuts across two or more other (normally parallel) lines
**Isosceles:** Two equal size lines and equal size angles (in a triangle or trapezium)
**Polygon:** A 2D shape made with straight lines
**Sum:** Addition (total of all the interior angles added together)
**Regular polygon:** All the sides have equal length, all the interior angles have equal size

## Basic angle rules and notation (R)

**Acute Angles**
0° < angle < 90°

**Right Angles**
90°

**Obtuse**
90° < angle < 180°

Right angle notation

**Reflex**
180° < angle < 360°

**Straight Line**
180°

The letter in the middle is the angle
The arc represents the part of the angle


**Angle Notation:** three letters **ABC**
This is the angle at B = 113 °
**Line Notation:** two letters **EC**
The line that joins E to C

**Vertically opposite angles**
Equal

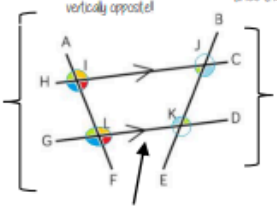
**Angles around a point**
360 °

## Parallel lines

Still remember to look for angles on straight lines, around a point and vertically opposite!

Lines GF and BE are **transversals** (lines that bisect the parallel lines)

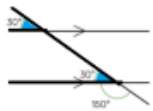
Corresponding angles often identified by their **"F shape"** in position



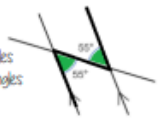

Alternate angles often identified by their **"Z shape"** in position

This notation identifies parallel lines

## Alternate/ Corresponding angles

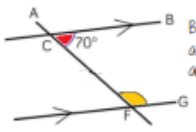



Because alternate angles are equal the highlighted angles are the same size




Because corresponding angles are equal the highlighted angles are the same size

## Co-interior angles




Because co-interior angles have a sum of 180° the highlighted angle is 110°

(As angles on a line add up to 180° co-interior angles can also be calculated from applying alternate/ corresponding rules first)

## Triangles & Quadrilaterals

Link to slope (R)

Side, Angle, Angle

Side, Angle, Side

Side, Side, Side

## 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

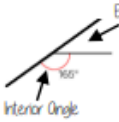
**Kite**
No parallel lines
Equal lengths on top sides
Equal lengths on bottom sides
One pair of equal angles

## 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



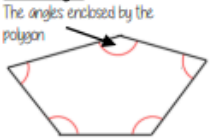

**Interior angle + Exterior angle = straight line = 180°**
Exterior angle = 180 – 165 = **15°**

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

## Sum of interior angles

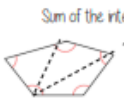
**(number of sides – 2) x 180**

**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

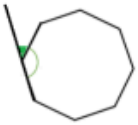


This shape can be made from three triangles
Each triangle has 180°

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 = $\frac{\text{(number of sides – 2) x 180}}{\text{number of sides}}$**

# YEAR 8 - DEVELOPING GEOMETRY...

# Area of trapezia and Circles

@whisto_maths

## What do I need to be able to do?

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

- Recall area of basic 2D shapes
- Find the area of a trapezium
- Find the area of a circle
- Find the area of compound shapes
- Find the perimeter of compound shapes

## Keywords

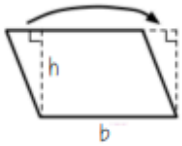
**Congruent:** The same
**Area:** Space inside a 2D object
**Perimeter:** Length around the outside of a 2D object
**Pi ($\pi$):** The ratio of a circle's circumference to its diameter
**Perpendicular:** At an angle of 90° to a given surface
**Formula:** A mathematical relationship/ rule given in symbols E.g. b x h = area of rectangle/ square
**Infinity ($\infty$):** A number without a given ending (too great to count to the end of the number) – never ends
**Sector:** A part of the circle enclosed by two radii and an arc

## Area – rectangles, triangles, parallelograms

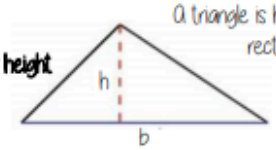
R

Rectangle
**Base x Height**

Parallelogram/ Rhombus
**Base x Perpendicular height**




Triangle
**½ x Base x Perpendicular height**

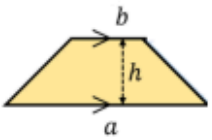



A triangle is half the size of the rectangle it would fit in

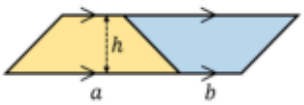
## Area of a trapezium

Area of a trapezium

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




Why?

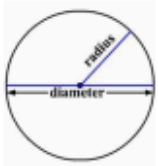



- Two congruent trapeziums make a parallelogram
- New length (a + b) x height
- Divide by 2 to find area of one

## Area of a circle (Non-Calculator)

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

Area of a circle
**$\pi$ x radius$^2$**





**Diameter** = 8cm
∴ **Radius** = 4cm

$\pi$ x radius$^2$
= $\pi$ x $4^2$
= $\pi$ x 16
= 16$\pi$ cm$^2$

Find the area of one quarter of the circle

**Radius** = 4cm


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

## Area of a circle (Calculator)

SHIFT ×10$^x$

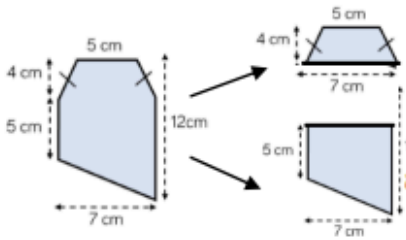
How to get $\pi$ symbol on the calculator

Area of a circle
**$\pi$ x 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

To find the area compound shapes often need splitting into more manageable shapes first. Identify the shapes and missing sides etc. first.




Shape A - Isosceles trapezium

Shape B - non-standard trapezium

**Shape A + Shape B = total area**

$$\frac{(5+7)\times 4}{2} + \frac{(5+8)\times 7}{2} = 24 + 45.5 = 69.5\text{cm}^2$$

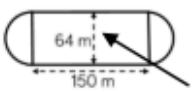
Units

## Compound shapes including circles

Circumference
**$\pi$ x 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 = $\pi$ x 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

# YEAR 8 - DEVELOPING GEOMETRY...

# Line symmetry and reflection

@whisto_maths

## What do I need to be able to do?

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

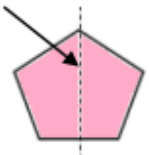
- Recognise line symmetry
- Reflect in a horizontal line
- Reflect in a vertical line
- Reflect in a diagonal line

## Keywords

**Mirror line:** a line that passes through the center of a shape with a mirror image on either side of the line
**Line of symmetry:** same definition as the mirror line
**Reflect:** mapping of one object from one position to another of equal distance from a given line
**Vertex:** a point where two or more line segments meet
**Perpendicular:** lines that cross at 90°
**Horizontal:** a straight line from left to right (parallel to the x axis)
**Vertical:** a straight line from top to bottom (parallel to the y axis)

## Lines of symmetry

Mirror line (line of reflection)



**Rhombus**
two lines of symmetry

**Parallelogram**
No lines of symmetry

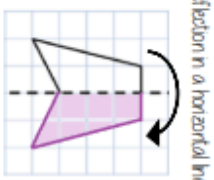
Shapes can have more than one line of symmetry...
This regular polygon (a regular pentagon has 5 lines of symmetry)

A circle has an infinite amount of lines of symmetry

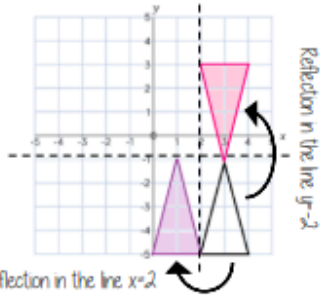
## Reflect horizontally/ vertically (1)

