

HOME-LEARNING

YEAR 8



HALF TERM 5



"THE BEAUTIFUL THING ABOUT LEARNING IS THAT  
NO ONE CAN TAKE IT AWAY FROM YOU."

B.B. KING



## **Core Values**

Our school community is built on three important values which underpin all we do. We believe that great learning comes from:

### **Politeness**

- We treat every person and thing as we want to be treated
- We are respectful, polite and courteous at all times
- We help others at all times

### **Hard-work**

- We never give up
- We remain positive so that we have the strength to persevere with even the hardest work
- We do what it takes, for as long as it takes

### **Honesty**

- We are true to ourselves and others and we do not make excuses
- We look to ourselves to see what needs to be done.

## What is learning?

A big part of learning is about getting knowledge to go into your long-term memory and then using this knowledge. Our brains will only remember knowledge in the long term if we think really hard about it. Just reading, or highlighting does not make our brains work hard enough. We must **practise** remembering things – this will feel difficult at the time but worth it in the end.

## What is a knowledge organiser?

A knowledge organiser is a document that contains key facts and information. A knowledge organiser will not include every possible fact on a topic; it will include facts needed to understand the main points. Knowledge organisers make knowledge clear. So, even if a learner misses a lesson, they have a constant point of reference.

## Why are knowledge organisers good for learning?

Research shows that our brains remember things more efficiently when we know the ‘bigger picture’ and can see the way that ‘nuggets’ of knowledge link. Making links helps information move into our long-term memory. A knowledge organiser shows linked facts on a single topic.

Knowledge organisers can be used for retrieval practice (practising remembering things). Regular retrieval of knowledge helps us remember more effectively with our long-term memory. Developing our long-term memory is a vital first step. Without knowledge we have nothing to work with, nothing to think about! Retaining knowledge over time is essential.

To help us understand learning better, Gateacre students and staff have created a series of videos that explain how memory works and what we can do to make it stronger. Follow the QR code or the [Learning to Learn](#) link to view them.



## How can you best use your knowledge organiser?

There are many ways you can use a knowledge organiser. The most important thing to say, however, is ‘use it’. Owning one does not make you remember facts... **you must practise** if you are to improve at anything! There will be mistakes – this is how you learn. Ultimately, the best way to remember things is to try and remember facts that you can’t quite remember instantly... practice, practice and practice.

Here are some ways you could try to improve your **long-term memory** – they are all based on making you **think**, getting you to **test your memory**. That way your memory will get stronger:

### Hide and seek

Read through a small section of your knowledge organiser (three or four key words), cover the facts and try to write out as much as you can remember. Check your answers and correct them if needed. Then choose your next words or check ones you have already done again.

### Quiz

Test your memory by asking someone to quiz you on facts from your knowledge organiser. Write down your answers and see how many you get right. Correct any facts you get wrong.

### Teach it!

Teach and explain to someone your key facts – you could even test them!

### Back to front

Write down a fact from memory and then compose a question that would lead to that answer.

### Sketch it

Draw pictures /diagrams to represent each of the facts or dates (time lines, flow diagrams, or labelled pictures are great ways of remembering parts of a system or orders of events).

### Repackage it (from memory)

Create a mind map that brings different facts together under one title. Check that your key words are spelt correctly... or, take a key word and create a sentence that uses it.

Take pride in how you present your work. Each page should be clearly labelled with an underlined date. There should be at least one page of work.

Always check your answers and correct anything you got wrong.... You are allowed to get things wrong... That is how you learn! Getting yourself to think is the key!

Do not just copy a knowledge organiser out – that would not help learning and would only waste your time! Make sure you are having to think!

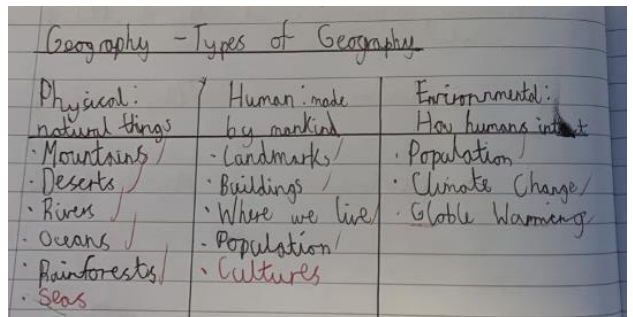
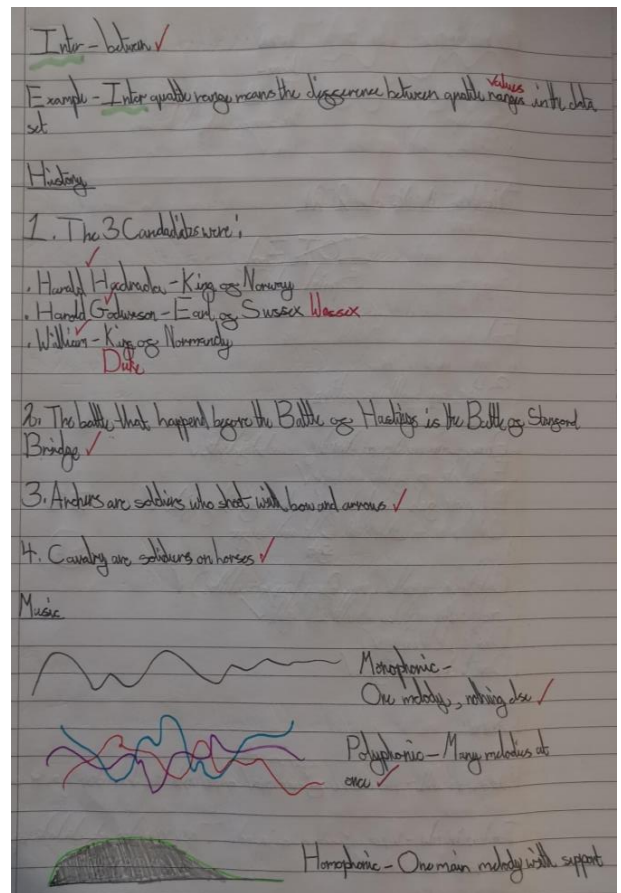
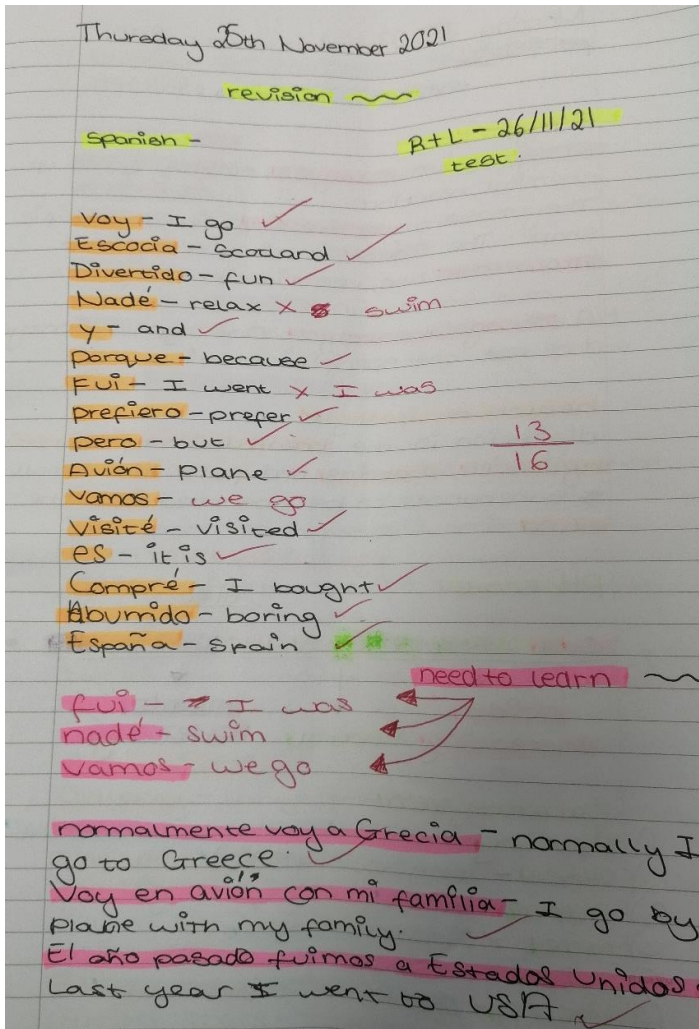


# What does effective home-learning look like?

Here are some essential points to remember and some examples to see.

- Long term memories are created when you have to **think**. Simply copying does not help you remember. Testing yourself will make you **think** and remember
- The process of reflection and self-assessment is important if you are to fix mistakes. Do not worry about getting things wrong as long as you check, fix it and try again

All these learners have **read, thought, tested themselves** and then **checked** their work. They will start to develop long term memory which they can then use in the future.



MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
Maths	Computing	English	Art	
History	Drama	Geography	Science	
Music/RS	Spanish	DT	Active Lifestyles	

Where subjects share a slot, it is for **you** to decide which one **you** know less about - which one should **you** revise? **You** decide which one to focus on.

Literacy: Do take time to engage with the **Listen Project**. Developing our vocabulary is immensely important if we are to develop as learners. The **listen Project** is an opportunity to listen to interesting ideas, facts and make our vocabulary better. You can do this short activity at any point within the week.

The 'Listen' Project #1



SCAN ME

Remember, you can always do more. Challenge yourself to be the best you can be!

# How to use the 'Listen' Project

## Start Here

Being read to is a vital part of learning - hearing words that we are unfamiliar with, ideas that we don't understand yet and thoughts we haven't had a chance to think.

Even simple stories create links from one idea to the next. The fairy tales we heard when we were babies give us the first step to understanding the adventure stories we read in school.

**Take time out and listen...**

**Step 1 - Click the link and listen.**

You can follow the text as you are read to or just listen.



**Step 2 - Check the text.**

Have a look at the texts. There are three pieces of writing.

The first piece may appear to be very simple, maybe even too young for you. These stories are some of the first we hear and often start our journey to understanding more complicated ideas.

The second text may be something you recognise or have read yourself. Is there a link to the first story?

The third is the most complex and may even leave you with a lot of questions.



**Step 3 - What's the connection?**

The final step is to think about what links these texts and stories together?

Where have you thought about these ideas before?

Do you think about any of these ideas in school?

You can go back and listen to the texts being read as many times as you like.



**SCAN ME**

## The Dreamtime

At the beginning of the Dreamtime, the earth was flat and dry and empty. There were no trees, no rivers, no animals and no grass. It was a dry and flat land.

One day, **Goorialla**, the rainbow serpent woke from his sleep and set off to find his tribe. He crossed Australia from east to west and north to south, stopping to listen for his people. He crossed every part of the dry, flat Australia but found nothing. After searching for a long time, he grew tired and lay down to sleep.

The land he lay down to sleep on was not the same land he had set out to search for his people on, though. As he had looked for his people, his big, long body had cut great gouges into the land. **Goorialla** lay in the sand all alone until he decided to create more life in the world. He called "Frogs, come out!" and frogs rose out of the ground with their bellies full of the water they stored. He tickled the frogs until the water burst from their mouth and filled the gouges in the land. These gouges made the rivers and streams we see today.

