YEAR 8 KNOWLEDGE ORGANISER

TRINITY TERM

Name:

Family Group:

LEARNING - LOVING - LIVING

CONTENTS PAGE

LEARNING - LOVING - LIVING

KNOWLEDGE ORGANISER GUIDANCE

The knowledge organiser is a book that sets out the **important**, **useful** and **powerful knowledge** of a single topic on one page.

When used effectively, Knowledge Organisers are useful in:

- Helping build a foundation of **factual knowledge.**
- Embedding **revision techniques** for now and future studies (A-Level, College, University)
- Allowing knowledge to become stored in **long term memory** which frees up working memory for more complex ideas. It also allows you to connect concepts together, even across subjects

HOMEWORK EXPECTATIONS

EACH NIGHT you should spend *at least* **1 hour** per night on homework. 3 subjects per night x 20 minutes per subject= 1 hour. Use the homework timetable as a guide to what subjects to complete each night.

Complete all work in your exercise book and make sure you bring your knowledge organiser to school EVERYDAY (in your coloured folder).

Every FRIDAY morning the week's worth of KNOWLEDGE ORGANISER homework will be checked in Family Group time and detentions issued for work not complete, or not up to standard.

SUBJECT HOMEWORK

In addition to knowledge organiser homework, subjects will be setting **additional homework task**s for completion. This is to further augment the knowledge organiser material and develop the skills and understanding in the subject areas.

Students will also be assigned **ENGLISH** reading activities on www.CommonLit.org and **MATHS** activities with short explanatory videos on the online platform of https://mathswatch.co.uk.

It is also recommended to take advantage of FREE online revision tools such as www.senecalearning.com or the recently updated BBC BITESIZE.

It is also recommended that students regularly **READ** a variety of **fiction and non fiction books** of their choosing.

HOMEWORK TIMETABLE

Year 8	Subject 1	Subject 2	Subject 3
Monday	Maths	History	PE
Tuesday	English	Geography	ICT
Wednesday	Maths	RE	Music
Thursday	English	Science	Creative
Friday	Maths	Languages	Drama

EQUIPMENT CHECKLIST

Pencil case	Knowledge Organiser	2 Black or Blue pens
2 pencils and Eraser	Green Pen	Pencil Sharpener
Mini whiteboard and pen	Calculator	Ruler
Maths geometry set	Class book	

HOMEWORK CHECKLIST

Week 1	Week 2	Week 3	Week 4	Week 5

Half term

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6

RETRIEVAL ACTIVITY IDEAS

Here are some activities that you can try at home with your knowledge organiser to help revise. There are even more strategies on page 3.

4 Methods of Retrieval Practice

@ImpactWales

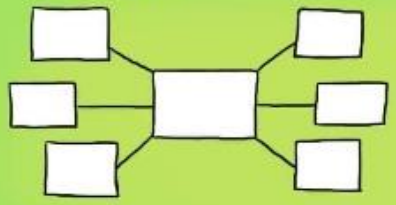
Before you start put away all your books & classroom materials.

Retrieval Practice Examples

- Exit Tickets
- Starter quizzes
- Multiple choice quizzes
- Short answer tests
- Free write
- Think, pair, share
- Ranking & sorting
- Challenge grids

BRAIN DUMP

Write, draw a picture, create a mind-map on everything you know about a topic.



Give yourself a time limit, say 3 minutes, then have a look at your books & add a few things you forgot.

QUIZZING

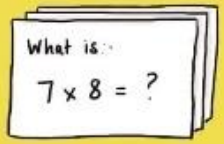
Create practice questions on a topic. Swap your questions with a partner & answer.

Question - What is a metaphor?

- ☐ A comparison using 'like, as, than'.
- ☐ A comparison where one thing is another.
- ☐ A comparison with a human attribute.

FLASHCARDS

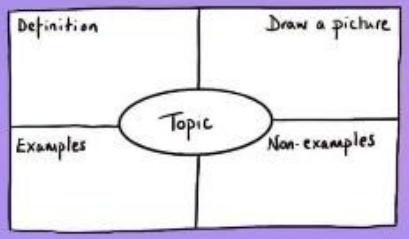
Create your own flashcards, question on one side answer on the other. Can you make links between the cards?



You need to repeat the Q & A process for flashcards you fail on more frequently & less frequently for those you answer correctly

KNOWLEDGE ORGANISERS

Complete a knowledge organiser template for key information about a topic.



You can use knowledge organisers to learn new vocab & make links in between subjects or ideas.

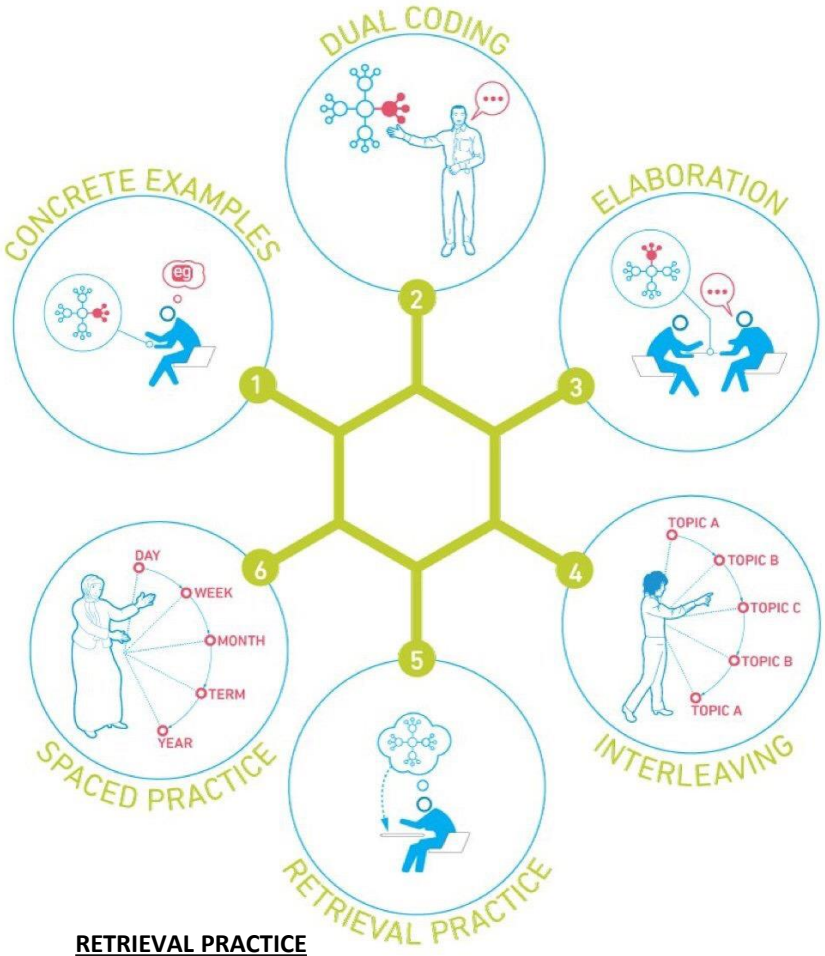
After you have retrieved as much as you can go back to your books & check what you've missed. Next time focus on that missing information

DUAL CODING

Dual coding is the process of combining visual and written materials. You can visually represent materials using methods such as info graphics, timelines, cartoon/comic strips, diagrams and graphic organisers. Combing images with words or explaining an image makes it more likely to 'stick'.

CONCRETE EXAMPLES

When you're studying, try to think about how you can turn ideas you're learning into concrete examples. Making a link between the idea you're studying and a real life example, concrete example, can help students understand abstract ideas and make it 'stick'.



ELABORATION

When talking about studying, elaboration involves explaining and describing ideas with many details. Elaboration also involves making connections among ideas you are trying to learn. Ask yourself questions about a topic to delve deeper. The more information you have about a specific topic the stronger your grasp and ability to recall.

SPACED PRACTISE

Divide up your revision into short manageable chunks of time . When revising aim for 20 - 30 minutes per session. Five hours spread out over two weeks is better than the same five hours all at once. This is **spaced practice** and it is regarded as one of the most effective revision strategies.

INTERVEAVING

Interleaving is a process where you combine multiple subjects and topics while you study in order to improve learning. Switch between ideas and make links between them during a study session. Interleaving has been shown to lead to better long-term retention

RETRIEVAL PRACTICE

Through the act of retrieval, or calling information to mind, our memory for that information is strengthened and forgetting is less likely to occur. Retrieval practice ideas include: Read, cover, write, check, flashcards and brain dumps.

Key Vocabulary	Definition		
1) Dystopia (n) **Dystopian (adj)**	Relating to an imagined place of state in which everything is unpleasant or bad	**22) Despondency (n)** **Despondent (adj)**	Feeling low, sad and dejected
2) Conform (v) **Conformity (n)**	Behaviour in accordance with socially accepted conventions	**23) Anonymous (adj)** **Anonymity (n)**	Having no name
3) Totalitarian (adj) **Totalitarianism (n)**	A system of government that is centralized and dictatorial	**24) Intangible (adj)** **Intangibility (n)**	Unable to be touched, not having a physical presence
4) Subservience (n) **Subservient (adj)**	Willingness to obey others without question	**25) Nebulous (adj)** **Nebulousness (n)**	Like a cloud, undefined or vague
5) Dehumanisation (n) **Dehumanise (v)**	To treat someone with a lack of compassion or humanity	**26) Overburden (v)** **Overburdened (adj)**	Give someone more pressure and work than they can deal with
6) Propaganda (n)	Misinformation and lies spread by governments to fool their people (fake news)	**27) Archetype (n)** **Archetypal (adj)**	A very typical example of something
7) Utopia (n) **Utopian (adj)**	An imagined place where everything is perfect and pleasant	**28) Acquiesce (v)** **Acquiescent (adj)** **Acquiescence (n)**	To accept something without protest; to do what someone wants
8) Autonomy (n) **Autonomous (adj)**	Freedom from control or influence; independence	**29) Subjugate (v)** **Subjugation (n)**	To bring under domination or control
9) Onerous (adj)	Something that involves a lot of effort	**30) Suppress (v)** **Suppression (n)** **Suppressed (adj)**	To prevent the development of something or to hide or ignore a feeling or desire
10) Collectivism (n) **Collectivist (adj)**	Giving the group priority over the individual	**31) Insignificant (adj)** **Insignificance (n)**	Too small to be worthy of consideration; unimportant
11) Individualism (n) **Individualist (adj)**	Giving individual people priority over a group	**32) innate (adj)**	Inborn, natural, within
12) Coerce (v) **Coercion (n)**	To force someone to do something, perhaps by using threats	**33) Trait (n)**	Characteristic or qualities
13) Isolate (v) **Isolation (n)** **Isolated (adj)**	To be separated from others	**34) Nature vs Nurture**	Whether people are shaped by their genetics (Nurture) or their environment (nurture) or both.
14) Bereft (adj)	To be sad and lonely	**32) Thomas Hobbes**	a) Philosopher who wrote Leviathan in 1651 b) Believed that human life was 'solitary, nasty, brutish and short' c) Thought that a benign power was necessary to control people
15) Desolate (adj) **Desolation (n)**	Feeling or showing great unhappiness	**33) John Locke**	a) Philosopher who lived from 1632-1704 b) Believed that people are born as a blank slate with no innate characteristics c) Believed that everyone began life equal and free d) Thought that societies should not be ruled by God or Kings
16) Forsake (v) **Forsaken (adj)**	Abandon or leave	**34) 'The Noble Savage'**	a) The idea that humans are innately good b) Society corrupts humans and makes them evil and violent
17) Ostracise (v) **18) Ostracisation (n)**	To be excluded or left out	**35) Ray Bradbury**	Acclaimed dystopian author
19) Melancholy (n) **Melancholic (adj)**	A feeling of pensive sadness	**36) Metaphysical**	a division of **philosophy** that is concerned with the fundamental nature of reality and being (who we are as individuals)
20) Poignant (adj) **Poignancy (n)**	Evoking a keen sense of sadness	**37) Analogies**	A comparison between one thing and another.
21) Profound (adj)	Having or showing a great knowledge or insight	**38) Depersonalise**	Without human characteristics or individuality

YEAR 8 – TRINITY TERM – ENGLISH – DYSTOPIA

	PLOT
1. WHERE ARE WE?	*Schoolboys have crash landed on a deserted Island. The reader meets Ralph and Piggy. Piggy has asthma. They find a conch and use it to summon any other survivors. Twins SamnEric, Jack and Simon.*
2. FIRE AND BEASTS	*The boys focus on short term pleasure and fun. Ralph suggests building a fire to be rescued. Jack just wants to hunt. A boy with a birth mark tells of the beast.*
3. HUTS & PIGS	*Ralph wants to build shelters but only Simon helps whilst the others play and Jack hunts. The fire has been allowed to go out. Simon slips away to meditate*
4. HUNTING & LOST CHANCES	*A boat goes past but there is no fire to attract it. Piggy is laughed at for sundials. Jack paints his face and hunts and kills a pig chanting "Kill the Pig. Cut her throat. Spill her blood" Ralph walks away.*
5. GROUP SPLITS	*Ralph calls a meeting, but he and Jack are more apart than ever. There is talk of the beast. Jack just wants to hunt and won't listen to the rules of the conch. Ralph wishes for adults.*
6. SOLDIERS & BOULDERS	*A dead parachutist floats in to the Island. They think it is a beast. Jack finds a rock and some boulders.*
7. BEASTS & BOARS	*Jack and Ralph continue to clash as they search for the beast. Ralph kills a boar and is flushed with excitement. Roger is almost killed in the reenactment.*
8. SAVAGES RULE	*Jack declares himself chief of his own group. Simon meditates alone and leans what the beast is. The savages dance around as they kill a sow.*
9. DEATH OF SIMON	*A storm comes and they have no shelter. Simon emerges from the forest and is killed by the other boys who think he is the beast.*
10. ROCKS & GLASSES	*Jack's gang have moved to castle rock. Ralph, Piggy and SamnEric remain but can't keep the fire going alone. Jack steals Piggy's glasses whilst the others protect the conch.*
11. PIGGY IS KILLED	*The boys go to castle rock to confront Jack. Piggy is killed by a boulder pushed by Roger. Jack attempts to kill Ralph with a spear. He flees*
12. TEARS & RESCUE	*SamnEric are tortured into revealing Ralph's hiding place. Jack vows to burn down the forest to find him. The smoke attracts a boat. The officer finds the boys and asks if they are playing at war. All of the boys cry whilst the officer looks back at his ship.*

MAIN	CHARACTERS
13. RALPH	*Largest and most physically powerful. Wants to plan and follow rules.* **Symbolises: law, government and civil society**
14. PIGGY	*Smartest boy but has asthma and is fat so bullied. Has a tendency to lecture and is ridiculed.* **Symbolises: science and rationality**
15. JACK	*Leader of the hunters. Loves to hunt and kill gets angry when he doesn't get his way. Believes a leader should be obeyed.* **Symbolises: dominance and power**
16. SIMON	*Dreamy, dark haired boy prone to fits. He recognises that the beast is within them. He is unafraid and meditates.* **Symbolises: Religion and spirituality.**
17. ROGER	*Quiet and intense at first then becomes more evil. He tortures SamnEric and likes to inflict pain.* **Symbolises: Sadism**

THEMES
18. HUMAN NATURE
19. CIVILIZATION
20. SAVAGERY & THE "BEAST"
21. SPIRITUALITY & RELIGION
22. THE WEAK & THE STRONG
SYMBOLS/MOTIFS
23. THE ISLAND & THE SCAR
24. THE LORD OF THE FLIES
25. THE CONCH
26. PIGGY'S GLASSES
27. THE OCEAN & ADULTS
28. FIRE

LEARNING - LOVING - LIVING

VOCAB

- **29. OMNISCIENT (F)**
- **30. 3RD PERSON (F)**
- **31. SCAR**
- **32. CONCH**
- **33. FLUNKED**
- **34. CHORISTER**
- **35. ENORMITY**
- **36. ALLEGORY (F)**
- **37. IRONY (S)**
- **38. FORESHADOW (S)**
- **39. GROTESQUE**
- **40. SAVAGE**
- **41. BEAST**
- **42. CIVILIZATION**
- **43. ABYSS**
- **44. GARDEN OF EDEN**
- **45. METAPHORS (L)**
- **46. SADISTIC**
- **47. TORTURE**
- **48. CAMOUFLAGE**
- **49. HEROISM**
- **50. LUST**
- **51. BEAST**
- **52. PROPHECY**
- **53. PARACHUTE**
- **54. AUTHORITY**

CONTEXT

AUTHOR: *William Golding. Born 1921 in Cornwall England. Brought up to be a scientist by his parents.*

FACTS: *Allegorical novel. Protagonist = Ralph. Antagonist = Jack. Point of view = Third Person Omniscient*

LITERARY CONTEXT: *Post war fiction. Published 1954. Subverts traditional Robinson Crusoe stories. Could be seen as Golding's version of WW111*

EVIDENCE

"Aren't there any grown ups at all?"
The fair boy said this solemnly; but then the delight of a realised ambition overcame him.

