Year 7
Learning Cycle 3
Knowledge Booklet

Student Name:_____

Instructions on how to use your learning cycle booklet:

The aim is for all students to be fully prepared and ready for all assessments in all subjects.

To help them with this we have a whole school revision/study strategy – SORT.

There are three learning cycles throughout Year 7. At the beginning of each learning cycle students will be issued with a booklet that details all the knowledge they are expected to know and recall by the end of the learning cycle.

Each day, for home learning, students are set two activities that support in memorising and recalling this key knowledge.

The assessment windows for Learning Cycle 3 will be 8th – 19th May

Summarise	**Organise**	**Recall**	**Test**
Summarise and condense any class notes, revision guides and revision.	Organise your revision materials by topic/subtopic. Traffic light your PLC sheets to identify areas of weakness or gaps (Red/Amber) that need to be prioritised.	Use active recall and spaced repetition to memorise your knowledge organisers until you can recall the information eg. Look, cover, write or self-testing	Use low stakes online tests/ quizzes and answer high stakes past paper/sample questions to check and apply knowledge and understanding
Strategies			
• Cornell Notes • Flash cards • Mind mapping • Revision clocks • Dual coding	• How to use your PLC • How to schedule your home learning and stick to it!	• Look cover & test • Leitner system • Blurt it • Transform it	• Low stakes • Self-quizzing • Quiz each other • Online quizzes • High stakes • Exam style questions

Instructions on how to use your learning cycle booklet:

Learning cycle 3 will focus on the SORT strategies:

Summarise	**Organise**	**Recall**	**Test**
• Cornell Notes • Revision clocks	• How to use your PLC • How to schedule your home learning and stick to it!	• Look cover & test • Leitner system • Blurt it	• Self-quizzing • Quiz each other • Online quizzes

Using the Personal Learning Checklists (PLC)

Review each key idea on the PLC

- In the **Organise** column write R, A or G depending on your understanding. Red = no understanding, Amber = Some understanding but needs work, Green = Secure understanding
- When you complete a **Summarise** activity for each key idea, tick the S column
- When you complete a **Recall** activity for each key idea, tick the R column
- When you **Test** by self-quizzing or complete an online-quiz for each key idea, tick the T column

Videos explaining all of the SORT strategies can be found on the Student SharePoint

Home Learning timetable - when I am going to complete my home learning

	Mon A	Tue A	Wed A	Thu A	Fri A
Core Activity	Reading	Complete Maths goal	Reading	Complete Maths goal	Reading
Subject 1	Geaography	History	Science	Maths	Spanish
Subject 2	RE	Art	Food	English	Computing
	Mon B	**Tue B**	**Wed B**	**Thu B**	**Fri B**
Core Activity	Complete Maths goal	Reading	Complete Maths goal	Reading	Complete Maths goal
Subject 1	Geography	Maths	Science	Spanish	English
Subject 2	Music	History	Drama	DT	

Expected time home learning will take:

Activity	Time
Reading	30 mins
Complete Maths	30 mins a goal
All other activities	15 mins each

My Computer passwords:

Platform	Username	Password
School System		
Complete Maths		
Educake		
Memrise		

Revision Planner

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Time	Saturday	Sunday
8.30am - 4pm						8.30am - 4pm		
4pm - 5pm						4pm - 5pm		
5pm - 6pm						5pm - 6pm		
6pm - 7pm						6pm - 7pm		
7pm - 8pm						7pm - 8pm		
8pm - 9pm						8pm - 9pm		

Reading for Pleasure Record

Book Title	Page Number from and to	Summarise	Adult Signature	Book Title	Page Number from and to	Summarise	Adult Signature

Reading for Pleasure Record

Book Title	Page Number from and to	Summarise	Adult Signature	Book Title	Page Number from and to	Summarise	Adult Signature

Year 7 Learning Cycle 3 Personal Learning Check lists

English

Key Ideas	S	O	R	T
I can write a 'What, How, Why' paragraph of analysis.				
I know some important ideas about what life was like when Shakespeare wrote his plays.				
I understand the key parts of the plot of The Tempest.				
I understand the key characters and the relationships between them.				
I can discuss the character of Caliban, supporting my ideas with quotations.				
I understand the term 'colonialism' and how it relates to the Tempest.				
I can evaluate a response to a key character.				
I understand the plot of The Bone Sparrow				
I can use context to enhance my analysis of a key character.				
I can write a formal letter to express an opinion.				

Maths

Key Ideas	S	O	R	T
I can add, subtract, multiply and divide without a calculator				
I can calculate with time and money				
I can find midpoint of a line segment				
I can plot straight line graphs using a table of values				
I can recognise and describe and continue sequences				
I can generate sequences using a term-to-term rule or n-th term				
I can write and use number sequences to model real life				
I can recognise arithmetic sequences and geometric sequences				
I can translate a shape using a vector.				
I can enlarge a shape using a scale factor.				
I can reflect a shape over a mirror line				
I can rotate a shape given an angle and a point				
I can describe transformations.				

Science

Key Ideas	S	O	R	T
I can describe the process of photosynthesis				
I can test a leaf for starch				
I can explain the structure and function of a leaf				
I can describe the process of aerobic respiration				
I can understand how toxins accumulate in the food chain				
I can recall the subatomic particles in an atom				
I can describe the properties of metals and non metals				
I understand the work of Dmitri Mendeleev				
I can describe the properties of group 0, 1 and 7 elements				
I can order the planets from the sun				
I can describe the big bang theory				
I can use models to describe day and night				
I can recall objects in our solar system				

Year 7 Learning Cycle 3 Personal Learning Check lists

Geography

Key Ideas	S	O	R	T
I can describe the location and climate of Antarctica				
I can explain how animals adapt to the climate of Antarctica				
I can explain the economic opportunities in Antarctica				
I can explain the methods of protecting the Arctic				
I can describe the location and climate of hot deserts				
I can explain how plants and animals adapt to climate change.				
I can explain the economic opportunities and environmental challenges in hot deserts.				
I can explain methods to protect hot deserts.				

History

Key Ideas	S	O	R	T
I can outline the key reasons for the Crusades				
I can explain the different reasons people went on a Crusade				
I can describe the symptoms of the Plague				
I can explain reasons for the Peasants Revolt				
I can define Renaissance				
I can outline some of the key changes during the Renaissance				
I can outline the changes caused by the Reformation				
I can explain a difference between the Catholic and Protestant Church				

Spanish

Key Ideas	S	O	R	T
I can talk about what I normally do in my free time				
I can talk about what I do in different weather conditions				
I know at least 5 verbs to talk about my daily routine				
I know how to talk in the future tense				
I can talk about the different foods I like				
I can order food in a restaurant				
I know my non-negotiable verbs				
I know my question words				

Year 7 Learning Cycle 3 Personal Learning Check lists

Computing

Key Ideas	S	O	R	T
I know how to design a simple scratch program				
I understand the computing terms, Sequence and Selection				
I can create and use variables in scratch				
I can explain the difference between Comparison Operators and Logic Operators				
I can create Scratch code which uses selection.				
I can explain how iteration can be used to improve code.				
I can identify when count control iteration is being used.				

Art

Key Ideas	S	O	R	T
I understand and can explain the meaning of the 7 observational drawing key words. Tone, texture, line, scale, composition, shape, scale, composition and background.				
I can discuss the work of Hundertwasser and understand how he used colour, pattern and shapes to create landscape images that have a meaning, message or idea.				
I understand how to collect resource materials to develop ideas.				
I understand how to develop my ideas using the work of Hundertwasser and to make an image that has an environmental message.				
I understand how to mix a good paint consistency.				

DT

Key Ideas	S	O	R	T
I understand how materials choices can make a difference to our environment				
I can identify the sources of natural materials				
I am able to design products and explain how they can be sustainable.				
I can name and describe a number of workshop processes				
I can name and describe a number of common hand tools.				
I can explain how to work safely in a workshop				

Year 7 Learning Cycle 3 Personal Learning Check lists

Food

Key Ideas	S	O	R	T
I understand how to ensure a hygienic and safe kitchen.				
I can explain the importance of knife safety and knife skills to prevent injury.				
I can identify the five different sections of the eat well guide.				
I understand the importance of a healthy diet.				
I can name and describe a number of common pieces of equipment in the kitchen				
I can describe the difference between the bridge hold and claw grip.				
I understand how to ensure a hygienic and safe kitchen.				

RE

Key Ideas	S	O	R	T
I can define Guru into my own words				
I can outline the importance of Guru Nanak				
I can define Gurdwara				
can name the 5 Ks				
I can define Kirpan				
I can define Kesh				
I can define Kanga				
I can define Kara				
I can define Kachera				
I can explain the importance of the 5K's to Sikhs				

Music

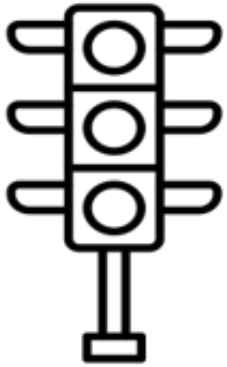
Key Ideas	S	O	R	T
I am able to successfully understand and can play a polyrhythm.				
I can follow a cyclic rhythm and am able to explain what this is.				
I understand and can teach others what the three main djembe techniques are.				
I understand about the cultural and historical significant of West African Music.				
I am able to perform syncopated beats as part of a rhythm.				
I am able to write and play from a rhythm grid.				

Year 7 Learning Cycle 3 Personal Learning Check lists

Drama

Key Ideas	S	O	R	T
I can understand and use a range of dramatic techniques in rehearsal and performance				
I can devise a piece of theatre in response to as stimulus				
I can create and develop a clear character and sustain it in performance				
I can evaluate the impact of the practical work				
I can set targets for future practical work				

At Poltair we SORT it!



At Poltair students will **SORT a PLC** by:

At the beginning of a learning cycle students are to RAG the key ideas they are studying by self-assessing if they are Red – no understanding, Amber – some understanding, Green – full understanding. They are then to put a R, A or G in the **organise** column.

- Students will then prioritise the Red and Amber key ideas when they are revising.
- Students are to summarise the knowledge for each key idea, then use recall strategies before self-quizzing.

Key Ideas	S	O	R	T
I know and understand the stock characters from Victorian melodrama.				
I know and understand the different physical skills used in melodrama and experiment with them in rehearsals.				
I know and understand the different vocal skills used in melodrama and experiment with them in rehearsal.				
I know the 3-part structure of melodrama performance.				
I can work in a group to plan a melodrama performance.				
I can apply mellodramatic techniques in performance.				

Year 7 English – Introduction to Shakespeare and The Tempest

1. Shakespeare's Life and Times

1a = Shakespeare William Shakespeare was born in 1564.

He was a playwright, poet and actor. Shakespeare spent most of his professional life with an acting company in London, the Lord Chamberlain's Men. In 1599, the acting company built the Globe Theatre. Shakespeare's plays were written and first performed during the reigns of Queen Elizabeth I and her successor, James I.

1b = Theatre In London, during the Elizabethan period, the first dedicated theatres appeared. Most people went to the theatre, from the poor to the very rich. It was the most popular form of entertainment in Elizabethan England. These theatres, which were also called playhouses, were visited by every class of people.

1c = The Globe Theatre This was built in 1599 by Shakespeare's theatre company, the Lord Chamberlain's Men. It was an open-air theatre and it is believed that it could hold around 3,000 people. The standing tickets in front of the stage only cost one penny, which meant everyone could afford to experience the theatre. People who stood to watch the play were called groundlings. Seats in the gallery were more expensive, and were higher up and covered.

1d = Beliefs and Superstitions Folklore are the traditions, beliefs and stories passed down by a community. In Shakespeare's time, folklore was an important part of life. For example, some people believed that fairies and goblins came out at night to play tricks. People in the 1500s and 1600s believed in the supernatural. The audience would have believed in witchcraft and magic.

2. Genres

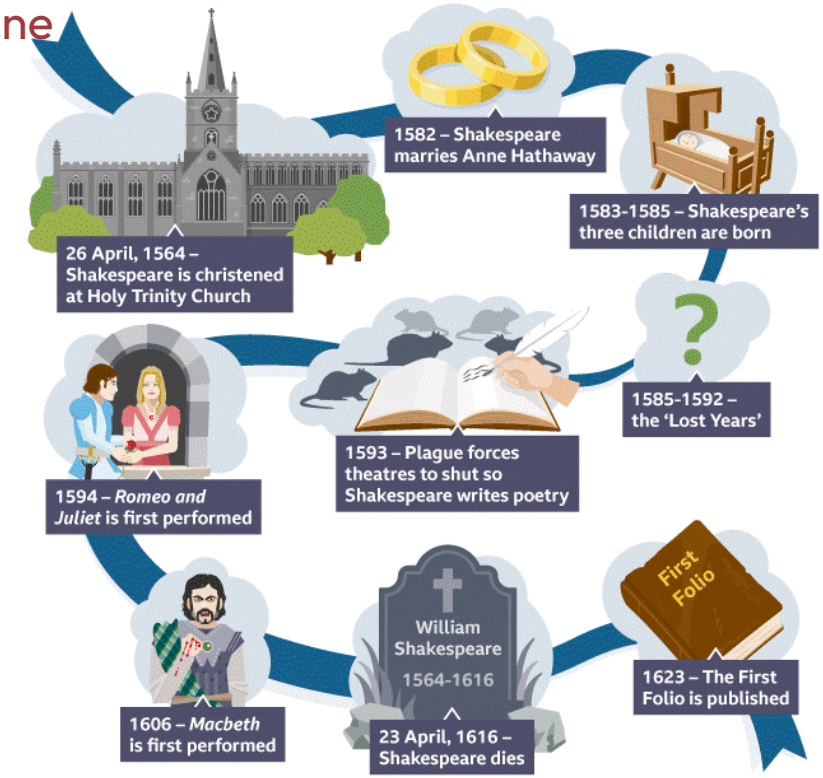
Shakespeare's plays can be categorised using three genres:

2a = Comedies These plays had happy endings and their plots move towards marriage. The humorous parts of these plays often arise from misunderstandings and use of disguise. Examples of comedies include 'The Merchant of Venice', 'The Taming of the Shrew', 'A Midsummer Night's Dream' and **'The Tempest'**.