Note: a reflection doubles the area of the original shape

Reflection in a vertical line

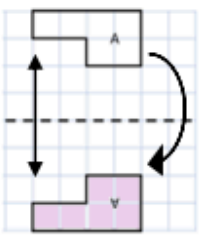



Reflection on an axis grid

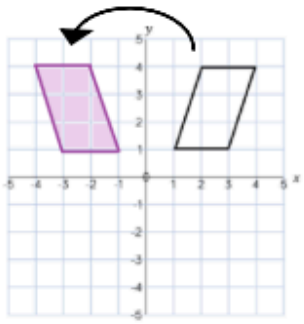



## Reflect horizontally/ vertically (2)

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



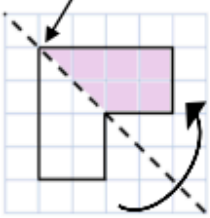

Reflection in the line y axis – this is also a reflection in the line x=0



**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 = _____

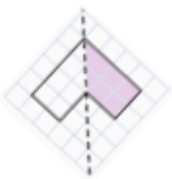
## Reflect Diagonally (1)

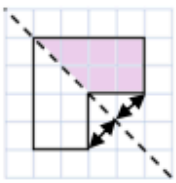
Points on the mirror line don't change position



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)



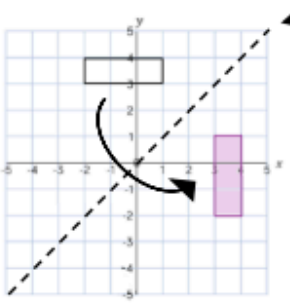


**Drawing perpendicular lines**

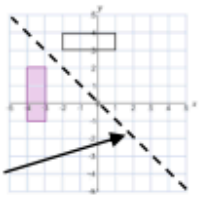
Perpendicular lines to and from the mirror line can help you to plot diagonal reflections

## 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)

# YEAR 8 - REASONING WITH DATA...

# The data handling cycle

@whisto_maths

## What do I need to be able to do?

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

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

## Keywords

**Hypothesis:** an idea or question you want to test
**Sampling:** the group of things you want to use to check your hypothesis
**Primary Data:** data you collect yourself
**Secondary Data:** data you source from elsewhere e.g. the internet/ newspapers/ local statistics
**Discrete Data:** numerical data that can only take set values
**Continuous Data:** numerical data that has an infinite number of values (often seen with height, distance, time)
**Spread:** the distance/ how spread out/ variation of data
**Average:** a measure of central tendency – or the typical value of all the data together
**Proportion:** numerical relationship that compares two things

## 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 |
|---|---|---|
| | 𝍸 | |

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 $< x \leq$

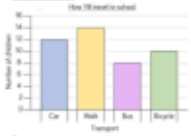
## Pictograms, bar and line charts (R)

Represents quantitative data

Pictogram

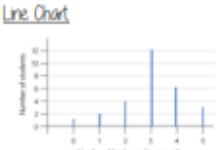

- Need to remember a key
- Visually able to identify mode

Bar Chart



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

Line Chart

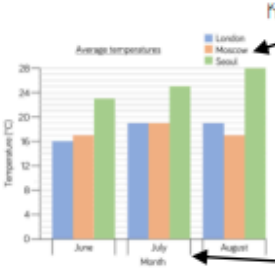


- Gaps between the lines
- Clearly labelled axes
- Scale for the axes
- Discrete Data

## 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

## 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°

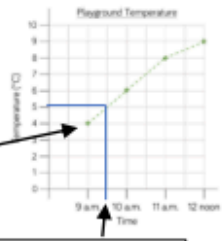
Multiple method
Ds 60 goes into 360 – 6 times
Each frequency can be multiplied by 6 to find the degrees (proportion of 360)

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



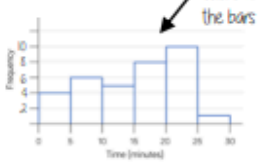

More than one piece of data can be plotted on the same graph to compare data

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

## Grouped quantitative data

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

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




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

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

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**

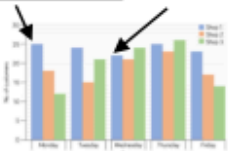
A smaller range means there is less variation in the results – it is more consistent data

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

Difference between the biggest and smallest values

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)

# YEAR 8 - REASONING WITH DATA...

# Measures of location

@whisto_maths

## What do I need to be able to do?

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

- Understand and use mean, median and mode
- Choose the most appropriate average
- Identify outliers
- Compare distributions using averages and range

## Keywords

**Spread** the distance/ how spread out/ variation of data
**Average:** a measure of central tendency – or the typical value of all the data together
**Total** all the data added together
**Frequency** the number of times the data values occur
**Represent:** something that show's the value of another
**Outlier:** a value that stands apart from the data set
**Consistent:** a set of data that is similar and doesn't change very much

## Mean, Median, Mode

### The Mean

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

**4, 8, 4, 11, 8**

Find the sum of the data (add the values) **35**
Divide the overall total by how many pieces of data you have **35 ÷ 5**

**Mean = 11**

### The Median

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

**4, 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)

**4, 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

## Identify outliers

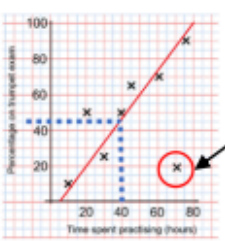
Outliers are values that stand well apart from the rest of the data

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:** 39.6 (1dp), **Median:** 38 **Mode:** no mode, **Range:** 16

James
**Mean:** 41.8 (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"

# Modern Languages: La Musique

## 1. Complex opinion phrases

**Ce que j'aime, c'est**
(What I like is)
**Ce que j'adore, c'est**
(What I love is)
**Ce que je déteste, c'est**
(What I hate is)
**Ce que je n'aime pas, c'est**
(What I don't like is)
**Ce que je préfère, c'est**
(What I prefer is

## 2. Key Phonics


## 3. Transactional language

**Tu veux aller à la fête de la musique?**
(Do you want to go to the Toulouse Music Festival?)
**Combien coûte un billet ?**
(How much does a ticket cost?)
**Quand est-ce que le festival commence ?**
(When does the festival start?)

## 4. Key Adjectives

**relaxant**.
(relaxing.)
**lent**.
(slow.)
**rapide**.
(fast.)
**entraînant**.
(catchy.)
**ringard**.
(cheesy.)
**créatif**.
(creative.)
**animé**.
(lively.)
**fort**.
(loud.)
**démodé.**
(old-fashioned.)
**puéril**.
(childish.)

## 5. Pronoun phrases

**son style de musique**
(their style of music)
**son rhythme**
(their rhythm)
**sa voix**
(his/ her voice)
**ses paroles**
(their lyrics)
**me relaxe(nt).**
relax me
**m'intéresse(nt).**
interest me.
**me fascine(nt).**
fascinate me.