"But there isn't a beastie" Ralph pushed both hands through his hair and looked at the little boy in mixed amusement and exasperation

Here, invisible yet strong was the taboo of the old life. Round the squatting child was the protection of parents and school and policemen and the law

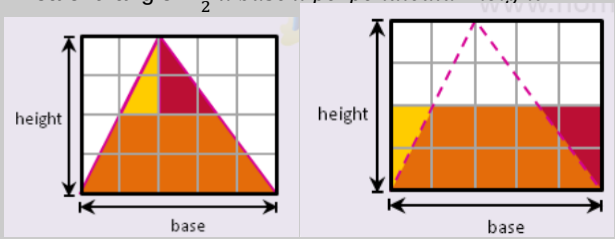
"Kill the pig! Cut her throat! Spill the blood."

What I mean is…Maybe it's only us…

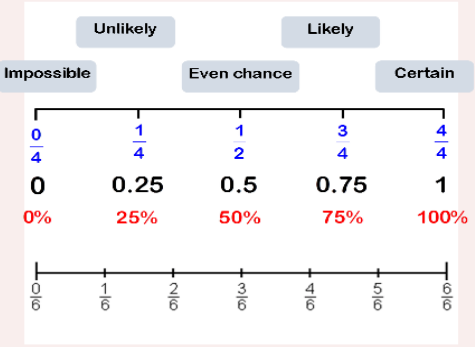
Taken away its life like a long satisfying drink.

Important Ideas

Area of triangle = $\frac{1}{2}$ *x base x perpendicular height*



Probability scale



Vocabulary

Perimeter	The total distance around the age of a shape
Trapezium	Quadrilateral with exactly one pair of parallel sides
Parallelogram	Quadrilateral with two pairs of parallel sides
Outcome	A possible result from an experiment
Event	More than one outcome
Bias	If one event is not random, that is if different outcomes from one event have different probabilities

Q & A

What is the formula for area of trapezium? What do a and b represent?	$A = \frac{1}{2}h(a+b)$ **The pair of parallel sides**
Give an example of an event with a probability of $\frac{1}{3}$	**Landing on a square number when I roll a die**
I roll a die 80 times, it lands on three 14 times. Calculate the relative frequency of rolling a three .	$\equiv \frac{14}{80} = \frac{7}{40}$

MathsWatch References

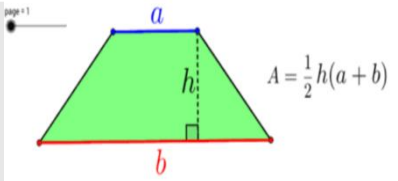
G20a-d, G24	Area of 2d & composite shapes
G8b	perimeter
P1	Probability scale
P2a & b	outcomes
P3	Mutually Exclusive Events
P6	Venn diagrams
P7	Relative Frequency

Key Facts & Formula

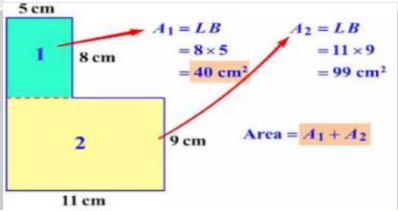
Area of Parallelogram

Area = base x perpendicular height

Area of Trapezium

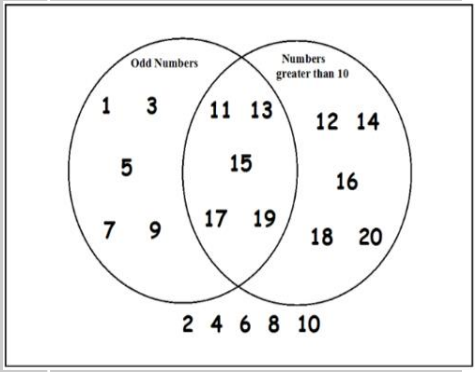


Area of Composite Shape



Relative frequency = $\frac{\text{Number of successful trials}}{\text{Total number of trials}}$

Venn Diagrams



Key Facts – Sample Space Diagram

Represent the results from **adding** two 6-sided dice in a sample space diagram.

a) The probability of getting a total of 7? $\frac{6}{36}$

b) The probability of getting a total of a 1? $\frac{0}{36}$

c) The probability of getting a total of a 10? $\frac{30}{36}$

		First die					
		1	2	3	4	5	6
Second die	1	2	3	4	5	6	7
	2	3	4	5	6	7	8
	3	4	5	6	7	8	9
	4	5	6	7	8	9	10
	5	6	7	8	9	10	11
	6	7	8	9	10	11	12

Questions and Answers

Calculate the probability of rolling 5 or more on a die.	P(5 or more) $= \frac{2}{6} = \frac{1}{3}$
The probability of Cheryl winning a race is 0.2 What is the probability that she doesn't win?	P(doesn't win) = 1 – P(win) = 1 – 0.2 = 0.8

Key Facts - All about Probability

Probability = $\frac{number\ of\ successful\ outcomes}{total\ number\ of\ possible\ outcomes}$

Estimated/Experimental Probability = $\frac{frequency\ of\ event}{total\ frequency}$

Relative Frequency = $\frac{number\ of\ 'successful'\ trials}{total\ number\ of\ trials}$

Predicted number of outcomes = probability x number of trials

Important Facts About Probability

Probability **adds up to 1**

Events are **mutually exclusive** when they cannot happen at the same time

Events are **exhaustive** if they include all possible outcomes

Sample Space Diagram shows all the possible outcomes. It is used to find theoretical probability

Venn Diagrams can be used to calculate probabilities

Tree Diagrams can be used to work out probability

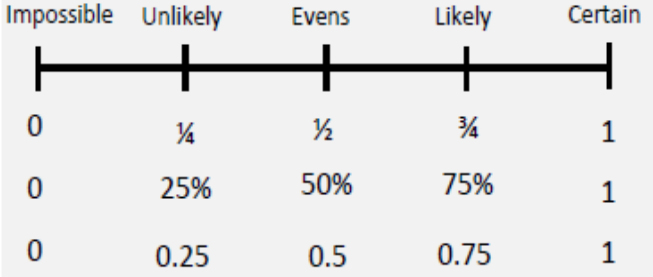
Vocabulary

Outcomes	A possible result of a probability experiment is called an outcome
Events	An event is a set of outcomes to which a probability can be assigned
Bias	A systematic (built-in) error which makes all values wrong by a certain amount
Correlation	When two sets of data are strongly linked together we say they have a High Correlation
Continuous data	Data that can take any value, within a range, as it is measured.
Discrete data	Data that is counted so it can only take certain values.

Mathswatch References and Worksheet Links

14	The probability scale
58	Listing outcomes
59	Calculating probabilities
60	Mutually exclusive events
125	Experimental probabilities
126	Possibility spaces

Probability Scale



Organisms compete for resources like food, water, mates, space, light, and minerals.

There are 2 types of competition. **Interspecific competition** is between individuals of different species and **Intraspecific competition** is between individuals of the same species

Key Terms	Definition
Interspecific competition	Competition between individuals of different species
Intraspecific competition	Competition between individuals of the same species
Camouflaged	When an organisms blends in to their environment
Variation	Differences between organisms caused by genetics, environment or both
Natural selection	The process whereby organisms better adapted to their environment tend to survive and produce more offspring

Organisms have special features known as **adaptations** to help them survive in their environment. For example polar bears are white so they are camouflaged in the snow.

Organisms have structural adaptations e.g camels carry very little body fat to avoid overheating, but can also show behavioural adaptations e.g penguins huddle together to keep warm and brown bears hibernate

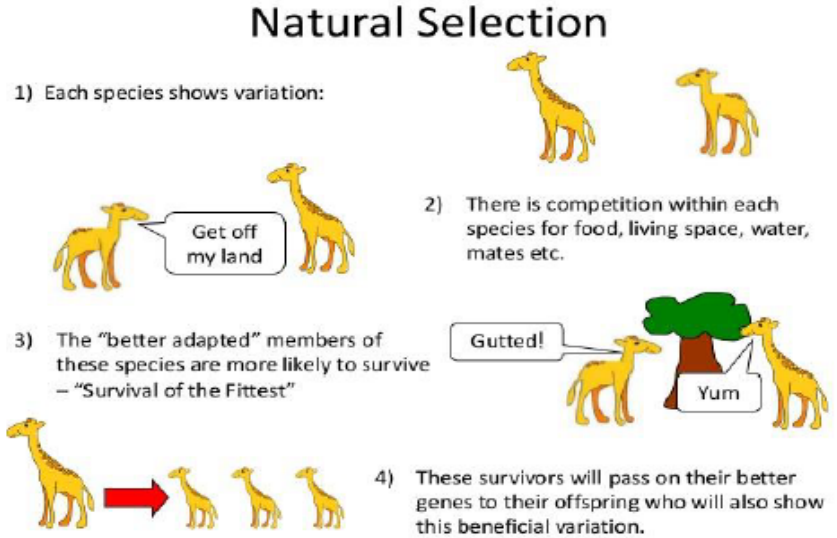
Natural selection

Natural selection states that there is variation within a species

Some adaptations are better than others. Those with the best adaptations **survive**, and the others die.

The survivors can **reproduce** and have **offspring**.

Their offspring **inherit** the **genes** for the best adaptations, so the organism **population** changes over time. This is survival of the fittest. Charles Darwin came up with this theory in the 1800's



Classification

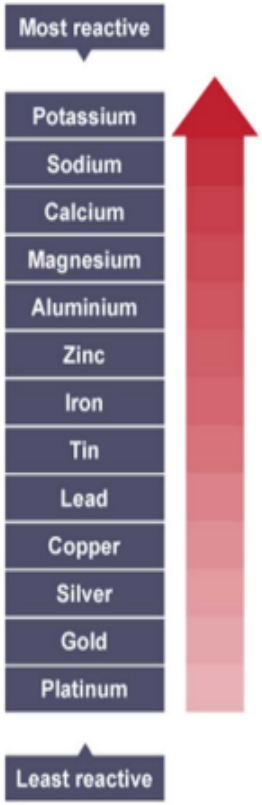
Organisms can be grouped (classified) based on similarities between them.

All animals can be divided into vertebrates ('have a backbone') or invertebrates ('have no backbone').

Vertebrates can be further divided into reptiles, birds, mammals and fish; invertebrates can be further divided into molluscs (snails, slugs, squid, etc.), arthropods (spiders, insects, millipedes, etc.).

Classification can be based on characteristics such as number of limbs, body shape and outer coating (feathers, fur, scales or shell), or on DNA.

The reactivity series



The reactivity series shows a list of metals in the order of how reactive they are. The metals towards the top of the list react readily with air and water and violently with acid.

The metals towards the bottom of the list do not even react with acid.

The order of the reactivity series can be remembered using a mnemonic.

"Pond slime can make a zoo interesting - the long crinkly sort goes purple."

Metal	Reaction with acid
Potassium Sodium	Explosive, very exothermic reaction – should not be carried out in the school laboratory
Calcium	Violent reaction, produces large amounts of hydrogen quickly
Magnesium	Rapid reaction, produces hydrogen gas readily
Aluminium Zinc	Fast reaction, noticeable amounts of gas evolved.
Iron Tin	Slow reaction, gas evolved very slowly. Reaction more noticeable in concentrated acid.
Lead Copper Silver Gold Platinum	No observable reaction

Reactions of metals with acid

The general equation for the reaction of a metal with acid is:

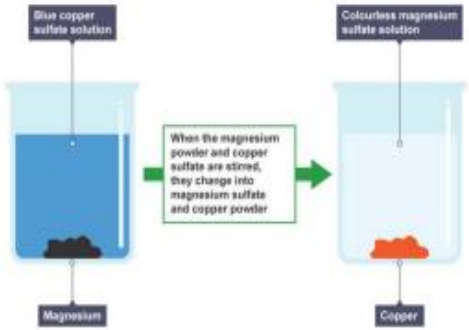
Metal + acid → salt + hydrogen

The test for hydrogen is sometimes called the squeaky pop test. Hydrogen makes a small 'pop' when it is placed near a lit wooden splint.

Displacement reactions

Displacement reactions involve a reaction between a metal and a compound of a different metal.

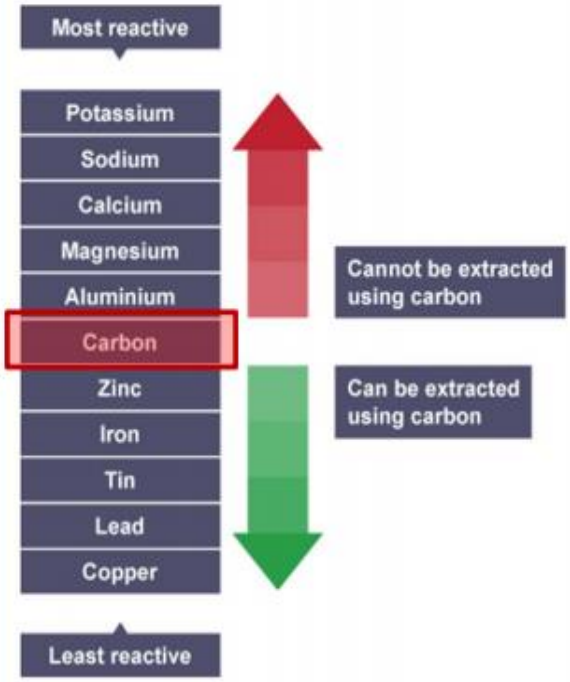
A more reactive metal will displace a less reactive metal from its compounds.



For example the more reactive magnesium will displace the less reactive copper from the copper sulfate solution.

Magnesium + copper sulfate → magnesium sulfate + copper

Reacting metals with carbon



Carbon can be placed into the reactivity series.

Metals which are less reactive than carbon can be extracted by reduction with carbon.

Metals that can be extracted by this method are zinc, iron, tin, lead and copper.

The general equation for this reaction is:

metal oxide + carbon → metal + carbon dioxide

Properties of metals and non-metals

Property	Metals	Non-metals
Appearance	Shiny	Dull
State at room temp	Solid (except mercury)	Half are solids, half are gases, one is liquid (bromine)
Density	High	Low
Strength	Strong	Weak
Malleable or brittle	Malleable (can bend without breaking)	Brittle (will shatter when hammered)
Conduction (heat/electricity)	Conduct both well	Poor (graphite only non-metal conductor)
Magnetic	Only iron, cobalt and nickel	None

Extraction of metals high in the reactivity series

Metals that are higher than carbon in the reactivity series have to be extracted by a process known as **ELECTROLYSIS.**

ELECTROLYSIS literally means pulling apart with electricity and can only be done on compounds that have been melted or dissolved in a substance called an electrolyte. Aluminium us the most common example of a metal extracted by this method.

Obtaining iron from iron oxide

Iron can be extracted by the reaction with carbon in a container called a blast furnace. The blast furnace heats iron oxide with carbon in the form of coke (coal).

