

Working together to turn  
your child's potential  
into reality.



# Year 8 Autumn Knowledge Organiser



# Homework Principles 2024-2025

Our Homework Principles are based on current, influential research:

At The Royal Sutton School we set homework which supports students' understanding of their carefully sequenced curriculum as well as developing their committed and self-disciplined approach to their own academic studies. We know that homework has an impact by enabling pupils to undertake independent learning to practice and consolidate skills, learn key vocabulary, prepare for lessons, or revise for exams.

The Education Endowment Fund suggests that setting homework at Secondary School can accelerate learning by up to 5 months, however it is the quality of tasks set rather than quantity which enhances progress, which is why we are clear in our principles when planning homework against our curriculum implementation.

## ACCESSIBLE

- A new Knowledge Organiser will be issued to all students at the start of each term. This will form the basis for most homework so that students have the resources at hand
- Homework tasks should be short and focused ensuring accessibility for all students
- Students will be set homework weekly for most subjects with adequate time for completion
- Students will be taught independent learning strategies as well as explicit teaching of our virtues and school routines to build learning habits

## ACCESSIBLE

## PRECISE

- Tasks have a defined and exact outcome
- Students will be directed to practise or retrieval or embedding the curriculum
- The way this will be assessed is communicated to students, as well as when this will happen
- Homework is designed to link to classroom learning, with clear signposting to prior, current or future knowledge
- Teachers are asked to plan homework tasks for the term in line with long term plans and summative assessments- this will be shared with students and parents

## PRECISE

## INFORMATIVE

- Teachers use homework as part of their formative assessment to adapt teaching to better respond to student need in terms of what students know and what they don't know yet
- Teachers will gather data through a variety of quality first teaching routine techniques which may include: Do Now Activities, Exit Tickets, Deliberate Practice; Questioning, Mini Whiteboards
- Student engagement is monitored as well as progress and attainment

## INFORMATIVE

**TRSS**

**Year 8**

**Knowledge Organisers**

**Contents**

## Year 8 Subjects

Art and Design

Drama

English

Food

Geography

History

Information Technology

Modern Foreign Languages

Music

Physical Education

Religious Education

Science

Technology

Mathematics

# Art & Design: Mexican Culture

## 1. Day of the dead

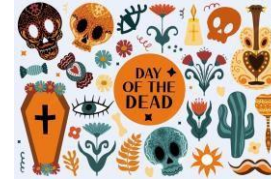
**Spanish:** Día de los Muertos  
The Day of the Dead Festival is celebrated as a way of marking respect for deceased family members. Throughout Mexico people dress up, wear makeup and costumes and hold parades and parties, making offerings to lost loved ones. The Day of the Dead originated a long time ago with the belief that mourning the dead was disrespectful; for pre-Hispanic cultures, death was a natural phase and the dead were still members of the community, kept alive in memory and spirit.



## 2. Symbolism in Mexican Art. Research.

Here are six important symbols of Día de los Muertos.

- Remembering the family: The ofrenda.
- A doorway to the dead: Marigolds.
- A sweet treat: Sugar skulls.
- Colourful banners: Punched paper.
- Home baked comforts: Bread of the dead.
- A dancing icon: La Catrina.



**Artist Thaneeya McArdle** creates intricate sugar skull designs considering symmetry and pattern in her work.

## 3. WOW WORDS

The Formal Elements are the parts used to make a piece of artwork.

- Line**
- Shape**
- Space**
- Form**
- Tone**
- Texture**
- Pattern**
- Colour**
- Composition**



They are often used together, and how they are organised in a piece of art determines what the finished piece will look like.

## 4. Mexico

Mexico is located in the southern part of North America, between the United States and Central America. Mexico is bordered by the U.S. to the north and Guatemala and Belize to the south.



## 5. Reference Imagery

Year 8 Mexican Day of the Dead Skull Drawing. Reference Image

Guidelines to support positioning:

**DRAWING TIPS**

- Fold your page in half to get the line of symmetry
- Draw lightly in pencil
- Use a grid to help with placement.