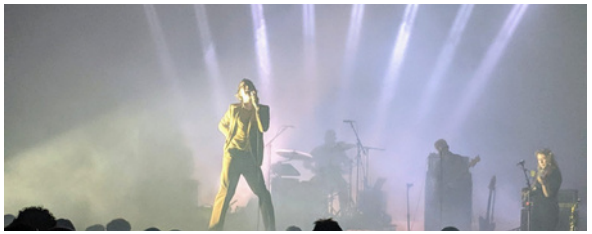
## 6. Verb+ infinitive

**On pourrait**
(We could)
**On peut**
(You can)
**Je voudrais/ j'aimerais**
(I would like to)
**danser**
(dance)
**chanter**
(sing)
**manger et boire**
(eat and drink)
**acheter des souvenirs**
(buy some souvenirs)
**voir mon groupe préféré**
see my favourite group

1. J'aime la musique rock. Improve the sentence using a complex opinion
2. J'adore la musique danse. Improve the sentence using a complex opinion
3. Je n'aime pas le reggaeton. Imprive the sentence using a complex opinion
4. Je déteste la musique salsa. Improve the setence using a complex opinion
5. Je préfère la musique pop. Improve the sentence using a complex opinion

1. Improve sentence 1 using a justified opinion with puisque
2. Improve sentence 2 using a justified opinion with car
3. Improve sentence 3 with a justified opinion with parce que
4. Improve sentence 4 with a justified opinion with étant donné que
5. Improve sentence 5 with a justified opinion with a connective of your choice

1. Describe the picture using the language you have learnt



2, Write a short dialogue about going to a music festival – include asking when & cost of tickets
3. Describe your visit to the music festival

4. Research a French music festival to share in class

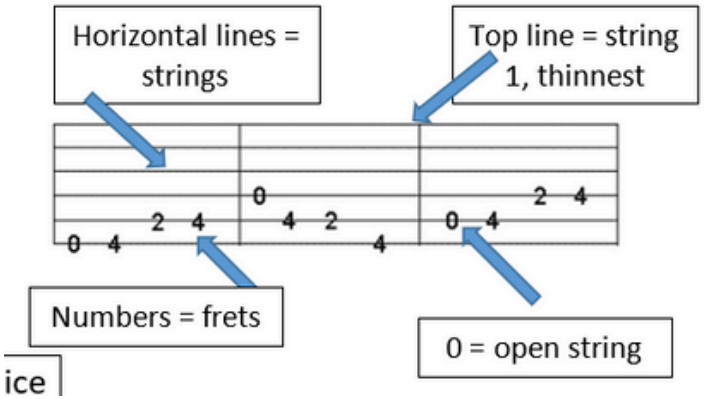
# La Musique

# Music: Guitar

## 1. Guitar Keywords

HEAD
TUNING PEGS
NECK
FINGERBOARD
FRET
BODY
SOUNDHOLE
STRING

## 2. TAB Notation




ice

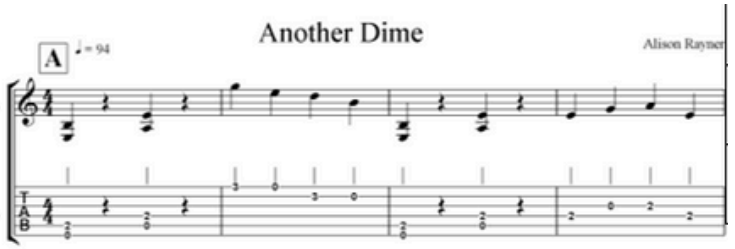
## 3. Elements of Music

| KEYWORDS | DEFINITIONS |
|---|---|
| PITCH | How high or low the note is |
| TEMPO | Speed |
| DYNAMICS | Volume |
| RHYTHM | Different length notes in a pattern |
| MELODY | Different pitches in a pattern |
| INSTRUMENTS | Brass, woodwind, strings, percussion |

## 4. How to carry the guitar

- Carry the guitar by the neck and vertically/pointing down.
- To play, hold it sideways with the head pointing to the left.
- Support the neck with your left hand and play the strings with your right hand.

## 5. TAB and Traditional notation example




## 6. How to play the guitar

- If it's not an open fret, place your finger just before the metal line of the fret.
- Push down firmly on the string.
- Play the string/s firmly with your right thumb/finger.
- Play the string/s over the soundhole for a fuller sound.

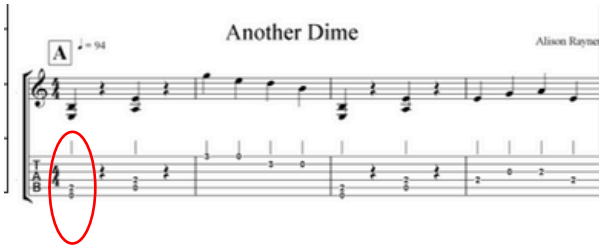
1. What does TAB mean?
2. What do the **numbers** man on TAB?
3. What do the **lines** mean in TAB?
4. What is the correct way to **hold** your guitar?
5. Does it matter if you are left or right handed?

- Can you accurately identify and explain the role of the following on a guitar:

- HEAD
- TUNING PEGS
- NECK
- FINGERBOARD
- FRET
- BODY
- SOUNDHOLE
- STRING

Below is an example of guitar TAB. Can you identify the following:

- What strings (there are more than one) would you need to play the first notes?
- What **frets** would you need to play these first notes?




# Guitar

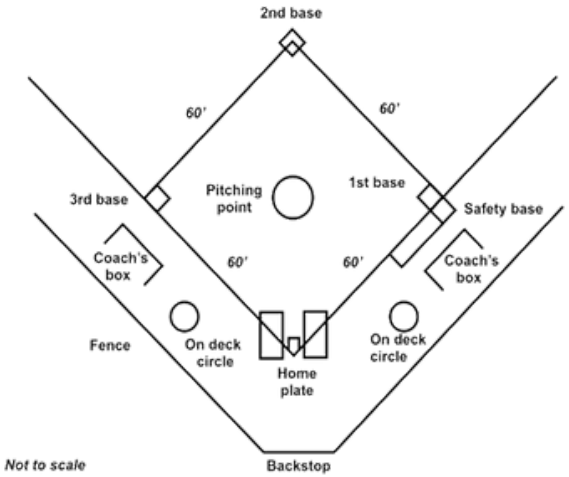
# PE: Softball

Softball is played by two teams of 9 players each who try to score more runs than their opponent by rounding the bases and crossing home plate as many times as possible.
A softball field consists of a pitching rubber, 4 bases (3 bases plus home plate), an infield, and an outfield
There is a batter's box on both sides of home plate. The batter may choose which side of the plate to hit from, but both of their feet must be inside the box.
The team that scores the most runs is the winner. A run is scored when a base runner rounds all of the bases by stepping on each one in order from 1st, 2nd, 3rd, and crosses home plate.


## Positions

- Pitcher – on the pitching rubber Catcher – behind home plate
- 1st Baseman
- 2nd Baseman
- 3rd Baseman
- Shortstop – between 2nd and 3rd base
- Leftfielder – outfield between 2nd and 3rd base
- Centerfielder – outfield behind 2nd base
- Right fielder – outfield between 1st and 2nd base

## The Pitch




## Key Words

**Ball** – as called by the umpire, a pitch that does not enter the strike zone in flight and is not struck at by the batter
**Pitcher** – the player who throws the ball to the batter
**Strike** – as called by the umpire, a pitch that enters the strike zone in flight and is not struck at by the batter; a pitch that a batter swings at and misses; a foul ball

## Youtube Links

Batting:
www.youtube.com/watch?v=jyK9ukm-23E
Bowling:
www.youtube.com/watch?v=RIpCI6FZmjI

Rules:
www.youtube.com/watch?v=YLU6W6AYQto

Long barrier when fielding:
www.youtube.com/watch?v=1hxVw1YCJn0

1.Identify the stages of a warm up before playing a game of softball

2.How many people on a softball team?

3.How many points do you score if you hit the ball and get to second base?

4.How many innings are there in a game of softball?

5.Identify 2 fielding techniques which can be used in softball

6.Identify the most important components of fitness you need in a softball game.