As the coke burns it forms carbon monoxide which is able to displace the oxygen from the iron oxide.

carbon + oxygen → carbon dioxide

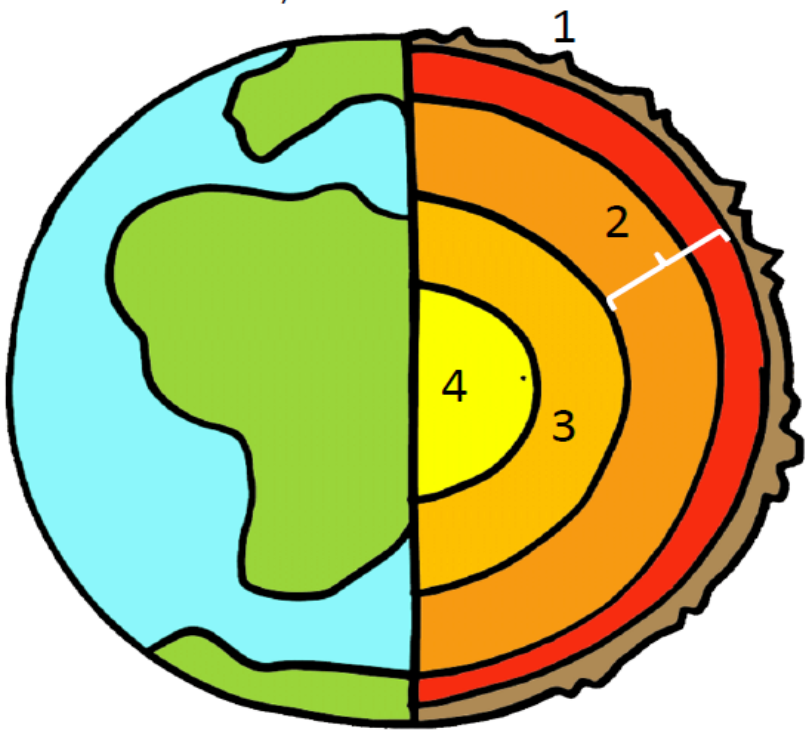
$$2C + O_2 \rightarrow CO_2$$

iron oxide + carbon monoxide → iron + carbon dioxide

$$Fe_2O_3 + 3CO \rightarrow 2Fe + 3CO_2$$

Composition and Structure of the Earth

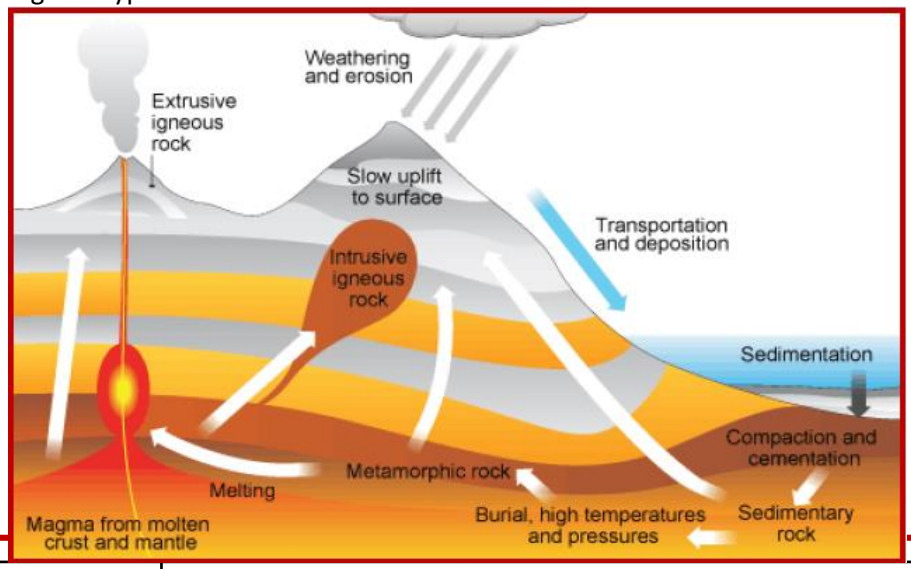
The earth has four layers:



1 – Crust
2 – Mantle
3 – Outer core
4 – Inner core

The Rock Cycle

This diagram shows the rock cycle – how physical processes change rocks from being one type to another.



How rocks change

Igneous rocks become **sedimentary** rocks by:

- Weathering, erosion, transportation, deposition, sedimentation, compaction, cementation

Sedimentary rocks become **metamorphic** rocks by:

- Burial (high pressure) and high temperatures

Metamorphic rocks become **extrusive igneous** rocks by:

- Melting to magma, eruption, rapid cooling above the surface

Metamorphic rocks become **intrusive igneous** rocks by:

- Melting to magma, slow cooling beneath the surface, uplift

Key Terms	Definitions
Crust	The outermost layer of the Earth's structure. The crust is thin, rocky and it's where we get materials from (e.g. glass, plastic, aluminium and paper).
Mantle	The layer beneath the crust. Much thicker than the crust. **Solid** (made up of rock), but flows like a liquid.
Outer Core	The layer beneath the mantle. Made from molten nickel and iron. **Liquid** because of the immense temperature.
Inner Core	The innermost part of the Earth. Also made from nickel and iron but they are solid because of the immense pressure –even though the inner core is hotter than the outer core.
Igneous	A type of rock that is formed by the cooling of magma.
Extrusive	When magma cools rapidly above the surface.
Intrusive	When magma cools slowly below the surface.

1. Igneous rock

- Formed by cooling of magma
- **Rapid** cooling (e.g. volcanic eruption) gives extrusive igneous rock.
- **Slow** cooling (under the earth's surface) gives intrusive igneous rock

	Extrusive	Intrusive
Magma cools	On surface	Underground
Speed of cooling	Rapid	Slow
Crystal size	Small	Large
Example	Basalt (used in construction)	Granite (also used in construction but can be polished e.g. kitchen counters)

2. Sedimentary rock

- Formed by compression of layers of sediment in the ocean

Transport → Deposition → Sedimentation → Compaction → Cementation

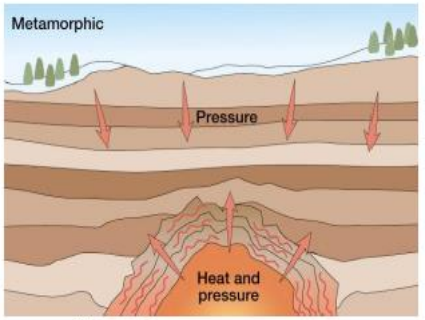
- Once formed, sedimentary rock may be slowly moved to the Earth's surface by **uplift**, or remain underground where immense pressure and heat will turn it into metamorphic rock
- **Limestone** is an example of a sedimentary rock, which is used to manufacture glass and cement
- Sedimentary rocks have:
  - 1. **Layers**, because of the layers of sediment
  - 2. **Fossils**, because the sediment includes animal remains
  - 3. **Rounded grains**, because of weathering by the water

3. Metamorphic rock

- Formed when immense **heat and pressure** change the chemical properties of the minerals in sedimentary rock
- Properties depend on which sedimentary rock was involved

e.g. Limestone becomes marble

Shale becomes slate



- If melted, metamorphic rock becomes magma

Key Terms	Definitions
Rock cycle	Igneous, metamorphic and sedimentary rocks can turn into one another through various processes, which are represented in the rock cycle
Weathering	The breaking down of rock by natural processes: wind, ice, water and gravity
Erosion	The movement of that broken-down rock by natural processes: wind, ice, water and gravity (transportation is an example of erosion)
Recycling	Treatment of resources so they may be used again
Sustainable	An activity which you can carry on doing indefinitely

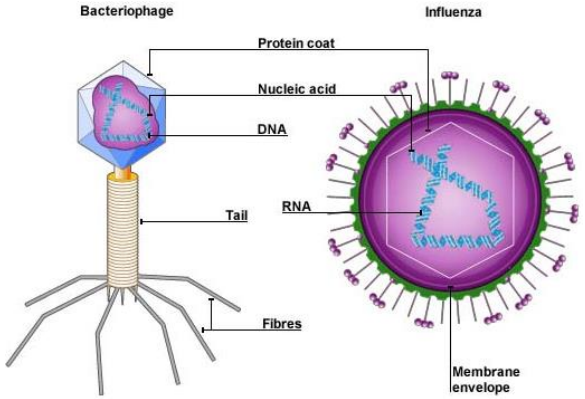
Key Terms	Definitions
Sedimentary	A type of rock that is formed by the compression of many layers of sediment over time.
Metamorphic	A type of rock that is formed when immense heat and pressure change the chemical properties of the minerals in sedimentary rocks.
Transport	Rocks are transported by rivers to the sea.
Deposition	Rocks settle at the bottom of the sea.
Sedimentation	Layers of sediment (rocks, dead sea life, etc.) begin to build up.
Compaction	As more layers build up, pressure is put on lower layers.
Cementation	Salt crystals "glue" the layers together.
Uplift	Some rocks are pushed to the surface by the pressure of new rocks forming beneath them.
Magma	Melted rock; cools to form igneous rock

Resources and Recycling

- The Earth's crust provides us with resources such as glass, paper, plastic and aluminium.
- However, these resources are finite (they are not unlimited), which is why we recycle them.

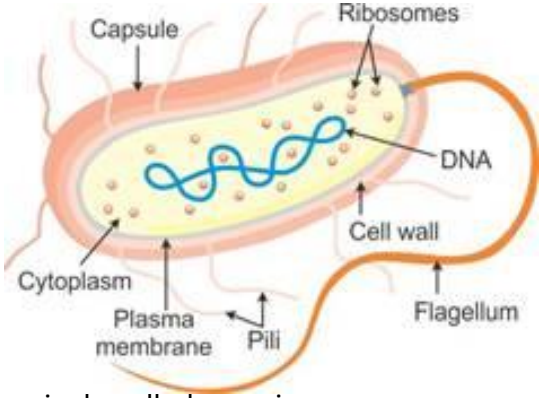
Resource	Made from	Recyclable?
Glass	Sand	Yes, but needs sorting
Plastic	Oil	
Paper	Wood	Yes, but only a few times
Aluminium	Aluminium ore	Yes, but not all metals

Viruses



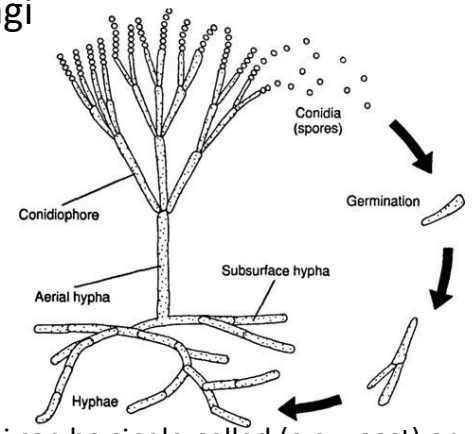
Viruses are acellular: they do not have cells or any of the organelles found within cells.
Viruses cannot reproduce without a host.
Viruses do not qualify as 'alive' because they do not follow the 7 life processes (Movement; Reproduction; Sensitivity; Growth; Respiration; Excretion; Nutrition).

Bacteria



Are single-celled organisms
Bacteria are prokaryotes: they have no nucleus or mitochondria.
Bacteria can reproduce very quickly through *binary fission* – some can double in number every 20 minutes.

Fungi



Fungi can be single-celled (e.g. yeast) or multicellular (e.g. mushrooms).
Fungi are eukaryotes: like plant and animal cells, they have nuclei and mitochondria.
Fungi can reproduce *sexually* (using gametes) or *asexually* (without gametes).

Disease

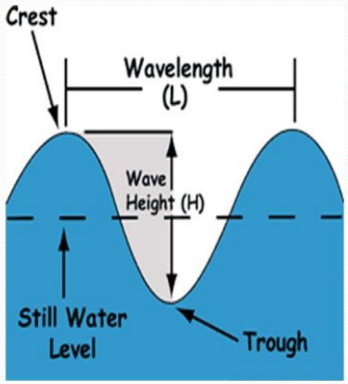
A disease is a disorder of structure or function of an organism (or part of an organism) that is not just due to injury.
A disease can be transmissible (can be passed on to other individuals) or non-transmissible.
Microorganisms that cause disease are known as pathogens. These cause infections or *infectious diseases*.
An individual that has been infected is called a host. Sometimes the host does not have signs and symptoms of the disease, and is known as an *asymptomatic carrier*.
The body fights pathogens using the immune system and white blood cells. These cells can either attack the pathogen directly using antibodies, or can target infected cells.

Vaccines

A vaccine is a way of introducing an individual to an infectious disease so that their immune system recognises a pathogen and is able to fight it effectively.
Vaccination can use a weakened (*attenuated*) form of the pathogen or parts of the killed pathogen. This is injected so that the white blood cells can produce the correct antibodies if the individual is exposed to the pathogen later on.
Effective vaccination can prevent outbreaks of diseases such as measles and tuberculosis.
A global vaccination programme in the 1970's led to the *eradication* of smallpox: this disease no longer infects humans in everyday life.

No.	Key Term	Definition
1	Erosion	The breaking down of material
2	Transportation	The movement of material such as rock .
3	Hydraulic Action	The force of the water pushes air into a crack causing it to erode.
4	Abrasion	The scratching and scraping of cliffs causing them to erode.
5	Weathering	The physical, biological and chemical breaking down of rock
6	Swash	The forward movement of waves
7	Backwash	The backward movement of waves
8	Concordant coastline	When the strata (layers of rock) are parallel to the coast.
9	Discordant coastline	When the strata (layers of rock) are at right angles to the coast.
10	Longshore Drift	The zigzag movement of material down the beach.
11	Hard engineering	Expensive, long lasting and solid constructions to slow coastal erosion.
12	Soft Engineering	Cheap natural solutions to slow erosion such as beach replenishment (putting sand on the beach).
13	Terminal groyne syndrome	When groynes prevent beaches forming further down the coast.

Anatomy of a Wave



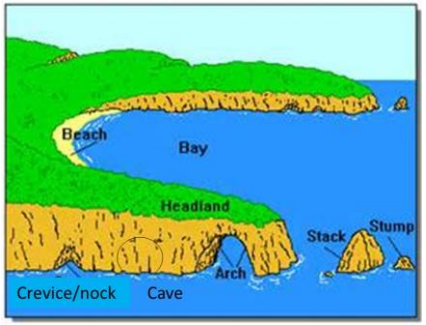
- Crest – the highest point of a wave
- Trough – the lowest point
- Wavelength – the distance from crest to crest OR trough to trough
- Wave height – vertical distance from crest to trough

14. The strength of a wave depends on 3 factors.

1. Wind strength
2. Wind duration (how long it has been windy)
3. Fetch (distance the wave has travelled)

No.	Construction of a stump	
15	Nock/Crevice	Hydraulic Action and abrasion will erode a weakness in the rock.
16	Cave	Marine processes will cause the nock to get wider forming a cave.
17	Arch	Marine processes will erode through the cave forming an arch.
18	Stack and stump	The heavy rock above the arch will be eroded by weathering and the base by marine processes. Eventually it will collapse leaving behind a stack. Abrasion will erode the foot of the stack and it will collapse to a stump

No.	Case Study+ Barton-On-Sea	
19	Location	Christchurch Bay, Dorset, Southern England.
20	Rate of erosion	2 meters a day without any management
21	Geology	Limestone, sands and clay
22	Hold the line	Using hard engineering techniques to prevent further erosion.
23	Strategic Realignment	Gradually let the coast erode; allows people time to relocate.
24	Do nothing	Take no action at all and let nature takes it's course
25	Advance the line	Use sea defences to move the coast further into the sea. It is extremely expensive.
26	Beach replenishment	Placing sand back onto the beach so the energy of waves is dissipated



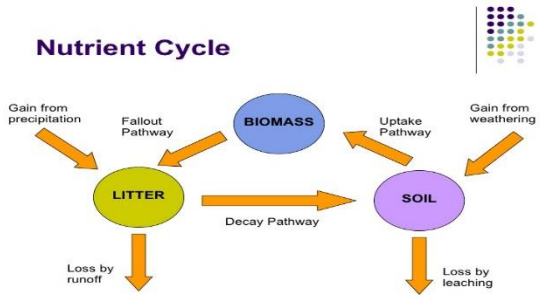
No.	Key Term	Definition
1	**Ecosystem**	A localized biome made up of living things and their non living environment
2	**Biome**	A large scale ecosystem like a tropical rainforest
3	**Tundra**	A cold region where the ground is deeply frozen; only the surface thaws in summer.
4	**Desert**	An area that receives less than 250mm of rain a year. There are hot and cold deserts.
5	**Net Primary productivity**	NPP a measure of how much new plant and animal growth is added to a biome each year.
6	**Decomposition**	**Decomposition** is the breakdown of animals and plant structures by bacteria and the release of carbon compounds into the atmosphere, soil and to the ocean floor.
7	**Biodiversity**	The number of different plant and animal species within an area.
8	**Biotic**	Living matter i.e. plants and animals
9	**Abiotic**	Non-living matter i.e. precipitation, gasses etc.
10	**Biomass**	The total amount of living things in one area.
11	**Flora**	Trees, plants and flowers
12	**Fauna**	Animals
13	**Deforestation**	The removal of trees

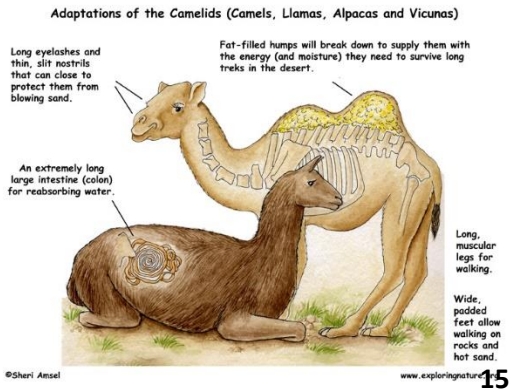
Tree adaptation

- **Trees that produce their seeds in cones, such as pine or fir trees, dominate the Coniferous forest.**
- **These trees often have shallow roots that spread out widely to take advantage of the moisture in the upper levels of the ground, which only thaws occasionally.**
- **They are also shallow because of the poor soil and rocky conditions.**
- **Trees have pine needles instead of broad leaves. They are an important adaptation due to the climate. Pine needles contain very little sap, so freezing is not much of a problem.**
- **Being dark in colour they absorb what little light falls on their surfaces.**

	Flora and Fauna adaptations to Hot Desert environments	
14	**Drought Tolerant**	Plants have mechanisms that help them survive droughts such as shedding leaves to prevent water loss due to transpiration. Some may even become dormant during very dry months.
15	**Drought avoiders**	Most drought avoiders are annuals- they survive just one season, have a rapid life cycle and die after seeding.
16	**Succulent species**	Species of plants that store water in fleshy leaves , stems or roots
18	**Nocturnal**	Animals that sleep in the day and are active at night to avoid the heat of the day.