2b = Tragedies Shakespeare's tragedies ended in the downfall of the main character(s) and death. The protagonist is usually well respected or of high status at the start of the play. Examples of tragedies include 'Macbeth', 'Romeo and Juliet', 'Othello' and 'Hamlet'.

2c = Histories The ten plays that cover English history from the twelfth to the sixteenth centuries. Each historical play is named after, and focuses on, the reigning monarch of the period and include 'Richard III' and 'Henry V'.

3. Timeline



Year 7 English – The Tempest

4. Early Modern English Words

anon (adverb) soon, shortly, presently

art (verb) are

aught (pronoun) anything

dost (verb) do

'ere (adverb) before

hast (verb) have

hence (verb) away from here!

hie (verb) hurry

oft (adverb) often

thou, thee (pronoun) you

thy (pronoun) your

thine (pronoun) yours

wherefore (adverb) why

wit (noun) intelligence, wisdom, good sense

5. Characters

5a = Prospero When we meet him, the most powerful character on the island. Miranda's father and the old Duke of Milan.

5b = Miranda Prospero's daughter. She lives on the island with her father and falls in love with Ferdinand.

5c = Ariel A spirit of the island and Prospero's servant.

5d = Caliban The son of Sycorax – a witch. He was born on the island and is Prospero's slave.

5e = Ferdinand The Prince of Naples and the son of Alonso. He falls in love with Miranda.

5f = Trinculo Alonso's jester and Stephano's friend.

5g = Stephano Alonso's butler and Trinculo's friend.

5h = Alonso King of Naples and Ferdinand's father.

3i = Antonio Prospero's brother. He became Duke of Milan after overthrowing his brother.

3j = Gonzalo Alonso's counsellor and trusted advisor.

6. Plot

6a = Act 1 On board a ship caught in a violent storm are: Alonso, Ferdinand, Sebastian, Gonzalo, Antonio, the Duke of Milan; and two lords. The sailors try to control the ship but it seems the ship is about to sink. Miranda is upset, having watched the storm engulf the ship. Prospero reassures her, then tells her the story of how they ended up on the island. He explains he was the Duke of Milan, until his brother Antonio betrayed him. They were captured and put into an old boat, eventually washing up on the island. Prospero then uses his magic to put Miranda to sleep and calls to Ariel, who describes how he created the storm and that the ship is now safe. Prospero takes Miranda to see Caliban, who shouts curses at them. Ferdinand and Miranda fall in love at first sight. Prospero pretends to be angry, using his magic to imprison Ferdinand.

6b = Act 2 Alonso, Antonio, Sebastian and Gonzalo awake on the island. Alonso is worried about Ferdinand. Ariel sends them all to sleep except for Antonio and Sebastian. Antonio persuades Sebastian to betray his brother Alonso. When they raise their swords as Alonso sleeps, Ariel wakes them up. Caliban sees Trinculo. Fearing him, he hides under a cloak. Trinculo crawls under the cloak too. Stephano enters, drunk. Seeing the two figures under the cloak he thinks it is a monster. He pours wine into Caliban's mouth. Trinculo recognises Stephano's voice, Caliban thinks Stephano is a god and offers to serve him.

6c = Act 3 Ferdinand carrys logs and says he is happy to do the tasks Prospero tells him to because of his love for Miranda. Prospero is actually watching as Miranda and Ferdinand express their love for each other.

Stephano - still drunk and enjoying the status Caliban is giving him - Caliban and Trinculo enter. Caliban persuades Stephano to kill Prospero and rule the island himself. They are interrupted by Ariel's magical music.

Alonso, Sebastian, Antonio, Gonzalo search for Ferdinand. Music plays and strange creatures lay out a banquet. Ariel appears as a harpy and says that the consequence of betraying Prospero was the storm and loss of Ferdinand.

Year 7 English – The Tempest

6e =Act 4 Prospero sets Ferdinand free. He agrees to the marriage of Miranda and Ferdinand, creating a magical show with the spirits to bless them. Ariel reports that Caliban, Stephano and Trinculo are drunk and he led them around the island. Prospero sends Ariel to distract the conspirators. Stephano and Trinculo are distracted from their plot to kill Prospero and punished.

6f = Act 5 Prospero announces that his plans are coming together and he says he will forgive the nobles if they are sorry for what they have done. He plans to give up his magic. Ariel leads in the nobles and Prospero forgives them. Prospero reveals Miranda and Ferdinand playing chess together in his cell, much to Alonso's delight.

Ariel leads in the Master and Boatswain who explain that strangely the ship fixed. Prospero sends Ariel to set Caliban and his companions free.

Caliban regrets taking Stephano for a god. Prospero promises to tell the noblemen the story of his life since being sent away from Milan, before they all return to Naples. Prospero tells Ariel to ensure they get safely back to Naples and then sets him free. Prospero then speaks to the audience directly, asking for their applause to set him free.

7. Vocabulary

7a = tempest (noun) a violent windy storm

7b = conflict (noun) a serious disagreement or struggle between two people groups or forces

7c = usurp (verb) take a position of power illegally or by force

7d = exile (verb) to send someone away from their own country or city

7e = solemn (adjective) having or showing serious purpose and determination; very serious or formal in manner or behaviour

7f = mankind (noun) all human beings

7g = mercy (noun) compassion or forgiveness shown towards someone who you could punish or harm

7h = plummet (verb) fall or drop straight down at high speed

7i = confined (verb) kept someone or something within limits; restricted

7i = confined (verb) kept someone or something within limits; restricted

7j = enchant (verb) fill someone with great delight; charm

7k = plague (noun) a contagious bacterial disease including fever and delirium

7l = abhorred (adjective) Intensely and deeply hated.

7m = colonialism (noun) A country taking control of another country or land (usually one less powerful).

Year 7 English – The Tempest

8. Subject Vocabulary

8a= play (noun) A dramatic piece of literature intended to be acted out on the stage.

8b = act (noun) A way of dividing a **play**. Each act is a group of **scenes**.

8c= scene (noun) A dramatic part of the story of a play, at a particular time and place and a way of dividing **acts** into smaller parts.

8d= stage direction (noun) An instruction in a play that tells actors how to move or speak, or gives information about the setting, sound effects or lighting.

8e= language (noun) Where or when the play takes place, usually introduced at the exposition (beginning) of a story.

8g= characterisation (noun) The creation or construction of a fictional character.

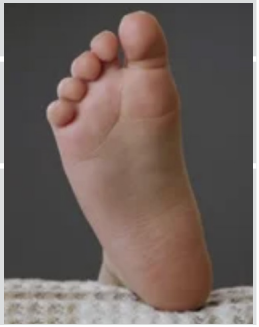
8h = sonnet (noun) A love poem of 14 lines (3 quatrains of 4 lines and one couplet of two lines).

8i= pathetic fallacy (noun) Giving human feelings and emotions to something not human, particularly the weather or environment, to enhance the mood of the writing.

8j = imperative verbs (noun) Verbs that express a command or an instruction e.g. 'Sit down' and 'Carry those logs.'

9. How to Analyse a Poem

M - Meaning **My**	What is the poem about? Who or what does it focus on? What idea(s) are most important?
L - Language **Little**	Which words are most important? What are their meanings and connotations? Has the writer used any similes, metaphors or personification?
T - Tone **Toe**	What tone does the poet adopt?
I - Images **Is**	What are the most important images in the poem? How do they add to the writer's idea(s)?
S - Structure **Small**	What is interesting about line length or stanza length? How does the poem begin and end?



10. What, How, Why Paragraphs

WHAT is the writer saying about character/ theme/ setting?

HOW are they revealing information and creating effects for the reader? Quotation? Language methods?

WHY have they chosen to do this? Purpose?

In the opening lines of the poem, the poet presents the sea as intimidating. The adjective "giant" conveys the huge size of the sea and its great force. It might suggest that the sea is far bigger and more powerful than human beings. Furthermore, the use of the word "giant" might allude to the mythical, super-human creature, which might again make the reader picture the sea as a colossal and aggressive being.

Year 7 English – The Bone Sparrow

1. Plot

1a = Ch 1 - 10	1. We learn about Subhi's life in a refugee detention centre, with his family Maa and his sister Queeny. 2. Life within the detention centre and the harsh conditions are explained, along with the the superstition of the 'deadly' bone sparrow. 3. Jimmie life is described. 4. We read about Eli the tradesman, who delivers secret packages with Subhi to the centre. 5. Subhi gets caught by Beaver. 6. The reader learns about Jimmie's life without her mother. 7. Subhi, disorientated from his fall, spots Jimmie in the distance. 8. Harvey explains Beaver's circumstances. Eli is transferred to the adult section of the centre even though he is only a child. 9. Jimmie's thinks about Subhi's existence and is eager to go back to the centre. 10. Subhi finally meets Jimmie face to face. We learn that Jimmie can't read and wants Subhi to read her mum's story about her family history.
1b = Ch 11 - 20	11. Subhi reads the first story of Jimmie's ancestors in her mum' journal. 12. Jimmie reflects on the story and hears her mum's voice. 13. The reader learns it is Subhi's birthday in the centre and more about the identity of Nasir. Subhi learns from his mum about his identity. 14. Subhi meets with Jimmie and reads the next part of her mum's story. 15. Jimmie reflects on Subhi's life in the Detention Centre and is frustrated to hear how he lives.. 16. Queenie and Eli take secret pictures of the camp to send to the papers to inform the public about their horrific conditions. 17. Nasir dies and Subhi continues to tell Jimmie's story. 18. A sickness enters the camp. Subhi continues to read Jimmie's story. 19. Subhi is reflecting and discovering his own identity. 20. Jimmie finds a picture of Subhi's living conditions in the local paper.

Year 7 English – The Bone Sparrow

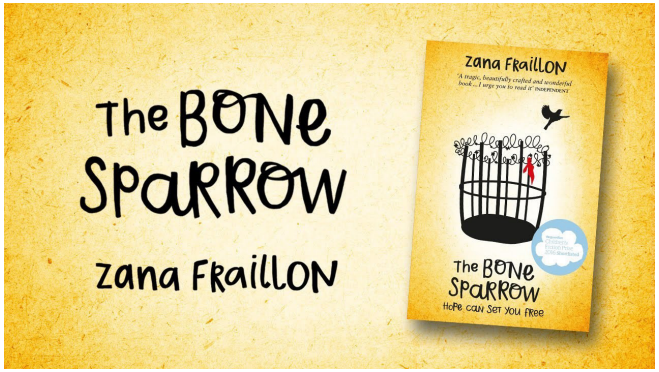
1a = Ch 1 - 10

21. Jimmie brings Subhi a picnic and asks him to help her read.
22. We learn about Jimmie going back to a home in which she is neglected.
23. Eli and Queeny have an argument. Subhi finds a knife buried in the dirt but leaves it hidden in a different location.
24. Jimmie's dad - to make up for his late working hours - gets her a present which reflects her bone sparrow.
25. Hunger strikes and riots develops more seriously in the camp.
26. Jimmie picks up flu and is weak from her sickness. She is unable to walk to meet Subhi.
27. Subhi reads Jimmie's last part of the story while he waits for her. He is unaware of her illness.
28. Huge change in atmosphere as the Jackets try to control the riots happening in the camp using force and brutality.
29. Subhi escapes the centre to find Jimmie unconscious and rings for an ambulance.
30. After a fire erupts In the centre and chaos descends, Eli dies trying to save people from the brutality.

1b = Ch 11 - 20

31. We learn about Eli's story about his journey as a refugee.
32. Subhi is in shock after witnessing the death of Eli. Harvey is trying to console him through guilt.
33. We learn more about the about Harvey's being a bystander to Eli's death. Subhi is feeling guilt and angry at Harvey.
34. Subhi learns the truth about his Ba.
35. Jimmie returns to good health and Subhi wants to write about Jimmie's story and his experience.
36. We begin to see change and Subhi reads the final story to Jimmie.
37. Subhi talks about new beginnings in his story to Maa and Queeny.