1.Describe one stage of a warm up

2.Describe 2 roles on a softball team

3.Describe how scoring works if you miss the ball as a batter

4.Describe what happens if you drop the bat when you are running in softball

5.Describe one fielding technique and when you would use it

6.Describe one component of fitness and how it is needed in softball

1.Describe one stage of a warm up

2.Describe 2 roles on a softball team

3.Describe how scoring works if you miss the ball as a batter

4.Describe what happens if you drop the bat when you are running in softball

5.Describe one fielding technique and when you would use it

6.Describe one component of fitness and how it is needed in softball

# Softball

# PE: Rounders

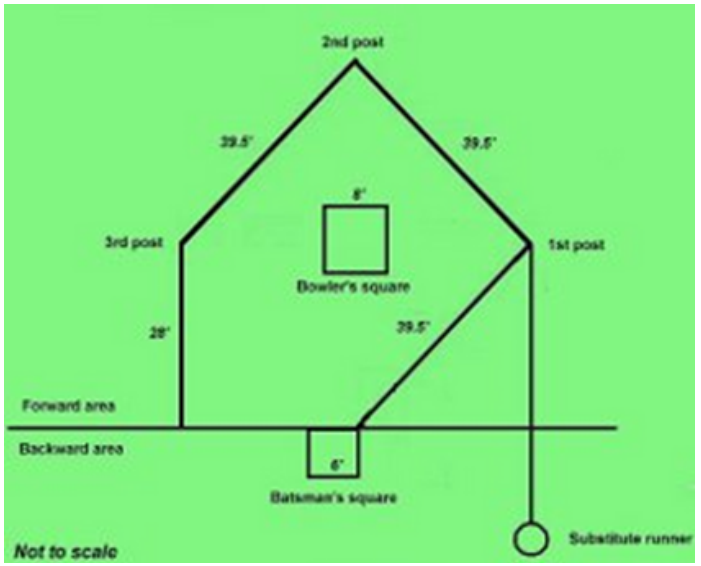
·A rounders game consists of 2 innings; whilst one team bats, the other one bowls.
·A team consists of a maximum of 15 players and a minimum of 6 players
·Players must run on a good ball

<u>When running</u>
·Batters must always keep in contact with the post, either with their hand of bat.
·Two batters cannot be at the same post
·You cannot run back to a post once you have committed to run to the next post
·If you hit the ball backwards, the batter must stay at 1st post until it reaches the outward area.

<u>No balls</u>
·It is a no ball when:
·The ball is above the head/below the knee
·The ball bounces
·The ball is wide
·The bowlers foot is outside of the square when they release the ball
·The bowler does not use an underarm action
·You can not be caught out on a no ball

## Key terms

Underarm Overarm Batting
Bowling Agility Reaction Time
Long barrier




## Scoring System

**<u>Hitting a good ball:</u>**
Run to 2nd or 3rd base = 1/2 rounder
Run to 4th base = 1 rounder

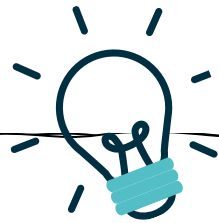
**<u>Missing a good ball:</u>**
Run to 4th base = 1/2 rounder

**<u>Running on a no ball</u>**
Run to 2nd or 3rd base = 1/2 rounder
Run to 4th base = 1 rounder

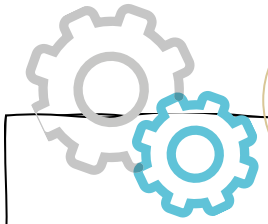
## Key Skills

Underarm bowling – Hold ball in dominant hand. Step forward with non throwing foot. Release ball between knee and shoulder
Batting – Stand sideways on with bat up. Swing through with hips and follow through with bat.
Catching – Get in position under the ball. Cup hands. Bring ball into body.
Throwing – high elbow, aim with none throwing arm. Follow through in direction of where you want the ball to go.
Fielding – Using different techniques to get the ball back to the bowler or to a post

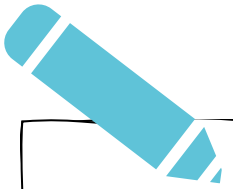
ROUNDERS ENGLAND



- 1.Identify the stages of a warm up before playing a game of Rounders
- 2.How many people on a Rounders team?
- 3.How many points do you score if you hit the ball and get to second post?
- 4.How many innings are there in a game of Rounders?
- 5.Identify 2 fielding techniques which can be used in rounders
- 6.Identify the most important components of fitness you need in a rounders game.



- 1.Describe one stage of a warm up
- 2.Describe 2 roles on a rounders team
- 3.Describe how scoring works if you miss the ball as a batter
- 4.Describe what happens if you drop the bat when you are running in rounders
- 5.Describe one fielding technique and when you would use it
- 6.Describe one component of fitness and how it is needed in rounder



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# Rounders

# PE: Cricket

## Key Rules

- The winning team in cricket is the side that scores the most runs.
- A cricket team consists of 11 players and they take it in turns to bat and bowl.
- The bowler must bowl the ball overarm at the stumps.
- A wide ball will be called if the batsman, playing a normal stroke, is unable to reach the ball.
- A no ball will be called if the heel of the bowler's front foot lands in front of the popping crease or a full toss is bowled – waist height for a seam bowler and shoulder height for a spin bowler.
- A batter is declared out if the bowler knocks off the bails of the stumps with a delivery.
- A batter is declared out if a fielder or wicketkeeper catches the ball directly off the bat and before it hits the ground.
- A batter is declared out if the umpire believes that the bowler's ball would have hit the stumps if the batter had not obstructed the ball with their pads. This is known as leg before wicket (LBW).
- A batter is declared run-out when they are going for a run but do not make the batting crease before fielding team knocks off the cricket stumps.
- A batter is declared out if the wicketkeeper stumps them.

## Fielding Positions


## Key Equipment


## Key Terms

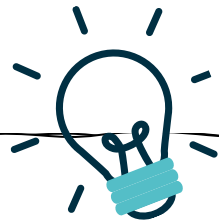
| | |
|---|---|
| Batting | Forward Defence |
| Bowling | Wide Ball |
| Fielding | Long Barrier |
| Coordination | Speed |

## Youtube Links

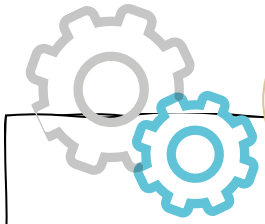
Batting:
https://www.youtube.com/watch?v=CdIYCoqUVEQ
Bowling:
https://www.youtube.com/watch?v=VHTzqkFuIjs
Rules:
https://www.youtube.com/watch?v=AqtpNkMvj5Y
Fielding:
https://www.youtube.com/watch?v=xRf3_UFtAaE

***Local Clubs:***

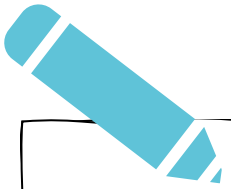
**Walmley Cricket Club, Sutton Coldfield Cricket Club, Aston Unity Cricket Club**



1. Identify 2 types of batting shot
2. Identify 2 types of bowling
3. Identify 2 fielding techniques
4. Give 2 rules in cricket
5. Give 3 fielding positions
6. What are the 3 calls when batting in cricket?
7. What is the name of the line which runs round the outside of a cricket pitch?
8. State 3 pieces of equipment you need in cricket
9. State 3 important components of fitness for cricket
10. State 3 stages of a warm up



1. Can you pick a shot and describe where you would be aiming to hit the ball?
2. Can you describe the difference between the two main types of bowling in cricket?
3. Can you perform the hand signals for the following calls: Wide ball, No ball, 4 runs and 6 runs?
4. Can you describe one thing you might do to put more pressure on the batter as the fielding side?
5. Can you describe 3 rules in cricket?
6. When may you use the call 'waiting' in cricket?
7. Can you describe how you score a boundary when batting in cricket?
8. Can you pick 2 pieces of batting equipment and explain the role of them?
9. Can you define the most important components of fitness needed for cricket?
10. Can you describe 3 stages of a warm up?