## 6. Reference Imagery



## KNOW IT

**The Formal Elements** are the parts used to make a piece of artwork. They are often used together, and how they are organised in a piece of art determines what the finished piece will look like.

**Line:** is a mark made on a surface that joins different points. Lines can vary in length, width, direction and shape.

**Shape:** Shape is a two-dimensional area. Shapes have height and width but not depth.

**Space:** Space can refer to objects and to the area around them.

**Form:** Forms have three dimensions, height, width and depth.

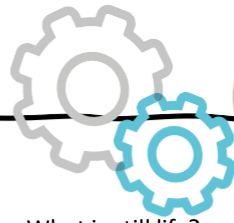
**Tone:** Tone is the lightness or darkness of a colour. This can be used to show shadows or highlights.

**Texture:** Texture means how something feels. There are two types of texture: actual texture and visual texture.

**Pattern:** Pattern is a design in which lines, shapes, forms or colours are repeated.

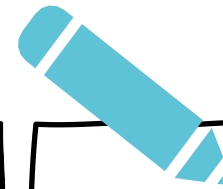
**Colour:** There are three primary colours. Red, Yellow and Blue. Secondary Colours are made by mixing two primary colours together. Complementary colours are colour opposite each other on the colour wheel.

**Composition:** Composition is the way in which different elements of an artwork are combined or arranged.



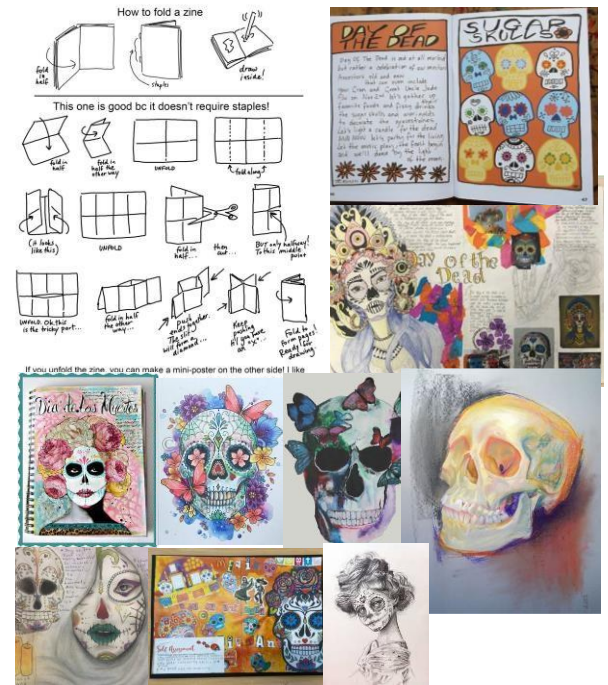
## THINK IT

- What is still life?
- What is Primary Observation?
- What is Secondary Observation?
- How have line, shape and pattern been considered in the drawing of the sugar skull below. Do you think Symmetry has played a large part in the success of this design? Explain your answer.
- What does the skull in Mexican Culture represent?
- What imagery is used within Day of the Dead? List three.
- What does the word "Calavera" mean?
- List three items that are placed on the altar?
- What date does the Day of the Dead Festival take place?
- Name the flowers often seen in Day of the Dead Celebrations.
- Think of the colour wheel. Write down the three complimentary pairs
- List 3 warm colours and 3 cold colours.
- Look at the skull in oil pastel (below). Where do warm colours need to be applied? Where do colder colours need to be applied?
- Why is colour important in creating 3D form?
- What colours can be used to create shade?
- Why is using colour to create shadow often more successful than just using black?



## GRASP IT

- Combining both knowledge of the Art Formal Elements and of the Mexican Day of The Dead Festival create an engaging, colourful and informative Zine to present information and drawings about the Festival. Demonstrate skills across all the Formal Elements.
- A Zine is like a mini comic.