	Adaptations of a Cactus to desert environments	
19	**No leaves**	Reduce water loss
20	**Small surface area**	Reduce water loss
21	**Very thick stem**	To store water in.
22	**Spines**	To stop animals eating them.
23	**Shallow but extensive roots**	To absorb as much moisture as possible.





1	Fascism	a form of government that is a type of one-party dictatorship. Fascism puts nation and often race above the individual. It is usually headed by a dictator.
2	Dictator	A single strong leader who can do as they please and has complete power.
3	Nationalist	Believing strongly in your own country.
4	Militaristic	Prioritising the armed forces over other parts of your country.
5	Police State	A country where the government uses the police to spy on the people and eliminate opposition.
6	Lebensraum	'living space' in German. This is a reason Hitler wanted to expand for his German people
7	Hitler	Leader of the Nazi party in World War II
8	Conscription	Being forced to join the arm forces through law.
9	Appeasement	giving in to someone's demands as far as is reasonably possible to avoid conflict.
10	USSR	Communist Russia led by Josef Stalin
11	Nazi- Soviet Pact	The deal made between the Soviet Union and Nazi Germany at the start of World War II.
12	Axis powers	Countries who fought on the side of Nazi Germany in WWII. The main allies were Italy and Japan.
13	Allied powers	The countries who joined forces to fight the Axis powers. The main countries were Britain, USA the USSR and China.
14	Foreign Policy	a government's strategy for dealing with other countries.
15	Blitzkrieg	"Lightning war," *blitzkrieg* is a military tactic designed to use fast, mobile units to break through the weak points in the enemy defence. It is all about power and speed.
16	Turning Point	a time at which a major change in a situation or event occurs, especially one with beneficial results
17	Rearmament	The process of rebuilding and expanding the armed forces.
18	Treaty	A formal agreement between states or countries.
19	Atomic Bomb	Weapon of Mass destruction. Used on Japan at the end of WWII.
20	Anschluss	Austrians vote to unite with Germany before WWII.

Causes of WWII- Hitler's foreign policy?

1	**Remilitarisation of The Rhineland**	7 March 1936 the German military forces entered the Rhineland. The remilitarization changed the balance of power in Europe from France towards Germany, and made it possible for Germany to pursue a policy of aggression in Eastern Europe.
2	**Anchluss with Austria**	March 1938. Hitler wanted all German-speaking nations in Europe to be a part of Germany. To this end, he had designs on re-uniting Germany with his native homeland, Austria
3	**Sudetenland/Czechoslovakia**	Hitler caused unrest in the area, like Austria ,in September 1938. He finally invaded the area, heavily populated by Germans, in March 1939.
4	**Poland**	Hitler and Stalin allied and signed the secret Nazi-Soviet pact which divided Poland between the two.

Causes of WWII- Appeasement

For appeasement	Against appeasement
-Germany deserved a fair deal -Britain needed time -The British people had to want war - Fear of another war -Fear of Communism	-It encouraged Hitler -Germany was growing stronger -Munich agreement was a disaster -Appeasement scared the USSR Hitler was determined

Key turning points of WWII

1. Dunkirk

'Dunkirk was a success!!!'	'Dunkirk was a failure!!!'
-**338,000** British (BEF) & French troops evacuated from Dunkirk (target **50,000)** -**860** Naval & privately owned vessels carried troops to Dover & south coast. -Churchill praised Dunkirk as a success and used it to rally the British public - Churchill '*we shall fight them on the beaches speech*' was about Dunkirk.	-**68,000** BEF casualties. -**1,200** field guns, **1,250** anti-aircraft guns, **11,000** machine guns, **75,000** vehicles abandoned (incl.**475** tanks). -Germans fully expected GB to make peace --Hitler respected their Empire

2. The Battle of Britain- Aug- Sep 1940

In May 1940, Germany invaded France. The French and British armies **were overpowered by the German blitzkrieg.**

The German plan? - For Blitzkrieg to work, the **Luftwaffe** (The German air force) had to **destroy the RAF**, to prevent it shooting at German troops who were supposed to land in Britain.

The results of the Battle

Germans were unsuccessful and the plan of full scale landing on British Isles was called off in favour of heavy bombing of civilian and strategic targets to force British surrender. This change of tactics came in **September of 1940**. the bombing campaign is called **Blitz**.

3. Pearl Harbour and United States joining WWII.

On 7th of December 1941 Japan, one of German allies unexpectedly attacked an American naval base in Hawaii. As a consequence United States declared war on Japan and, bound by its alliance agreement, Germany **declared war on United States**.

4. The A-bomb attack on Hiroshima and Nagasaki.

6th of August of 1945 the United States launched an atomic bomb on Hiroshima, a large Japanese city. Three days later an similar attack took place in another large city called Nagasaki. The first attack took 140,000 lives, the second another 40,000 with the additional 100,000 victims who died later because of radiation poisoning.

Why the A-bomb?

•The United States wanted to force Japan's surrender as quickly as possible to minimise American casualties and the American government needed to show their strength to scare Soviet Union from starting an open conflict.

5. Operation Barbarossa

- In June 1941, the German army seemed unbeatable.
- Invading the USSR seemed like a good **gamble** - the Soviet army appeared much weaker than the French.
- Hitler's ambition in life was to defeat communism, he also wanted the land of the USSR for 'lebensraum' Reasons for German Defeat
- The operation continued through the autumn and into the winter. German soldiers- not prepared for Russian winter. Their vehicles were getting stuck, soldiers were starving and freezing.
- Joseph Stalin adopted strategy of **scorched earth**. Taking all the supplies with them when retreating.
- **Russians** were fighting to protect their homes and their homeland so were more committed to the fight.

Key terms		
1	**Shoah**	Modern Hebrew word which means catastrophe, the preferred term for the mass murder of Jews under the Nazi regime.
2	**Extermination Camps**	Camps that were set up for the sole purpose of exterminating the inmates. The camps were designed to do this systematically with gas chambers to carry out the mass murders and crematoria to destroy the bodies. Examples include Auschwitz, Treblinka, Sobibor, Chelmno and Belzec.
3	**Concentration Camps**	A place where civilians, especially political prisoners or member of persecuted minorities, are deliberately imprisoned for crimes against the state.
4	**Anti-Semitism**	Political, social and economic actions against Jews. In simple terms it means 'Hatred of Jews'.
5	**Nuremberg Laws**	Jews were stripped of their citizenship rights and marriage between Jews and non Jews was forbidden
6	**Kristallnacht (Night of the Broken Glass**	A Nazi sponsored event against the Jewish community
7	**Ghettos**	Enclosed areas in towns and cities where the Nazis forced the Jews to live in isolation after 1939. The largest was in Warsaw.
8	**Final Solution**	The plan to do something about the 'Jewish problem' once and for all. This is where the extermination camps were used.
9	**Holocaust**	Term generally given to mass slaughter carried out by the Nazis during WW2. Comes from a Jewish term for a sacrificial offering which was burnt completely on an altar.
10	**Persecute**	Treat someone cruelly because of race, religion etc.
11	**Inferior**	Of lower quality, position or status
12	**Untermensch**	A person considered racially or socially inferior. Nazis included Jews, black people, gypsies, vagrants, homosexuals and those with mental illness as 'untermenschen'
13	**Aryan**	A person of German or Scandinavian origin, preferably with fair hair and blue eyes. The Nazis believed that Aryans were superior to all other races.
14	**Genocide**	Deliberate killing of a specific group of people from a specific nation or ethnic group.
15	**Einsatzgruppen**	Mobile killing squads that carried out mass murders in the east after 1939.
16	**Wannsee Conference**	Meeting held on January 20th 1942 between senior Nazi official, led by Heydrich. Here they discussed the co-ordination of what they called the "Final Solution of the Jewish Question".

Key People/ Groups		
1	**Adolf Hitler**	Leader of the Nazi party
2	**SS or Schutzstaffel**	Elite group of Aryan soldiers loyal to Hitler. Hitler's personal bodyguards. Nicknamed the 'Blackshirts'
3	**Heinrich Himmler:**	Head of the SS -put in charge of leading the organisation the Final Solution
4	**Reinhard Heydrich**	Led the Wannsee Conference, key figure in the implementation of the Final Solution.
5	**NSDAP**	The Nazi party
6	**Adolf Eichmann**	labelled as the mastermind behind the specific detail of establishing the extermination camps. His work earn him the title of 'Chief Executioner of the Third Reich'
7	**Gestapo**	State secret police. Did not wear uniforms. Had a huge network of informers. Telephones were tapped and mail was opened. The Gestapo would arrest people without trial, torture them and send them to concentration camps.

Case Study: POLAND		
1	**Background-** Poland was created at the end of WW1.Before this it had been part of Germany. The Nazis saw it as their right to take their land back. After invading in October 1939 the Nazis divided the country and began to remove all Polish control and culture, **as they considered the Poles to be racially inferior.**	
2	**Eastern General Plan**	Drawn up by Himmler in 1940, this would be the template for all occupation in the East. 30,000 of the most talented people in Poland were arrested, many were tortured and murdered. **1.9 million non-Jewish Poles were killed**. 1.5million were deported to work in labour camps. Poles were forced to wear a P on their arm and sexual relationships with Germans were banned.
3	**Warsaw Ghetto**	Ghettos were enclosed areas that isolated Jews. Hundreds were set up in Poland, the largest being the Warsaw Ghetto (completed Nov. 1940). By March 1941, the ghettos had 445,000 Jewish inhabitants. Over **140,000 died** in the Ghetto's three year existence.
	Liquidation of the Ghetto	July 21st 1942 the Nazis began the mass-deportation of inhabitants to the Treblinka death camp. By Sept 21st 300,000 had perished in the gas chambers. By October only 10% of the official ghetto population registered in July were still present

Key Word	Meaning	Key Word	Meaning
Morality	Principles concerning the distinction between right and wrong or good and bad behaviour	**Just War Theory**	The Just War theory specifies conditions for judging if it is just to go to war, and conditions for how the war should be fought.
Principles	A moral rule or belief that helps you know what is right and wrong and that influences your actions.	**Pacifism**	Pacifism is the belief that violence and fighting can never be right, and that all problems should be solved by peaceful means.
Ethics	Ethics is a system of moral principles. It helps us understand what is good for individuals and society	**Forgiveness**	The action or process of forgiving or being forgiven
Absolute morality	Our decision making should be led by rules. Those rules should never be broken.	**Reconciliation**	Is the act of bringing people together to be friendly again or coming to an agreement after a conflict
Relative morality:	We can choose how to act and not always be directed by rules.	**Wealth**	An abundance of valuable possessions or money
Situational ethics	Instead of following absolute morally right beliefs and rules, each specific situation is taken into account when considering if it's right or wrong.	**Poverty**	The state of being extremely poor
Environment	The natural world, as a whole or in a particular geographical area, especially as affected by human activity.	**Greed**	Intense and selfish desire for something, especially wealth, power, or food
Environmental issues	Environmental issues are defined as problems with the planet's systems (air, water, soil, etc.) that have developed as a result of human interference or mistreatment of the planet.	**Prosperity**	**Prosperity** usually **means** the type of success that comes from having a lot of money
Stewardship	Supervising or taking care of something	**Experimentation**	The process of performing a scientific procedure, especially in a laboratory, to determine something
War	A state of armed conflict between different countries or different groups within a country	**Persecution**	
Peace	A state or period in which there is no war or a war has ended	**Gospel**	The New Testament includes the gospels, four accounts of the life of Jesus. 'Gospel' means 'good news'.
Covenant	An agreement		

1. Morality and Ethics

Morality is the **main beliefs** that **guide** us when we distinct right from wrong or good and bad behaviour.

Conscience: We use our conscience as a guide on how to behave, our internal sense of what's right and wrong. Our conscience is developed by all our interactions, and we work out by trial and error what's right and wrong. Christians agree with this but also believe that our conscience is part of us because it helps us to work out what we should do according to **God's** will. The Bible can help us understand how to make decisions about right and wrong.

What does the Bible tell us about right and wrong?

1. You shall have no other Gods but me.
2. You shall not make for yourself any idol, nor bow down to it or worship it.
3. You shall not misuse the name of the Lord your God.
4. You shall remember and keep the Sabbath day holy.
5. Respect your father and mother.
6. You must not commit murder.
7. You must not commit adultery.
8. You must not steal.
9. You must not give false evidence against your neighbour.

2. Environment and stewardship

Environmental issues

The entire planet is facing serious environmental problems; global warming, acid rain, air pollution, waste disposal, ozone layer depletion, water pollution, climate change and many more that affect every human, animal and nation. We are increasingly exploiting our planet and the environment is degrading rapidly. With this comes more natural disasters such as flash floods, tsunamis and tropical storms.

Christians believe that the Bible helps them to understand how they should treat the environment and the kinds of things they should do to make the world a better place;

- The world is God's creation and it was created to be good. It reveals something of God's nature.
- God gave the world as a loving gift to all life, including human beings.
- **Stewardship**: Humans have a special responsibility of looking after the world as responsible stewards
- They are given certain abilities and talents to undertake this work.

The first line of the Bible read: *"In the beginning, God created the heavens and the earth."* **Genesis 1:1** 'Genesis' means 'beginnings' or 'origins', and it is the name of the first book of the Bible. It isn't called Genesis only for that reason, but also because it begins telling us how the world and everything in it came to exist.

Some actions to show responsible stewardship could include:

- Recycling
- Buying or consuming less
- Buying locally produced food where possible
- Buying from businesses that try to protect the environment
- Writing to their MP asking them to focus on environmental issues
- Buying greener washing machines and fridges
- Helping with clean up events, such as picking litter off the beach

3. War and peace

What does the Bible say about war?

God's and the Israelites' covenant: In the Old Testament stories, Israel is a nation often caught up in war, both as an instigator and as the victim of others attacking. God promised to be in a relationship with the Israelites and the Israelites promised to honour God in their lives and worship. In the Bible, this agreement is called a **covenant**.

God had promised the Israelites a land of their own, but **this often required them to fight the tribes who lived there originally, in order to conquer it**. The Israelites' victories in battles were seen by the writers of the Old Testament as proof that God was with them in their battles.

What does the Bible say about peace?

Elsewhere in the Old Testament we see a very different attitude to war. Some of the prophets talk about a forthcoming widespread peace in which people would live in harmony with each other.

Is war impossible? Some Christians say that Jesus' teachings about the importance of peace and love for your neighbours AND enemies make fighting in a war impossible. Others say that this teaching only affects **individual** Christians; fighting in war to defend yourself or others may be unavoidable.

The Just War Theory

To answer questions about the wrongness of violence, but the need to sometimes fight for justice, Christians might use the Just War theory. Conditions for a just or moral war:

- It must be for a good cause.
- It must be declared by a lawful authority such as the government, not by an individual or a small group.
- It must be the case that when the war is over, the outcome will be better than if the war hadn't been fought.
- Fighting the war must have been the last resort – all other ways to stop fighting have been tried.
- Only the minimum amount of force which is necessary should be used.
- There must be a reasonable chance of winning the war, so that it doesn't cause destruction for no purpose.

Forgiveness and reconciliation

Christians also think about the aftermath of war. They might think about how to bring about forgiveness and reconciliation and to help those who have suffered during the war.

4. Wealth and poverty

In the time of the Old Testament, prosperity was often seen as a blessing sent from God but the Old Testament also talks about the need to look after the poor, and does not blame them for their poverty.

What does the Bible say about poverty?

- *"Generosity will be rewarded: give a cup of water and you will receive a cup of water in return."* **Proverbs 11:25**
- *"It's wrong to hate others, but God blesses everyone who is kind to the poor."* **Proverbs 14:21**
- *"If you ill-treat the poor, you insult your Creator; if you are kind to them, you will show him respect."* **Proverbs 14:31**
- *"Caring for the poor is lending to **the Lord**, and you will be well repaid."* **Proverbs 19:17**
- *"But you must defend those who are helpless and have no hope. Be fair and give justice to the poor and homeless."* **Proverbs 31:8-9**

Jesus said to his disciples, *''It's terribly hard for rich people to get into the kingdom of heaven! In fact, it's easier for a camel to go through the eye of a needle than for a rich person to get into God's kingdom.''* **Matthew 19:23-24**

What does the Bible say about greed?