Context



2a = The Bone Sparrow was based on experiences of refugees in Australian detention centres. Immigration detention centres in Australia are used to detain people who are found in Australian waters fleeing from their countries. Similarly, people who have stayed longer in the country than their visa allows have also been reported to be seen in there. The centres have been likened to concentration camps by some critics.

2b = In writing this book, Zana Fraillon hopes to draw attention to the plight of asylum seekers. She says she was inspired by stories of real-life refugees in Australia and her horror at the way asylum seekers are treated worldwide.

Year 7 English – The Bone Sparrow

3. Vocabulary

3a = refugee (noun) a person who has been forced to leave their country in order to escape war, persecution or disaster

3b = displace (verb) remove someone from the usual or proper place OR force someone to leave their home because of war or persecution

3c = tragic very sad, often involving death and suffering

3d = illiterate unable to read or write

3e= generations groups of people of about the same age within a society

3f = undeniable so obviously true that it cannot be said to be wrong

3g = stench an intensely strong and unpleasant smell

3h = guardian a person who protects or defends something

3i = imagination the ability to form mental pictures of people or things, or to have new, creative ideas

3j = meagre a small amount OR (of a person) thin and lean

3k = raged felt or expressed violent, uncontrollable anger

3l = etched to cut a pattern or picture into a smooth surface, especially on metal or glasss

4. Subject Vocabulary

4a= language (noun) Words or methods (techniques) used by writers to present their meanings or create effects.

4b = setting (noun) Where or when the play takes place, usually introduced at the exposition (beginning) of a story.

4c = characterisation (noun) The creation or construction of a fictional character.

4d = narrator (noun) the 'person' in the novel who tells the story; fictional construct the author has created to tell the story through.

4e = first person narrative voice (noun phrase) a story told from the point of view of a character, using pronouns such as 'I' and 'we'

4f = simile comparing one thing to another using the words 'like' or 'as' to highlight qualities shared by the two things being compared

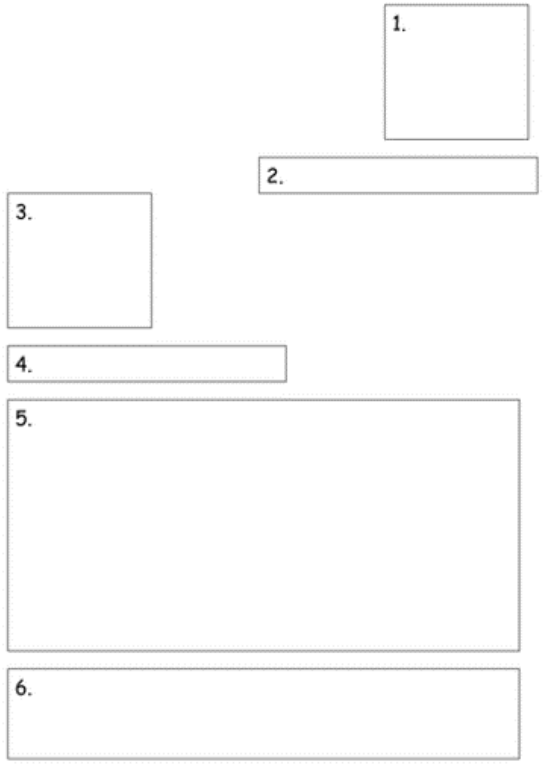
4g = metaphor comparing one thing to another directly, to highlight qualities shared by the two things being compared

4h = personification (noun) Verbs that express a command or an instruction e.g. 'Sit down' and 'Carry those logs.'

4i = pathetic fallacy (noun) Giving human feelings and emotions to something not human, particularly the weather or environment, to enhance the mood of the writing.

4j = symbol (noun) a character, object, setting or colour that represents a broader idea, group of people or feeling.

Format Letter Layout



1. Writer's address
2. Date
3. Recipient's address
4. Greeting / salutation
5. Main body
6. Sign-off

Year 7 Mathematics

1. Key Words	Definition
Factor	A number which can be multiplied to make another number.
Multiple	The product of any quantity and an integer
Prime number	Has only factors 1 and itself
Square number	A number which is produced by squaring another number
Linear equation	An equation between two variables that gives a straight line when plotted on a graph.
Arithmetic sequence	A sequence which has a common difference.
Geometric sequence	A sequence which has a common ratio.
Enlargement	A type or transformation which changes the size of a shape and its distance from a fixed point (centre of enlargement)
Translation	A type of transformation which moves a shape using a vector
Reflection	A type of shape which sees each vertex of a shape reflected across a mirror line
Rotation	A type of transformation where a shape is rotated around a fixed point
Transformation	A process which changes a shapes size, position or orientation.

Year 7 Mathematics – Number Skills

2. Addition

- Stack the numbers
- Add up down the columns
- Carry any 10s to the next column

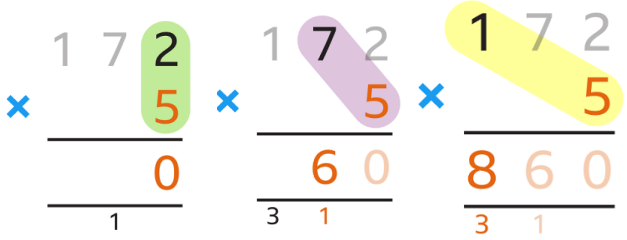
```
  476 +
  874
 1350
   11
```

3. Subtraction

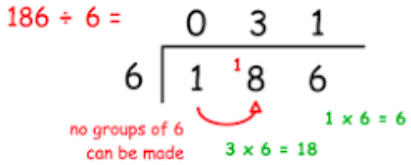
- Stack the numbers
- Subtract the bottom number in each column from above
- Borrow a 10 from next door if you cannot subtract

```
   3 1
   3 4 3
 - 2 3 7
 -------
   1 0 6
```

3. Multiplication



4. Division

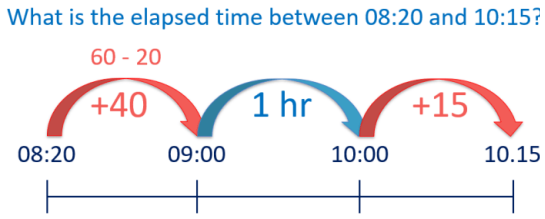


5. Money

Round to nearest thousand

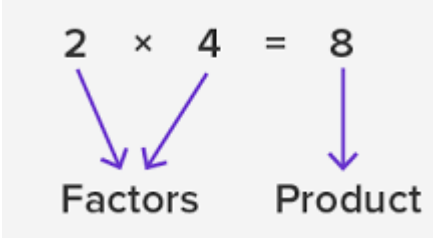
$5,054.99 → $5,000

6. Time

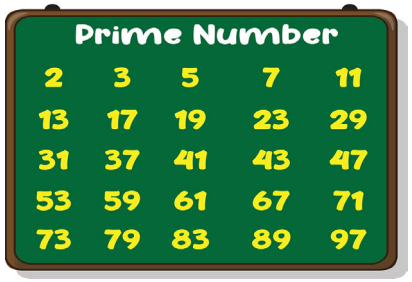


1 hour 55 minutes

7. Factors, multiples, primes, square numbers



1 x 1 = 1
2 x 2 = 4
3 x 3 = 9
4 x 4 = 16
5 x 5 = 25

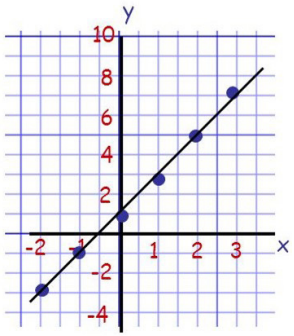


Year 7 Mathematics – Sequences and Graphs

1. Plotting linear graphs

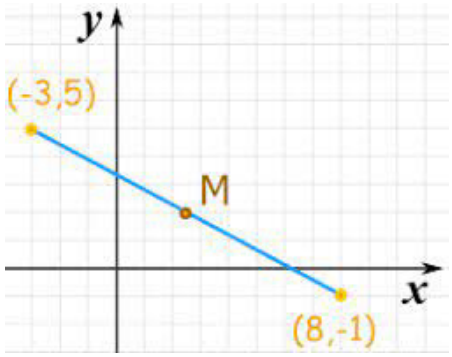
$y = 2x + 1$

x	-2	-1	0	1	2	3
y	-3	-1	1	3	5	7



1. Substitute sensible x values into the equation
2. Plot the coordinates generated
3. Join up with a straight line

2. Midpoint of a line



The midpoint, M is halfway between the x coordinates and halfway between the y co-ordinates

3. Arithmetic sequences

5, 8, 11, 14, ...

Have a common difference.

Term-to-term rule: add 3

Position to term rule: 3n+2

4. Geometric sequences

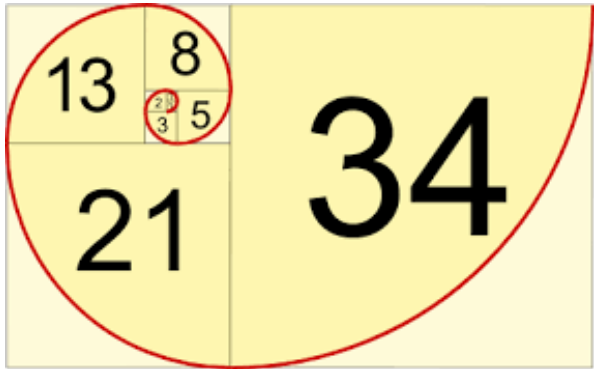
5, 10, 20, 40, ...

Have a common ratio.

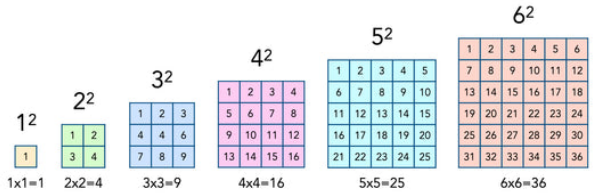
Term-to-term rule: multiply by 2

6. Special sequences

Fibonacci numbers



Square Numbers

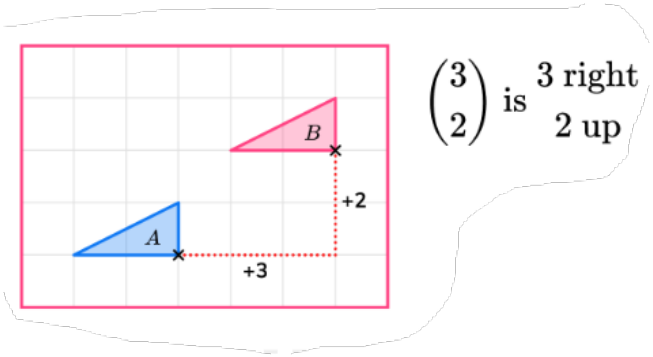


Year 7 Mathematics – Transformations

1. Translation

To describe a translation:

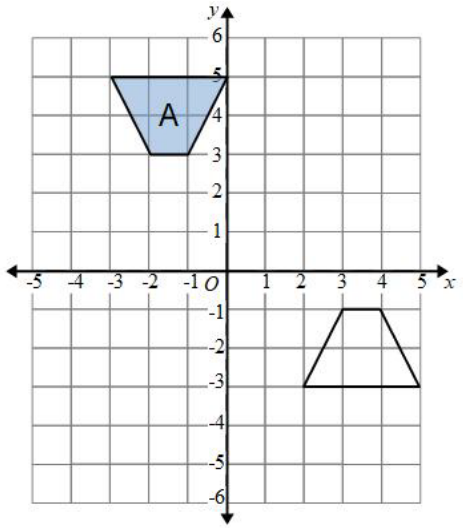
1. Translation
2. Vector



3. Rotation

To describe a rotation:

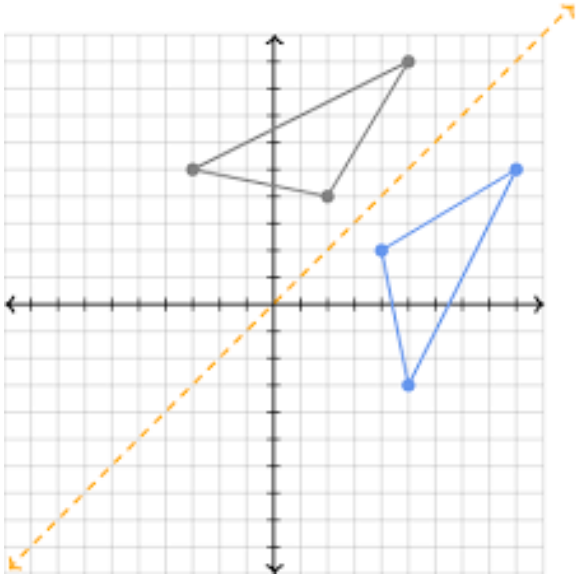
1. Rotation
2. Angle
3. Clockwise/anti-clockwise
4. Centre of rotation



2. Reflection

To describe a reflection:

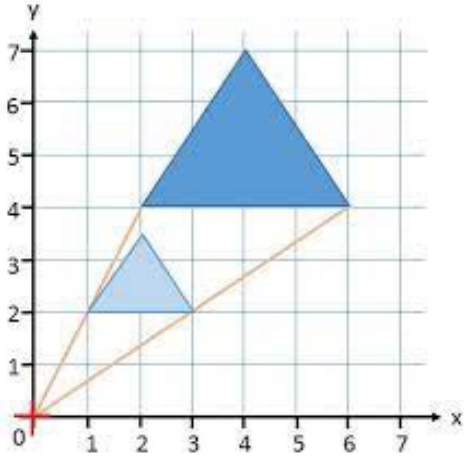
1. Reflection
2. Reflection line



4. Enlargement

To describe an enlargement:

1. Enlargement
2. Scale factor
3. Centre of enlargement

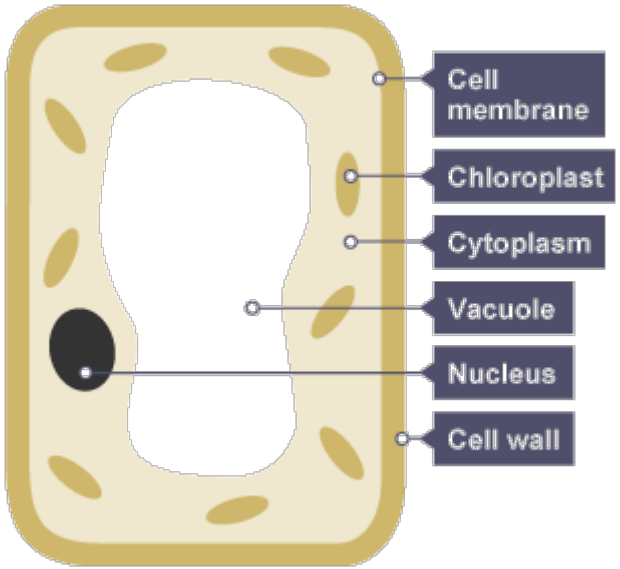


Year 7 Science – Wildlife Science

1. Key Words	Definition
Photosynthesis	A chemical process where green plants make their own food using energy from the sun in the chloroplasts of plant cells. Carbon dioxide + water → Glucose + Oxygen.
Aerobic Respiration	A chemical process with oxygen occurring in every cell which transfers energy from the breakdown of glucose. Glucose + Oxygen → Carbon Dioxide + water
Anaerobic Respiration	A chemical process occurring when insufficient oxygen is supplied for aerobic respiration. The incomplete breakdown of glucose. Glucose → Lactic Acid
Biotic	Relating to living organisms
Abiotic	Relating to non-living organisms.
Bioaccumulation	Gradual accumulation of substances e.g., pesticides and heavy metals, into an organism.

Year 7 Science – Wildlife Science

2. Photosynthesis



Photosynthesis occurs only in plant cells, inside their chloroplasts and only in the light so it cannot occur underground (i.e., in root hair cells).

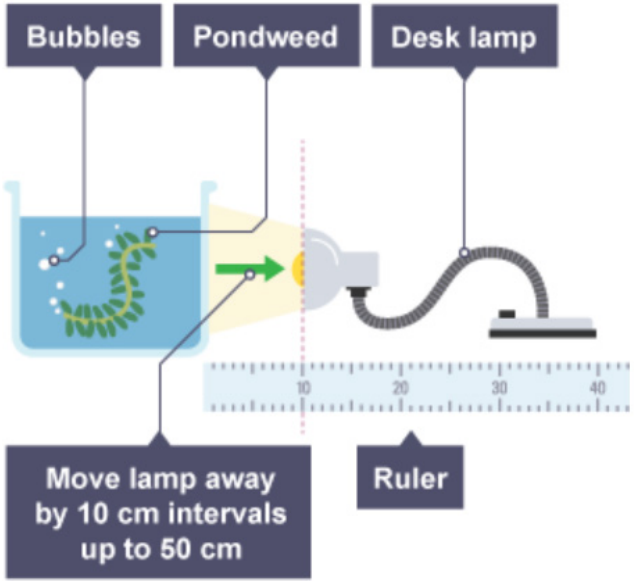
Plants get **carbon dioxide** from the air through their leaves, **water** from the ground, and **light** from the sun!. This produces **glucose** (food for the plant) and **oxygen**.

If a plant's leaves cannot undergo photosynthesis, it will die.

Carbon dioxide + water → Glucose + Oxygen

3. Photosynthesis Investigation

We can investigate the rate of photosynthesis (how much is happening) by changing the light intensity (how much light) a plant gets! The number of bubbles produced represents the rate of photosynthesis.



Independent variable: The light intensity (how close the light is.

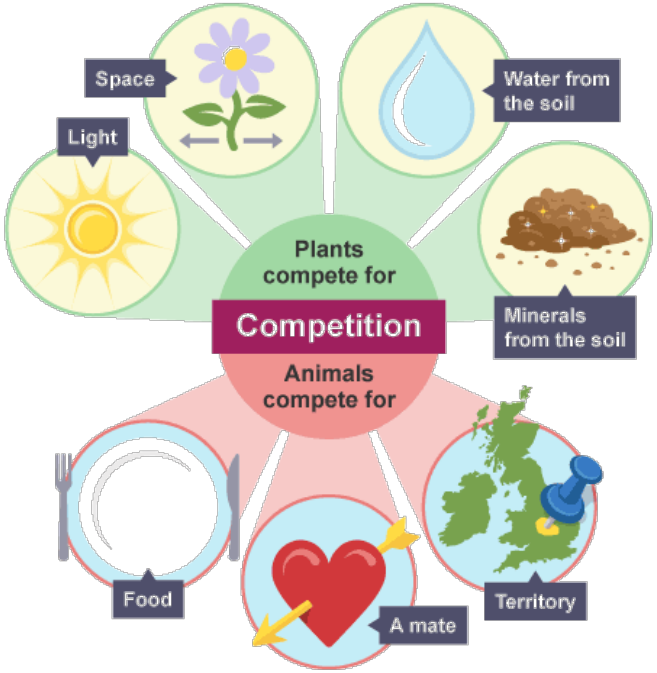
Dependent Variable: the number of oxygen particles produced (representing the rate of photosynthesis)

Control variables: The mass of the pondweed, the volume of water used, the temperature.

4. Ecosystems: Competition and Habitats

An **ecosystem** is the living (biotic) organisms in a particular area together with the non-living (abiotic) components of the environment, such as soil, air and water.

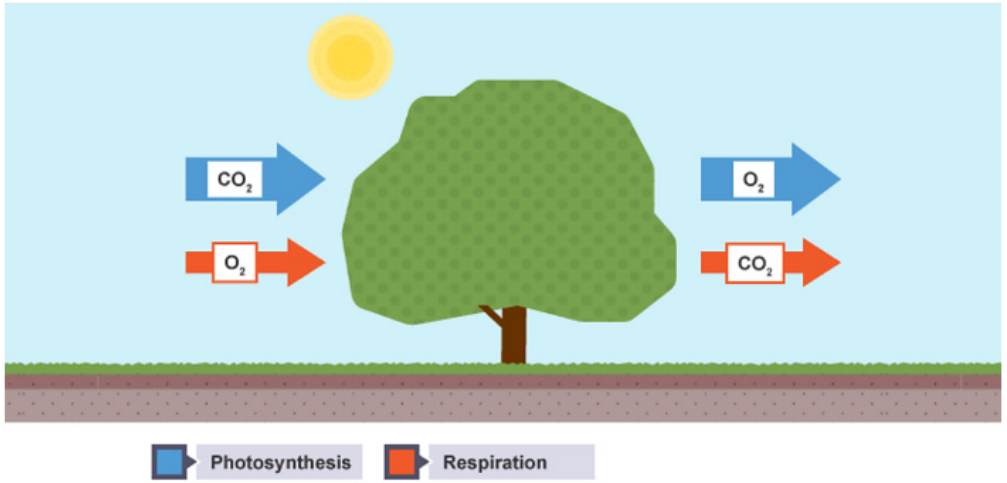
A **habitat** is a place where organisms live in an ecosystem. A **community** is the **populations** of organisms that live in an ecosystem.



Year 7 Science – Wildlife Science

5. Respiration

Time	Photosynthesis	Respiration	Gases into leaf	Gases out of leaf
Day (Light)	✓	✓	Carbon Dioxide	oxygen, water vapour
Night (dark)	✗	✓	No gas exchange as stomata close at night	No gas exchange as stomata close at night



Photosynthesis cannot occur during the night – it needs light from the sun! respiration happens throughout the whole day.

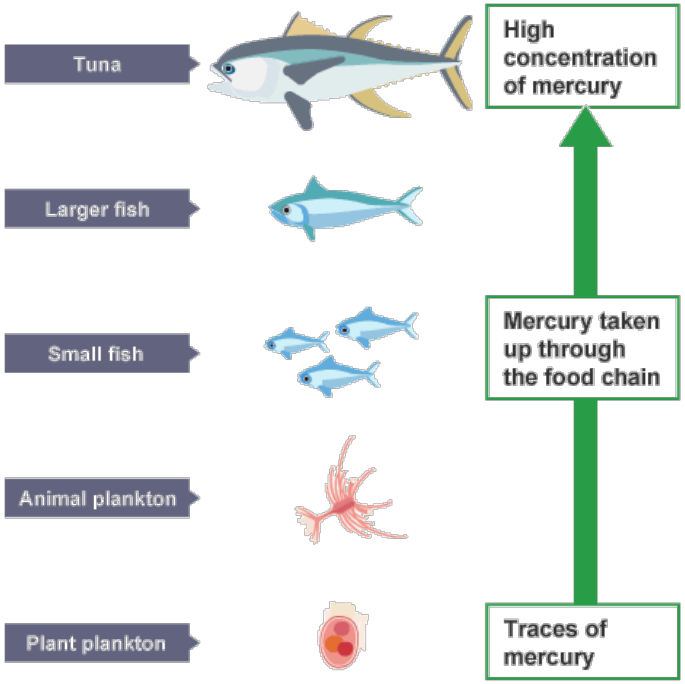
Aerobic Respiration:

Oxygen + Glucose → Water + Carbon Dioxide

6.Bioaccumulation

Bioaccumulation refers to the build up of **often toxic substances** in an organism over time.

E.g., the toxic build-up of **mercury** in **tuna**, or microplastics in whales.



Year 7 Science - The Periodic Table

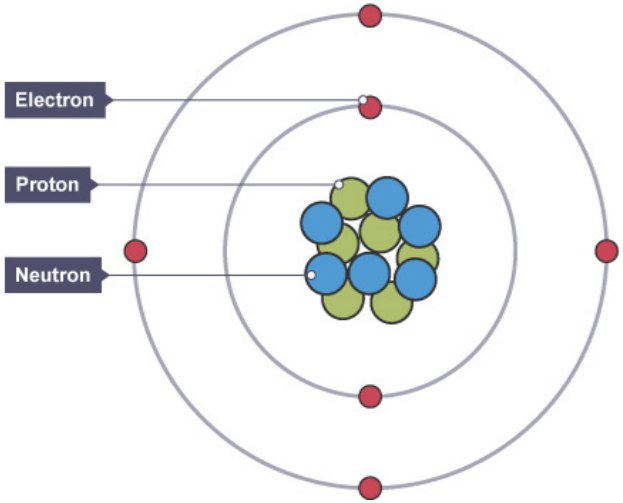
1. Key Words	Definition
Atom	The smallest part of an element which can exist. Atoms have a nucleus, containing protons and neutrons, with electrons orbiting in shells.
Element	A substance made of only one type of atom.
Compound	A substance made of more than one element, chemically bonded together.
Group 0 elements	Non-metals - noble gases with full outer shells of electrons so they are non-reactive.
Group 1 elements	Alkali metals, all have 1 electron in their outer shell. They are soft and have low densities and low melting points.
Group 7 Elements	Halogens – non-metals. Exist as simple molecules, each molecule is made of a pair of halogen atoms joined by a single covalent bond.
Alloys	A mixture of 2 or more elements, one of which must be a metal.

Year 7 Science – The Periodic Table

2. Atomic Structure

2, 8, 8, 2

2 electrons can fit in the first shell, 8 in the second, 8 in the third, 2 in the fourth.

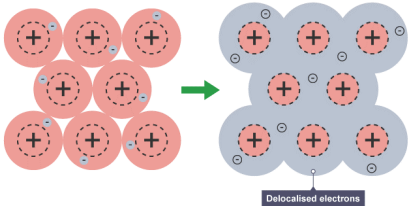


Subatomic Particle	Relative Mass	Relative Charge
Proton	1	+1
Neutron	1	0
Electron	Very small	-1

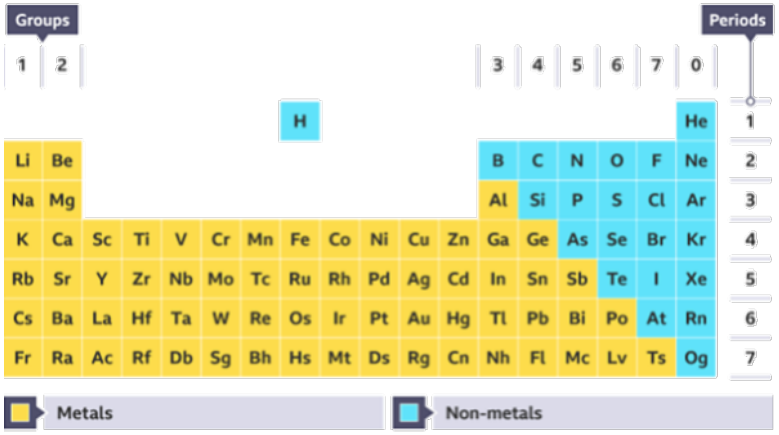
3. Metal and non-metal properties

Metallic structures are good conductors of heat and electricity because they have delocalised electrons which can move throughout the metal. They are malleable because the layers of positively charged metal ions can slide.