1. Can you explain the difference between an attacking shot and a defensive shot in cricket?
2. Can you explain 2 teaching points when bowling in cricket?
3. Can you explain 2 teaching points for a fielding technique?
4. Can you explain when you may use 2 different types of fielding techniques in a game?
5. Can you explain why it is important not to give away extras in cricket?
6. Can you discuss why you use 'yes' and not 'go' when calling for a run in cricket?
7. Can you explain the role of the wicket keeper?
8. Can you explain the difference between the different lines on the wicket?
9. Can you pick 3 important components of fitness and explain why they are important in cricket?
10. Can you design a warm up relevant for a cricket match?

# Cricket

# PE: Athletics

## Sprinting

**Start**

**During**
Hold your torso straight and vertical
Hold head still, facing forward
Bend elbows at 90 degrees
Pump your arms so hands travel from hips to lips, keep shoulders steady
Opposite arm to leg
With each stride lift front knee high

**Rules**
A false start is called when the feet of a runner leave the starting blocks before the starter's gun

## Wider reading

Tokyo 2021 Olympics: https://tokyo2020.org/en/ https://www.olympic.org/tokyo-2020
Components of fitness: https://www.bbc.co.uk/bitesize/guides/zxd4wxs/revision/2
Methods of training: https://www.bbc.co.uk/bitesize/guides/z2b9q6f/revision/2

## Long Distance

**Start:**
Standing

**During**
Hold your torso straight and vertical
Bend elbows at 90 degrees
Pump your arms so hands travel from hips to lips, keep shoulders steady
Opposite arm to leg

**Pace is very important during a long-distance race**

**Rules**
During an 800m race, athletes run the first curve in separate lanes, then break after 100m.

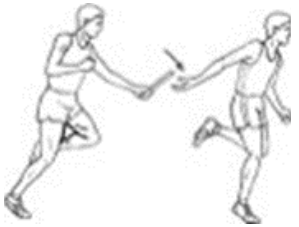
## Components of fitness

Speed Cardiovascular endurance Power Reaction time Coordination

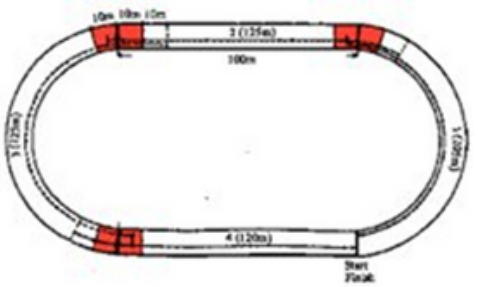
## Relay 4x100m

!! Same technique as sprinting !!

**Baton change over:**
UP sweep exchange



DOWN sweep exchange



**The exchange must happen in the red areas marked below**

# PE: Athletics-Throws

## 1.

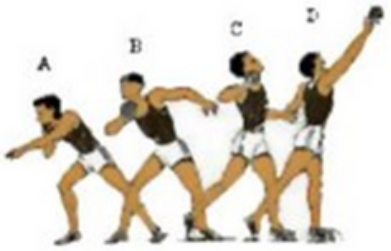
·Rest the shot on your **palm** and push into your neck
·Ensure your chin, knee and toe are in line
·Push shot away from the neck
·Keep elbow high

**Rules:**

·The shot must be released above the height of the shoulder with one hand

## 2.

·Your throwing hand (including the thumb) is on top of the discus with your fingers evenly spread.
·The top knuckle of your four fingers (not the thumb) should touch the rim, with your fingertips over the sides
·Ensure your chin, knee and toe are in line
·Shift your weight forward as you pivot your hips.
·The discus should leave your hand smoothly off the index finger with your hand at about shoulder height.
·Follow through, rotating to your left to remain in the ring and avoid fouling. (if right-handed)




## 3.

·Straighten your arm keeping javelin close to your head and parallel to your arm
·Ensure your chin, knee and toe are in line
·Transfer your weight from front to back leg when releasing the javelin


**Grip:**
·Place javelin in the crease of your hand

## *Wider reading/ videos:*

Tokyo 2021 Olympics: https://tokyo2020.org/en/ https://www.olympic.org/tokyo-2020
Components of fitness: https://www.bbc.co.uk/bitesize/guides/zxd4wxs/revision/2
Methods of training: https://www.bbc.co.uk/bitesize/guides/z2b9q6f/revision/2

## Components of fitness

Muscular Strength Flexibility Power Balance

## *Exit Routes:*

**Tamworth Athletics Club,** Marlborough Way, Tamworth, B77 2HA. **Royal Sutton Coldfield Athletics Club,** Wyndley Lane, B73 6ES

Year 8 KO

# PE: Athletics-Jumps

## Long jump

**Run up**

·athlete accelerates onto the take off board, aiming to be close to maximum speed at take off

**Take off**

·Take off on one leg as close to the line as possible

·Maintain this take off position for as long as possible

·As the athlete comes into land, bring both legs in front of body.

**Rules**

·No part of the athletes foot should cross the front edge of the foul line

## Triple Jump

**Run up**

·Same as long jump run up

·

**Phase 1: HOP**

·Take off and land on the same foot

**Phase 2: STEP**

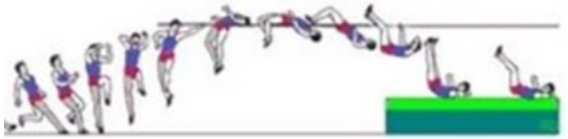
·Take a LARGE step onto the other foot

**Phase 3: JUMP**

·Same as long jump 'take off'

**Rules**

No part of the athletes foot should cross the front edge of the foul line



## High Jump

**Run up**

·Run on a curve leaning away from the bar

·Use approximately 6–12 steps on approach

**Take off (Fosbury flop)**

·On take off, point foot towards the far corner of the landing area

·Drive knees upwards on the leg closest to the bar

·Rotate hips so you are facing away from the bar

·Reach arm up and over

·Arch back and bring legs together

·Lift feet over and land on back, tucking chin to chest.

**Rules**

·Take off on one foot only

·Do not touch the bar

## *Wider reading/ videos:*

Tokyo 2021 Olympics: https://tokyo2020.org/en/ https://www.olympic.org/tokyo-2020

Components of fitness: https://www.bbc.co.uk/bitesize/guides/zxd4wxs/revision/2

Methods of training: https://www.bbc.co.uk/bitesize/guides/z2b9q6f/revision/2

## Components of fitness

Muscular Strength Flexibility Power Balance

## *Exit Routes:*

**Tamworth Athletics Club,** Marlborough Way, Tamworth, B77 2HA. **Royal Sutton Coldfield Athletics Club,** Wyndley Lane, B73 6ES

1. How many people are in a relay team ?

2. Which throwing event is a “sling”, which is “push and which is “pull” throw?

3. What are the safety points in throwing events?

4. What happens if you step over the board in the long jump?

5. How far is 100m, 200m, 800m and 1500m on an athletics track?

6. What are the four health related components of fitness?

1. How do you perform a sprint start?

2. How do you measure in throwing events?

3. How is a track race started? Talk through the process of sprint and longer distance races.

4. How will you help a partner who struggles to get the javelin point first?

5. What makes a shot-put throw a “no throw”?

6. How can you improve your own personal fitness level?

1. Which part of your long jump gets measured?

2. What are the changeover zones in relay?

3. What 3 key teaching points would you tell someone about sprinting?

4. How would you describe the scissor kick?

5. Choose a throw; how do you perform it?

6. Choose 2 health related components and say which athletics events they are shown in most.

# Athletics

# Religious Education: Sikhism

## Guru Nanak

**Guru Nanak** founded the religion of Sikhism. He vanished from the river he was washing in for 3 days and when he returned, he said he had been with God. He told Sikhs how to behave and told them that everyone, no matter what their religion is, are all equal.