As the water flowed over the land, grass and trees began to grow and fill the land with colour.

## The God of Dreams.....

### Who was Morpheus?

**Morpheus** was one of the primeval gods, descended from Nyx, the dark goddess of night who was the mother of everything mysterious and anything that was inexplicable, such as death, disease, dreams, ghosts, dreams, witchcraft and enchantments. Morpheus was the eldest son of Hypnos the God of sleep and the leader of the Oneroi. The brothers were triplets and all gods of dreams. Morpheus and the Oneroi are always depicted with wings that conveyed they were gifted with magic and the power of flight. Each of the Oneroi had a specific area of responsibility in relation to dreams and dreaming:

**Morpheus** had the ability to take on the appearance of a mortal in dreams. He was the god who relayed messages from the gods and prophecies of the future. He took particular care with the dreams of kings and heroes

**Phantasos** had the ability to appear in dreams in the form of inanimate objects such as rocks, water, trees. He specialized in strange phenomenon and fantasy

**Phobetor** (known as Icelus to the gods) was the god to be feared who specialized in bringing nightmares and had the ability to appear in the guise of animals and monsters

### Morpheus and the Gates of Horn and Ivory

The Oneroi resided in the 'land of dreams' that was located in the Underworld. Morpheus and his brothers shared the cavernous palace of Hypnos from which they emerged each night like a flock of bats. The nightly route of Morpheus and his brothers passed through one of two gates. One of the gates was made from horn, the second gate was made from ivory. Morpheus would pass through the gates of horn carrying prophetic or true god-sent dreams. Phantasos and Phobetor (Icelus) passed through the gates of ivory carrying false dreams, without true meaning.

## Do Robots Dream of Electric Sheep?

Cutie remained motionless before the port, like a steel statue. His head did not turn as he spoke, "Which particular dot of light do you claim to come from?" Powell searched,

"There it is. The very bright one in the corner. We call it Earth." He grinned, "Good old Earth. There are three billions of us there, Cutie - and in about two weeks I'll be back there with them." And then, surprisingly enough, Cutie hummed abstractedly. There was no tune to it, but it possessed a curious twanging quality as of plucked strings. It ceased as suddenly as it had begun, "But where do I come in, Powell? You haven't explained my existence."

"The rest is simple. When these stations were first established to feed solar energy to the planets, they were run by humans.

However, the heat, the hard solar radiations, and the electron storms made the post a difficult one. Robots were developed to replace human labor and now only two human executives are required for each station. We are trying to replace even those, and that's where you come in. You're the highest type of robot ever developed and if you show the ability to run this station independently, no human need ever come here again except to bring parts for repairs." His hand went up and the metal visi-lid snapped back into place. Powell returned to the table and polished an apple upon his sleeve before biting into it.

The red glow of the robot's eyes held him. "Do you expect me," said Cutie slowly, "to believe any such complicated, implausible hypothesis as you have just outlined? What do you take me for?" Powell sputtered apple fragments onto the table and turned red. "Why, damn you, it wasn't a hypothesis. Those were facts."

Cutie sounded grim,

"Globes of energy millions of miles across! Worlds with three billion humans on them! Infinite emptiness! Sorry, Powell, but I don't believe it. I'll puzzle this thing out for myself. Good-bye."



## Dreamtime

Many of the Aboriginal people or Australia have a beautiful and complicated understanding of the way the world began. The time before humans is called the Dreamtime and features spirits, gods and creatures who formed the world that exists now.

**Goorialla** is the Rainbow Serpent who formed much of the landscape that we see now with the movement of its body. Aboriginal art is often based around images of the Dreamtime and the creation of the world.



## The God of Dreams...



The ancient Greeks had a complicated relationship with dreams and sleep, often viewing sleep as a dangerous time when people were vulnerable to the influence of the gods. **Morpheus**, the god of sleep and dreaming, is often depicted as a dark character who brings messages and visions!

## Do Robots Dream?.....

Perhaps one of the biggest questions we can ask is, what makes us human? **Isaac Asimov**, a Russian Science Fiction writer, asked this question by writing about robots. The robot in the story 'I, Robot' begins to ask questions about its own creation and existence. Asimov began to think about how robots may one day dream like humans.

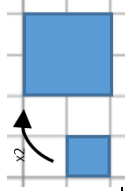
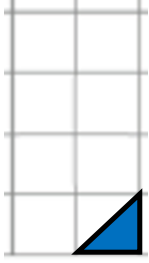


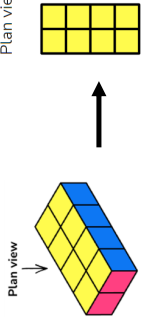
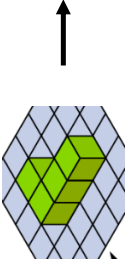




Your Maths Home Learning has two parts:

# Mathematics

Part 1 is: Copy the definition of the key word and diagrams into your Home Learning Book, then use these to complete the task

Part 2 is: Scan the Corbett Code (or look up the video number) for extra practice.

Week	Key Word	Definition	Task	Corbett Code
1	Enlargement	<p>An enlargement is a type of transformation where we change the size of the original shape to make it bigger or smaller by multiplying it by a scale factor.</p> <p>e.g. The following shape has been enlarged by a scale factor of 2</p> 	<p>Enlarge and draw the following shape by a scale factor of 2</p> 	 Scan here 104
2	Bearing	<p>A bearing is the angle in degrees measured clockwise from north. Bearings are usually given as a three-figure bearing.</p> <p>e.g. 30° clockwise from north is usually written as 030°.</p>	<p>Express as a bearing:</p> <p>50° clockwise from north</p> <p>20° anti-clockwise from North (remember to measure clockwise)</p>	 Scan here 354
3	Plan View	<p>A plan view is a scale drawing showing a 3D shape when it is looked at from above.</p> <p>e.g.</p> 	<p>Draw the following plan view of the following shape</p> 	 Scan here 300
4	Standard Form	<p>Standard form is a way of writing very big or very small numbers more easily. It is written in the form</p> <p>a is a number between 1 and 10</p> <p>e.g. 3,000,000,000 = <math>3 \times 10^9</math> or <math>0.0000000032 = 3.2 \times 10^{-8}</math></p>	<p>Write the following numbers into standard:</p> <p>40000 = <math>0.0005 =</math></p> <p>Write the following in ordinary form:</p> <p><math>6 \times 10^5 =</math> <math>3 \times 10^{-3} =</math></p>	 Scan here 300
5	Truncate	<p>Truncation simply means to discard some <del>of</del> <sup>of</sup> decimals from a number</p> <p>e.g. Truncating to a whole number 3.3 will be 3.</p> <p>Truncating to 1 decimal place 4.85 will be 4.8</p>	<p>Truncate to 1 decimal place</p> <p>1) 5.13 =</p> <p>2) 62.34 =</p> <p>3) 133.55 =</p>	



# Year 8 History KNOWLEDGE ORGANISER

**YEAR 8  
HT 5**

## Topic: Should we be proud of the British Empire?

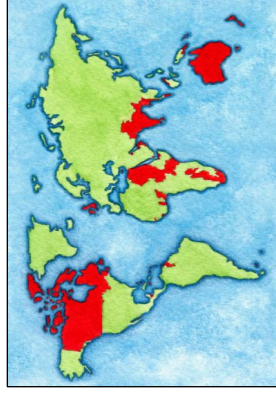
### Overview

The **British Empire** was the largest empire in history. For over a century, it was the world's **strongest power**.

The British Empire was first established as early as 1497, however it **reached its peak in the years between 1815 and 1914**. This time is often referred to as the 'British Century.'

The process through which the British (and other nations of the time) began to spread power beyond its borders is called **imperialism**.

The British Empire was spread as far as New Zealand in the East and Canada in the West. It has **hugely influenced** societies, cultures, industries and the way that people live across the world.



**Map showing the approximate extent of the British Empire at its peak. By 1920, the British Empire covered 35,500,000km<sup>2</sup>, around 24% of Earth's land area.**

### Major Events

#### Beginnings

During the Middle Ages, the kings of England tried to conquer other countries. As early as 1169, the Normans invaded Ireland. In 1277, Edward I conquered North Wales. In the Hundred Years War (1337-1453), Edward III and Henry V conquered large parts of France. By 1500, much of the gained land had been lost.



#### The Transatlantic Slave Trade

One of the more horrific parts of the British Empire was its position at the heart of the Transatlantic Slave Trade. For 400 years from the 15<sup>th</sup> Century, British slave traders are estimated to have bought or sold around 3 million slaves. Slavery made Britain incredibly wealthy. Britain banned slave trading in its empire from 1807.



#### The First British Empire (1497-1783)

Throughout this time, English sailors reached places that Europeans had not previously been. They set up colonies there so that they could trade the resources. The first English colonies were in North America. Britain fought wars to protect its empire, including the 7 Years' War with France. Many American territories were lost in the American War of Independence.

#### The Second British Empire (1783-1914)

Britain began to look towards other areas of the world, for example Asia and Australia, to fulfil its imperial ambitions. Areas of India, the Caribbean and New Zealand were added to the Empire, which grew massively. Britons at the time were proud of the Empire and its power, however those living in colonies experienced inequality and a loss of culture & their religion.

### Countries and Territories within the British Empire

<b>NORTH AMERICA</b>		North America was the location of the first British colonies. It was known as the 'New World.' From 1775, thirteen colonies in North America combined and fought to be free in the War of Independence. Their success led to the creation of the USA.
<b>CARIBBEAN</b>		Over the course of the 17 <sup>th</sup> and 18 <sup>th</sup> centuries, Britain gained major colonies on the islands of the Caribbean Sea. The climate was perfect for growing sugar and tobacco, so plantations were set up. Britain became very rich from this.
<b>AFRICA</b>		From 1881 to 1902, Britain competed with other European empire-builders in what became known as the 'Scramble for Africa.' By the early 1900s, huge parts of Africa, including Egypt, Kenya and Nigeria, were under British rule.
<b>ASIA</b>		After losing huge parts of its colony in the American War of Independence, Britain turned its attention to parts of Asia in the 18 <sup>th</sup> and 19 <sup>th</sup> centuries, e.g. colonies were formed in the Middle East, Ceylon (Sri Lanka), Hong Kong & Singapore.
<b>INDIA</b>		Areas of India were under British rule for hundreds of years. From the 1600s until 1858 these areas were run by the English East India Company. After 1858 until 1947 they became the British Raj. In 1876, Queen Victoria became 'Empress of India.'
<b>AUSTRALIA and NEW ZEALAND</b>		Australia was a set of British colonies between 1788 and 1901. The first colonies were established as places where criminals were sent to live. Later, free settlers created colonies. From 1840 until 1907, New Zealand was a part of the British Empire.
<b>ANTARCTICA</b>		Antarctica was an area that many of the European colonisers did not begin to claim until much later. In 1908, the British government made a territorial claim including a large portion of Antarctica. British Antarctic territory remains to this day.