Most metals have high melting and boiling points so are solid at room temperature. Most are also shiny in appearance, hard and strong, and have high densities.



Non-metals account for only 20% of the periodic table of elements .



4. Group 0, 1 and 7 elements

Group 0 = Noble gases (far right of periodic table) All exist as single **atoms**.

0
He
Ne
Ar
Kr
Xe
Rn
Og

Low boiling points

As you go down, **atoms become larger**, the **intermolecular forces** between atoms becomes **stronger**, and more energy is required to **overcome** these forces.

Unreactive (full outer shell of electrons), no chemical reactions.

Group 1 = Alkali Metals (Far left of periodic table)

Li
Na
K
Rb
Cs
Fr

All have **1 electron** in their outer shell. In chemical reactions, group 1 alkali metals **lose 1 electron** to form a positively charged ion with a full outer shell.

Soft (they can be cut using a knife.

Relatively **low melting points**.

Low density.

Group 7 = Halogens (Far right – non-metals)

F
Cl
Br
I
At
Ts

Exist as **simple molecules**, each molecule is made up of a **pair of halogen atoms** joined by a single **covalent** bond. As in all groups, the further down the element the higher its **relative atomic mass**.

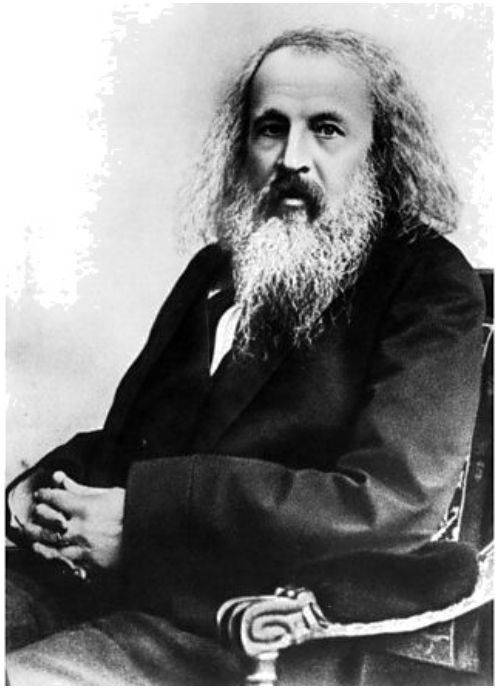
The further down the elements, the **melting and boiling point increases** as the **molecules get larger**, intermolecular forces are stronger and **energy** needed to overcome the forces increases.

Year 7 Science - The Periodic Table

5. Dmitri Mendeleev

Dmitri Mendeleev was a Russian chemist. He wrote chemistry books and was looking for ways to organise the elements already known. He published his first periodic table of the elements in 1869. In it, he arranged the elements in order of increasing atomic weights. He also took into account the properties of the elements and their compounds. This meant that his table:

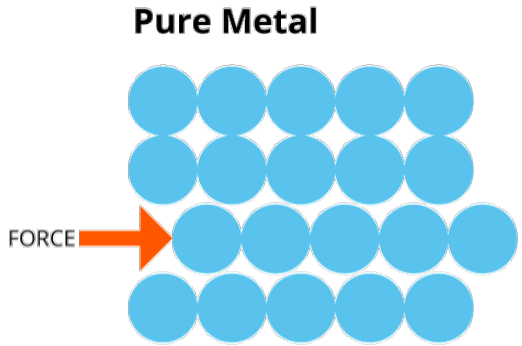
- had gaps in it
- showed elements with similar chemical properties lined up in groups



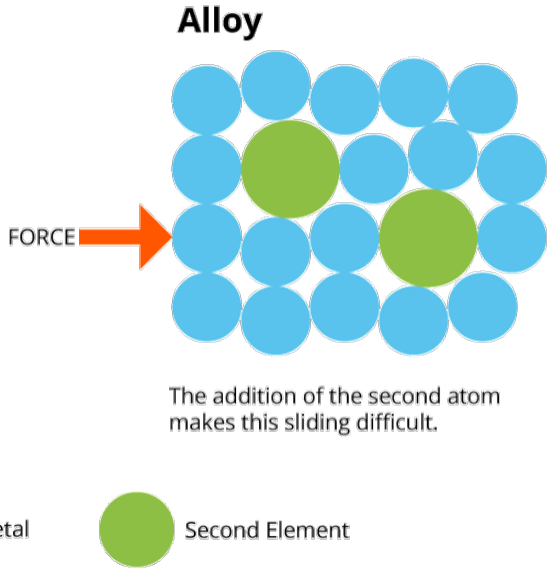
Before the discovery of protons, neutrons and electrons, elements were classified by their atomic weights (now called relative atomic mass). This approach before Mendeleev meant elements were not grouped based on their properties.

6. Alloys

Alloy = a mixture of 2 or more elements where at least 1 element is a metal. Alloys are harder than pure metals – pure metals are malleable as layers can slide over each other, an alloy has different sized particles so it is harder to slide the layers over one another.



In a pure metal the layers can slide over one another



The addition of the second atom makes this sliding difficult.

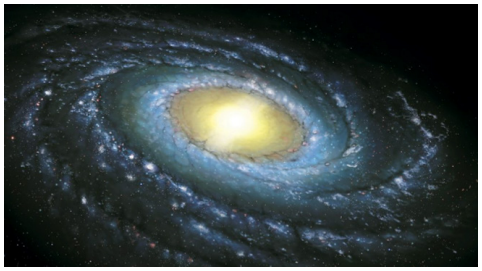
Year 7 Science – Space Exploration

1. Key Words	Definition
Solar System	Our solar system consists of the sun, with planets and smaller objects such as asteroids and comets in orbit around it.
Star	A substance made of only one type of atom.
Orbit	A substance made of more than one element, chemically bonded together.
Big bang theory	According to the **Big Bang** theory, about 13.8 billion years ago the whole Universe was a very small, extremely hot and dense region. From this tiny point, the whole Universe expanded outwards to what exists today.

2. Astronomy and Light Years

Our Sun is a **star**. It seems much bigger than other stars in the sky as it is closer to Earth. Stars form immense groups called galaxies. Millions of stars are contained within a **galaxy** which is held together by the force of **gravity**.

Our Sun is in a spiral galaxy called the **Milky Way**. The Sun is about half-way from the centre of the galaxy, on one of the arms.



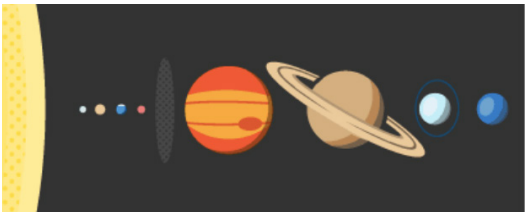
The light year

The distances between objects in space are huge:

- the distance from one star to another in a galaxy is millions of times more than the distance between the planets in the solar system
- the distance from one galaxy to another is millions of times more than the distance between the stars in a galaxy

To get around this problem, scientists use the **light years** as the **unit of astronomical distance**. It is the distance travelled by light in one year

3. Solar Systems and Planets



Pluto and the dwarf planets - Scientists have discovered other objects orbiting the Sun. These include comets, asteroids, and dwarf planets like Pluto and Ceres. Pluto used to be considered the ninth planet in our solar system, but in 2006 scientists reclassified it as a dwarf planet. So now we have eight planets in the solar system.

Satellites - A satellite is an object in orbit around a planet. The Moon is the Earth's natural satellite, but humans have launched many artificial satellites into orbit.

Gravity - Gravity is a force that attracts objects towards each other. The more mass an object has, the greater its force of gravity: gravity forces between the Earth and the Moon keep the Moon in orbit around the Earth, gravity forces between the Sun and the Earth keep the Earth in orbit around the Sun.

Closest to furthest from the sun:

Mercury
Venus
Earth
Mars
Jupiter
Saturn
Uranus
Neptune

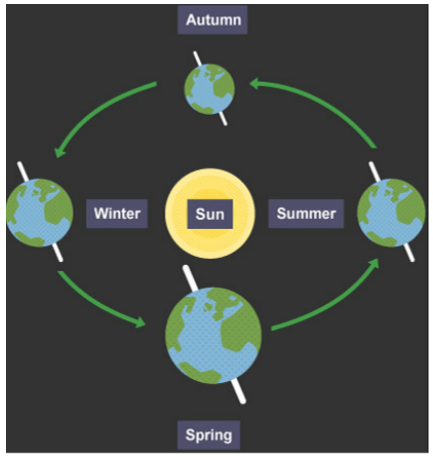
My Very Easy Method Just Speeds

Year 7 Science – Space Exploration

4. Year and Seasons

A planet's year is the time taken to make one complete orbit around the sun – the earth does this in **365 days**.

We get **different seasons** in the UK (Winter, Spring, Summer, Autumn) as the **Earth's axis** is tilted (23.4 degrees from vertical).



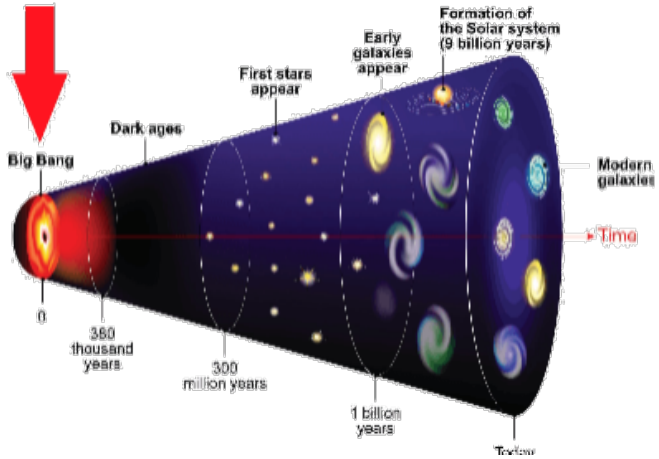
In summer in the UK when the Northern Hemisphere is tilted towards the sun

In is Winter in the UK when the Northern hemisphere is tilted away from the sun.

5. The Bing Bang Theory

According to the **Big Bang** theory, about 13.8 billion years ago the whole Universe was a very small, extremely hot and dense region. From this tiny point, the whole Universe expanded outwards to what exists today.

Astronomers have found that the further a star or galaxy is, the **redder** its light appears. This effect is known as **red-shift** and it tells us that distant stars are **moving away** from us. Scientists interpret this as evidence for an expanding universe.



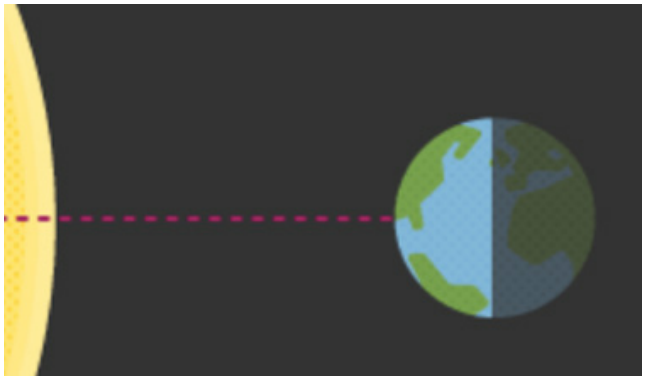
Prediction from the Big Bang theory	Evidence observed	Does evidence support the Big Bang theory?
More distant galaxies should move away faster	More distant galaxies have greater red shift	Yes
Initial heat from the Big Bang should now be thinly spread across the whole Universe	CMBR is everywhere at a temperature of about -270°C	Yes

6. Day and Night

A planet spins on its axis as it orbits the Sun.
A **day** is the time it takes for a planet to turn once on its axis. An Earth day is 24 hours long.

Day and night

The Sun lights up **one half of the Earth**, and the other half is in **shadow**. As the Earth spins we move from shadow to light and back to shadow and so on. It is daytime in the UK when our part of the planet is lit by the Sun. And it is night in the UK when our part of the planet is **facing away** from the Sun.