"The love of money causes all kinds of trouble. Some people want money so much that they have given up their faith and caused themselves a lot of pain. Warn the rich people of this world not to be proud or to trust in wealth that is easily lost. Tell them to have faith in God, who is rich and blesses us with everything we need to enjoy life. Instruct them to do as many good deeds as they can to help everyone. Remind the rich to be generous and share what they have". **1 Timothy 6:10 and 17-18**

The prosperity gospel

Although most modern Christians would not say that wealth is a reward for goodness, some would still say that God brings good things to those who are faithful to him. Sometimes known as 'the prosperity gospel'. Some Christians have been critical of it because it encourages a focus on yourself rather than on God.

Church wealth

- Sometimes the church is criticised for having too much wealth, especially in property and works of art.
- Individual church leaders are sometimes criticised for having too much personal wealth. These criticisms come from Christians as well as non-Christians.

5. Animal rights

Religious people believe that animals are part of God's creation. All life is sacred, including that of animals, as they were created by God;

- God gave the world as a loving gift to all life, including animals.
- **Stewardship**: Humans have a special responsibility of looking after the world as responsible stewards.

Many, but not all of the ways we use animals can be justified. The problem comes with how some people treat the animals.

Animal experimentation

Animal experiments are experiments animals and should be for the good of human beings which is the reason why many people support them. The experiments:

- Improves our medical knowledge so that surgical procedures are improved.
- Are used to test new drugs for effectiveness and so that they do not cause harm.
- Are used to test new products, for example cosmetics, for harmfulness.

Some experiments just mean a change in diet, others cause injury or death. At the end of the experiment any live animals are humanely destroyed. In the UK there are specific laws to control animal experimentation.

Animal experimentation issues

- It is cruel. Even scientists accepts that the animals suffer, though they believe it is for the greater good.
- Modern science has now developed some other alternatives, like using human tissue cultures to test for toxicity.
- Animal genetics and human genetics are different, and often reactions are not the same. So some animals experimentation is pointless as it tells us nothing helpful.

6. Persecution

Persecution can take many different forms;

- Being made fun of in public
- Being banned from meeting with others
- Being tortured
- Being removed from your job
- Being evicted (forced out of your house)
- Being executed
- Unfair or biased media coverage

Christians believe that the Bible helps them to understand persecution. The Bible helps them to find the support of God in their troubles and it gives them teachings about how they should respond to it.

The Old Testament

The people of Israel were often marked by persecution. For example, the book of Exodus describes how the Israelites were made slaves in Egypt, until Moses helped to lead them to freedom. In slavery, they had been abused and devalued as people. The story of how God had rescued them from slavery brought hope in the challenging times that the Israelites lived in.

The New Testament

In the Gospels in the New Testament Jesus is described teaching that his disciples would face rejection even from their own families, as well from as the religious leaders of the day.

Organisations working against religious persecution

- ***Open Doors*** is an organisation that has been campaigning for over 60 years to stop the persecution of Christians around the globe.
- ***Barnabas Fund*** helps to feed Christians who are temporarily in need because of their faith.
- ***Aid to the Church in Need*** provide financial support in 140 countries, including to rebuild the homes of returning refugees, and moral support for those who are being persecuted.

YEAR 8– TRINITY TERM- PHYSICAL EDUCATION- ATHLETICS

LEARNING - LOVING - LIVING

Section 1 - Track events include; sprints (100m, 200m, 300m), middle distance (800m, 1500m) and relays.

Athletics is made up of 3 disciplines; track (running), throwing and jumping.

Sprints:
The most important aspect of a sprint is the start (known as a sprint start) as a poor start can lead to the rest of the runners getting past you.
It is also important that you consider:

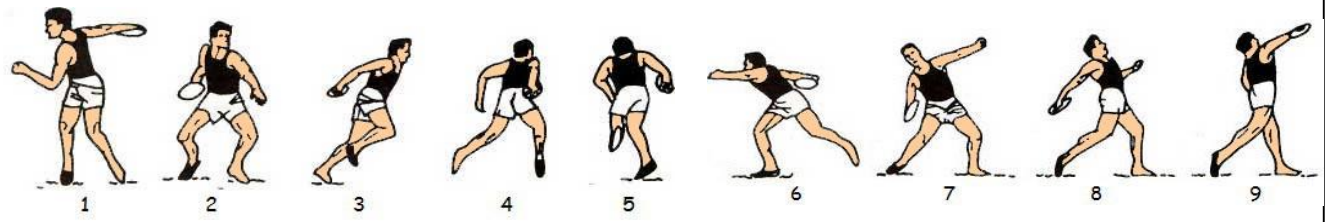
- Leg action (driving forward),
- Arm action (powering forward),
- Upright posture.

Middle distance running:
When running a middle or long distance event it is essential to **pace** yourself. This means not sprinting off but running or jogging at a constant speed for the duration of the event.

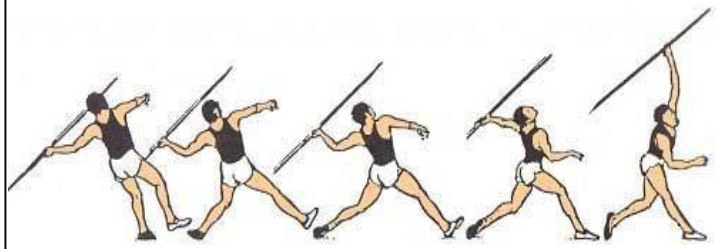
Section 2 - Throwing events include; discus, javelin, shotput.

Teaching points:
Discus: wide stance, hand on top of discus, spread fingers, swing arm back, release high.
Javelin: stand side on, fully extend arm behind, bring arm forward, transfer weight.
Shot put: stand side on; *dirty fingers, clean palm*, shot starts in neck and **pushes** through, arm points the way shot goes.

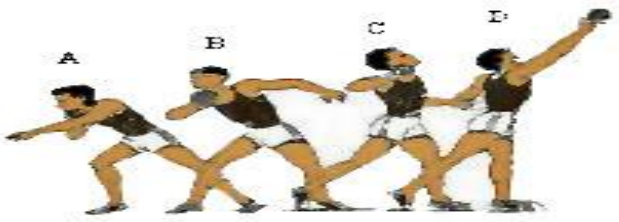
Discus:



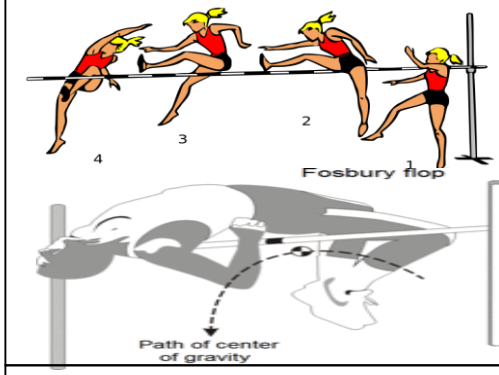
Javelin:



Shotput:



Section 3: High jump (scissor kick vs fosbury flop)



Questions:
1. What is the main difference between the high jump techniques? Use the diagrams to help.
2. What is essential in middle and long distance running and what does this mean?
3. Explain what is happening in the diagrams for discus, shot put, javelin.
4. Explain the sprinting technique diagram above.

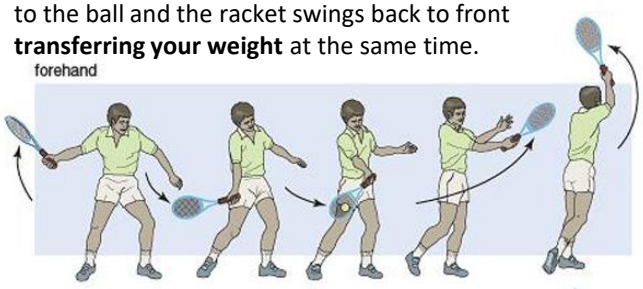
YEAR 8– TRINITY TERM- PHYSICAL EDUCATION- STRIKING AND FIELDING

- Striking and fielding includes; **tennis, cricket, rounders, softball** (games where you are hitting (striking) the ball).
- Fielding is the role of the team out in the field trying to stop the striker / runner scoring points by getting them out.
- This varies among different sports but essentially they are 'stumped out'.

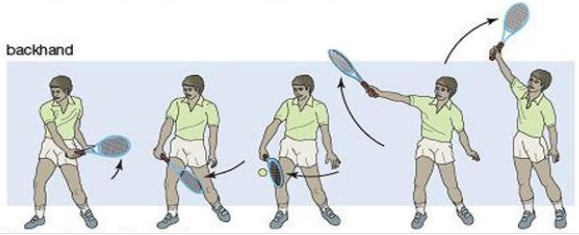
Tennis 1:

- A game played on a rectangular court either singles or doubles.
- Players stand on opposite sides of a net and use a racket to hit a ball back and forth to each other.
- Maximum of one bounce after it has been hit by their opponent to return the ball over the net and within the boundaries of the court – if a player fails to do any of these three things, the opponent wins a point.
- Game – set – match.

Tennis 2: A **forehand** in tennis is a simple way to return the ball. It is played on your **strong side,** standing side on to the ball and the racket swings back to front **transferring your weight** at the same time.



Tennis 3: A **backhand** in tennis is more technical than a forehand and is played on your weaker side. You should swing the racket to your weak side, make connection with the ball and the racket comes back across the body.



Cricket:

- The aim of cricket is simple - score more than the opposition.
- Two teams, both with 11 players, take it in turns to bat and bowl.
- When one team is batting, they try and score as many runs as they can by hitting the ball around an oval field.
- The other team must get them out by bowling the ball overarm at the stumps, which are at either end of a 22-yard area called a wicket.
- The bowling team can get the batsmen out by hitting the stumps or catching the ball.
- Once the batting team is all out, the teams swap over and they then become the bowling side.

Rounders:

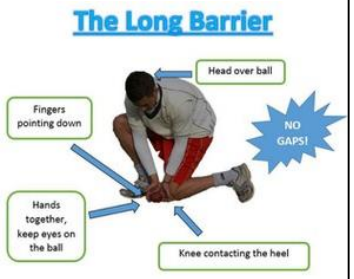
- Two teams with a maximum of 15 players and a minimum of 6 with no more than 9 on the field at one time.
- The ball must be bowled below the shoulder but above the knee.
- A rounder is scored if 4th post is reached and half a rounder is scored if 2nd base is reached.
- You can get the batter out by catching them out or stumping the post they're running to.
- Softball consists of a **pitcher**, **catcher**, four **infielders**, and three **outfielders**.
- A strike is called when the batter swings at a pitch whether it is deemed to be in the strike zone or not.

Catching skills:

- Hands should be ready at chest height in a *bucket*.
- Eye on the ball.
- Step back as you receive and keep the body balanced.

Fielding is an important part of all striking and **fielding** games. Effective fielding is going to prevent the batting / striking team from scoring points by getting players *out.*

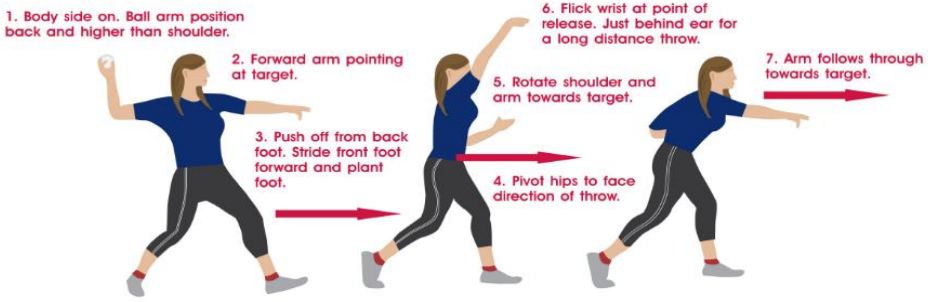
Good fielders need to be able to throw and catch well and also stop the ball not always with their hands (long and short barrier).



The **long barrier** is used in all fielding games if the ball is coming to you along the ground i.e rolling. You kneel down, making a barrier from your leg and foot, cup your hands together, keeping your eye on the ball.

Throwing technique:

- Stand side on, weight on back foot, pull strong arm back, above shoulder height, other arm pointing to target.
- Transfer weight from back foot, push arm forward, pivot hips to face direction of throw, rotate shoulder / arm towards target.
- Flick wrist at point of release (at ear) and follow through.



- Analyse the given problem and identify the requirements of the program that will be designed, implemented and tested
- Decompose the problem into manageable sub-problems, with an explanation of each.
- The decomposed list of requirements can be presented in prose or as a bulleted list, with each requirement clearly identified. Decomposition requires choices to be made, in this case by breaking the given problem down into sub-problems that will be designed and implemented later.

```
#PDE 7: Use/need for Files - the permanent
storage placea are text and csv (tell pupils
thi is comma seperate values) r means read (we
are reading from the file)
file1=open("Test.txt","r")
#File Handle=file1
for line in file1:
print(line.strip())
#Getting values out of the file

for line in file1:
data=line.strip().split(",")
print(data[0])
file1.close()
```

```
#Write overwrite
#Append adds to the end
file1=open("write.csv","w")
file1=open("append.csv","a")
name=input("Enter name:")
name=input("Enter age:")
```

Common pseudocode notation
There is no strict set of standard notations for pseudocode, but some of the most widely recognised are:

INPUT – indicates a user will be inputting something
OUTPUT – indicates that an output will appear on the screen
WHILE – a loop (iteration that has a condition at the beginning)
FOR – a counting loop (iteration)
REPEAT – UNTIL – a loop (iteration) that has a condition at the end
IF – THEN – ELSE – a decision (selection) in which a choice is made

Using pseudocode

Pseudocode can be used to plan out programs. Planning a program that asks people what the best subject they take is, would look like this in pseudocode:

```
REPEAT
    OUTPUT 'What is the best subject you take?'
    INPUT user inputs the best subject they take
    STORE the user's input in the answer variable
    IF answer = 'Computer Science' THEN
        OUTPUT 'Of course it is!'
    ELSE
        OUTPUT 'Try again!'
UNTIL answer = 'Computer Science'
```

Boolean A data type that can only have two possible values, e.g. on/off, true/false, yes/no.

Currency A data type where numbers are formatted as money, usually with symbol and two decimal places, e.g. $499.99, €10.00, ¥250.00.

Data Types Different kinds of data, e.g. alphanumeric, numeric, currency, date/time & Boolean.

Database A collection of related information organised in a logical way for rapid search and retrieval.

Date/time A data type used for storing dates. We always use British formatting: DD/MM/YY.

Field Fields provide the categories for the details in each record. Name, address, and phone number are fields.

Flat-file A database that contains only one table.

Foreign key A foreign key is a primary key from another table that has been used to create a relationship.

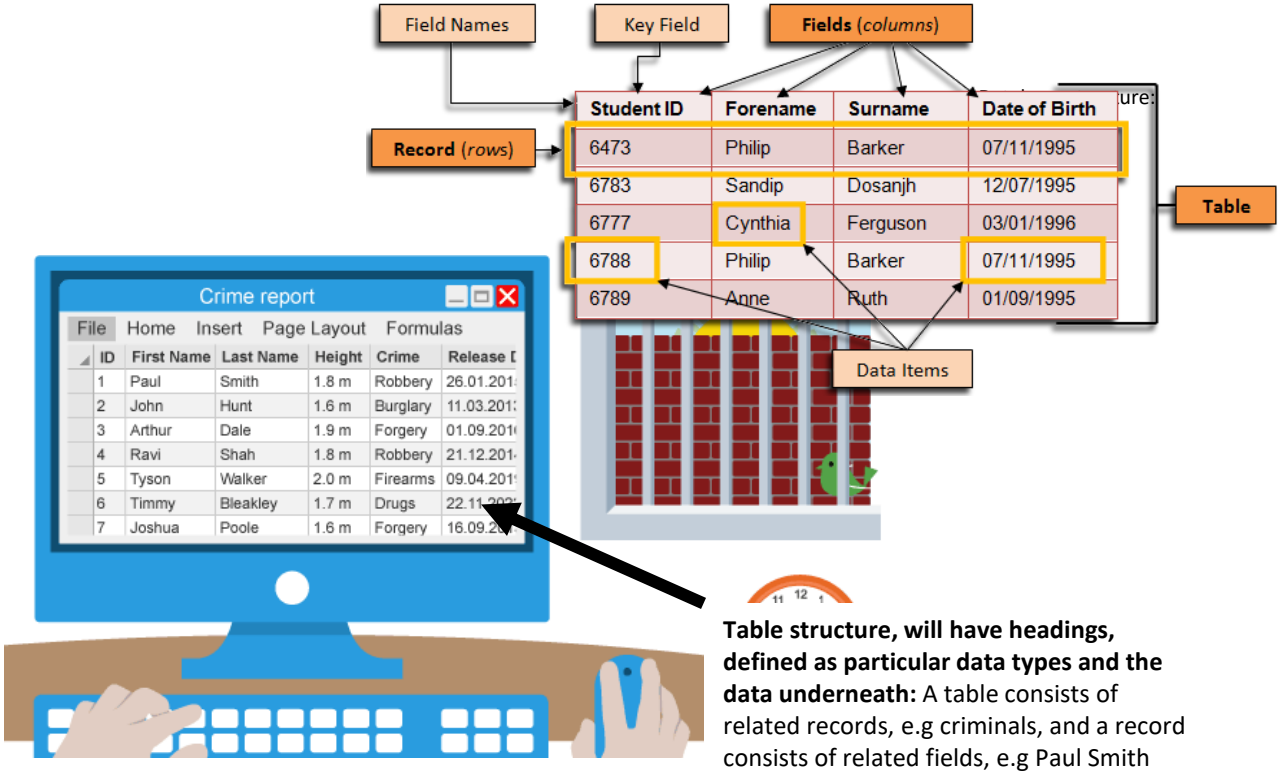
Form A form is a data entry tool, used to enter data into a table in a simple, clear way.