## The Story of Guru Gobind

At the time of Guru Gobind Sikhs were being treated very badly and even killed for their beliefs. Guru Gobind called for volunteers who were willing to die for their beliefs. He pretended to kill them, and this showed the crowd just how dedicated they needed to be. The five men he pretended to execute would be the first members of the **Khalsa,** the baptised Sikh community, also known as the 'community of the pure'.

## The 5K's

The 5K's are 5 articles of faith worn by some of the Sikh community. They show identity to the religion, and all represent key ideas

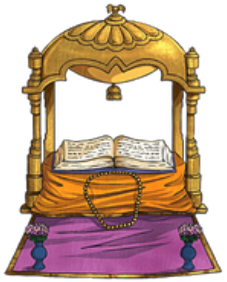
- Kesh (uncut hair) Strength.
- Kara (a steel bracelet) – Only one God.
- Kanga (a wooden comb) – stay clean.
- Kachera (cotton underwear) pure.
- Kirpan (steel sword) readiness to protect the weak.

## What do Sikhs believe ?

- There is only one God;
- God cannot be described as either male nor female;
- God is both sargun and nirgun (seen and unseen)
- God created the world and created people to know the difference between right and wrong.
- All people are equal

## Guru Granth Sahib

The Sikh holy book and their current Guru. The Guru Granth Sahib is always treated with respect; Sikhs bow to it and never turn their back on it. When it is carried, it is raised above people's heads. When the Guru Granth Sahib is being used it rests on a throne (Takht) and when it is not being used it is covered with Special cloths (Romallas).



## Wow Words

**Guru** – a religious leader or teacher
**Guru Nanak** – the man who started
**Gurdwara** – Sikh place of worship
**Guru Granth Sahib** – The Sikh holy book, Sikhs think of it as a living Guru
**Langar** – a special meal shared after services in the Gurdwara
**Guru Gobind** – The final human Guru, he created the Khalsa
**Khalsa** – The community of Sikhs who committed to their beliefs

1. Who is the founder of Sikhism ?
2. How many Gods do Sikhs believe in ?
3. What is the name given to initiated Sikhs ?
4. What are the 5 K's that all Sikhs must wear?
5. In Sikhism, what is the most widely used name for God
6. What do Sikhs (and visitors to the Gurdwara) remove before they enter the place of worship?
7. How do Sikhs show their respect for the Guru Granth Sahab?
8. What is a Sikh place of worship called ?

This picture shows the Sikh community helping to feed the homeless.

1. What does this tell us about the Sikh beliefs about mankind?
2. How has Guru Nanak influenced this community?

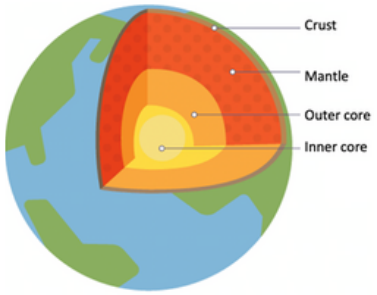
**Write an account of visiting a Sikh Gurdwara.** Use the key questions below to organise your write up.

- What did you see ?
- What sounds or noises did you hear ?
- What did you smell ?
- How did you have to dress and behave ?
- What did you eat ?
- How were you welcomed and treated?

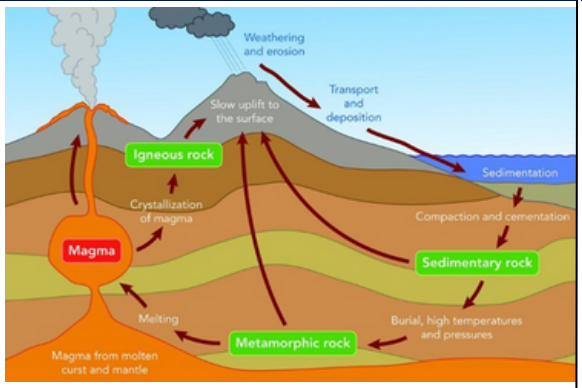
**Use this website to support your account.**
Visiting A Gurdwara – Shri Guru Nanak Gurdwara Swindon (sgng.org.uk)

# Sikhism

# Science: Earth and the atmosphere

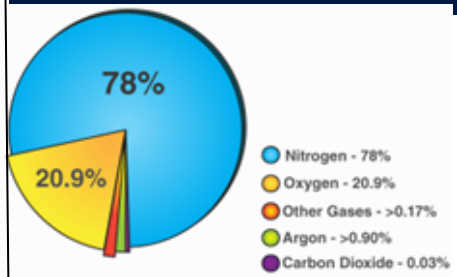



**Crust:** Thin and mostly made of rock
**Mantle:** Has properties of a solid but can flow slowly (200-4000°C)
**Outer Core:** Made of molten iron and nickel (4000-6000°C)
**Inner Core:** Made of solid iron and nickel (7000°C)



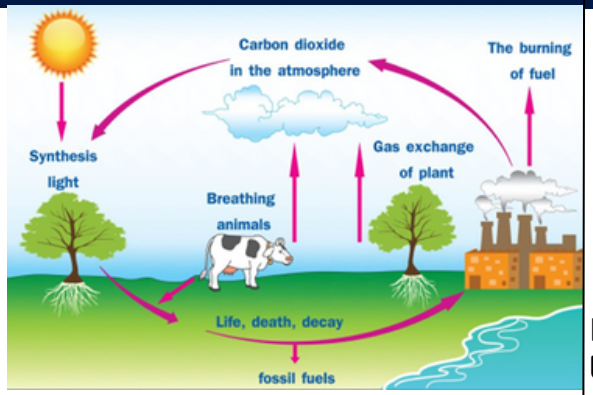

**Atmosphere** – mixture of gases around the Earth
**Combustion** – burning of fuel with oxygen to produce heat and light
**Erosion** – when rock is broken down by water or wind
**Fossil Fuels** – coal, natural gas and oil formed from the remains of ancient organisms
**Global Warming** – increase in the Earth's temperature due to increased amounts of greenhouse gases
**Greenhouse Gases** – carbon dioxide, methane, nitrous oxide
**Lava** – magma that has erupted from a volcano
**Magma** – molten rock inside the Earth
**Mineral** – a pure chemical compound found naturally in rocks
**Sediment** – matter than sinks to the bottom of a liquid

## Composition of Atmosphere

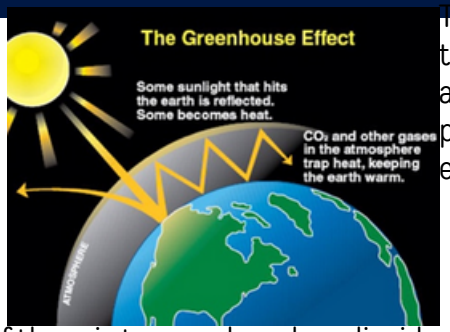



The atmosphere is the thin layer of gases that surround the planet. It protects us from the dangerous radiation from the Sun, traps important oxygen, and keeps the temperature of the Earth stable

## Carbon cycle




## Climate Change




The greenhouse effect traps heat in our atmosphere and keeps the planet warm, but allows excess heat to escape.