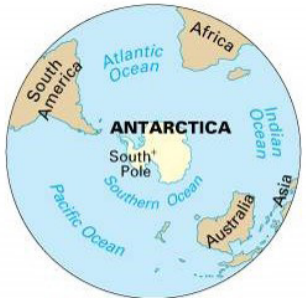


Year 7 Geography – Antarctica

1. Key Words	Definition
Adaptation	A gradual change in an organism that enables it to survive in a particular environment.
Climate	General weather patterns of an area
Food chain	Shows how the organisms are related with each other by the food they eat.
Glacier	A large body of compressed snow and ice that moves slowly under the pressure of its own weight.
Ice sheet	Large continental masses of glacial ice
Nutrients	Foods or chemicals that an organism needs to live and grow.
Primary consumer	A vegetarian organism in the second level of a food chain that feeds off the plants in the first level.
Producers	Organisms such as plants and trees that make up the first level of a food chain. They make their own food from the sun's energy.
Tourist	A person who is travelling or visiting a place.
Treaty	A written agreement between two or more countries.

Year 7 Geography - Antarctica

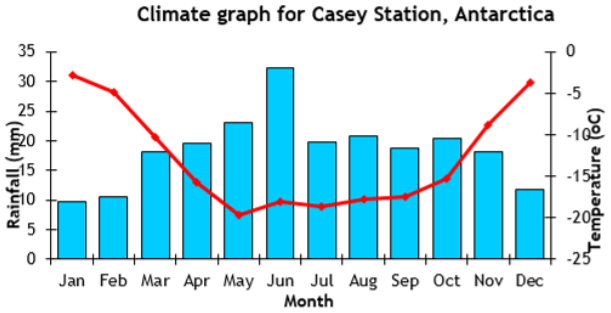
2. Overview and Location



- Antarctica is the world's southern most continent. It is the location of the geographical south pole.
- Antarctica is the 5th largest continent by size.
- It is 14.2 million km2 about twice the size of Australia.
- Antarctica is the coldest, driest and windiest continent.
- It has a population of about 2,000 people, who are temporary scientists and researchers

3. Climate of Antarctica

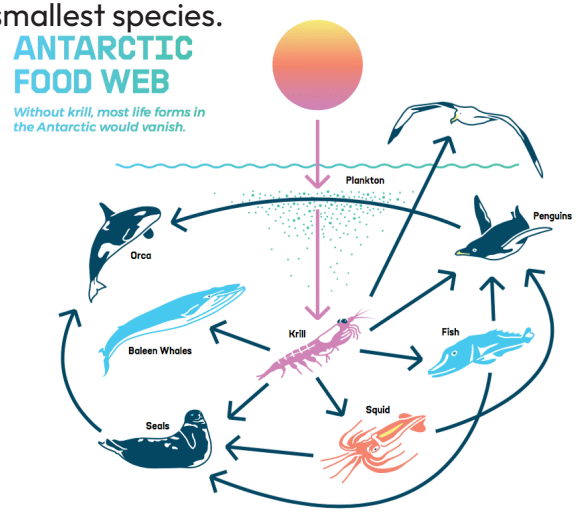
- Antarctica is the coldest continent on Earth.
- The average temperature is about -57°C,
- The minimum temperature is -90°C during the winter season. The coast is warmer and temperatures can reach a maximum of between -2°C and 8°C during the summer.

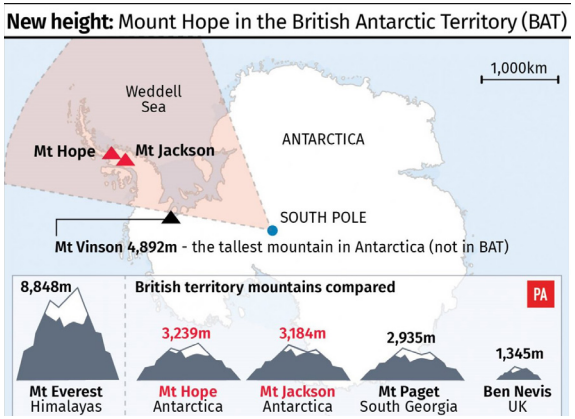


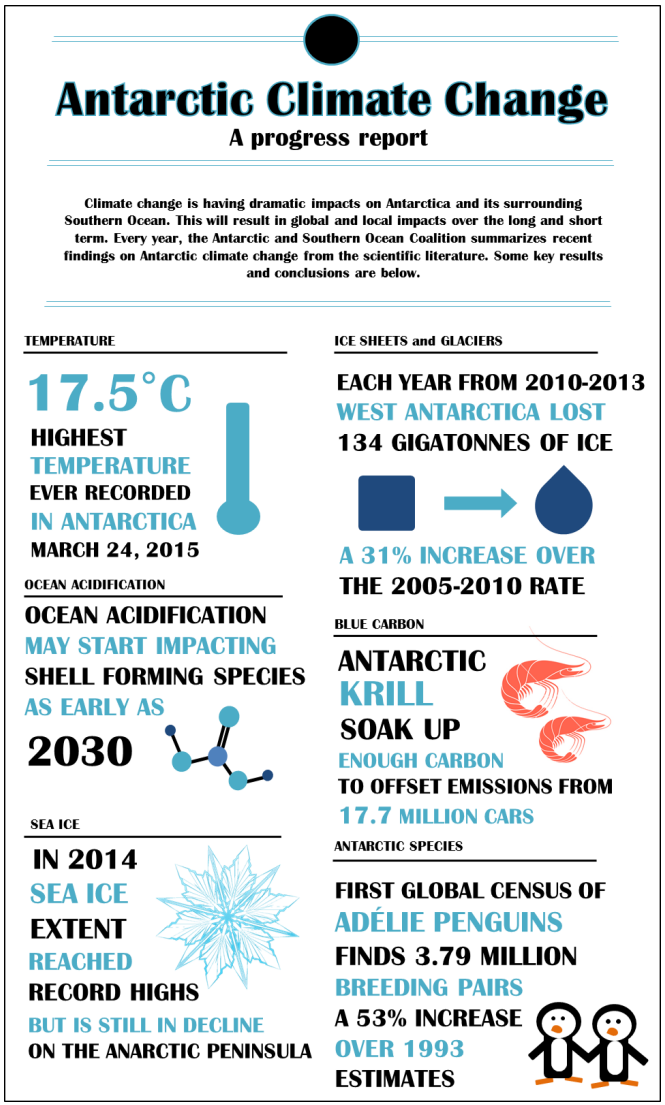
4. Animals in Antarctica

- There are over 7,500 animal species in Antarctica.
- Almost all of these animals are dependent on the sea, the largest truly land animal is a wingless midge about 13mm long.
- They tend to be pretty large as a survival technique against the extreme cold.

The largest animal ever to roam the earth, the blue whales, survive off of krill, one of the smallest species.



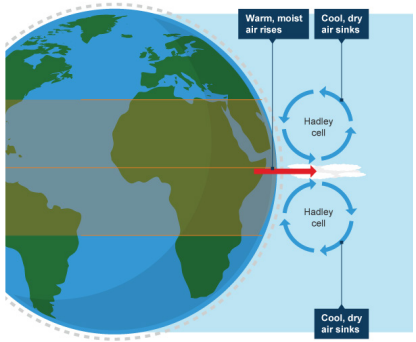




Year 7 Geography - Hot Deserts

1. What are Deserts

- Deserts are areas that receive less than 10 inches of rainfall each year. in hot deserts are high during the day and reach below 0 °C at night.
- The Sahara desert is the world's largest hot desert. It spans 11 countries in North Africa.
- Cold deserts are found at higher , for example parts of the Arctic and the Antarctic.
- Hot deserts are common between 15-30° north and south of the . Both types of desert are found where dry air is falling.
- Global atmospheric circulation is responsible for the dry air that falls over the Earth's deserts



2. Plants and Animals

Plants and animals have adapted to live in hot deserts. Some can be found in the table below:

Cactus	Cacti have thick, waxy skin to trap water within the plant. Their spikes are protection from animals that may want to eat them.
Tumbleweed	Tumbleweed dies during periods of dry weather. The plant dries up and is then blown about by the wind. As it moves, it scatters seed, which grows when the rains return.
Camel	Camels have long eyelashes and nostrils that can be closed to keep out any sand blowing in the wind. Camels store fat within their hump, which helps them to survive for long periods of time without eating.
Meerkat	Meerkats are camouflaged. Predators find it hard to see them as they blend in with the colour of the desert. They have dark rings around their eyes, which help to reduce the glare of the sun

3. What challenges are deserts facing?

Deserts face increasing pressure from development.

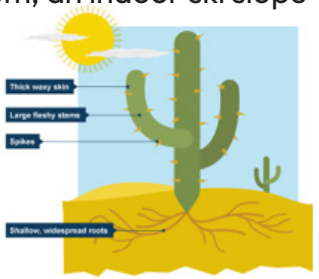
Agriculture - Large-scale means that desert areas can be farmed. Crops such as dates, figs and fruit are commonly grown in deserts. The United Arab Emirates (UAE) lies in the Arabian desert. The country about 80 % of its food and is experimenting with ways to grow crops in the desert to produce more of its own food.

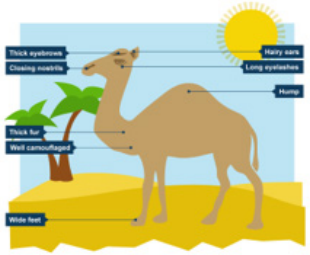
Energy production - The clear skies and high levels of in deserts are ideal for generating electricity. The Noor solar plant in Morocco is the world's largest .

Mining - Large oil and gas reserves are often found in desert regions. For example, Saudi Arabia has the second largest proven oil reserves and Qatar has the third largest proven gas reserves. Both countries lie within the Arabian desert.

Settlement - Water supplies can be diverted to allow cities to grow within deserts. For example, Sharm El Sheikh in Egypt is famous for its water sports and scuba diving. However, due to a lack of fresh water in the area, two government owned companies are operating which require a vast amount of energy to be used. The area relies on tourism and therefore requires water for swimming pools and hotels. The city has a plan to become pollution-free by 2045 under the UN Habitat program.

Tourism - Many desert countries are now using the landscape to generate income from tourists. Activities include camel rides, trips and . Despite its location in the desert, the city of Dubai in the United Arab Emirates has many attractions. These include an aquarium, an indoor ski slope and a water park.





Year 7 History

1. Key Words	Definition
Crusader	A fighter in the medieval Crusades
Pope	The leader of the Catholic Church. More powerful than any medieval King.
Pilgrimage	A journey to an important religious site.
Bubonic Plague	Bubonic plague was spread by rats, which were commonly found in homes, villages and towns due to poor hygiene conditions such as raw sewage being routinely dumped in streets
Pneumonic Plague	Pneumonic plague was spread from one person to another through coughing or sneezing which spread air droplets containing plague bacteria, affecting the victim's lungs
Miasma	The belief that bad smells spread disease.
Statute of Labourers	Ordered that wages should go back to the level they had been before the Black Death
Renaissance	Means “rebirth” where lots of new ideas were developed about Science, the Arts and ideas.
Humanism	Humanism was the idea that all people should strive to be educated and learned in the classical arts, literature, and science

Key Historical Terms:

Significance - means something that is important or worth learning about

Cause - A reason for an event

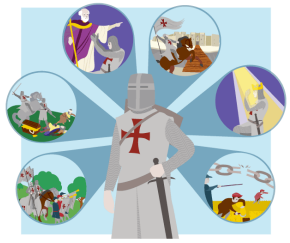
Consequence - The outcome of an event

Interpretation - Different opinions on an event or a person

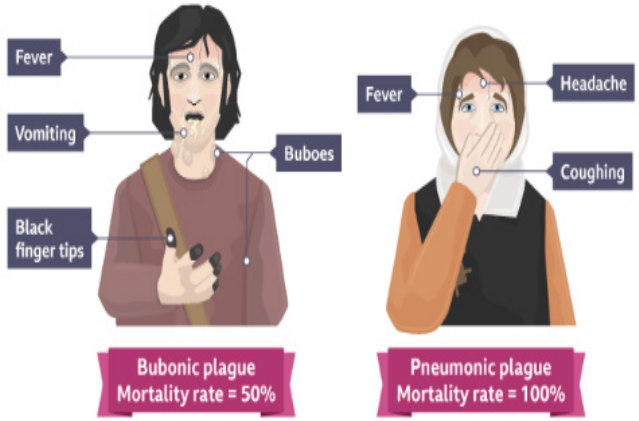
Year 7 History

1. Why did people go on a Crusade?

- To obey the Pope's call to make sure Christian Pilgrims could access the Holy Land.
- The Pope promised to forgive any of their sins. This was importance as they would kill many people in battle.
- To gain riches and land.
- To see the world.
- Poorer people joined because the Pope promised them their freedom.



2. What happened when someone caught the Plague?



3. Why did the Peasants Revolt?

In 1381, peasants rebelled against King Richard II.

The peasants were angry about a range of issues, such as low pay and the introduction of a poll tax. They demanded changes were made.

The revolt did not achieve all of the peasants' aims and the leader, Wat Tyler, was killed. In the longer term, there were some changes and improvements to peasants' rights.

Historians believe that many women helped to lead the revolt including Johanna Ferrour was the leader of the group who captured and executed Simon Sudbury. She led rebels from Kent in their march to London.