### Timeline

pre-1497CE – British rulers attempt to conquer new lands. 1497 – John Cabot reaches Newfoundland in search of Asia. 1577-1580 – Sir Francis Drake completes his circumnavigation of the world. 1600 – The Formation of the East India Company. 1607 – First permanent settlement of Americas at Jamestown. 1775-1783 – American War of Independence. 1787 – First shipment of prisoners to Australia. 1867 – Canada given 'dominion' (self-governing) status. 1876 – Queen Victoria is named the 'Empress of India.' Post 1918: Attitudes towards imperialism begin to change.

## Key Terms

**British Empire:** The British Empire comprised of Britain, the 'mother country', and the colonies which were countries ruled to some degree by and from Britain.

**Circumnavigation:** The action of sailing all the way around the world.

**Colony:** A country or area controlled politically by a more powerful country that is often far away.

**Culture:** The way of life of a group of people. For example many people believe modern British culture includes drinking tea and eating fish and chips.

**Empire:** A large group of countries ruled over by a single monarch.

**Exploration:** The action of exploring an unfamiliar area.

**Imperialism:** A policy of extending a country's power and influence through taking control of other countries.

**Indigenous:** Means coming from a particular place. Used to describe people native to a country e.g. the Maori are the indigenous people of New Zealand.

**New World:** European explorers referred to North and South America as the "New World".

**Trade:** The action of buying and selling goods and services.

**Tradition:** A long-established belief that has been passed on from one generation to another.

## Top 10 Facts!

1. At its height, the British Empire was the largest empire that the world had ever seen.
2. In 1922, it covered 24% of the Earth's surface and 23% of the world's population.
3. Of the 3 million slaves that British slave traders bought or sold, around 300,000 did not survive the journey across the Atlantic.
4. There were 26 years between Britain banning slavery and outlawing it altogether.
5. British India was the most populous colony – around 320 million people lived there in 1925.

6. Because there were territories all over the world, the British Empire became known as 'the empire on which the sun never sets.'
7. It included land on every continent.
8. Britain was widely considered to be the world's only superpower between 1815 & 1900.
9. The First World War damaged European economies. Britain was quickly surpassed by the USA as the world's leading power.
10. Handing back Hong Kong to China in 1997 is often seen to be the last action of the Empire.

## Tasks

### Task 1

Look at the "Overview" section on the page above. Explain why Britain needed a large and strong navy to build its empire.

### Task 2

Look at the 'Major Events' section on the page above. Explain why many Britons were proud of the British Empire in the past? Do you think we should be proud of the British Empire today?

### Task 3

Look at the 'Major Events' section on the page above. Choose the area you find the most shocking to be a part of the British Empire and explain why you are most shocked by this area being a part of the empire.

### Task 4

Create a 10-question quiz based on your knowledge organiser. Use this quiz to test someone you know. If they don't know the answer, teach them!

### Task 5

Read through **BBC Bitesize** *The British Empire through time* and complete the 10-question quiz at the end to test your knowledge.

<https://www.bbc.co.uk/bitesize/guides/zf7fr82/test>



Task 6:  
Instruments of  
the Orchestra



# INSTRUMENTS



Task 6:  
Instruments of the  
Orchestra test

Family	Instrument Names	
<b>Strings</b>	Violin; Viola; Cello; Double bass; Harp Acoustic Guitar; Electric guitar; Bass Guitar	
<b>Woodwind</b>	Flute Oboe Saxophone	Clarinet Bassoon
<b>Brass</b>	Trumpet Trombone	French Horn Tuba
<b>Percussion</b>	Timpani (Kettle Drums) Drum Kit Xylophone (wooden) Glockenspiel (metal)    Piano	
<b>Voice</b>	<b>Female</b> Soprano (high) Alto (low)	<b>Male</b> Tenor (high) Bass (low)
<b>Electronic</b>	Electronic Keyboard Synthesiser (can sound like different instruments) Computer Software	
<b>Keyboard</b>	Piano Harpsichord Synthesizer Electronic Organ (Hammond) Church Organ	

## Key terms:

- Arco:** Instruction for a string player to use the bow
- Pizzicato:** Instruction for a string player to pluck the strings (do not use the bow)
- Mouthpiece:** the part of a brass or woodwind instrument you blow into.
- Slide:** the part of a trombone that moves in and out
- Valve:** the part of a brass instrument that helps to change note. The trumpet has three.
- Reed:** The thin piece of wood that makes the sound on many woodwind instruments
- Orchestra:** A large **ensemble** (group) of instruments
- Conductor:** The person who controls the orchestra
- Legato:** Instruction to play the notes smoothly
- Staccato:** Instruction to play the notes short/spikey
- Range:** What notes an instrument can play – the lowest note to the highest.

**Task 1:** Learn the Instrument names and families for **strings, woodwind, brass and percussion**.

**Task 2:** Learn the Instrument names and families for **voice, electronic and keyboard**.

**Task 3:** Learn the key terms above.

**Task 4:** Draw a diagram of the orchestra **without the instruments**. After revising where they sit, complete the diagram **from memory – no peeking!**  
**Self-assess** - fill any gaps **in red pen**.

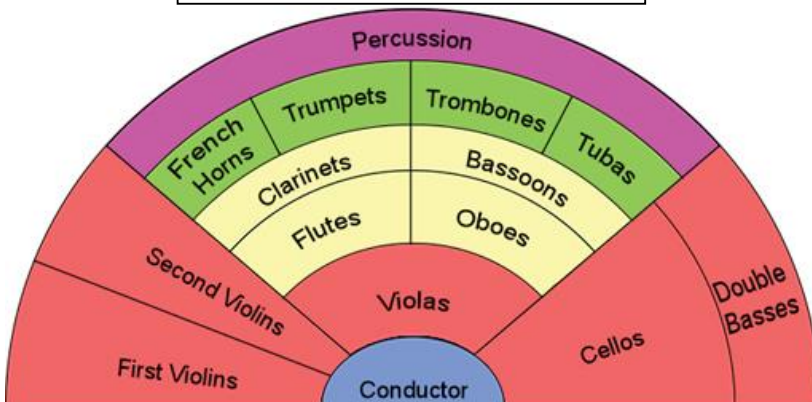
**Task 5:** Create a 10 mark quiz based on the orchestral instruments (where they sit or which family they are from). Get someone to test you!

**Task 6:** Watch *The Instruments of the Orchestra* clip (<https://www.youtube.com/watch?v=EfedK-dqXWc>). Then, complete this *Listening Test* (<https://www.youtube.com/watch?v=oHUIz76Z74c>).

QR codes for the Youtube clips are at the top.

**Task 7:** Go through your Home Learning work on Instruments. Make a quiz of any words you found tricky. Get someone to test you!

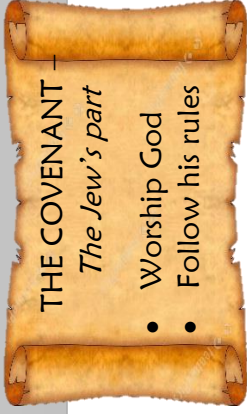
Where the orchestral instruments sit:



# JUDAISM

## BACKGROUND

- The Jewish people believe they are a race chosen by God to be his special people.
- Their racial identity is combined with their religious identity
- They believe their ancestor Abraham made a **COVENANT** (agreement) with God and this promise continues through them.



How do these beliefs help Jews?

How do the beliefs and actions make them feel?

How do they express their beliefs in everyday life?

What links can you make with your life?

How do they express their beliefs in everyday life?

What symbols/images do they use? Why?

Can the rules be adapted for the 21<sup>st</sup> century?

Can a Jew be an atheist (someone who doesn't believe in God)?

As we study think about...

## KEY WORDS:

COVENANT	The agreement that Jews believe they have with God. He will protect them, they will worship him	TREFAH	Food that does not follow the food rules so cannot be eaten, e.g. pork
ABRAHAM	The 'father of Judaism'. He was the first man to make the Covenant with God	MEZUZAH	A prayer box found on Jewish door frames
SYNAGOGUE	The Jewish place of worship	KIPPAH	A skull cap
TALLIT	A shawl that is worn when praying	SHABBAT (SABBATH)	A day of rest and worship, from sunset Friday to sunset Saturday
KOSHER	Food that is allowed to be eaten as it keeps the Jewish food rules	CIRCUMCISION	The removal of the foreskin to show that a boy is Jewish
PASSOVER	A festival remembering how God freed the Jews from slavery	BAR/BAT MITZVAH	A rite of passage to symbolise and celebrate when a child becomes an adult
SEDER	A plate used to tell the story of Passover	TORAH	The Jewish holy book

**SOME TASKS FOR YOU TO COMPLETE**

Draw a symbol for each key word

Create a mind map of Jewish worship. Use different colours for home and synagogue

Create a key word quiz or flash cards

Write your answers to 3 reflection questions

Investigate an issue in the media that involves Judaism

Create a poster of Jewish food rules

Make a list of things that make you special

## Where do they worship? IN A SYNAGOGUE:

- A synagogue is a simple but beautiful building used by Jews as a place to pray and also to gather as a community.
- At the centre of the main room is a **Bimah** which is a stand from which the **Torah**, the holy book, is read
- The Torah is stored in an **Ark**, a special cupboard.
- There will be an eternal flame hanging above the Ark called the **Ner Tamid** to reflect God's constant presence
- The synagogue may be decorated with the **Star of David** and other images but no statues as these would offend God
- Prayers and songs are shared in **Hebrew**, the Jewish language



The mother prepares the house and lights the candles to represent the start of Shabbat.

## Where do they worship? AT HOME:

- Jews worship by following God's rules in all aspects of their life
- They keep **Shabbat** by doing no work on that day. Instead they spend the day in worship. To mark the start of Shabbat they have a family meal where two candles are lit and bread is shared.
- Jews also keep a **kosher** house. This means they follow God's laws about food
- They may have a **mezuzah** on their door frame which contains a prayer of God's blessing

During Shabbat, most Jews will not switch on electrical items, drive cars or spend money as they all reflect some form of work.

### KOSHER RULES include:

- No meat with blood in it
- No meat from animals without cloven hooves (e.g. pigs)
- No shellfish
- No mixing of meat and milk



**Waters Turn to Blood**  
Exodus 7:14-25



**Amphibians (Frogs)**  
Exodus 7:26-8:11



**Files**  
Exodus 8:16-28



**Locusts**  
Exodus 10:1-20



**Hail and Fire**  
Exodus 9:13-35

## The Ten Plagues of Egypt



**Unhealable Boils**  
Exodus 9:13-12



**Hail and Fire**  
Exodus 9:13-35



**Locusts**  
Exodus 10:1-20



**Darkness**  
Exodus 10:21-29



**Death of Firstborn**  
Exodus 12:1-30

'Seder' means order, as it helps to retell the story



## THE FESTIVAL OF PASSOVER

- The Jews were slaves in Ancient Egypt but God sent **Moses** to rescue them and lead them to a Promised Land
- Every year Jews retell their story of freedom in the **Passover** festival
- Jewish families share a meal together and items on a **seder** plate are used to remember what happened.
- The festival encourages Jews that whatever situation they are in God knows and he has a plan to save them

It is called 'Passover' because the Angel of Death 'passed over' the Jewish houses

## Computing Department Knowledge Organiser: Year 8 Programming in Python

### What is programming?

- Programming is writing computer code to create a program, in order to solve a problem. Programs consist of a series of instructions to tell a computer exactly what to do and how to do it.