# Drama: Mime & Comedy



## 1. Mime

Mime is a genre of silent performance. It requires an actor to use:

- Clear facial expressions to show emotion
- Clear, simple gestures to explain the action and to set the scene
- Posture that shows a clear character
- Movement that is simple and suits the scene and character created



## 4. Set the scene

Creating any performance can be hard, but a mimed performance is really challenging because your communication is limited.

You will need to make two things clear before anything else. You need to show the audience WHERE you are and WHO you are.

## 2. Rule of three

This rule is a simple way of remembering how important an audience's understanding is.

- You set an expectation
- You reinforce the expectation
- Then break the expectation

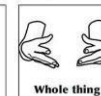
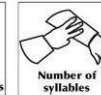
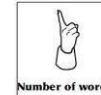


You throw an egg in the air and catch it  
You throw it again to establish it with the audience  
The third time something can happen or go wrong.

## 5. Charades

A fun, silly exploration to do with mime is the game Charades. See if you can get someone to guess these words from the gestures you use.

- |                  |                   |
|------------------|-------------------|
| 1) Golf          | 10) Snooker       |
| 2) Guitar        | 11) Table Tennis  |
| 3) Darts         | 12) Bike riding   |
| 4) Swimming      | 13) Juggling      |
| 5) Football      | 14) Making a cake |
| 6) Boxing        | 15) Phone call    |
| 7) Tennis        | 16) Arm wrestle   |
| 8) Basketball    | 17) Reading books |
| 9) Skateboarding |                   |



## 3. Key words & phrases

**Mime**  
**Gesture**  
**Facial Expression**  
**Posture**  
**Movement**  
**Exaggeration**  
**Clear**  
**Silent**  
**Clowning**  
**Mirroring**  
**Sculpting**  
**"Yes, and..."**  
**"What if?"**



## 6. "Yes, and..."

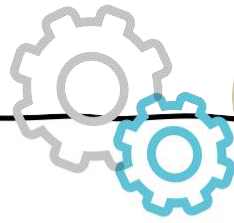
This is an activity where you need to look to grow and develop a scene, looking for a funny thing to happen. See if you can create a funny idea from these starters

- 1) A couple are getting married
- 2) A man is making a cake
- 3) A lady loses her shoe
- 4) Someone walks into a library
- 5) A fisherman is fishing
- 6) Two friends are jogging



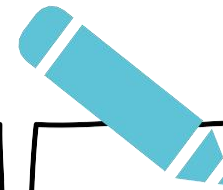
## KNOW IT

1. Do I know how Mime can be used?
2. What elements of a character are really important in Mime?
3. Do I know what is most important elements of a mimed performance are?
4. What is the rule of three in Comedy?
5. Why do we use the phrase "Yes, and..." in the development of Drama
6. What is clowning?
7. What is mirroring?
8. What is Action Narration?



## THINK IT

1. Do I know how Mime can be used?
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## GRASP IT

### Challenge

Hold an item from somewhere in your house. Carefully study where your fingers are placed on it, how the weight changes how you move your arm or body.

Put the item down, but try to recreate the exact **POSTURE, GESTURE, FACIAL EXPRESSION** and **MOVEMENT** whilst miming the object is there.

### Challenge

See if you can demonstrate your communication skills using mime.

- See if you can ask for something simple from someone without using or mouthing any words
- See if you can change your posture to suit a different character
- See if you can change your movement to suit a different character  
(Try to do this one far away from the person you are copying!)



# English: Sherlock Holmes



Year  
8  
KO

## 1. Character List

**Sherlock Holmes** – a consulting detective. He is known for his intelligence, introspection and dual nature. He is described as an ‘observing machine’ because of his ability to capture the essence of people with seemingly very little evidence.

**Dr Watson** – Holmes’ former flatmate, a doctor and his closest companion.

**King of Bohemia** – in the Victorian era, Bohemia was an area of central Europe; today it is a region of the Czech Republic. Had a relationship with Irene Adler.

**Irene Adler** – a famous American opera singer who had a relationship with the future King of Bohemia. To Holmes, she is ‘the woman’ who outsmarted him.