If there is too much carbon dioxide and methane (from **burning fossil fuels, driving cars, cattle farming** etc) in the atmosphere, too much heat is trapped and the planet warms up – this is global warming

- What are the three layers of the Earth?
- Name the three groups that rocks are classified into?
- What is combustion?
- Identify 3 greenhouse gases.
- What is a mineral?
- What does the presence of tiny crystals in a piece of igneous rock tell you about it?
- What is magma?
- What is the word equation for photosynthesis?
- What is the atmosphere?
- Describe the composition of the Earth's atmosphere

- Describe what a mineral is?
- Describe the composition of different materials?
- Describe/explain the properties of sedimentary, igneous and metamorphic rock
- Explain how sedimentary, metamorphic and igneous rocks are formed.
- Describe what the rock cycle is
- Describe simply the processes involved in the rock cycle and how this process takes place over millions of years.
- Explain using detailed Science how sedimentary, igneous and metamorphic rock interconvert
- Explain the processes that drives the rock cycle
- Describe the different between complete and incomplete combustion
- Explain the effects of combustion on the atmosphere.

- Explain the structure of the Earth and how scientists have learnt about its structure through shockwaves from Earthquakes
- Compare the differences between the processes, weathering, transport, erosion, deposition, compaction and cementation and link to formation of rocks
- Explain the processes that add and remove carbon from the atmosphere.
- Identify the % composition of gases in the atmosphere
- Explain what global warming is.
- Interpret data to explain the link between increase carbon dioxide levels and temperature
- Explain some human activities that increase carbon dioxide levels in the environment.
- Make links between greenhouse gases and global warming
- Interpret data to explain links between human activity and global warming
- Construct arguments for or against human activity and global warming

# Earth and the Atmosphere

# Science: Light

**Transverse waves** are where energy moves away from a source, but the particles move perpendicular (up and down) to the direction of the wave


**Longitudinal waves** are where energy moves away from the source, but the particles move parallel (left to right) to the direction of the wave. (e.g. sound)

## Transmitting light

| | |
|---|---|
| Opaque | Absorbs all light – not see through |
| Translucent | Transmits some light – partially see through |
| Transparent | Transmits all light – see through |

## Reflection and refraction

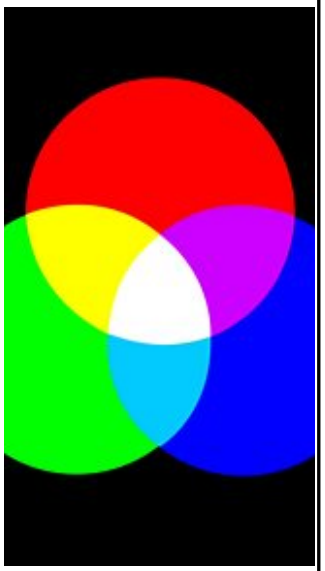
When light hits a mirror, it reflects from the surface of the mirror.
The angle at which the light is reflected depends on the angle it hits the mirror, and a ray diagram can be used to show the path of the light rays

**Refraction**

Light waves change speed when they pass across the boundary between two substances with a different density, such as air and glass. This causes them to change direction, an effect called refraction.

## Colour

Our eyes only detect three colours: red, green and blue. By combining these, however, we can perceive many different colours.
By mixing red light and green light, for example, we can see yellow. If all three are mixed together we see white light.
Objects absorb and reflect light differently. A lemon reflects yellow light, all the other colours are absorbed and so are not seen by our eyes.



## Key voacabulary

**Amplitude** – The maximum extent of a vibration or oscillation, and maximum isplacement of matter in waves.
**Frequency** – The rate at which waves pass a certain point per second.
**Wavelength** – The distance between identical points on a wave.
**Transverse** – A wave in which the medium vibrates perpendicular to the direction of the wave.
**Longitudinal** – A wave in which the medium vibrates parallel to the direction of the wave.
**Radiation** – The emission of energy as electromagnetic waves.

## Seeing

The eye contains a natural lens to focus light from an object to produce an image.

This image is detected by photo-sensitive cells in the back of the eye, in a part called the retina.

The photo-sensitive cells in the retina produce electrical impulses when they absorb light, and these impulses are passed along the optic nerve to the brain, which interprets them as vision.

1. Give the definition of translucent.

2. Give the definition of opaque.

3. State one difference between a transverse wave and a longitudinal wave

4. Give an example of a longitudinal wave.

5. What is the speed of light?

6. What 7 colours make up white light.?

7. Describe what happens when light hits a plane mirror

8. Describe what transparent objects are?

1. Draw a transverse wave and label
2. Describe a difference between translucent and transparent object.
3. If sound takes 1 second to travel 340m, how long will it take to travel 1km?
4. How can light travel through space but sound cannot?
5. Describe the function of the iris.
6. What colour does red light and blue light make when mixed together?
7. Describe how our eyes can see objects.
8. Explain how a camera works

1. Give the similarities and the differences between transverse and longitudinal waves.

2. .What colour does red light and cyan light make when mixed together?

3. Explain why people might wear light coloured clothes in the summer.

4. Explain the difference between reflection and refraction

5. Explain how we see objects?

6. Explain how the brain processes images

7. Explain why we see the grass as green.

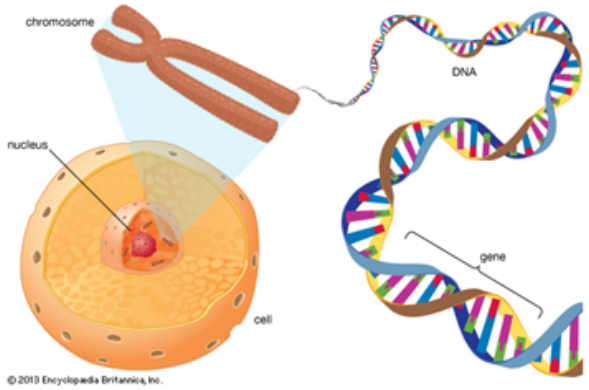
8. Compare the difference between how the eye works and a camera

# LIGHT

# Science: Genetics

## Inheritance

Our **DNA** contains information about us and is contained in our **chromosomes**.
Humans have 46 chromosomes in most cells.
We inherit 23 from mum and 23 from dad.




## Evolution by Natural Selection

Organisms show **variation** (caused by differences in genes)

Organisms with the characteristics best suited to their environment survive and reproduce. Those who don't die - **survival of the fittest**.

Genes from successful organisms are passed to their **offspring**.

This is repeated many times and over time can lead to change in the species. This is **evolution by natural selection**.


## Extinction

Organisms can go extinct due to:

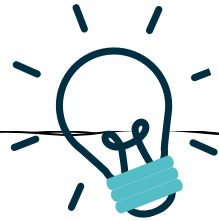
- Changes in the environment
- An outbreak of a new disease
- New predators
- Destruction of habitat
- Increased competition for resources.

## Gene Banks

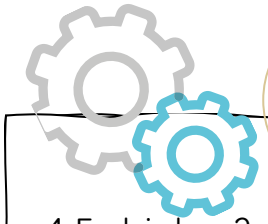
Gene banks store genetic samples from different species. They can be used for research, or to produce new individuals. There are several different types of gene banks including seed banks, tissue banks, cryobanks and pollen banks.