### KEY TERMS

Algorithm	A program created to solve a problem
Variable	Part of the program code created to store data The data can be changed
Constant	Part of the program code created to store data The data is not changed while the program is running
Data Type	The type of data being store in a variable or constant (int, float, bool)
Casting	Changing one type of data into another
Operator	Math (+ - / *) or Logical (> < = !=)
Comment	Using a # to add explanations and annotations to your code
Integer	Number with no decimal places
Floating Point / Real	Number with a decimal place
Boolean	True or False / Yes or No

### What is a programming language?

- A programming language is an artificial language that a computer understands. The language is made up of series of statements that fit together to form instructions. These instructions tell a computer what to do.
- Learn how to code:
- [www.w3schools.com/python/default.asp](http://www.w3schools.com/python/default.asp)
- [www.bbc.co.uk/bitesize/topics/zhy39j6](http://www.bbc.co.uk/bitesize/topics/zhy39j6)
- [www.codecademy.com](http://www.codecademy.com)



# Computing Department Knowledge Organiser: Year 8 Programming in Python

Python -> English	
<code>print("hello!")</code>	Prints a value on screen (in this case, hello!)
<code>input("")</code>	Inputs a value into the computer.
<code>x = input("")</code>	Inputs a value and stores it into the variable x.
<code>x = int(input(""))</code>	Inputs a value into x, whilst also making it into an integer.
<code>answer = x + y</code>	Saves the result of x and y added together in a variable named answer.
<code>print(str(x))</code>	Prints the variable x, but converts it into a string first.
<code>print("Hello", "World")</code>	Prints the two strings concatenated with a space between. This code would output "Hello World".
<code>age = 12</code> <code>print("Age: " + str(age))</code>	The + joins together two variables when printing. Str has to be used to cast age to be a string. This code will output "Age: 12".
<code>if name == "Fred":</code>	Decides whether the variable 'name' has a value which is equal to 'Fred'.
<code>else:</code>	The other option if the conditions for an if statement are not met (eg. name = 'Bob' when it should be Fred)
<code>elif name == "Tim":</code>	elif (short for else if) is for when the first if condition is not met, but you want to specify another option.
<code># COMMENT</code>	# is used to make comments in code – any line which starts with a # will be ignored when the program runs. They are used to describe the code to a programmer.
<code>for i in range(0,10):</code> <code># WRITE CODE HERE</code>	Repeats any code indented after this line a set number of times, in this case, 10.
<code>while x &lt; 10:</code> <code># WRITE CODE HERE</code>	Repeats any code indented after this line until a condition is met, in this case x becoming equal to or greater than 10.
<code>list = [ "", "" ]</code>	Creates a variable and makes it an array – a list which can store many values.

### Tasks:

1. What is a programming language?
2. Describe what an algorithm is?
3. Describe what a variable is?

### Tasks:

4. Describe what a data type is?
5. Describe what the terms, string, integer and float/Real mean?
6. Describe what the term Boolean means?

Data types		
Data Type	This indicates how the data will be stored. The most common data types are integer, string, and float/real.	Casting code
<b>String</b>	A combination of letters, numbers or characters. (eg, Hello, WR10 1XA)	<b>str(x)</b>
<b>Integer</b>	A whole number. (eg. 1, 189)	<b>int(x)</b>
<b>Float/Real</b>	A decimal number, not a whole number. (eg. 3.14, -26.9)	<b>float(x)</b>
<b>Boolean</b>	1 of 2 values. (eg. True, False, Yes, No)	<b>bool(x)</b>
<b>Char</b>	A single character	<b>char(x)</b>

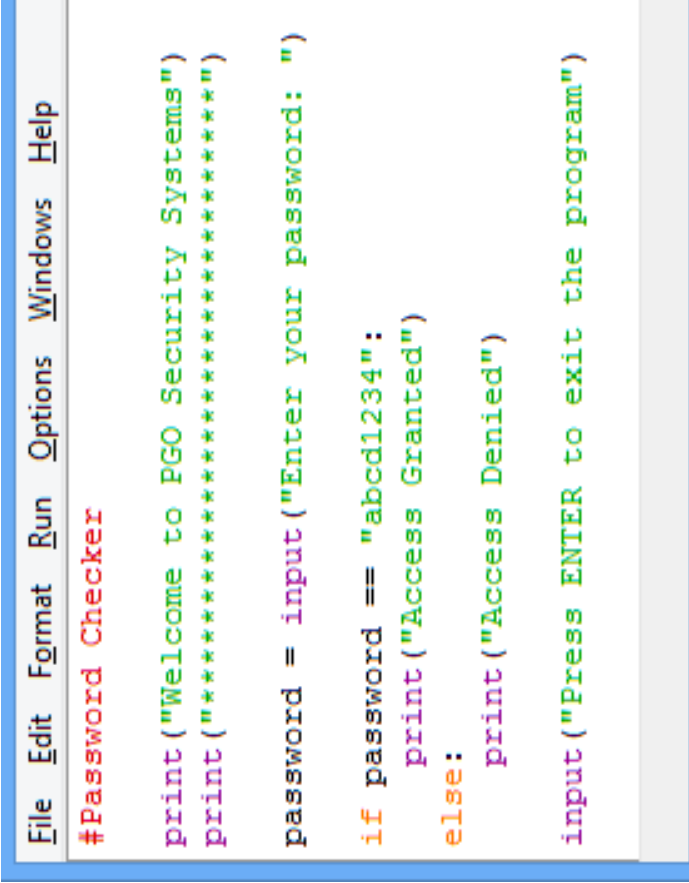
### Comparative operators

<b>==</b>	Equal to
<b>!=</b>	Not equal to (or different to)
<b>&gt;</b>	Greater than
<b>&lt;</b>	Less than
<b>&gt;=</b>	Greater than or equal to
<b>&lt;=</b>	Less than or equal to

### Arithmetic operators

Operation	Symbol	Example	Output
<b>Addition</b>	+	2 + 10	12
<b>Subtraction</b>	-	9 - 6	3
<b>Multiplication</b>	*	5 * 4	20
<b>Division</b>	/	5 / 2	2.5
<b>Floor Division</b>	//	7 // 2	3
<b>Remainder</b>	%	7 % 3	1

# Computing Department Knowledge Organiser: Year 8 Programming in Python

<b>Coding in Python</b>	<b>Tasks</b>
<p><b>1. Writing error-free code</b></p> <ul style="list-style-type: none"><li>a. When writing programs, code should be as legible and error free as possible.</li><li>b. Debugging helps keep code free of errors and documenting helps keep code clear enough to read.</li></ul> <p><b>2. Syntax errors</b> - Syntax is the spelling and grammar of a programming language. In programming, a syntax error occurs when:</p> <ul style="list-style-type: none"><li>a. there is a spelling mistake.</li><li>b. there is a grammatical mistake</li></ul> <p><b>3. Adding Comments</b></p> <ul style="list-style-type: none"><li>a. Comments are useful to help understand your code.</li><li>b. They will not affect the way a program runs. Comments appear in <b>red</b> and have a preceding <b>#</b> symbol.</li></ul>	<p><b>Task 1:</b> Explain what the Top 3 Tips for Coding in Python are?</p> <p><b>Task 2:</b> Read through the code below and write it out in your home learning book</p> <p><b>Task 3:</b> Can you describe what each line of the code does?</p> <p><b>Task 4:</b> Try writing out the code in Python.</p> <p><b>Task 5:</b> Try writing your own code, you can do this in Python or your home learning book.</p> 

Gateacre Drama  
Departments: The Drama  
Maga-Scene



The next scheme of  
learning is:

Alice in  
wonderland



**New Skill/Technique** ■ **Retrieval**

Knowledge/ skill	Definition
<b>Stimuli</b>	The starting point, idea or inspiration for your devised drama. It is what you base your drama around.
<b>Sound design</b>	The art and practice of creating sound tracks for a variety of needs in a performance.
<b>Levels</b>	Using different heights or levels onstage creates visual interest. It can also help to ensure that the audience see all of the action. Levels can be used to suggest status - meaning the power or authority one character has over another and can also be used to suggest various locations.
<b>Mime</b>	When an actor performs without the use of dialogue
<b>Costume designer</b>	<b>The person who designs the costumes for a performance. The costume department of a theatre is often called the wardrobe.</b>
<b>Slow Motion</b>	Performing in manner whereby the action appears much slower than in real life.
<b>Physical Theatre</b>	Physical theatre is a well-known genre of theatrical performance that encompasses storytelling primarily through physical movement.
<b>Synchronisation</b>	When a group of performers perform the same movements, at the same time aka. 'moving in sync'
<b>Gesture</b>	In acting gesture is defined as a sign that communicates a character's action, state of mind and relationship with other characters to an audience.
<b>Tableaux</b>	An image a group of performers make usually at the beginning of a performance.
<b>Body as Prop</b>	A genre (type) of drama that tells a story using over exaggerated movement. and physicality. Body as Prop Using your body to create props and objects on stage.
<b>Balances/Lifts</b>	Balances/Lifts are an advanced physical theatre technique used in professional theatre performances where one/a number of performers lift another in the air. It takes a lot of group work, patience and maturity to create an effective lift/balance
<b>Characterisation</b>	Developing and portraying a personality through voice and movement.
<b>Promenade theatre</b>	In promenade theatre there is no formal stage, both the audience and the actors are placed in the same space.