**James Ryder** – head attendant of the hotel where the Blue Carbuncle goes missing.

**Catherine Cusack** – James Ryder’s accomplice (the countess’ maid)

**John Horner** – framed for stealing the Blue Carbuncle.

**Jabez Wilson** – a London pawnbroker who has distinctively red hair.

**Vincent Spaulding/John Clay** – Jabez Wilson’s assistant who attempts a bank robbery using Wilson’s shop as an easy passage.

## 2. Key Words

**enlighten** – to provide someone with information and understanding.

**deduction** – the process of reaching a decision by looking at the facts that are known.

**scandal** – a scandal is something that shocks people because they think it is morally wrong.

**periodical/serial** – books, magazines or other entertainment that are released on a regular basis.

**introspective** – when you examine your own thoughts, ideas, and feelings.

**dual nature** – Holmes has a dual nature: his quiet introspective side, and his manic detecting side.

**context** – real life factors that explain why a text was written.

**gender expectations** – the characteristics that society label as the ones we should show according to our gender.

**patriarchy** – a system of society or government in which men hold the power and women are largely excluded from it.

## 5. Themes

Observation & Knowledge  
Reality & Appearance  
Too Good to be True  
Judgement & Mercy  
Reputation  
Fear of the Unknown  
Class

## 3. Plot Summary

- **Scandal in Bohemia** The King of Bohemia plans to marry a Norwegian princess. However, he previously had a relationship with a woman called Irene Adler. Adler is threatening to ruin his engagement with a picture she has of herself and the king together.
- Holmes tricks Adler into revealing where she keeps the photograph, but she outsmarts Holmes and escapes with it. Adler decides not to use the picture against the king. She leaves a picture of herself in its place, which Holmes keeps as a reminder of her.
- **The Red-Headed League**
- Jabez Wilson gets a job with the mysterious ‘Red-Headed League’ because of his ‘flame’ coloured hair.
- One day, he is mysteriously told that he is no longer needed by the league so visits Holmes to ask him to investigate.
- Holmes discovers that his story reveals a plot to steal from a bank vault which is successfully prevented.
- **The Blue Carbuncle**
- A policeman named Peterson is left with a man’s hat and Christmas goose.
- He takes the goose home to eat and discovers a blue carbuncle (a rare, and very valuable jewel) inside the goose!
- Holmes recognises the jewel as the one that was stolen from The Countess of Morcar. Using the hat as a clue, Holmes and Watson set off to discover how the blue carbuncle was stolen and how it ended up in a goose.

## 4. Social and Historical Context

- In 1859, the year Doyle was born, Charles Darwin published his work on evolution, *On the Origin of Species*. It challenged religion and it caused a crisis of faith among many Victorians. Darwin’s deductive methodology paved the way for the advances in science, medicine, and public health. Holmes reflects this change because has an obsessive reliance on "data" and has an exceptionally well-honed talent for observation. He is neither religious nor superstitious.
- London was the largest city in the world and Victorian Britain created a substantial middle class. This new middle class sharply increased the demand for newspapers and magazines. Doyle’s short stories were published individually in *The Strand Magazine* periodical.
- Before he became a writer, Doyle studied medicine.





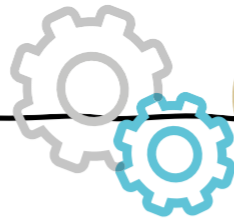
## KNOW IT

### 6. Links to Prior Learning

Irene Adler (a Scandal in Bohemia) and Hermia both challenge gender expectations by standing up to the patriarchy.

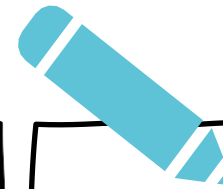
- Sherlock Holmes stories and 'Oliver Twist' were both written in the Victorian era. This means that they have similar context/contextual details.
- Sherlock investigates crime makes deductions. Oliver Twist is drawn into the criminal world of Victorian London.