Number field Numeric data stored as an integer or decimal which calculations can be performed on, e.g. 200, 49.53.

Primary key A field that uniquely identifies each record in a table.

Record A set of related fields about a person or thing.

Validation rules Ensure input data is sensible.



Student ID	Forename	Surname	Date of Birth
6473	Philip	Barker	07/11/1995
6783	Sandip	Dosanjh	12/07/1995
6777	Cynthia	Ferguson	03/01/1996
6788	Philip	Barker	07/11/1995
6789	Anne	Ruth	01/09/1995

ID	First Name	Last Name	Height	Crime	Release D
1	Paul	Smith	1.8 m	Robbery	26.01.201
2	John	Hunt	1.6 m	Burglary	11.03.201
3	Arthur	Dale	1.9 m	Forgery	01.09.201
4	Ravi	Shah	1.8 m	Robbery	21.12.201
5	Tyson	Walker	2.0 m	Firearms	09.04.201
6	Timmy	Bleakley	1.7 m	Drugs	22.11.201
7	Joshua	Poole	1.6 m	Forgery	16.09.2

Table structure, will have headings, defined as particular data types and the data underneath: A table consists of related records, e.g criminals, and a record consists of related fields, e.g Paul Smith who is 1.8 m, committed a robbery and is being released on 26.01.2015.

First Name	Last Name	Address	City	Age
Mickey	Mouse	123 Fantasy Way	Anaheim	73
Bat	Man	321 Cavern Ave	Gotham	54
Wonder	Woman	987 Truth Way	Paradise	39
Donald	Duck	555 Quack Street	Mallard	65
Bugs	Bunny	567 Carrot Street	Rascal	58
Wiley	Coyote	999 Acme Way	Canyon	61
Cat	Woman	234 Purrfect Street	Hairball	32
Tweety	Bird	543	Itotltaw	28

Fields

First Name	Last Name	Address	City	Age
Mickey	Mouse	123 Fantasy Way	Anaheim	73
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Records

Summary:

Too Much Punch for Judy tells the true story of an incident which happened on May 20th 1983. Using only the words of those involved or closely affected, the play explores the problems surrounding the death of Joanna when her sister was at the wheel in a drink-drive incident.

The play looks at the sister's relationship with each other and their mother. It then concentrates on the actual crash and immediate aftermath, mainly through the eyes of the first witness at the scene. PC Chris Caten, in real life a good friend of the family, then has to break news of Joanna's death to her mother and Judy in turn, before the mother and daughter are left to deal with their loss.

Key Characters:

Judy - A Woman in her early 20s
Jo – Judy's Sister
Vi– Jo and Judy's mother
Bob – An arrogant lad
Nob – Bob's side kick
PC Caten – Police Officer and family friend.
Duncan – The first person on the scene

Themes:

Family
Grief
Guilt
Drink Driving
Drugs and Alcohol
Social Responsibility

Staging

Night Club
Jo and Judy's family home
The Street where the accident took place
The hospital

THE FACTS ABOUT DRINKING AND DRIVING

- Drinking and driving is the cause of many deaths and injuries, each year.
- For every 1 in 7 people killed on the road, a drunk driver has been involved.
- There is no sure way to know how much you can drink and still be under the legal limit – it depends on your weight, sex, age and metabolism, as well as on the type of drink you are having.
- Alcohol is absorbed fast by the body but it goes away slowly. There is nothing you can do (black coffee, cold showers, etc.) to get rid of alcohol faster – it just takes its time.
- It is quite possible to be above the legal alcohol limit in the morning if you have been drinking the night before.
- The only safe way is **NOT TO DRINK AT ALL** if you are driving.

Sound

Diegetic – sound that comes 'from the world of a story'. This means any sound that is part of the action, and therefore experienced by the actors 'on stage'. Can include sound effects (SFX) and background noise.

Non-Diegetic doesn't come directly from the world of the story 'onstage'. Characters are not aware of it. It usually creates the atmosphere.

Mark a moment:	Various ways including Sound Effects (SFX) or silence
Volume:	Loud to quiet
Crescendo	Gradually getting louder
Pitch:	High to low
Pace:	Fast to slow
Pause:	Breaks in sound
Silence:	The removal of all sound
Contrast:	Opposing sounds (e.g. Loud/quiet, fast pace/slow pace)
Length of notes:	Sustained (Long notes) Staccato notes (Short sharp notes)
Reverb:	Echoing effect
Atmosphere:	The feeling created e.g. cold, scary, romantic, tense, relaxed/calm
Entrance:	How the sound is first played. (e.g. Dynamic and loud or soft fade in)
Foley sound:	Replace an original sound (e.g. the digital sound of footsteps)
Sound Bridge:	The sound from one scene carries over into the next scene.

Lighting

Stylised Lighting State

Covers specific sections of the stage, harsh colours, hard edges. This does not look like how the sun would light the stage. It is more alien in its appearance.

Naturalistic Lighting State

Soft lighting, covers whole stage, gentle colours. This would look like how the sun would like the stage.

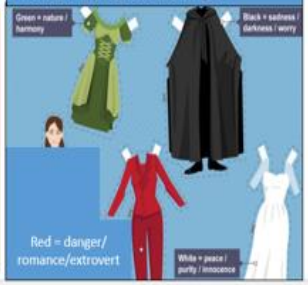
Key Lighting Terms

Lantern: The correct term for stage lights
Gels: Sheets placed in front of the lights to change the colour
Intensity: Full beam or low light or black out
General Wash: Covering the stage with light
Spot Light: Focusing the light on a specific area of the stage
Transition: Slow fade or snap (quick) fade
Edge: The edges of the light can be soft or hard
Gobo: Create shapes in lighting (e.g. Batman's emblem)
Floor Lantern: Light from below. Creates non-naturalistic shadows. Can look scary
Cyclorama: Large white sheet onto which images are projected
Projection: Projected images onto a cyclorama
Crossfade: When the light travels from one side of the stage to the other
Lighting State: The light(s) used in a specific scene
Blackout: When the stage is completely dark

Costume, Hair and Makeup

Costume, hair and make-up can suggest character, time and the style of the play, eg naturalistic or abstract. Look at the four pictures of actor Adrian Lester. Note how the change of costume helps the audience to understand the role he is playing.

Colour can be used symbolically. White may represent innocence and purity, and red may represent danger.



Things to consider when designing costume, hair and make-up:

When is the play set?
Is the play naturalistic or non naturalistic?
What is the character's personality?
What is your character's status?
Do the actors need to change?
What materials will be used?
What colours will be used?

Make-Up
Bright stage lighting can wash out facial features and make performers appear pale, so make-up is used to enhance features and make sure that the audience can see the actors' facial expressions. It can also be used to age an actor who is playing an older character or to create fantasy characters. It is worn by both male and female actors.

Set and Props

Set means the scenery and furniture onstage. Some theatre sets are very elaborate and detailed (naturalistic). However, a simple or minimalistic set can be also be very effective (non-naturalistic). The two images show a row of houses in two different plays. Which one is naturalistic and which one in non naturalistic?

A row of houses in 'Curious Incident'

A row of houses in 'Blood Brothers'

Things to consider when designing Set and Props:

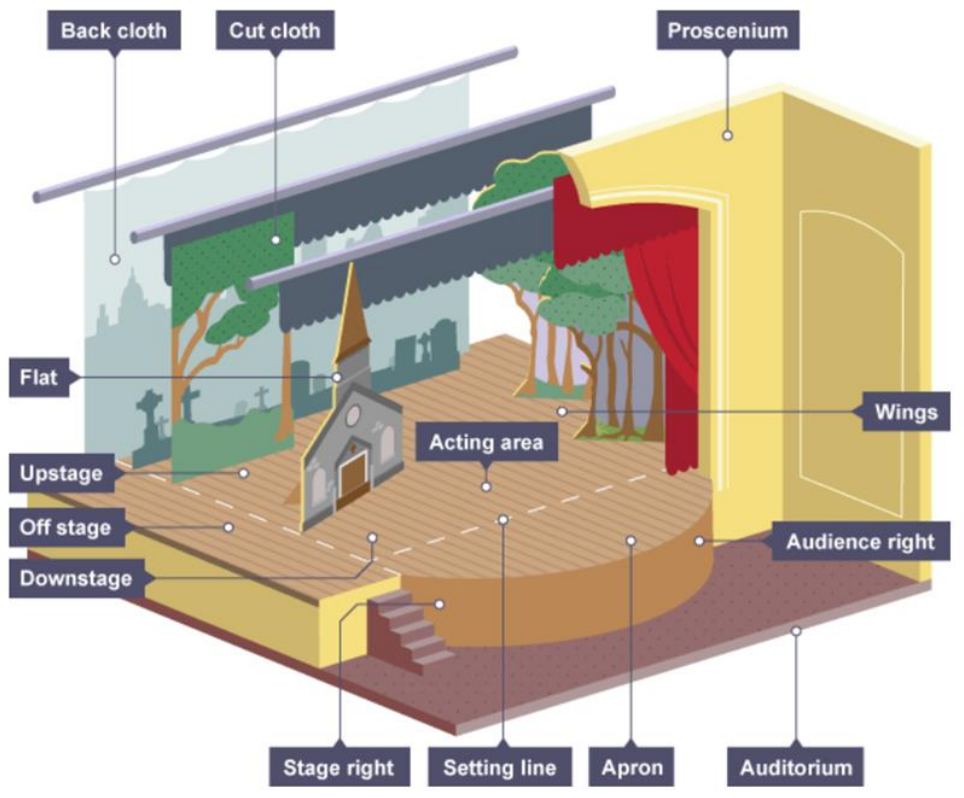
When is the play set?
Is the play naturalistic or non naturalistic?
How can levels create meaning?
How can proxemics create meaning?
Are there set changes?
What materials will be used?
What colours will be used?
Will images be projected onto a cyclorama or painted onto flats?

Props
Items that the actors use on stage.

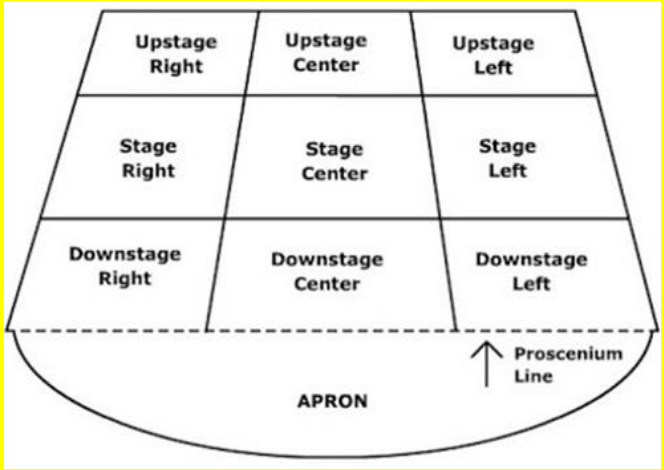
Key Terms for Set and Props

Flats: Large sheet of canvas or wood that the scenery is painted on to.
Fly: Ropes used to pull flats on/off stage.
Wings: The side of the stage
Apron: A small piece of stage in front of the Proscenium Arch
Trap door: Door covering exit hole in the stage
Cyclorama: A large cloth onto which scenery can be projected
Gobo: Creates shapes that can be projected
Birdseye View: Draw the stage looking down on it.

Proscenium Arch



Stage Positions



LEARNING - LOVING - LIVING

Year 8 Music – T1: Band Skills

Guitar Tab

What is Guitar Tab?

- Tab or tablature is a way of notating or writing down music.
- It shows a graphic representation of the strings and frets on the guitar fretboard.
- Each note is indicated by placing a number, which indicates the fret to play, on the appropriate string.

The Lines

- When reading guitar tab you will see six lines.
- The thickest string on the guitar or bass is the one nearest your chin, with the thinnest string being the closest to the floor.

The Numbers

- The numbers show which **fret** to play – where the number is written will show which string is to be played.
- Frets are the metal strips that run across the fretboard.

Drum Tab

What is Drum Tab?

- When reading drum tab you will see five lines (like the normal stave).
- Instead of having different notes on the stave, each place is a different part of the drum kit.

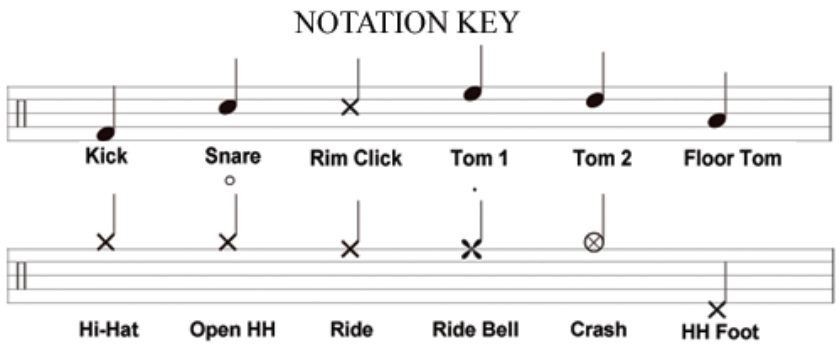
The note heads

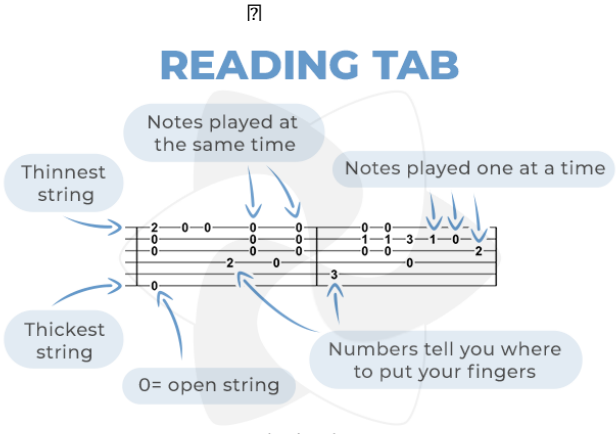
- The numbers show which **fret** to play – where the number is written will show which string is to be played.

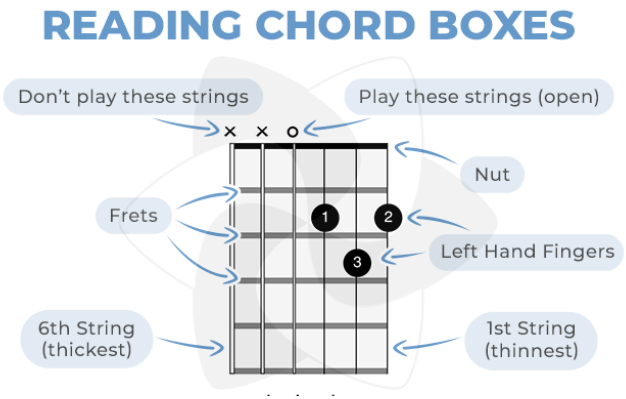
Frets are the metal strips that run across the fretboard.