Turn OFF  
your  
phone

DO NOT put  
your feet up  
on the chair  
in front of  
you

DO NOT  
talk/shout whilst  
watching a  
performance/show

DO NOT



THEATRE  
ETIQUETTE

DO NOT get out of your seat unless  
you have asked a member of staff

Key performance  
terminology:

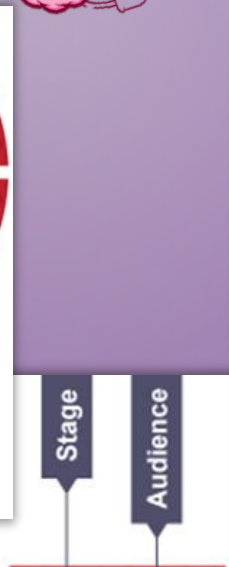
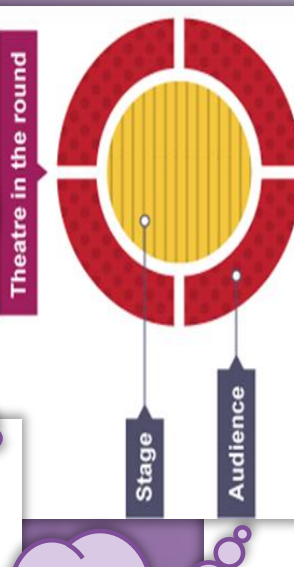
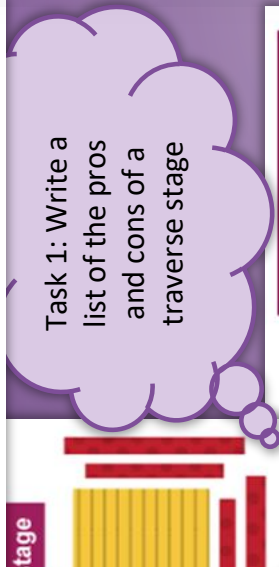
**Physical Skills** (Skills that involve using your BODY)

<b>1. Body Language</b>	How an actor uses their body to communicate meaning. For example, crossing your arms could mean you are fed up.
<b>2. Posture</b>	The position an actor holds their body when sitting or standing. For example, an upright posture. The way an actor walks.
<b>3. Gait</b>	The way an actor walks.
<b>4. Facial Expressions</b>	A form of non-verbal communication that expresses the way you are feeling, using the face.
<b>5. Gestures</b>	A movement of part of the body, especially a hand or the head, to express an idea or meaning.
<b>6. Stance</b>	The way you position yourself when standing to communicate your role. An elderly person would have a different stance to a child!

**Vocal Skills** (Skills that involve using your VOICE)

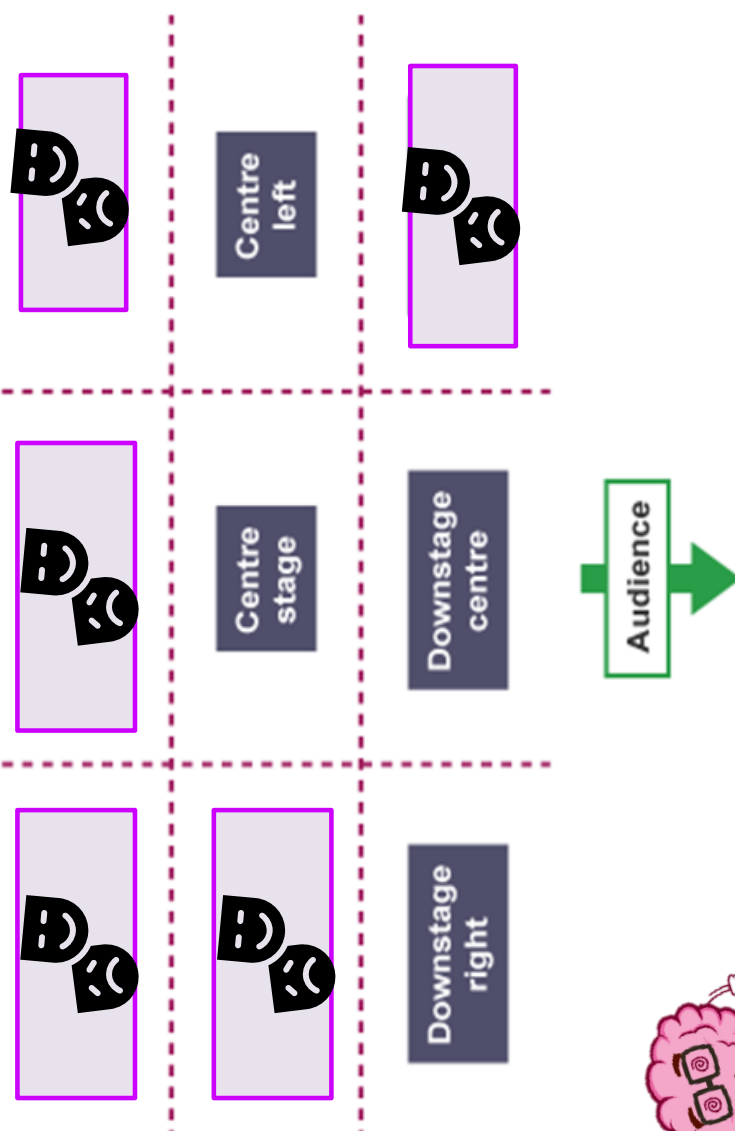
<b>1. Projection</b>	Ensuring your voice is loud and clear for the audience to hear.
<b>2. Volume</b>	How loudly or quietly you say something. (Shouting, whispering)
<b>3. Tone</b>	The way you say something in order to communicate your emotions. (E.g. Angry, worried, shocked tone of voice)
<b>4. Pace</b>	The speed of what you say.
<b>5. Pause</b>	Moments of pause can create tension, or show that you are thinking.
<b>6. Accent</b>	Use of an accent tells the audience where your character is from.
<b>7. Pitch</b>	How high or low your voice is.
<b>8. Emphasis</b>	Changing the way a word or part of a sentence is said, in order to emphasise it. (Make it stand out.) Try emphasising the words in capital letters and see how it changes the meaning: "How could YOU do that?" "How could you do THAT?"

# Stage positioning






Task 1: Write a list of the pros and cons of a traverse stage

Task 1 continued – Write 3 bullet points of key performative strategies you need to successfully perform in traverse



## Stage Types & Tasks

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
Watch Alice in Wonderland (Any version!) 	Scan the QR Code and read this months The Drama Maga-Scene 	Create your own unique costume design for The Mad Hatter 	Revise our new knowledge skills for this term and create a knowledge quiz! Play with the family!	Write a monologue as if you are Alice and you have just arrived in Wonderland. What are you thinking, feeling, seeing and wanting to do!	What stage position are our pesky drama faces covering? Create your own 'Stage Position Puzzle' and test your family!

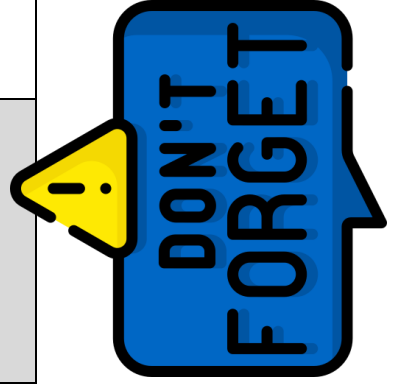


# Spanish

Go to [languagenut.com](https://languagenut.com) or download the app from the app store/google play store.  
Log in with the username and password given to you by your teacher.  
Your weekly task will appear in the "assignments" section.



Tuesday 18 <sup>th</sup> April	Complete the assigned tasks practising food vocabulary.
Tuesday 25 <sup>th</sup> April	Complete assigned tasks practising fruit and vegetables vocabulary.
Tuesday 2 <sup>nd</sup> May	Complete assigned task practising restaurant vocabulary.
Tuesday 9 <sup>th</sup> May	Complete assigned tasks on food.
Tuesday 16 <sup>th</sup> May	Complete assigned tasks on food.
Tuesday 23 <sup>rd</sup> May	Complete assigned tasks on food.



If you're accessing Languagenut from a tablet or computer, you can browse through other sections and practise other skills.  
Click "high school" and either "vocab practice", "exam skills" or "sentences and chunks" and practise away!  
You get points for each activity you complete and the Top 10 students in the school with the most points at the end of each month will get a prize off Mrs. Foy!

# Y8 Nature Poetry Knowledge Organiser

## Things we will explore

**Animals** and what they represent e.g. innocence, anger, calm.

**The weather** and how it can be a symbol in poetry.

**Times of the day** and what they represent.

**Flowers** and what they represent.

**P**  
Point

Sum up the main idea in your paragraph.

- In my opinion...
- Arguably...
- The writer uses...
- Similarly
- Firstly...
- Secondly...
- Both...
- In contrast...
- One of the language features used is...

**E**  
Evidence

Provide Evidence for the point you are making.

- For example...
- An example of this is...
- This is shown...
- This can be seen when...
- This is demonstrated when...
- We know this because...
- The evidence for this is...

**E**  
Explanation

Why is the quotation significant?  
What effect does the quotation have on the reader?  
Why has the writer used this technique?

- This shows
- This suggests...
- This implies...
- This is effective because...
- The writer has chosen this technique because...
- This would make the reader feel...
- This has been used because...

## Structuring a poetry essay:

- Read the question carefully and make sure you understand what the question is asking you about the poem.
- Introduction- write a paragraph which summarises the poem to show your understanding. Include a sentence which links to the question.
- Main body- answer the question using PEE paragraphs.
- Conclusion- summarise your main argument in response to the question. E.g. Overall growing up is presented as turbulent, quick and a happy experience in the poem.

## Poetic Devices

**Alliteration** - When words placed together start with the same sound.

**Metaphor** - When you compare something to something else.

**Simile** – When you compare two things using the words like or as.

**Oxymoron** - When two words are placed together with opposite meanings.

**Onomatopoeia** - Words that sound like what they are. “Meow” or “crash”.

**Assonance** - The repetition of a vowel sound “Go slow over the road”.

**Personification** – when an object or animal is given human qualities.

**Sensory imagery**- when poets write about the five senses to create an image in the reader’s mind and develop description.

**Structure** - The way that the poem is arranged/organised

**Sibilance** - A repeated ‘s’, ‘sh’ or ‘z’ sound.

**Enjambment** - When one line runs into another without a pause.

## Poets we will study:

William

Wordsworth

Ted Hughes

William Blake

Percy Bysshe-

Shelly

Imitaz Dharker

James Reeves

Anoop Lokkur

**T**itle

**O**verview

**S**tructure

**M**ood

**I**magery

**L**anguage

**E**ffect



## Week 1

### Similes and Metaphors

**Simile:** comparing two things using **as** or **like**.

**Metaphor:** Saying one thing **is** something else.

Example: **Her eyes shone like diamonds. (Simile)**  
**He was a tornado blasting his way through the opposing team. (Metaphor)**

Write a simile or metaphor to compare each of the following:

**The Sun, The Moon, The Stars, A Wild Sea, Flowers, A Butterfly, A Calm Lake, An Eagle**

## Week 2

### Write your own Poem

Choose a subject linked to **'Nature'** e.g. Flowers, Seasons, Insects etc.

1. **Write your own poem** on the subject.

Try to use a poetic device such as simile, metaphor, personification, alliteration etc. and a careful choice of adjectives.

2. **Highlight and annotate your poem** to show which devices/language features have been used.

## Week 3

### William Wordsworth Research

Carry out some research on the poet **William Wordsworth**. Write 10 interesting facts about his life and his style of poetry.

## Y8 Nature Poetry Home Learning Tasks

### Week 4

#### Poetry Analysis

My Heart Leaps Up William Wordsworth

My heart leaps up when I behold

A rainbow in the sky:

So was it when my life began;

So is it now I am a man;

So be it when I shall grow old,

Or let me die!

The Child is father of the Man;

And I could wish my days to be

Bound each to each by natural piety.

Read the poem above – What do you think is the meaning of 'My Heart Leaps Up' by William Wordsworth? – Write a paragraph to show your thoughts. "In my opinion ....."