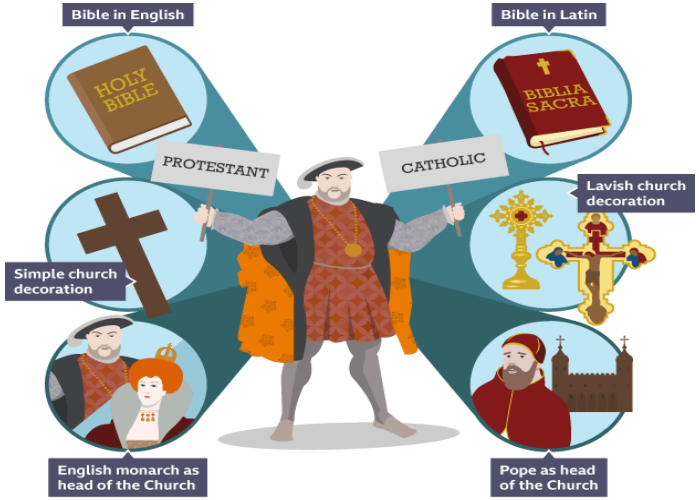
4. What new ideas developed during the Renaissance?

All across Europe, the **printing press** was revolutionising access to books. Before the printing press, access to books and the knowledge they contained was difficult.

Previously, to own a copy of a book involved paying a scribe to create a handmade copy of that book. This was time-consuming and very expensive.

The printing press meant that it was possible to mass-produce copies of books. As a result, access to books, and the knowledge they contained, was easier.

5. What changed because of the Reformation?



6. Extra ideas and research

What were the different motives for the Crusades?

https://www.bbc.co.uk/bitesize/guides/zjbj6sg/revision/3

Causes and effects of the Black Death -

https://www.bbc.co.uk/bitesize/topics/zqjwxnb/articles/zdkssk7

The Reformation and its impact

https://www.bbc.co.uk/bitesize/topics/zwcsp4j/articles/zgkcr2p

History: Renaissance for Kids (ducksters.com)

https://www.ducksters.com/history/renaissance.php

Year 7 Spanish

1. Know your phonics!

Revisit these rules and then apply them to all new vocabulary that we cover this term. Remember the rules never change!

a - e - i - o - u

ca - ce - ci - co - cu

ca - que - qui - co - cu

ga - ge - gi - go - gu

ga - gue - gui - go - gu

rr - ll - v - h - j - ñ - z

Pronouncing words in Spanish:

https://www.bbc.co.uk/bitesize/topics/zhy27nb/articles/zk78382

2. Non-negotiable verbs

These are the most important verbs in the Spanish. If you know these well you can talk about most things!

fui = I went

vi = I saw

fue/era = it was

me gustó = I like it

me divertí = I had fun

visité = I visited

comí = I ate

había = there was/were

iré = I will go

será = it will be

habrá = there will be

voy a = I'm going to

va a = he/she's going to

me gustaría = I would like

You can practise the essentials on Memrise too!

3. Vocab learning techniques

Regularly practise your topic specific vocabulary using the techniques listed below:

- Log into your Memrise Group and practise online
- Look-cover-write-check

This video demonstrates what to do:

https://youtu.be/eKoOoW8PBc0

- Use the Parallel text

This video demonstrates what to do:

https://youtu.be/WcvVeNM6dWc

Make Flashcards and self-test:

https://youtu.be/-SL9037YMKA

4. Know your question words!

To answer any question, it's essential you know your key question words well. These are all on Memrise as well for you to practise.

qué = what

cuál = which

dónde = where

adónde = where to

de dónde = where from

cuándo = when

quién = who

con quién = with whom

por qué = why

cuánto = how much

cuántos = how many

cómo = how

cómo es = what like

5. High frequency vocab

This vocab is commonly used all the time in Spain, the more of this you know, the better you will be able to communicate in any situation:

me flipa
me mola
} **I like**

dado que
puesto que
ya que
} **because**

más...que = more...than

menos...que = less...than

mejor que = better than

peor que = worse than

6. Further reading, websites

Talking about free time:

https://www.bbc.co.uk/bitesize/topics/zfgt6v4/articles/z6vpqp3

Talking about food you like:

https://www.bbc.co.uk/bitesize/topics/zfgt6v4/articles/zbw4f4j

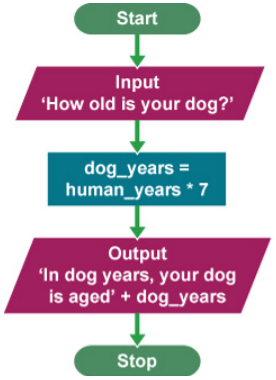
How to talk about the future:

https://www.bbc.co.uk/bitesize/topics/zg9mhyc/articles/zf9bhbk

Year 7 Computer Science – Programming

1. Creating with Scratch – Sequence and Variables

Algorithm	Logical instructions for carrying out a task -needed to design computer programs.
Sequence	A set of programming instructions that follow on one from another
Variables	A named part of the algorithm that can be given a value.
Scratch	A high-level block-based programming language



A Flow Diagram can be used to describe an algorithm

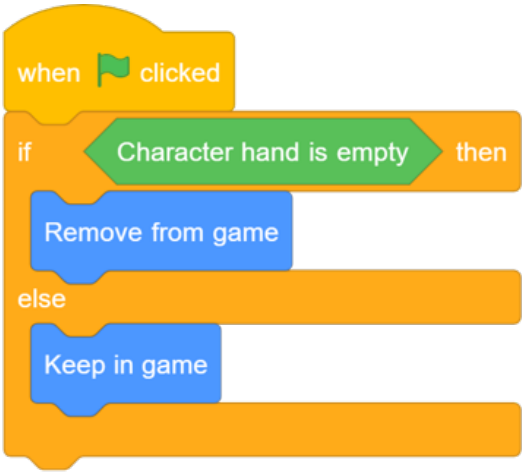
2. Selection & Operators

You can **select** what happens to an object, variable or sprite by using selection statements

If.....then....else

An **If block** allows us to check a condition and perform an operation if the condition evaluates to 'true'.

When the condition evaluates to 'false' the else operation is run.



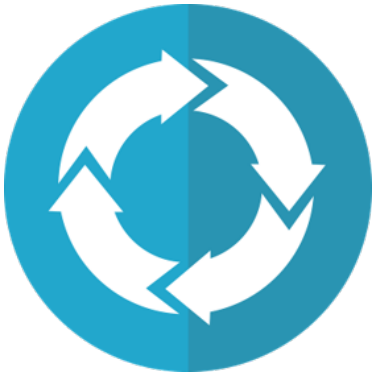
Comparison Operators	>,<,=
Logic Operators	AND, OR, NOT
Condition	A statement or sum that is either true or false.
Selection	Running part of the code if a condition has been met (or not met)

3. Count-controlled iteration

Iteration	Repeating a section of code until a condition has been met.
Count controlled iteration	Repeating a section of code for a specific number of times.

Why use Iteration?

It allows algorithms to be simplified by stating that certain steps will repeat until told otherwise. This makes designing algorithms quicker and simpler because they don't need to include lots of unnecessary steps



Year 7 Art - Colour: Artists use Art to be Heard.

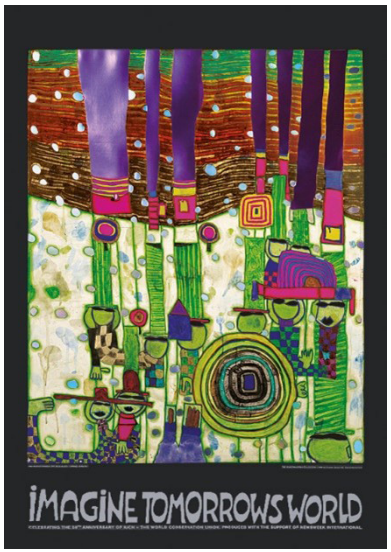
1. Keywords	Definitions
Tone	How the light falls on an object. From dark to light
Texture	What is the object made from?
Pattern	Repeating marks that can represent texture.
Message	The story, meaning or message in the art work.
Environment	The natural world we live in.
Collage	Using coloured paper torn into pieces and stuck down to create colour and tone.

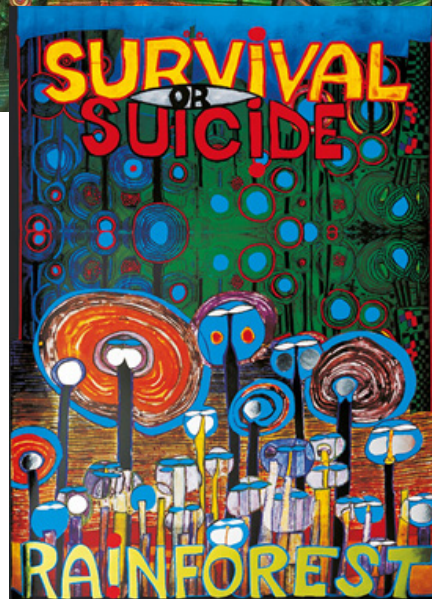
2. What will I learn?

You will be introduced to the work and life of Hundertwasser. He actively campaigned for environmental issues as far back as the 1970's. You will start to learn how art can convey meaning and message.

3. What do I need to know?

You will use all the skills you have learnt this year combining mark making, tone, texture, pattern, and colour to create a final outcome inspired by Hundertwasser with an environmental message.





Year 7 Design Technology – The Design Process

The design process

Work out what the design challenge is requires you to do- mind maps, quick sketches

Start to investigate the problem and to investigate issues that might have an impact. Materials, budgets, sustainability, possible users.

Identify the needs of the person who is going to use the product. Find out exactly what the product has to do for them.

Look at any other products, mechanisms and systems that might be similar to your product.. What are the best features and what are the areas that can be improved on?

Produce a number of different and creative ideas that solve the problem. Think about materials and sustainability.

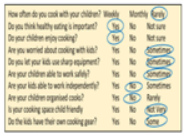
Compare the different ideas against the design specification- use a table or a chart to compare precisely.

Create detailed information about materials, fixings, manufacturing processes. Check that ideas meet task requirements.

Explain how the product will be made- Materials and processes explained in detail so that the real product can be produced. Technical drawings, jigs and templates made.

Design Process- Investigating target market

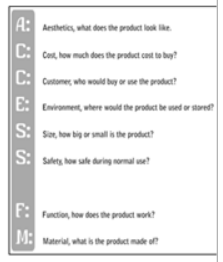
When we design products it is incredibly important to meet the needs of the user/ customer.
One way of starting is to collect examples of products that they already use and would want to own. It can also be useful to investigate brands and campaigns that they think are important.



It is important to have an actual person to talk to so that they can help you review the design proposals.
Asking them a focused questions is an important task.

Design process- writing a specification.

When we have investigated the requirements of the design brief and we have identified the intended user and their needs, it is time to describe clearly what the product is and how it will work.
There are lots of different things that can be 'specified' .... It will depend on each project. A really good starting point is to use the ACCESS FM method to remind you of key points.



By being 'specific' when describing the features and functions design thinking can be guided and degrees of success measured by evaluations and notes.

Examples of bad specification points.
It will be quite big so that it fits.
It will be suitable for everyone so you can sell more.

Examples of good specification points.
Size will be maximum 200 x 300 x 25 so that it fits in a standard kitchen drawer.
It will be appealing for users under five and must include room for them to customise the product..

Design Process- Analyse existing products

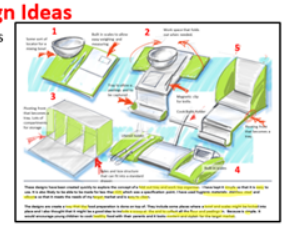
It is always a good idea to look at products and systems that are already in existence.
It gives you a chance to see what works well and how the product has been put assembled or manufactured.

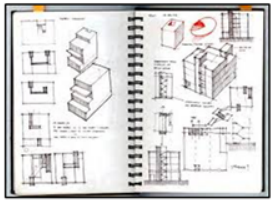
It can also be useful to be look at smaller parts of products or systems. For example parts for a circuit or mechanisms that perform specific tasks.

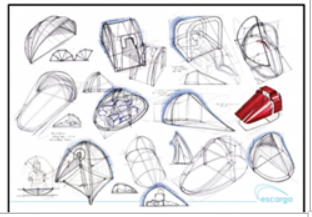
If you look at how products are assembled you can use similar or improved methods.

Design Process- Generate design Ideas

A really exciting stage of the design process is when you create the first ideas for your product.
You need to come up with a **wide range** of different versions of your design solution....These should try out different solutions, materials, mechanisms, colours.
Make sure you **show the intended user your design ideas** so that they can help you select the most effective ones.