KEYWORDS

1- Melody – The main tune of a song, often sung.	**6- Arrangement –** the order/structure you choose to play a piece of music
2- Chord – 2 or more notes played simultaneously.	**7- Balance –** ensuing each part and instrument can be heard, with the main parts playing out.
3- Bassline – the bottom part of a song, played in the bass.	**8- Rhythm –** a) the combination of different note durations in a piece. b) The instruments that keep the pulse of a song.
4- Riff – a repeated pattern	**9- Verse** – the parts of a song that change lyrics, telling the story, that precedes a chorus.
5- Hook – a musical idea, often a short riff, passage, or phrase, that is used in popular music to make a song appealing and to "catch the ear of the listener".	**10- Chorus** – the repeating section of a song, usually following a verse, which sums up the theme of the song.







KEYWORDS

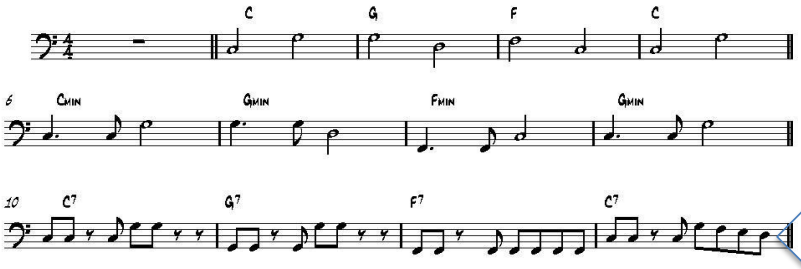
1- Chord: 2 or more notes played simultaneously.
2- Chord Progression: Movement from chord to chord.
3- Cadence: the two chords at the end of a musical phrase.
4- Riff: short repeated phrase in popular music.
5- Melody: the main tune of a song.
6- Phrase: a short musical passage; a musical sentence.
7- Bass: the lowest part of a piece, often providing harmonic support.
8- Key: group of pitches, or scale, that form the basis of a piece.
9- Modulation: Change from one key to another.
10- Sequence: the repetition of a musical phrase at a higher or lower pitch than the original.
11- Harmony: parts that play together simultaneously create harmony. Often accompanying or secondary parts to a melody.

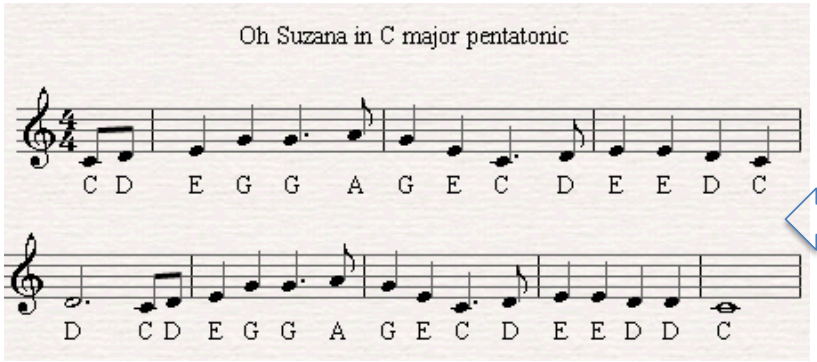
MAJOR CHORD PROGRESSIONS

I	ii	iii	IV	V	vi	vii°
Major	Minor	Minor	Major	Major	Minor	Diminished
A	B	C#	D	E	F#	G#
B	C#	D#	E	F#	G#	A#
C	D	E	F	G	A	B
D	E	F#	G	A	B	C#
E	F#	G#	A	B	C#	D#
F	G	A	Bb	C	D	E
G	A	B	C	D	E	F#

COMPOSING BASS LINES

ROOTS AND 5THS CAN MAKE THE BASS LINE MORE INTERESTING





4 Rules for Chord Progressions

1. Start and end on chord I
2. The primary/major chords are strong (I, IV & V)
3. The minor chords add some interest and variety (but avoid using iii
4. NEVER use chord vii (diminished)

3 hints for Basslines

1. Bass them around the root (bottom) note of the chord
2. Use other notes of the chords for interest
3. Add some rhythm for character

5 characteristics of a good melody

A Good Melody…

1. Starts and ends on the same note (C)
2. Moves mainly by step
3. Has a smooth contour/shape
4. Has 2 or 4 bar phrases
5. Uses similar short motifs to give it a clear character

A. Key Terms

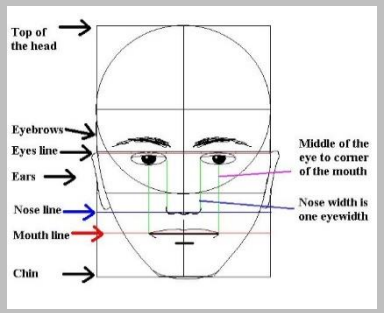
Keyword	Description
7. Embroider	Using sewing and thread to add decoration
2. Stencil	How an image is separated into tones to allow for processes such as spray painting
3. Highlight	Areas of light in an image/ the areas on a surface upon which there is the highest intensity of light being reflected
4. Distort	pull or twist out of shape. "a grimace distorted her fine mouth"
5. Proportion	The correct, attractive, or ideal relationship between one thing and another or between the parts of a whole. "perceptions of colour, form, harmony, and proportion"
6. Contemporary	living or occurring at the same time.
7. Collage	a piece of art made by sticking various different materials such as photographs and pieces of paper or fabric on to a backing.

B. Command Words

Keyword	Description
8. Refine	To improve, enhance and change elements of your work for the better.
9. Response	To produce personal work generated by a subject, theme, starting point, or design brief.
10. Investigate	To enquire into, examine in depth, and/or analyse the relevance of a chosen subject and associated sources.
11. Research	To study in detail, discover and find information about.

C. Proportion

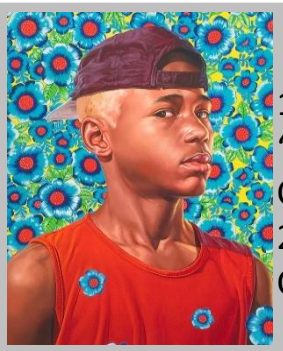
18. You must be able to label the proportions on a figure correctly. Revise using the diagram below.



D. Artists

Kehinde Wiley

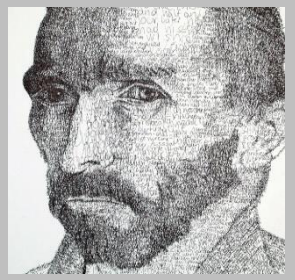
12. Kehinde Wiley was born on February 28, 1977
13. Wiley is an American-Nigerian Painter based in New York
14. Famous for his realistic traditional painting style
15. His subjects are always black people as he wants to show black people represented in the traditional style of painting as this is underrepresented in traditional painting.
16. Wiley uses poses, background and props to add importance to the people he paints.



17. 'Randerson Cordeiro' 2009 Oil on Canvas

Anatol Knotek

18. Anatol Knotek is a contemporary Austrian artist who produces portraits using words.
19. Knotek has produced portraits of artists that inspired him.
20. Knotek is famous for using words to show tone and meaning in his artwork.



21. 'Portrait' Pen on paper

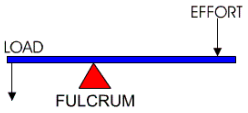
Levers

Levers are used to lift heavy weights with the least amount of effort. In the example opposite, the heavy weight on the left hand side has been lifted by the person because of the lever. The longer the 'rod' the easier it is to lift the weight. Under normal circumstances the person would not be able to lift the weight at all. The *fulcrum* is the place where the rod *pivots* (or rotates).

The *load* is the scientific name for the weight. The *effort* is quite simply the amount of effort used to push down on the rod in order to move the weight.

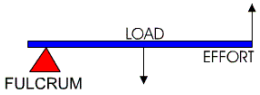
Types of lever

CLASS ONE



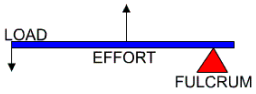
The workman uses a trolley to move the large packing case. The fulcrum is the wheel.

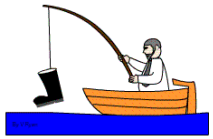
CLASS TWO



The gardener uses a wheel barrow to lift tools and garden waste. The load is in the centre of the barrow

CLASS THREE





The fisherman catches the 'fish' which becomes the load at the end of the lever.

The science of elasticity, energy and rubber

Energy is a great subject in science. It covers so many things and I have many other aspects that I hope to share with you soon but one thing that explains energy so well is a simple rubber band; it can demonstrate elasticity, kinetic energy and potential energy and it great to use in some really cool experiments. Here are just a few short facts on the topic.

What is Elasticity?
Elasticity is the ability of an object to return to its original size and shape after it has been stretched or squeezed.

When we pull an elastic object we are applying a force on it called a stress. If we apply too much stress to an object it will eventually reach a limit called its **elastic limit.**

When an object is pulled beyond its elastic limit it cannot return to its original shape.

All objects will eventually lose their elasticity due to wear and tear, friction and stress.

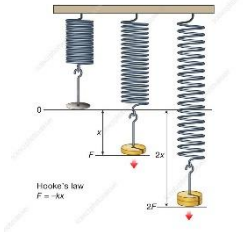
Potential and Kinetic Energy
Potential energy is energy stored within something. Kinetic energy is energy in motion. When we use force to stretch an elastic object, such as an elastic band we are filling it with potential energy. When we let go of the rubber band and it springs back to its original shape, the energy released is Kinetic Energy.

Hooke's law

Extension and compression
Extension happens when an object increases in length, and compression happens when it decreases in length. The extension of an elastic object, such as a spring, is described by Hooke's law:

force = spring constant × extension

This is when:
force (F) is measured in newtons (N)
spring constant (k) is measured in newtons per metre (N/m)
extension (e), or increase in length, is measured in metres (m)



YEAR 8— TRINITY TERM- FOOD AND NUTRITION - DIET & NUTRITION

LEARNING - LOVING - LIVING

Key words: Nutrients and Eatwell Guide

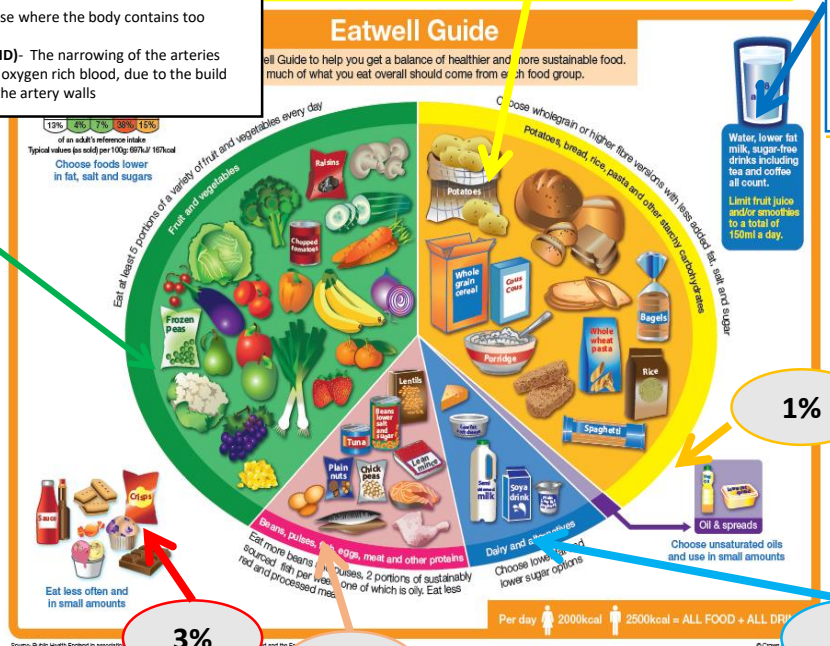
1. **Wholegrain** - All parts of the cereal grain **is used**.
2. **Nutrient** – Chemical in food that give nourishment.
3. **Energy** – the strength needed for physical effort
4. **Immune system** – the body's defence against infectious diseases
5. **Clotting** – the process that blood undergoes to prevent bleeding
6. **Antioxidant** – a molecule that is able to stop the oxidation process in other molecule
7. **Haemoglobin** – a protein responsible for transporting oxygen in the blood
8. **Saturated fats** – Type of fat mostly from animal sources
9. **Absorb** – to take in or soak up
10. **Maintenance**– routines that are necessary for keep the body in good health.
11. **Diabetes**– a condition that causes a person's blood sugar level to become too high.
12. **Obesity**– diet related disease where the body contains too much stored fat.
13. **Cardiovascular disease (CHD)**- The narrowing of the arteries that supply your heart with oxygen rich blood, due to the build up of fatty deposits within the artery walls

The Eatwell Guide is the UK Healthy Eating Model. It shows what we should eat as a balanced diet. The size of the sections represents the proportion of our diet that particular food group should make up.

1. **Starchy Foods**
2. Provide slow release carbohydrate used by the body for energy
3. Choose wholegrains for increased fibre (good digestion, reduced risk of heart disease)

37%

Water Intake
A balanced diet must include water, it is required for nearly all brain and other bodily functions



39%

Fruits & Vegetables
1. Eat 5 portions a day!
2. Choose a variety
3. Provides fibre for healthy digestion
4. Provides vitamins and minerals

1%

Fats, Oils & Spreads
1. Provide fat soluble vitamins A,D,E & K
2. Are high in calories & energy so keep use to a minimum
3. choose unsaturated oils like olive oil

3%

Foods high in sugar and saturated fats are not part of a healthy diet and should be eaten in moderation
1. increased risk of weight gain/obesity
2. diabetes
3. tooth decay, cardiovascular disease (CHD)

12%

Beans, Pulses, Eggs, Meat, Fish
1. Provide protein for growth, repair and maintenance of body cells
2. Choose a combination of plant proteins
3. Avoid eating too much processed meat like bacon and sausages

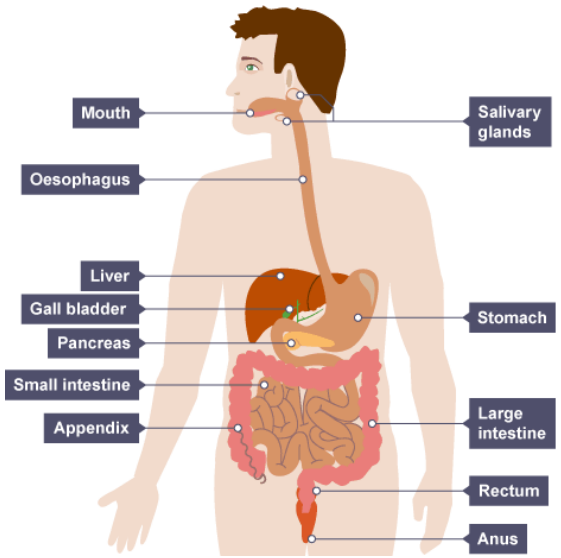
8%

Dairy Foods
1. Provide calcium for healthy bones, teeth and nails
2. The body needs Vitamin D to absorb calcium effectively

Nutrient	Function in the body
1. Macronutrient: Carbohydrates (Starch, sugar, fibre)	Needed by the body because they are the main source of energy in the body for movement. Needed by the body for digestion. (fibre0
2. Macronutrient: Protein	Needed by the body for growth Repair the body when it is injured Gives the body energy (only if the body doesn't have enough carbohydrates)
3. Macronutrient: Fat	Insulates the body from the cold and provides a 'cushion' to protect bones and organs such as the kidneys The body breaks down the fat stores to release energy Vitamins A, D, E and K are fat soluble vitamins so are stored in our body fat and released when needed.
1. Micronutrient: Vitamin A	Maintains normal vision Good maintenance of skin and the mucus membranes Helps with a healthy immune function **Fat soluble**
2. Micronutrient: Vitamin D	Absorption and use of calcium Maintenance and strength of bones and teeth **Fat soluble**
3. Micronutrient: Vitamin E	Antioxidant that helps protect cell membranes Maintains healthy skin and eyes **Fat soluble**
4. Vitamin K	Normal clotting of the blood Fat soluble
1. Micronutrient: Vitamin B complex	Healthy nervous system Energy release from foods **Water soluble**
2. Micronutrient: Vitamin C	Absorption of iron Production of collagen that binds connective tissues An antioxidant **Water soluble**
1. Mineral Calcium	Strengthens bones and teeth Bones are able to reach peak bone mass Clots blood after injury Promotes nerves and muscles to work properly
2. Mineral Iron	Supports the production of haemoglobin in red blood Helps transport oxygen around the body Vitamin C is required for absorption of iron

	Keyword	Definition
1	Gluten	A protein found in wheat flours, that makes the dough elastic
2	Coeliac disease	An intolerance to Gluten which causes the inflammation of the intestine walls and damage them making nutrient absorption more difficult for the body
3	Amylase	Releases when starch is heated and enables sauces to thicken
4	Viscosity	The thickness of a liquid
5	Gelatinisation	When starch particles swell and burst, thickening a liquid
6	Durum wheat	A yellowy, high-protein wheat that is grown especially for making pasta
7	Milling	The process which separates the different parts of the grain
8	Semolina	A coarse-ground flour which comes from wheat
9	Whole grain	The whole seed in its natural state, none of the layers have been removed
10	Gluten -free	Products which do not have any wheat, rye, barley and sometimes oats
11	Al dente	'Firm to the bite' describes the texture of pasta
12	Extraction Rate	The keyword for how much of the original wheat grain is in the flour and used in products
13	Fermentation	A chemical breakdown of sugar to acid, gas or alcohol by bacteria, yeasts or other microorganisms
14	Proving	When bread is left to rest in a warm, damp environment to enable fermentation
15	Germ	Part of the grain which provides fat and B vitamins, it is also used to grow new plants
16	Glutenin and Gliadin	The two names of the proteins which are kneaded and stretched in the production of bread.
17	Harvesting	The process of gathering or reaping crops
18	Knock back	To re-knead the dough which knocks out some of the carbon dioxide allowing the yeast to produce more carbon dioxide
19	Starch	A polysaccharide and a complex carbohydrate
20	Strong flour	A type of flour with the highest gluten content
22	Unleavened	Refers to bread, cake and biscuits made without raising agents
23	White flour	Contains just the endosperm; the bran and the germ have been removed
24	Yeast	A micro-organism belonging to the fungi family, made up of single oval cells that reproduce by budding, this means they multiply and the one cell divides into two
25	Weevils	Tiny black bugs that can live and breed in flour

The digestion process



The gastrointestinal (GI) tract comprises:

- mouth;
- oesophagus;
- stomach;
- small intestine – duodenum, jejunum and ileum;
- liver and gall bladder;
- pancreas;
- colon
- anus.