What is the rhyme scheme?

Can you find any techniques used in the poem?

\*piety – devotion/religious

## Week 5

### Imtiaz Dharker Research

Carry out some research on the poet Imtiaz Dharker. Write 10 interesting facts about her life and her style of poetry.

## Week 6

### Poetry Analysis

Find a nature poem of your choice (see websites like PoetryFoundation.org and PoemHunter.com or just choose a topic and search the internet)

Make notes on the language techniques the writer uses. Try to use the **TO SMILE** acronym to set out your notes.

## Week 7

### Revision Guide

Create a revision guide for students that covers all the new knowledge and understanding you have picked up from this term about poetry.

**Language, structure, vocabulary, imagery, onomatopoeia etc.....**

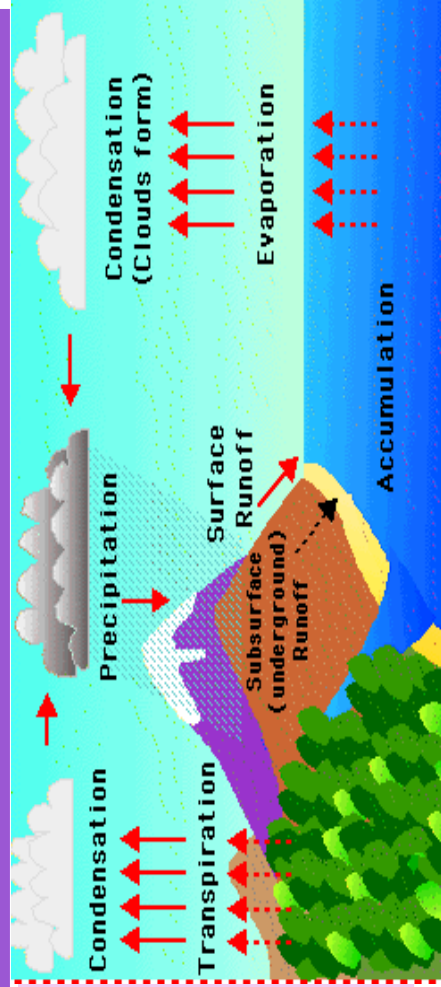
## Weather, climate & extreme weather

Weather is a description of the day-to-day conditions of the atmosphere.

Climate is the average weather over a long period of time (usually 30 years).

Extreme weather is when a weather event is significantly different from the average or usual weather pattern. This may take place over one day or a period of time. A flash flood or heat wave are two examples.

## The Hydrological Cycle



## Tasks- if you complete all 4 and complete extensions.

Task 1: Revise the key definitions for weather, climate and extreme weather. Cover and try to write your own definitions.

Task 2: Look over the diagram of the hydrological cycle, then cover it and sketch the diagram from memory, (using a pencil) then self assess and add any of the key terms and features you have missed.

Task 3: Look over the sections on microclimate. Using the factor box think about the yard at the back of the school. Choose 2 places, and explain why each is different, linking your explanation to some of the factors.

Task 4: Read over and cover the 'how do we measure the weather?' section and then try to complete each column one-by-one.

Task 5: Extension. Watch the weather on TV after the news or use Google and go to the BBC weather and create a short report on the weather in your own area for the next few days. Focus on the weather terms in the box on the right to help you.

Task 6: Find out about the weather station in school. Where is it located?

## Microclimates

A microclimate is the climate of a small area such as a garden, park, and valley. It may differ from the surroundings.

## Factors which affect a microclimate

Cause	Effect
Shelter	Trees, hedges, walls, buildings and hills provide a barrier to the wind, reducing its speed and changing its direction.
Surface	The colour of the ground affects warming. Darker ground (e.g. tarmac and soil) warm up more than lighter surfaces (e.g. grass).
Aspect	The direction a place is facing. Places facing the sun will be much warmer than those in shadow.
Buildings	Manmade structures give off heat that has been absorbed during the day. They can both increase and reduce wind speeds depending on position.
Physical features	Trees may provide shade and shelter. Water areas such as lakes and seas may have a cooling effect. Hill tops are cool and windy.

## Yr 8 Geography Wild Weather Knowledge Organiser

### How do we measure weather?

Weather Term	Means:	Units used:	Using:
Temperature	Exactly how hot or cold it is	In degrees (oC) or F	Thermometer
Air pressure	How heavy the air is	In millibars (mb)	Barometer
Wind speed	How fast the wind is blowing	In mph or kph	Anemometer
Wind direction	Where the wind is blowing from	As a compass point- N, E etc.	Wind vane or wind sock
Precipitation	Water falling from the sky in any form	In mm for rain but cm for snow	Rain gauge





# DESIGN TECHNOLOGY KNOWLEDGE ORGANISER



YEAR 8 DT

## Topic: Cam Toy Project

### My Tool Box



**Pin Hammer** – Used to knock panel pins and small nail into wood.



**Coping Saw** – Used to cut curves and internal shapes in wood.



**Tenon Saw** – Used to cut straight lines in wood.



**Bench hook** – Used to hold work in place when cutting



**Wood Vice** – Used to secure material while working on it (cutting, filing sanding etc.)



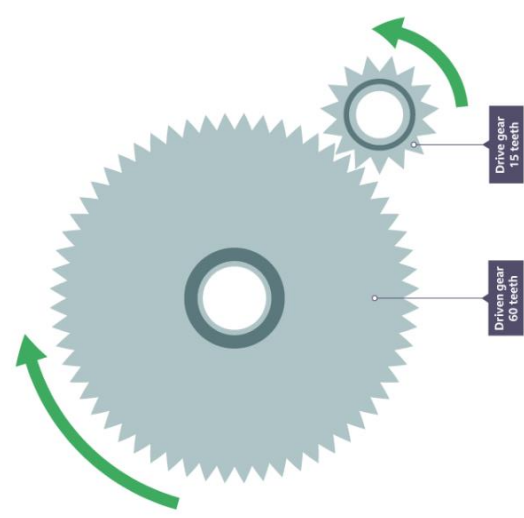
**Scroll-Saw/Hegner-Saw-** Used to cut complicated shapes in thin material.



**Pillar/Bench Drill** – Used to drill holes into different materials.

### Gear trains

Gear trains are when two or more gears are joined together. In a simple gear train, the drive gear causes the driven gear to turn in the opposite direction



Smaller gears with fewer teeth turn faster than larger gears with more teeth. This difference in speed is called the gear ratio.

**Gear ratio = number of teeth on driven gear ÷ number of teeth on the drive gear**

#### Example

The driven gear has 60 teeth and the drive gear has 15 teeth.

$$\text{Gear ratio} = 60 \div 15 = 4$$

For each rotation of the drive gear, the driven gear would rotate four times.

$$\text{Gear ratio} = 4:1$$

This is known as gearing up. If the driven gear had 15 teeth and the drive gear had 60 teeth, the gear ratio would be 4:1 which is known as gearing down.

### Key Terms

**Aesthetics**- how humans perceive and judge objects according to their attractiveness

**Softwood** - the wood from a conifer (such as pine, fir, or spruce)

**Pine wood** - an evergreen coniferous tree which has clusters of long needle-shaped leaves.

**Manufactured Board** – timber sheets which are produced by gluing wood layers or fibers together (such as MDF, Plywood and Chipboard)

**Medium-density fibreboard (MDF)** – an engineered wood product made from wood fibres and resin binder (glue)

**Plywood** – is a composite material. It is composed of individual plies/veneers of wood. It is very strong due to the way the plies are put together. The grain of each ply is positioned at ninety degrees to the pieces of ply above and below it.

**Ratio** - the relation between two amounts showing the number of times one value contains or is contained within the other

### Tasks

**Task 1:** Learn the tool names and their use.

**Task 2:** Learn the key words and the definition.

**Task 3:** Create 4 questions that can be answered from the information in the focused topic column.

**Task 4:** Draw two tools and write what they are for.

**Task 5:** Create a quiz based on task 1, 2 or 3. Get someone to test you.

**Task 6:** Create a mind map for the information you remember and red pen anything you've forgotten.

**Task 7:** Teach it. Create a task that can be used to teach some of the information from here.

### To go further:

Introduction to sketchup -3D CAD



Introduction to 3D crating:





# ART KNOWLEDGE ORGANISER

**YEAR 8**  
**Term 3a**  
**African Ceramics**

## Topic: African Art (creating ceramics)

### Context: The History of Pottery

Pottery is the technique used to make ceramics. Clay is the material we use to create this. The most common types of clay are: earthenware, stoneware and porcelain. At Gateacre, we use earthenware clay. This term, you will use red earthenware, which is terracotta in colour. The word ceramic comes from an ancient Greek word for "burned earth". This is because the clay is a natural material: mud and earth, which is burned in a kiln to create ceramics. Pottery objects are made from damp clay mixed with other materials. Once the artwork is created, the work is then fired in a special oven called a kiln at high temperatures. Firing makes the clay hard. The potter may then apply a glaze or stain to the surface of the work, before firing the object again. The fired glaze makes the surface of the pottery shiny, decorative and water-tight. There are different methods of shaping your work: Once the clay is fired, it turns the material from clay to ceramics.

- **A POTTERS WHEEL:** this is called throwing. Considerable skill and experience are required to throw pots of an acceptable standard
- **HAND BUILT:** This is the earliest method known. Pottery can be constructed by hand from coils of clay, combining flat slabs of clay, or pinching solid balls of clay or some combination of these. Parts of hand-built vessels are often joined together with the aid of slip, a liquid solution of clay body and water (used like glue). Hand-building is slower than wheel-throwing, but it offers the potter the ability to create one off works of art.
- **MASS PRODUCTION:** used in industry to create mass ceramics: plates, mugs, bowls, vases etc.



### Tasks to complete:

**Week 1:** Practice key literacy vocab 1-6 - look, cover, write, check, correct x 3. Read the sentences again and check for understanding.

**Week 2:** Practice key literacy vocab 6-12 - look, cover, write, check, correct x 3. Read the sentences again and check for understanding.

**Week 3:** create a comic book strip with drawings and writing to show the step by step process of how to roll out clay

**Week 4:** Create a drawing in colour of a clay tile inspired by African patterns, using a mask in the centre as the focal point and some African Art patterns to create a border. Use the geometric patterns to help you create a border.

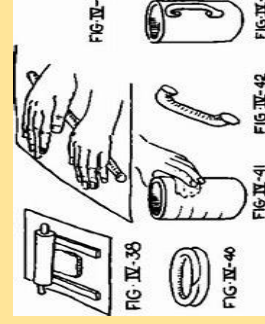
**Week 5:** Looking at the three subtitles on the left: potter's wheel, Hand build and mass production. Research the ceramic meanings for each one and create an information page to explain what they are.

**Week 6:** using the vocab words to the right, and select 6 words you are really familiar with. In your own words create a written guide to a beginner on what each word means.