## WOW Words

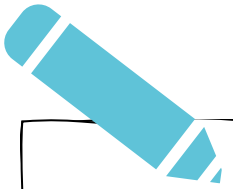
**Adaptation** – A feature which makes an organism more likely to survive.
**Competition** – Organisms can compete against members of the same or other species for resources.
**Variation** – Differences between organisms of the same and different species.
**Inheritance** – when genes are passed from one generation to the next.
**Gene** – a Section of DNA
**DNA**– A molecule found in the nucleus of a cell that contains genetic information.
**Chromosome**– Thread like structure containing tightly coiled DNA. It contains many genes.
**Gamete** – a sex cell
Evolution– The theory that the plant and animal species living today descended from species that lived in the past.
**Natural selection** – The process which brings about evolution.
**Species**– a group of living organisms consisting of similar individuals that can breed to produce fertile offspring.
**Extinction**– When there are no more living members of a species



1. State 2 adaptations of a camel
2. State 3 things animals compete for.
3. State 3 things plants compete for.
4. Define the term continuous variation.
5. Define the term discontinuous variation.
6. Define the term species.
7. Where do you inherit your genes from?
8. Define the term extinct.
9. What is an adaptation?
10. Define biodiversity.



1. Explain how 2 adaptations of a camel helps it to survive in the desert.
2. State where DNA is found in each cell.
3. Describe the organisation of genetic material in cells.
4. What is different ab
5. Describe the process of natural selection. out the 23rd pair of chromosomes?
6. State two organisms which are extinct.
7. Describe how endangered species can be preserved.
8. State if tongue rolling is an example of continuous or discontinuous variation.
9. Explain using examples the difference between inherited and environmental variation.
10. Explain why when a person who has tattoos and blue hair has a baby, they don't inherit their parent's tattoos or hair colour.



1. Research an organism that lives in an extreme environment. Explain how it is adapted.
2. Explain the significance of identical twins in twin studies.
3. Explain how natural selection brings about evolution. Use an example.
4. Explain how humans are having an impact on the rate of extinction of organisms across the world.
5. Explain how selective breeding has resulted in breeds of dogs with high levels of health problems.
6. Explain the importance of 'peer review'.
7. Explain why gametes only have 23 chromosomes and not 46 like other cells.
8. Suggest why height and weight are affect by both inherited and environmental variation.
9. Suggest why mutations in the genetic code can lead to abnormalities.
10. State and explain 3 behavioural adaptations of organisms that help them survive in extreme conditions.

# Genetics

# Technology: Graphic Design

## 1. Graphic Design

The role of a graphic designer is to **design** the **aesthetics** (the **printed** or **drawn** elements) of a product by **combining images**, **words**, and **ideas** to **convey information** to an **audience**.

Designing a product involves **analysing existing** products, studying what is **successful** and what could be **improved** to **develop** a product which is **marketable** (able to be sold).

**Designers collaboration**: Designers work together to combine **expertise** and **specialisms**.

## 2. ACCESS FM

**Aesthetics**– the look and **visual appeal** of the product e.g. colour, line, texture, pattern, theme.
**Cost**– which materials have been chosen in order to meet the clients budget?
**Client**– who is the product aimed at, who is the target market?
**Environment**– where will the product be used? does it need to be waterproof/weatherproof?
**Size**– What are the dimensions of the product? What sizes do you need to consider e.g. hand size?
**Safety**– How has the designer made it safe to use?
**Function**– What is the intended purpose of the product?
**Materials**– What materials is it made out of? Why were those materials chosen?
**Manufacture**– How was the product made? Using hand tools? CAD/CAM?

## 3. WOW Words

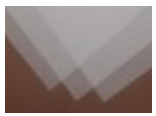
**ACCESS FM =** the acronym used in DT to analyse and evaluate products to ensure we have looked at all the aspects of a product.
**GSM** = grams per square meter, this is the units used to measure paper in.
**Source/origin =** where a material comes from.
**Scored =** An indented scratch to allow paper or card to fold with ease.
**Crimped =** Compressing a material into small folds.
**Embossed =** To stamp a pattern onto a surface so that it stands out.
**Perforate =** Pressing small holes into a material.
**Prototype =** The first working model of a design used for testing, development and evaluation.

## 4. Paper

The source of **paper** and **board** is **trees**. There are lots of different kinds of **paper** – **each designed for a particular use**. Paper is measured in **gsm** (**grams per square meter**).

**Grid paper** can have square or isometric pattern printed on it.

**Tracing paper** is semi-transparent and is used to copy images.



## 5. Board

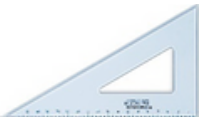
Paper becomes classified as a **board** when it is above **200gsm**. Board is often used in packaging because of its **low cost** and **high strength-to-weight ratio**.

**Corrugated cardboard** is made up of fluted inner core (crimped) sandwiched between two outer layers which can be printed on.

**Folding boxboard** is a board which has a good printing surface, can be scored, bent and creased easily.

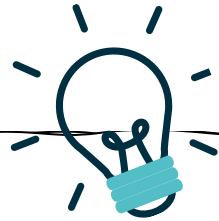
## 6. Equipment

**Set square –** For drawing lines at 30/60/90 degrees.



**Craft knife –** For cutting and scoring paper and card.

**Steel rule –** For cutting straight lines and measuring

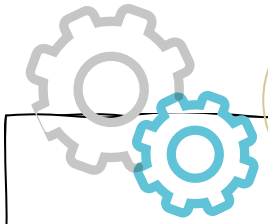


ACCESS FM is used to help up to analyse products. (Aesthetics, cost, client, environment, size, safety, function, materials, manufacture).

**How to describe a game:**
What is it made from?
Who is it for?
When would it be used?
Where is it used?
How much does it cost?
How has it been made?
What sort, type or category of product is it?
What other products are like this?

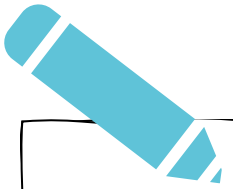
**Comprehensive – Critical analysis of a game:**
Do I like it? If so, why/why not?
Is it fun to play?
Are the graphics attractive to the target market?
Is it the right size, shape, pattern, colour?
Is it strong and sturdy?
Is it safe to use?
Is it value for money?
What does it cost in relation to the income of the potential users?

**Demonstrate how the product is used:**
Explain why this game was developed.
Explain the purpose of different features of the game.



**How to interpret games that are new:**
What is my reaction to this game?
Who might the user or owner be?
Why might they want to buy it?
Is it designed well, if so, why/why not?
Is it easy to play/ understand?
What materials and processes were used?
Does it look and feel good?
How well is it made?
Is it well finished(laminated, embossed)?
Is the cost appropriate?
How much will this product change people's lives?
How is it promoted and packaged?
What happens at the end of its product life? (recycled, landfill, can it be repaired/ reused)

**Analysis – breaking down into parts, forms:**
What is the function of this game?
Who is it for (target market)?
What assumptions have been made about the people who might use it?
Whose needs or wants were possibly considered during designing and making this product?
What are the motives of the people who designed and made it?
What make this product distinct from others of its type?



**Synthesis – combining elements into a pattern:**
Would I want to own or use it?
What would this reveal about me?
What influenced the appearance and the way it works?
How might the design have been developed?
How would you test this to see..?
Could you propose an alternative solution to the game or part of the game to improve it?
How else could you make the game?
List important features about the game?
How is this product different from one from five years ago, or another culture?
How will this product be different in ten years' time?

**Evaluation – according to criteria and state:**
What effect will this product have on people's lives and relationships?
What is wrong with the product?
Why is this product not a popular as other similar games?
What difficulties do users find with this product?
What difficulties would manufactures have making this product?
Why have these materials been chosen?

# Board Game Design