Semaine 1

Le concours de talents • The talent contest

Mon/Notre talent, c'est ...	*My/Our talent is ...*
chanter	*singing*
danser	*dancing*
être pom-pom girl	*being a cheerleader*
faire de la magie	*doing magic*
jouer du piano/violon	*playing the piano/violin*
jouer de la guitare (électrique)	*playing the (electric) guitar*
Je veux être ...	*I want to be ...*
chanteur/chanteuse	*a singer*
danseur/danseuse	*a dancer*
guitariste	*a guitar player*
musicien/musicienne	*a musician*
magicien/magicienne	*a magician*
Je veux gagner le concours.	*I want to win the contest.*
J'ai déjà gagné un concours.	*I've already won a contest.*
un candidat/ une candidate	*a contestant*
célèbre	*famous*
une célébrité	*a celebrity*
une vedette	*a (TV/film/music) star*
participer (au concours)	*to take part (in the contest)*

Semaine 2

Se préparer pour le concours • Getting ready for the contest

Je/Tu dois ...	*I/You must ...*
remplir la fiche d'inscription	*fill in the application form*
participer au concours	*take part in the contest*
faire un clip vidéo	*make a video clip*
répéter tous les jours	*rehearse every day*
aller à l'audition	*go to the audition*
avoir confiance en moi/toi	*be confident*
Je/Tu peux .../On peut ...	*I/You can .../We can ...*
répéter chez moi/toi	*rehearse at my/your place*
faire du babysitting	*babysit*
Je ne peux pas.	*I can't.*
Si, tu peux!	*Yes, you can!*
Je vais t'aider.	*I'll help you.*
Je dois faire mes devoirs./J'ai trop de devoirs.	*I must do my homework./I've got too much homework.*
Je n'ai pas de caméra.	*I don't have a camcorder.*

Semaine 3

Donner des instructions et conseils • Giving instructions and advice

Chante plus fort!	*Sing louder!*
Enlève ton blouson!	*Take off your jacket!*
Éteins ton portable!	*Switch off your mobile phone!*
Fais plus d'efforts!	*Make more of an effort!*
Jette ton chewing-gum!	*Throw away your chewing gum!*
Regarde la caméra!	*Look at the camera!*
Souris!	*Smile!*
Réveille-toi!	*Wake up!*
Ne fais pas ça!	*Don't do that!*
N'oublie pas ta casquette!	*Don't forget your cap!*
Change ton attitude!	*Change your attitude!*

Semaine 4

Qui est le meilleur? • Who's the best?

Je pense que/qu' ...	*I think that ...*
Il/Elle est ...	*He/She is ...*
le/la plus ...	*the most ...*
le/la moins ...	*the least ...*
ambitieux/ambitieuse	*ambitious*
arrogant(e)	*arrogant*
beau/belle	*good-looking*
modeste	*modest*
passionné(e)	*passionate*
professionnel(le)	*professional*
sûr de lui/sûre d'elle	*confident*
travailleur/travailleuse	*hard-working*
le meilleur/la meilleure	*the best*
Il/Elle a ...	*He/She has ...*
le plus de talent	*the most talent*
la plus belle voix	*the nicest voice*
Il/Elle a chanté faux/juste.	*He/She sang off key/ in tune.*

Semaine 5

Les rêves et les ambitions • Dreams and ambitions

J'aime gagner.	*I like winning.*
Je dois gagner.	*I must win.*
Je peux gagner.	*I can win.*
Je veux gagner.	*I want to win.*
Je voudrais gagner.	*I'd like to win.*
Je vais gagner.	*I'm going to win.*
le gagnant/la gagnante	*the winner*
un jour	*one day*
content(e)	*happy*

Semaine 7

Les mots essentiels • *High-frequency words*

déjà	*already*
si	*if*
si	*yes (when contradicting someone)*
Tu as raison.	*You're right.*
Tu as tort.	*You're wrong.*
D'accord?	*OK?*
plus	*more*
moins	*less*
À mon avis, ...	*In my opinion, ...*
Pour moi, ...	*For me, ...*

Semaine 6

Special Test : you will only translate from English into French.
Revise the spelling of all vocabulary learnt in Trinity 1.

Semana 1

¿Qué casa prefieres?	Which house do you prefer?		
Esta casa es...	This house is...	moderno/a	modern
Este piso es...	This flat is...	pequeño/a	small
amplio/a	spacious	La casa/El piso está...	The house/The flat is...
antiguo/a	old	cerca de la playa	near the beach
bonito/a	nice	en el centro	in the centre
cómodo/a	comfortable	en la montaña	in the mountains
enorme	enormous	más... que	more... than
feo/a	ugly	menos... que	less... than
grande	big	Prefiero...	I prefer...
maravilloso/a	marvellous	porque	because

Semana 2

La casa	The house		
Tiene...	It has...	una chimenea	a fireplace
una cocina	a kitchen	un jacuzzi	a hot tub
un comedor	a dining room	un jardín	a garden
un cuarto de baño	a bathroom	una piscina	a swimming pool
un dormitorio	a bedroom	una terraza	a balcony, a terrace
un salón	a living room	vistas al mar	views of the sea

Semana 3

¿Qué se puede hacer en...?	What can you do in...?		
Se puede(n)...	You can...	ir de paseo en bicicleta	go on a bike ride
hacer senderismo	go hiking	ir a la playa	go to the beach
hacer actividades náuticas	do water sports	ir al restaurante	go to the restaurant
		jugar al golf	play golf
hacer artes marciales	do martial arts	jugar al voleibol	play volleyball
ir a la bolera	go bowling	jugar al tenis	play tennis
ir al cine	go to the cinema	ver la catedral	see the cathedral
ir de compras	go shopping	visitar un castillo	visit a castle

Semana 4

¿Dónde está...?	Where is...?		
la catedral	the cathedral	Dobla a la izquierda.	Turn left.
la estación de tren	the railway station	Toma la primera a la derecha.	Take the first on the right.
el minigolf	the minigolf	Toma la segunda a la izquierda.	Take the second on the left.
el parque de atracciones	the theme park		
el parque acuático	the water park		

Semana 5

la pista de karting	the go-kart track	**Cruza la plaza.**	Cross the square.
el zoo	the zoo	**Está a la derecha.**	It's on the right.
Sigue todo recto.	Keep straight on.	**Está a la izquierda.**	It's on the left.
Dobla a la derecha.	Turn right.		

Opiniones	**Opinions**		
Me gusta...	I like...	**Me gustaría mucho...**	I would really like...
Me encanta...	I love...	**Me encantaría...**	I would love...

Semana 6

Expresiones de tiempo	**Time expressions**		
ayer	yesterday	**hoy**	today
el fin de semana pasado	last weekend	**mañana**	tomorrow
el verano pasado	last summer	**este fin de semana**	this weekend
el año pasado	last year	**el verano que viene**	next summer
hace dos años	two years ago	**el año que viene**	next year

Palabras muy frecuentes	**High-frequency words**		
bastante	quite	**está**	it is
donde	where	**muy**	very
esta/este	this	**también**	also, too

1	¡Hola!¿Qué tal? Me llamo Pedro y tengo trece años.	Hello! How are you? My name is Pedro and I am 13 years old.
2	**Soy** bastante agradable y gracioso,	**I am** quite pleasant and funny.
3	sin embargo **no soy** nada tímida.	However **I am not** timid at all.
4	**Vivo** en Inglaterra, en la capital, Londres.	**I live** in England, in the capital, London
5	Mi casa **está** al sur este de Londres.	My house **is** in south east London,
6	**Me gusta mucho vivir** en Londres,	**I really like to live** in London,
7	**ya que es** una ciudad muy emocionante.	**because it is** a very exciting city.
8	**Hay** muchos lugares de interés.	**There are** many places of interest.
9	Por ejemplo **hay** monumentos y castillos.	For example **there are** monuments and castles
10	Además **hay** museos y muchos mercados,	In addition **there are** museums and a lot of markets
11	donde **se puede comer** diferentes tipos comidas del mundo.	where **you can eat** different types of foods of the world
12	**Lo malo** es que **no hay** playa.	**The bad thing** is that **there is not** a beach.
13	Normalmente **salgo con mis amigos** los fines de semana.	Normally **I go out with my friends** on the weekends.
14	A menudo **vamos al parque** a las cinco en punto,	Often **we are going to the park** at 5 o´clock,
15	pero a veces **voy al cine** con mi hermano.	but sometimes **I go to the cinema** with my brother.
16	Aunque **no suelo ir de compras** con mi madre	Although **I don´t usually go shopping** with my mother
17	El fin de semana pasado **fuimos al** centro comercial	Last weekend **we went to** the shopping centre
18	¡**Había** muchísimas tiendas!	**There were** a lot of shops!
20	**Fue** súper guay porque **compré** ropa nueva.	**It was** very cool because **I bought** new clothes.
21	El próximo fin de semana por la mañana	Next week in the morning
22	**voy hacer los deberes** con mi padre	I am going to do my homework with my father,
23	más tarde **voy a salir** por mi barrio	later **I am going to go out** in my neighbourhood
24	con mi mejor amigo Antonio.	With my best friend Antonio.
25	**Vamos a ir a** un restaurante Español	**We are going to go to** a Spanish restaurant.
26	Yo **voy a pedir** una ración de croquetas	**I am going to order** a plate of croquets
27	Y **puede que** una de calamares también,	And **maybe** one plate of calamares
28	además **beberé** una coca-cola	In addition **I will drink** a coca-cola
29	**Va a ser** la bomba, ya que me encanta la comida española.	**It´s going to be** awesome, because I love Spanish food.

First Aid Key term	Definition
1. Abrasion	Medical term for a graze to the skin. An abrasion is damage to the superficial layers of the skin.
2. Adrenaline	A hormone released by the adrenal glands (just above the kidneys). It increases the heart rate and causes blood vessels to constrict. This hormone is responsible for the 'fight or flight' response.
3. Anaphylaxis	A life-threatening whole body allergic reaction which causes airway swelling and shock.
4. Concussion (head injury)	An injury to the brain which causes 'shaking' / 'jarring' of the brain.
5. Contusion	A bruise (bleeding beneath the skin)
6. Epi-pen	An auto-injecting syringe containing adrenaline used to counteract a major allergic reaction
7. Epilepsy	A medical condition characterised by repeated seizures. May be controlled by medication
8. Hyperglycaemia	High blood sugar levels
9. Hypoglycaemia	Low blood sugar levels
10. Insulin	A hormone produced by the pancreas that reduces blood sugar levels
11. Cardio	Relating to the heart
12. Pulmonary	Relating to the lungs
13. Resuscitation	the action or process of reviving someone from unconsciousness
14. Primary survey	The quick initial assessment of a patient. Often structured in an 'ABC' approach (airway, breathing, circulation)

First Aid Tips

MAJOR BLEEDING

1. ✓ Call 911 and put on gloves (or a plastic bag) ✓ Have person lie down with head lower than body.
2. ✓ Remove obvious objects from wound, but don't clean it.
3. ✓ If organs have been displace, do not push them back in, simply cover the wound.
4. ✓ Apply direct pressure with gauze / clothing until bleeding stops (don't "look" for at least 20 min), and apply pressure around deeply embedded objects, not over them.
5. ✓ Do not remove gauze / bandage. Simply keep adding more as needed
6. ✓ If limb (arm / leg) is bleeding, elevate it.

HANDS-ONLY CPR (Cardio Pulmonary Resuscitation)

1. ✓ Call 911
2. ✓ Push hard and fast at the center of the chest
3. ✓ IMPORTANT: Hands-Only CRP is most effective if used after you SEE a teen or adult suddenly collapse. If you are trained in conventional CPR, you should use it if victim is found unconscious.

15. Laceration	**An injury where there is cutting or tearing of the skin**
16. Recovery position	A position where the casualty is laying on their side to protect their airway

1. HEALING	2. ENERGIZE	3. AWARENESS	4. LIVE	5. TIME	6. HELP
Practice: **Heal your hurt & pain. Deal with the past or existing issues that are currently causing you problems.**	**Practice:** **Empower your body & mind by looking after yourself. Eat well and exercise.**	**Practice:** **Begin to take notice of what you are experiencing i.e. your bodily reactions or change in mood.**	**Practice:** **Live & learn. Live life in all its fullness. Take opportunities & make opportunities. Look at life as a lesson, learn from your mistakes whilst moving on better equipped.**	**Practice:** **Make time for yourself. Find a comfortable balance, whilst doing the things you have to do, as well as doing the things you enjoy.**	**Practice:** **Help yourself as well as others. Be patient and kind to yourself. Believe in your value and that you are good enough.**
Why? Avoiding pain will over time increase it. Painful experiences can result in defining you, shaping you & clouding your judgements. Ultimately avoidance will eventually steal away a life of self-fulfilment & reaching your full potential. Self-actualization. Talk and make connections with others. Talking can release stress & is particularly a helpful way of offloading, making sense of situations & giving your thoughts a voice. Talking allows for relationships to grow, strengthen & perceive problems from a different perspective**.**	Why? Becoming active both physically & mentally will rebalance you emotionally. Powerful chemical endorphins in the brain are released when we exercise. The same endorphins that make us feel energized & give a feel good feeling are the same endorphins that promote calm & wellbeing. A healthy nutritious diet reduces the risk of chronic diseases & increases concentration and high mood.	Why? Be mindful of not only what is happening for you, but also try to connect with your surroundings & what is happening around you. Once you begin to make these connections, you'll be able to connect & empathise with how others might feel, ultimately promoting the tolerance of people.	Why? We are curious beings. Our learning never comes to an end. What we learn (including the motivation we have for it) can positively have an impact on self-esteem & efficacy, our life satisfaction, our confidence & our capacity to cope. 	Why? Give time to your strengthens, without forgetting to work on the weaknesses. Consider what it is you need and how these needs can be met. Surrounding yourself with people that will bring the best out in you will encourage you and create confidence.	Why? Learn to accept your uniqueness, as well as other's differences. Offering your support can reduce isolation. It can create a sense of belonging & in general make the world more habitable. Your act of kindness can increase low self-esteem, optimism, self-satisfaction & happiness.
How? Seek advice from your GP. Support groups. Self-help books. Twelve step programs. Counselling. Reach out to friends/family**.**	How? Drink plenty of water. Relax & get the recommended 8 hours of sleep. Exercise & keep active - Join the gym/dance class/drama group. Try Tai Chi/swimming/walking/jogging. Read. Learn something new/take a course.	How? Mindfulness/meditation Learn how to actively listen to others, as well as yourself.	How? Try new things. Visit new places. Set realistic goals/ create a bucket list.	How? Volunteer your time to a worthwhile cause. Partake in a creative activity. Take small steps in challenging your fears & weaknesses. Spring clean & organise your home as well as your mind by getting rid of what you no longer need or want.	How? Ask for help when you feel the need. Offer your support where you can. Trust in your capability. Do not let False Evidence that Appears Real (fear) hold you back from reaching your full potential.