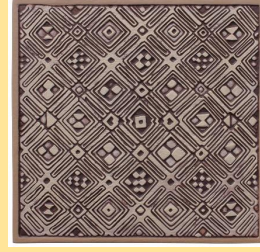
### Key Literacy Vocabulary:

1. **CLAY** the material used to create ceramic vessels. Clay is the material, before entering the Kiln.
2. **CERAMIC:** something made from clay, then it's fired in the kiln and turns to ceramics. A
3. **KILN** a furnace or oven for burning, baking, or drying, or firing pottery.
4. **SLIP** A slip is a liquid mixture or slurry of clay and/or other materials suspended in water. It is used to glue clay together.
5. **SCORE** To score a pot or piece of clay means to scratch crosshatch marks on it as part of joining clay pieces together. This is done before brushing on slip and joining the pieces together. The process is often called "score and slip."
6. **LEATHER HARD STATE:** is the condition of the clay, when it has been partially dried to the point. The texture is similar to that of leather. The leather-hard stage is when the clay is at its most vulnerable.
7. **SCULPTURE:** a 3D piece of art work.
8. **SGRAFFITO:** an Italian word for scratched. This art technique can be used to scratch away the surface of paint, clay plaster, card etc.
9. **RELIEF:** a Latin word which means to raise. This can usually be found on 2D/3D work, to raise the layer or surface. Card on top of card is relief.
10. **OPAQUE:** when your colour is not transparent and no light can pass through it.
11. **PATTERN:** an arrangement of repeated or matching symbols or lines.
12. **OUTCOME:** the personal response you produce which links to the theme of your work.

**Week 3 -** use the images to the right to help you create the step by step rolling out of clay. Click on the QR code to watch the video.



**Week 4 -** produce an African Mask drawing to show your clay ideas. Click on the website below to help you create your drawing.





## Thursday 18<sup>th</sup> April 2024

In your book, using a pencil:

1. Draw in order the planets in our solar system starting with Mercury.
2. Can you find any facts about the planets?

**Have you completed your 4 daily goals?**

**Complete 4 daily goals each week to ensure success in**

**Science! 😊**

## Thursday 25<sup>th</sup> April 2024

In your book, complete the following:

- Explain why each day is 24 hours long.
- Explain why each year is 365 days long.
- Explain why we have 4 seasons.

## Thursday 2<sup>nd</sup> May 2024

In your book, complete the following:

- Turn to the page titled 'space questions'
- Answer questions 1 – 20 in full sentences.
- Self-assess your answers using the answers on the following page

## Thursday 9<sup>th</sup> May 2024

In your book, complete the following:

- Draw the reactivity series in your book from most reactive to least reactive.
- Read the information about displacement reactions and write your own definition in your book.

## Thursday 16<sup>th</sup> May 2024

In your book, complete the following:

- Turn to the page titled 'reactivity series questions'
- Answer questions 1 – 20 in full sentences.
- Self-assess your answers using the answers on the following page

## Thursday 23<sup>rd</sup> May 2024

In your book create a poster about 'biodiversity' and its importance in ensuring different species survive.

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

- Describe: gravity force as different on other planets and stars; gravity forces between Earth and Moon, and between Earth and Sun
- Identify: our Sun as a star, other stars in our galaxy, other galaxies
- Describe: the seasons and the Earth's tilt, day length at different times of year, in different hemispheres
- Understand the light year as a unit of astronomical distance.
- Calculate weight = mass x gravitational field strength (g), on Earth  $g=10 \text{ N/kg}$
- Scale models of distances between celestial bodies and sizes
- Modelling orbits and spin of celestial bodies
- Modelling: day night/seasons/temperature differences and phases of the moon with light source

## 1. The Night Sky

Our Solar System contains:

A **Star**: The Sun

**Planets**: Which go around the Sun

**Satellites**: Which go around planets

Smaller objects: Such as **asteroids** and **comets**

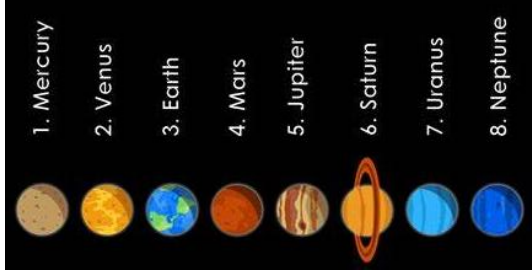
An **orbit** is a regular, repeating path that one object in space takes around another one.

These can be **circular** or **elliptical** depending on the object and the circumstances around its formation.



## 8.5 – Space

### 2. The Solar System

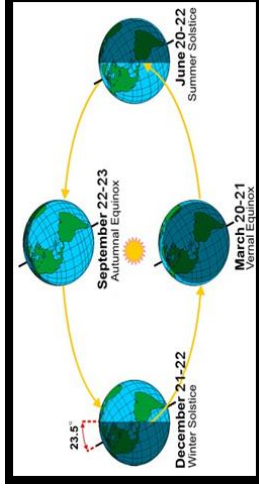


- Smaller than some moons!**
- Hottest! (450°C)**
- Home!**
- 6 rovers on here!**
- Largest!**
- Less dense than water!
- Spins on its side! (98° tilt)**
- Coldest! (-200°C)**

### 3. The Earth

- Hemisphere** – half a sphere (northern and southern)
- A day** - time taken for the Earth to spin on its axis once (24 hours)
- A year** - the time taken for the Earth to complete 1 orbit around the sun (365.25 days)
- Tilt** - the angle of rotation measured from perpendicular to the solar plane (23.5° for Earth).

**Seasons:**



### 6. The Universe

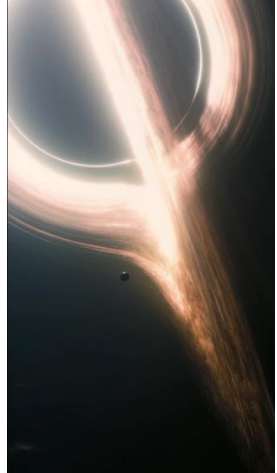
**Galaxy** - a large group of gravitationally bound stars. (Can number trillions!)

**The Universe** - everything in existence.

**The Big Bang** - an energetic event that occurred at the start of our Universes existence,

**Black hole** - the final stage of the life of the largest stars. Its gravity is so strong nothing can escape it.

**Nebula** - huge clouds of gas in which stars are formed.



### 5. Gravitational Field Strength

It doesn't matter where in the Universe you are, **your mass will not change**.

Your **weight** is **dependent** of the size of the **gravitational field strength**.

So, because "g" is around 6 times less on the Moon than it is on Earth, you would weigh around 6 times less on the Moon!

We can use the following equation to calculate the **weight** of an object on a planet (e.g. Earth):

$$\text{Weight} = \text{mass} \times \text{gravitational field strength}$$

(N) (kg) (N/kg)

E-  $W = m \times g$

V-  $m = 65 \text{ kg}$     $g = 10 \text{ N/kg}$

E-  $W = 65 \times 10$

R-  $W = 650$

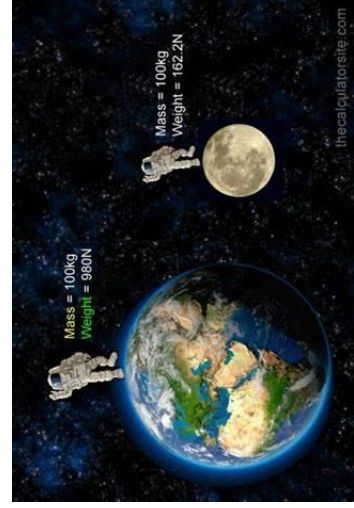
Y-  $W = 650 \text{ N/kg}$

**Weight** is a force that is dependent on the amount of gravity an object feels.

**Mass** is a measure of how difficult it is to change the motion of an object.

**Gravity (gravitational field strength)** is the force acting on each kilogram of mass.

**On Earth the gravitational field strength (g) is approximately 9.8 N/kg.**

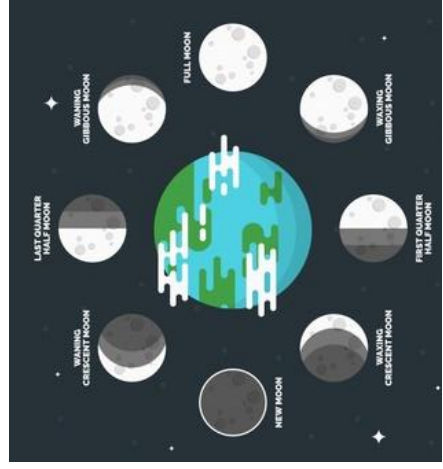


### 4. The Moon

The **Moon** is a natural satellite of the Earth.

The Moon completes 1 orbit of the Earth **every 28 days**.

Its position relative to the Earth and the Sun causes it to **appear different** in the night sky as the amount of observed **reflected** light changes.



## Space Questions

1. What is a planet?
2. What is a star?
3. What is a moon?
4. What is an orbit?
5. What do we call our sun and the planets / objects in orbit around it?
6. What do we call a family of 100's of billions of stars gravitationally bound together?
7. What is our galaxy called?
8. What do we call everything in existence?
9. Name the 8 planets in our solar system.
10. Define a day, including its length.
11. Define a year, including its length.
12. By how many degrees is the Earth tilted on its axis?
13. The Earth can be thought of a sphere. What do we call one half of this sphere?
14. Why do we experience differing intensities of sunlight throughout the year?
15. Why are daytimes shorter in the northern hemisphere during the winter?
16. Why are daytimes longer in the northern hemisphere during the summer?
17. Why are daytimes and night times equal in duration during the middle of autumn and spring?
18. What do we call the different appearances the moon takes during its orbit?
19. How long does it take for the Moon to go through all of its phases?
20. What was the Big Bang?