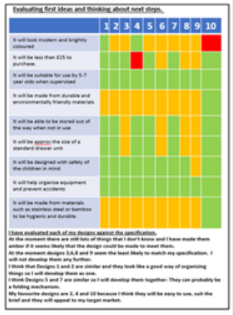


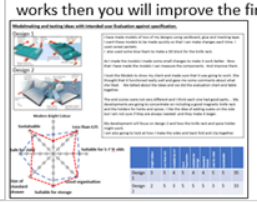


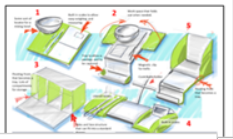


Design Process- Evaluate design Ideas

Once you have come up with a range of ideas and you are developing the product and the manufacturing process you need to evaluate the design ideas.
There are lots of ways to evaluate- always use notes to describe design thinking.
The **star profile** allows you to compare different ideas *visually* to help you select the best version.
A **comparison table** lets you score the design against the original specification..
So long as you compare ideas and describe why it works then you will improve the final product.







Design Process- physical modelmaking

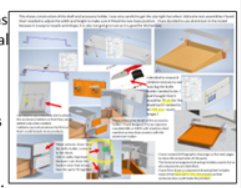
Models are made all the way through a design process. They are better than drawings sometimes because you get a chance to really explore the design in 3D- to see how parts fit together, how mechanisms work, to see if the products are comfortable and to measure parts that might be hard to work out in your head.
Models are made according to the function they need to perform.

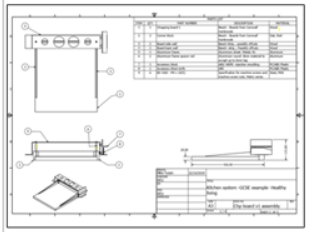
- Sketch models made of card- these are often used for layout and size.
- Handling models to test ergonomics and fit .
- Circuit prototypes to test how components function
- Mechanism models to test how components will fit and function together.
- Appearance models to see how the finished product might look (not always functioning).

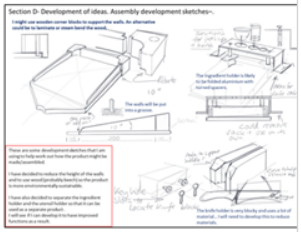
- Models might be made form card and board. Blue foam is a good material for shaping 3D objects.
- Foam board is useful for modelling architecture.
- Resin is a good choice for making batches of models by casting.

Design Process- Developing design Ideas

Once you have settled on the most likely design ideas you will need to go into detail explaining how the real product will be assembled and what the key components are.
Your developments need to show sizes (dimensions) and details about materials and components such as screws, nuts and rivets.
There should be a technical drawing- of the assembled product and of the different components.







Q1. Designers use a variety of modelling techniques to develop their ideas. This sometimes involves working directly with materials and components in the forms below: **Card modelling** **Breadboard**

Chose **one** of the modelling techniques above. Describe how your chosen modelling technique is used to develop products. **(Total 6 marks)**

Q2. Computers are an important part of product design and manufacture.
Describe how a designer might use a computer in the development of a product you have chosen. **(Total 6 marks)**

Q3. This question is about modelling and prototyping.
Explain the value of modelling and prototyping in the development of a new product. **(Total 4 marks)**

Q4. Give **two advantages** of modelling circuit designs on a computer instead of building them.
Advantage1.
Advantage2

Q5.
Give **two disadvantages** of modelling circuit designs on a computer instead of building them. **(Total 2 marks)**

Disadvantage 1
Disadvantage 2

Q6.
Choose two of the following terms and explain what they mean. (3)

- Design specification
- Product analysis
- Prototype
- Evaluating

Term
Meaning

Year 7 Food - Food Provenance/Food Waste

1. Food Provenance

Food provenance means where food comes from. Where it is grown, reared or raised.

Why Choose Local?

- Food is Fresher
- Better for the environment: lower carbon footprint
- Supports local producers and economy

2. Food Miles

Food miles refer to the distance the food has travelled from farm to fork. It also refers to the potential impact on the products carbon footprint.

- Oranges - Spain - 787miles
- Green Beans - Kenya - 4237 miles
- Lamb - New Zealand - 11690 miles

3. Reducing Your Carbon Footprint

- Shop locally
- Grow your own
- Eat food in season
- walk to the supermarket
- Shop once a week

4. Logos to Look For

British Lion Eggs

European Origin and Tradition Protection

Soil Association, Organic

FOOD POVERTY A MAJOR HEALTH ISSUE

foodbank

5.Food Poverty

Food poverty is the inability to access healthy and affordable food. This can be attributed to affordability of food due to financial issues or accessibility to food due to transport.

Due to food poverty people are likely to develop diet related issues such as obesity, type 2 diabetes and CHD.

6. Ways to Reduce Food Waste

- Plan your meals and shopping, only buy what you need
- Cook the correct measurements of items such as rice and pasta
- Store food correctly
- Use leftovers to make other dishes
- Compost vegetable peelings
- Check use-by-dates regularly

7. Types of Food Packaging

Plastic - Not biodegradable but most plastics can be recycled. Used for bottles, trays, sandwiches

Paper/Card - Easily recycled and biodegradable, cheap to make. Used for pizza boxes, eggcartons.

Glass - Reusable and recyclable. Doesn't bioderade easily. Used for bottles and jars.

Metal - Aluminium and steel both easily recycled. Doesn't biodegrade easily. Used for takeaway containers, tinned products.

8. Food Packaging

Packaging of food is essential to preserve freshness, to protect from damage and to prevent contamination.

9. 3R's

REUSE REDUCE RECYCLE

Reduce - Choose items with the least amount of packaging. Reduce the time to cook items.

Reuse - Reuse items such as carrier bags, glass jars. Reuse leftovers to make another meal

Recycle - Recycle everything you can, use bottle banks and composters.

Year 7 RE - Sikhism

1. Key Words	Definition
Nam Simran	Remembering God's name
Kirat Karna	Earn an honest living
Waheguru	Wonderful teacher/lord
Guru	Religious teacher- 'gu' means darkness, 'ru' means light
Guru Granth Sahib	Holy book for Sikhs, "eternal Guru" (GGS)
Gurdwara	Sikh place of worship, "Guru's door"
Vand Chhakna	Give in charity to others
Granthi	Person in the gurdwara who is the 'reader' of the Guru Granth Sahib
Sacrifice	Giving something up or something to God
Kurahit	Prohibited, forbidden

Important Note:

Sikhism is an English term of the name for the Sikh Faith. Many Sikh people prefer the term Sikhi.

Excellent additional resource

https://www.bbc.co.uk/bitesize/topics/zbswvk7

2. Sikhism

Guru Nanak, the founder of Sikhism, was born into a country influenced by both Muslim and Hindu religions. After his revelation, he strongly believed that God was one and that there were many ways of approaching God, not just one way. He said, 'God is neither Hindu not Muslim and the path I follow is God's'. Sikhs believe in the oneness of humanity and do not feel the need to convert to Sikhism- they believe that there are many different paths to God and each can find their own way. All these approached to God are equally valid and deserve respect. Sikhs believe that all creatures are created by God. However, humans are unique among creatures because they can make judgements and distinguish between right and wrong. They are made and loved by God and therefore equal

3. The 5 K'S: Five symbols of faith

Kirpan (a small sword): This is a sign that Sikhs are soldiers in the army of God, should fight for justice and protect the weak and vulnerable. The sword must never be used in anger.

Kesh (uncut hair): Sikhs believe that their hair is a gift God has given to all humans; it was intended to be worn naturally and not cut. It is covered with a turban (seen as a crown) to keep clean.

Kanga (a wooden comb): This is carried to maintain the tidiness of the kesh and to remind Sikhs of the need to keep their body and mind a healthy, organised state.

Kara (a steel bracelet): As a circle, the kara symbolises the unbreakable bond with God. It is a reminder that Sikhs should obey God and do God's will.

Kachera (cotton underwear): This underwear is comfortable and modest. It is a reminder of the traditional role of Sikhs as soldiers, being prepared to act quickly and with dignity, and the need for self-control and chastity (and also a reminder not to commit adultery).

Year 7 Music – Saharan Sounds

1. Keyword	Definition
Rhythm	The pattern of sounds and silences that creates a beat in the music.
Pulse	The regular, steady beat that you feel in music.
Polyrhythm	Two or more rhythms played at the same time as each other.
Cyclic Rhythm	A repeating pattern in music.
Call & Response	A musical conversation between two or more people.
Syncopation	Where the emphasis of the beat is on the weaker beat.
Djembe	A West African drum shaped like a goblet made of goat skin that is played with two hands.
Bass (Drumming Technique)	A drum technique that sounds deep and booming where you use your palm to hit the middle of the drum.
Tone (Drumming Technique)	A drum technique that sounds clear and resonant where you use the bottoms of your fingers on the drum.
Slap (Drumming Technique)	A drum technique that sounds sharp and snapping where you hit the drumhead with your fingers.

Year 7 Music – Saharan Sounds

2. Drumming Techniques

There are three main techniques when playing the djembe: bass, tone and slap. These are shown on the djembe below.

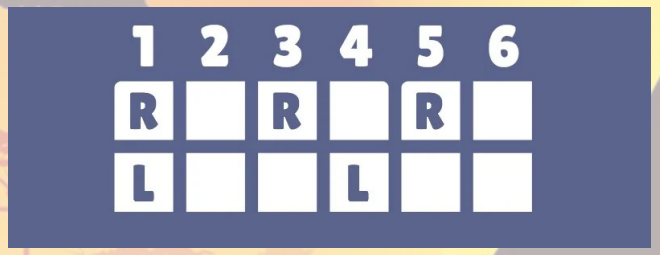
BASS: Use the palm of your handto hit the centre of the drum

TONE: Use the backs of your fingersto hit the outside edge of the skin without hitting the edge.
SLAP:Open your fingers slightly and bounce them off the edge of theedge of the drum.

SLAP: Open your fingers slightly and bounce them off the edge of theedge of the drum.

3.Polyrhythm

Polyrhythm happens where multiple rhythms are played at the same time over one another. This gives the impression that the rhythms are weaving in and out of one another.



The diagram above shows how the right hand is playing on beats 1, 3 and 5, whereas the left hand is playing on beats 1 and 4. So when played together the combination is called a polyrhythm.

4. Rhythm and Pulse

Although the notes go up in alphabetical order, a nice way to remember the notes for the TREBLE CLEF is to separate the notes on a line and the notes in the spaces.

5. West African Music

West African Music is deeply rooted in African culture and is performed during importance events like weddings, funerals, and harvest festivals. At the heart of this music is drumming, which tells a story and communicate different meanings. The rhythms are complex and layered, with different beats and patterns that interweave to create a rich and varied tapestry of sound.

Singing and dancing are also important components of this music, with the rhythms and melodies inspiring a range of different movements and styles.

is.gd/westafricanmusic

6. Links and Further Reading

Video: Pulse and Rhythm is.gd/pulseandrhythm	
Lesson: Polyrhythm: Making Beats is.gd/polyrhythm	
Revise: Flash Card Maker is.gd/flashcardmaker	

Year 7 Drama – Storytelling

1. History of Storytelling

- Storytelling has been around as long as the human language. Songs, chants, poetry and myths were all passed down by word of mouth.
- The invention of radio in 1895 dramatically changed how stories were told. Now oral communication wasn't just between individuals; a storyteller could address an entire audience regardless of their physical proximity.
- Fundamentals when telling stories are the use of pace, pause, comedy and drama.
- The Greeks were master storytellers and introduced the world to the protagonist, antagonist, and chorus. This structure can still be copied and seen in modern theatre.

Further links:

https://www.ted.com/talks/ollie_oakenshield_imagination_storytelling_and_the_importance_of_wonder

2. Storytelling Techniques

Still image - Where the actors freeze onstage in a given moment in order to communicates meaning. It's sometimes called a freeze frame or tableau

Thought track - When a character steps out of a scene to address the. audience about how they're feeling.

Narration - Where one or more performers speak directly to the audience to tell a story, give information or comment on the action of the scene or the motivations of characters.

Flashback - Where the chronological sequence of a performance is interrupted to show the audience a scene that unfolded in the past.

Split stage - The stage is split into two sections, so two different pieces of action can be seen alongside each other.

3. Creating Tension

How can we create tension in performance?

Physical Skills

Eye contact - Looking directly into someone's eyes. Either another character or the audience.

Facial expression - The way the face moves to convey an emotional state

Stillness - A moment of pause- absence of speech and movement.

Vocal Skills

Pitch - How high or low your voice goes.

Tone - The emotional sound of your voice,

Pause and pace - The speed of your speech, and moments where you pause deliberately between words or sentences.

Technical aspects

- Lighting effects
- Sound effects

4. Levels of tension

Jacques Lecoq developed an approach to acting using seven levels of tension. This encourages the actor to think about the level of tension that they hold in their body on a scale of 1 to 7.

1. Exhausted
2. Laid back
3. Neutral
4. Alert
5. Suspense (is there a bomb in the room?)
6. Passionate (there IS a bomb!)
7. Tragic (the bomb is about to go off!)

5. Character Development

In order for your character to be believable to an audience, you have to do some work to create and develop your character.

Ways to develop a character

Character profile - Create a backstory for your character. A character profile should include information about your characters' life up until now, which will inform the physical and vocal choices that you make.

Hot seating- Hot-seating involves having a dialogue with a character. The character steps out of the drama for a while, usually sits in an appointed chair (the hot-seat) and is open to questioning by the audience or students. The character must answer in role.