## Space Answers

1. A planet is a spherical body that orbits a star, clearing its orbit of any other objects.
2. A star is a hot sphere of plasma, made mostly of Hydrogen.
3. A moon is a natural satellite that orbits a planet.
4. An orbit is a regular, repeating path that one object in space takes around another one.
5. Our sun and the objects orbiting it are known as the Solar System.
6. A family of 100's of billions of stars gravitationally bound together is known as a galaxy.
7. Our galaxy is called the Milky Way.
8. Everything in existence is known as the Universe.
9. The 8 planets in our solar system are called: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, and Neptune.
10. A day is the time it takes for the Earth to rotate on its axis once, this takes approximately 24 hours.
11. A year is the time it takes for the Earth to orbit the sun, this takes approximately 365.25 days (1 year).
12. The Earth is tilted by 23.5 degrees on its axis.
13. Half of a sphere is known as a hemisphere.
14. Light hits the Earth's surface at different angles throughout the year. The more directly the light hits the surface, the higher the light intensity.
15. The northern hemisphere is tilted away from the sun in the winter, so less time is spent in sunlight and the days are shorter.
16. The northern hemisphere is tilted towards the sun in the winter, so more time is spent in sunlight and the days are longer.
17. The Earth is tilted at right angles to the sun in the middle of autumn and spring, so an equal amount of time (12 hours) is spent in day and night.
18. The moon's differing appearances are called phases.
19. The Moon takes approximately 28 days to go through all of its phases.
20. The Big Bang was an energetic event that occurred at the start of our Universes existence,

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

- Describe and give examples of oxidation and displacement reactions
- Describe the reactions of acids with metals to produce a salt plus hydrogen
- Describe the chemical properties of metal and non-metal oxides with respect to acidity.
- Describe the order of metals and carbon in the reactivity series
- Explain the use of carbon in obtaining metals from metal oxides
- Construct word equations for oxidation and displacement reactions
- Order metals and carbon in terms of their reactivity
- Predict the products of displacement reactions based on the reactivity series
- Quantitative and qualitative observations of reactivity

## 6. Metal Extraction

Most metals are found in the Earth's crust as **ores**

An **ore** is a rock that contains a high enough **concentration of a metal compound** to make it **economical** to extract the metal for use

**The method of extracting a metal is linked to the reactivity series**

- Unreactive elements are found in the earth's crust **native** – uncombined with any other element – and so do not need to be extracted
- Carbon can be used to displace metals less reactive than it to leave the pure metal e.g.  
**Iron oxide + carbon → carbon dioxide + iron**  
 $2\text{FeO} + \text{C} \rightarrow \text{CO}_2 + 2\text{Fe}$
- Metals that are more reactive than carbon are extracted from their ore using **electrolysis** (split up using electricity)

## 8.7 – The Reactivity Series

### 1. Balancing Symbol Equations

- Calcium reacts with hydrochloric acid to form calcium chloride and hydrogen gas.

Write the formula of the substances in the equation out as atoms present in each molecule. Put each in a 'bubble' – they now cannot be altered



- Tally the numbers of atoms of each element present on the left and right-hand side of the reaction arrow



- Identify unbalanced atoms

There is **one more hydrogen atom on the right** than on the left.

There is **one more chlorine atom on the right** than on the left

- Add duplications of bubbles as necessary and alter tally to reflect added atoms to the total.

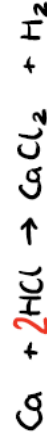
**Remember you can only add more bubbles – not change what is inside a bubble**

Repeat steps 3 and 4 until tally shows balanced atoms.



- Add numbers into original symbol equation to represent the ratio of 'bubbles' (molecules) of each substance reacting together.

You do not need to write a number '1'



## 2. Metals & Oxygen

**Metal + oxygen → metal oxide**

e.g. copper + oxygen → copper oxide  
 $2\text{Cu} + \text{O}_2 \rightarrow 2\text{CuO}$

This is an **oxidation** reaction. The metal has been **oxidised** as oxygen has been added to it.

Metal oxides e.g. calcium oxide (CaO) are basic or form alkaline solutions with a high pH. Calcium oxide is added to soils to **neutralise** effects of acid rain

**Hint: revisit 7.9 Acids & Bases for neutralisation**

vs

**Non-metal oxides** e.g. sulphur dioxide (SO<sub>2</sub>) form **acidic solutions with a low pH**. Sulphur dioxide **dissolves in rainwater to give acid rain**.

## 3. Metals & Acids

**Metal + acid → salt + hydrogen**

Observations: fizzing as bubbles of hydrogen gas is produced

**To name the salt:**

- Prefix of the name is dependent on the metal used
- Suffix is dependent on the acid used:

Type of Acid	Suffix of salt name
Hydrochloric acid	Chloride
Sulphuric acid	Sulphate
Nitric acid	Nitrate

e.g.

**Lithium + hydrochloric acid → lithium chloride + hydrogen**  
**Calcium + sulphuric acid → calcium sulphate + hydrogen**

Not all metals will react with acids – only those that are more reactive than hydrogen will.

This is because a **displacement reaction** takes place. A **metal more reactive than hydrogen can displace it from its compound – releasing hydrogen gas**

**Calcium + sulphuric acid → calcium sulphate + hydrogen**  
 $\text{Ca} + \text{H}_2\text{SO}_4 \rightarrow \text{CaSO}_4 + \text{H}_2$

## 4. Reactivity Series



For more examples and help with balancing symbol equations

## Reactivity Series Questions

1. What is the law of conservation of mass?
2. Non-metal oxides are acidic in solution. What could the pH range for these be?
3. Identify which of these three would be alkaline in a solution. A) Iron Oxide. B) Copper Oxide C) Aluminium Oxide
4. What pH would CO<sub>2</sub> have in solution? How do you know?
5. What happens to the mass of iron as it reacts with oxygen? Explain your answer
6. Write a word equation for the reaction between tin and oxygen
7. Write a word equation for the reaction between zinc and oxygen
8. Write a word equation for the reaction between strontium and nitric acid
9. Write a word equation for the reaction between zinc and hydrochloric acid
10. Which metal and acid would you use to make copper sulphate?
11. How could you test for the presence of hydrogen?
12. Is this equation balanced? Explain your answer  $Mg + H_2SO_4 \rightarrow MgSO_4 + H_2$
13. If 24g of magnesium produces 85g of magnesium chloride and 2g of hydrogen when it reacts with hydrochloric acid, what mass of hydrochloric acid reacts?
14. Two elements react in water. Element A produces a lot of bubbles. Element B produces large sparks. Which is more reactive?
15. Identify the most reactive element - gold and silver
16. Identify the most reactive element - zinc and carbon
17. Predict whether a displacement reaction will occur between copper and gold oxide
18. Predict whether a displacement reaction will occur between sodium chloride and magnesium
19. Predict whether a displacement reaction will occur between carbon and iron oxide
20. Write a full word equation for the reaction between Iron oxide + carbon



## Reactivity Series Answers

1. The total mass of reactants = the total mass of products
2. The pH range for non-metal oxides in solution would be below 7.
3. They would all be alkaline in solution.
4. Carbon Dioxide would have an acidic (below 7) pH in solution because it forms Carbonic acid.
5. The mass increases as it forms Iron Oxide and the oxygen atoms have mass.
6. Tin + Oxygen  $\rightarrow$  Tin Oxide
7. Zinc + Oxygen  $\rightarrow$  Zinc Oxide
8. Strontium + Nitric Acid  $\rightarrow$  Strontium Nitrate + Hydrogen gas
9. Zinc + Hydrochloric Acid  $\rightarrow$  Zinc Chloride + Hydrogen gas
10. To make copper sulfate use Sulfuric acid and Copper metal.
11. The test for hydrogen gas is that a lit splint causes a squeaky pop.
12. This equation is balanced as the number of atoms of each element are equal in the reactants and the products.
13.  $(82\text{g} + 2\text{g}) - 24\text{g} = 60\text{g}$  of hydrochloric acid
14. Element B is more reactive as it has demonstrated a more vigorous reaction.
15. Silver is more reactive than gold. It will tarnish, gold will not.
16. Carbon is more reactive than zinc. Zinc can be extracted from zinc oxide by being heated with carbon.
17. Copper is more reactive than gold so will displace gold from gold oxide.
18. Magnesium is less reactive than sodium so will not displace sodium from sodium chloride.
19. Carbon is more reactive than iron so will displace iron from iron oxide.
20. Iron Oxide + Carbon  $\rightarrow$  Iron + Carbon Dioxide

# Cricket, anyone?

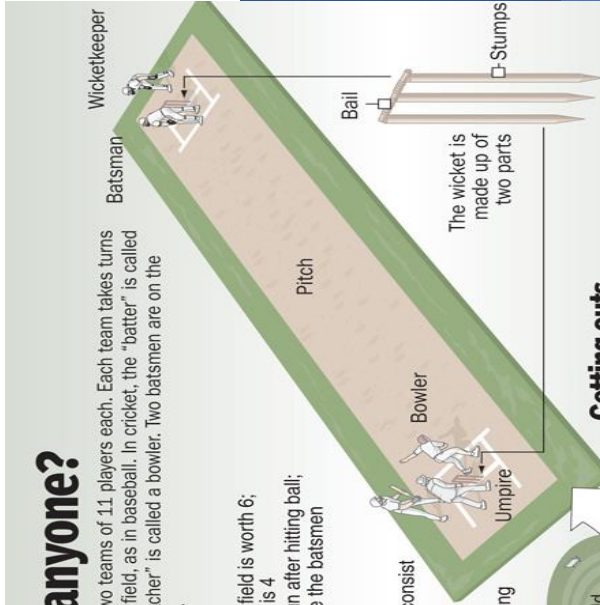
Cricket is played with two teams of 11 players each. Each team takes turns batting and playing the field, as in baseball. In cricket, the "batter" is called a batsman and the "pitcher" is called a bowler. Two batsmen are on the pitch at the same time.

## Scoring runs

- Fly ball hit out of the field is worth 6; out on a bounce or roll is 4
- Batter can elect to run after hitting ball; run is scored each time the batsmen change places

## Innings

- Generally, matches consist of one or two innings per team; fielding team must retire 10 batsmen to end an inning



## Getting outs

- Bowled out: Bowler knocks over wicket with a ball
- Caught out: Fielder catches batted ball on the fly
- Run out: Fielder catches ground ball and throws it at wicket, knocking it down before batsman gets there
- Leg before wicket (lbw): Batsman's body interferes with a bowled ball that would hit wicket

## Task 5

- Scoring runs  
True or False
- 1) If the ball doesn't hit the ground it is 6 points.
  - 2) You get 1 point if the ball is caught.
  - 3) You get 4 points if the ball goes out the boundary after hitting the ground.

## Task 4

Read over the "Getting outs" subheading on the image. Write down all 4 definitions of ways of getting out and cover up the explanations. Self assess yourself by writing up the correct explanation with the definition.

## Cricket bowl



## Equipment



## Task 1

- 1) How many bowlers are on the field at one time.
- 2) How many batsmen are on the pitch at the same time?
- 3) How many players should be on each team?

## Task 2

Scan the safety equipment QR code and read through the table. Write out all the equipment you need and cover up the "purpose box" and based on memory write up the purpose for each equipment.

## Task 3

You are going to do the same again however, this time you are going to cover the equipment list up and match the equipment with the purpose and the "worn on"

## Batting:

1. Grip the cricket bat properly. If you're right-handed, place your left hand on top of the handle with the right hand under it; left-handers place the opposite way.
2. Proper stance. If you're right-handed, stand sideways in the crease (the "safe" area in front of the wicket) with your left shoulder towards the bowler (who "pitches" the ball); left-handed batters do the opposite.
3. Weight movement. Shift your weight from your back foot onto your forefoot to meet the ball.
4. Swing the bat properly. When the ball is pitched, swing the bat backwards in a straight line. The back-swing provides the power for the shot; a good swing clears the top of the wicket.

## Answers (rotate)

- Task 1
1. One
  2. Two
  3. 11

Task 2, 3 and 4 is all self assessment and you have the answers yourselves (try to beat your first attempt)

- Task 5
1. True
  2. False
  3. True



PERFECT  
PRACTICE  
MAKES  
PERFECT



*SCAN ME*

Learning to Learn



*SCAN ME*

The 'Listen' Project #1