1. Give a definition of each key word.
2. List all the characters in the text.
3. List all the figurative language techniques that you can recall.
4. What does PETAL stand for?
5. How are the characters related to each other?
6. Can you summarise the plot in 50 words?
7. Can you list the 10 most important plot points?
8. Can you put the main plot points into chronological order?
9. Which 5 words best describe the protagonist?
10. Which 5 words would you use to describe other key characters?
11. What are the main themes in the text?
12. What are the social and historical links to the text?
13. Why did Sir Arthur Conan Doyle write his stories in a periodical?
14. Find out more about the Bow Street Runners, Sir Robert Peel, or the Whitechapel murders.



## THINK IT

1. How do you use the PETAL paragraph structure to write a character analysis?
2. Why is the context of a play/novel important?
3. How do the main themes link to the protagonist?
4. How do the main themes link to other characters in the text?
5. Is the author challenging, endorsing, or simply reflecting the dominant ideas and assumptions of the time and place in which they are writing?
6. **John Snow:** Write a diary entry for John Snow, focussing on the day he worked out that the Broad Street Pump was infecting people.
7. Holmes and Watson create a plan to get into Irene Adler's house to find the photograph. Are Watson's and Holmes's actions justifiable or should they be punished for breaking the law? Write 100 words to express your opinion.
8. We have looked a lot at what makes Holmes such a good detective. But Dr. Watson is also a very good companion. What makes Watson such a good companion to Sherlock Holmes?



## GRASP IT

1. What is the impact of the opening of the text?
2. What is the impact of figurative language use within the text?
3. Why are the key themes important for the reader/audience to understand?
4. Why might a modern-day audience or contemporary reader criticise the author's intended message?
5. **Metaphor:** Try writing your own metaphor for Sherlock Holmes. Explain the tenor, ground and vehicle and why you used them.
6. Do you think that Sherlock wants recognition for his intelligence? Explain your answer.
7. The Sherlock Holmes stories are told from the perspective of Dr. Watson. Why do you think this is? Would the stories be as interesting or enjoyable if they were told from Sherlock Holmes's perspective? Why? Why not?

# Food: Diet and Health

## 1. The Eatwell Guide



## 2. The Eatwell Guide Explained

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

## 3. Water

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

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

## 4. Origins of Bread

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

## 5. Bread Making

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

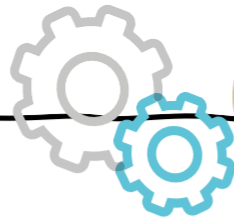
## 6 A third of your diet is based on carbohydrates

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



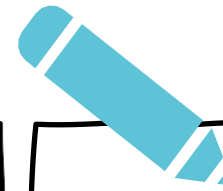
## KNOW IT

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



## THINK IT

1. Why do you think the Eatwell Guide was introduced by the government?
2. Explain the importance of following the Eatwell Guide?
3. Why do you think preparing food safely is important?
4. What are the health implications if you are obese?
5. Bread is a staple food, why is this?
6. Find the origin of different breads and recipe to compare with traditional bread making.



## GRASP IT

1. Draw your favourite meal, label the nutrients to see if it is a balanced meal?
2. How can you improve your meal, think about the Eatwell Guide and what you can add to your drawing?
3. Key spelling, associated with the colours on the Eatwell Guide. Can you use in your own written explanations?  
Carbohydrates  
Protein  
Fats  
Vitamins  
Minerals
4. Breakfast is the most important meal of the day, why is this and what foods should you avoid for breakfast?
5. Make A list of a variety of foods that are healthy for breakfast.

# Geography: Africa

Year  
8  
KO

## Unequal world: retrieval- last term

Megacities are cities with – 10 million people and more.

Many people across the world move from rural areas (countryside) to urban areas (the city). This is for many reasons and known as push and pull factors.

Push = pushing them away from the countryside e.g no jobs, no food

Pull – pulling them towards the city e.g jobs, security and running water.

With large amount of people migrating to cities there is a huge demand on resources. Many people in poorer countries across the world end up in slums such as: Dharavi. Here there is disease, dirty water, poor access to electricity and life can be very hard with lots of children dying young.

## Poverty in Africa

Africa has had a mixed past, today Africa is the worlds poorest continent.

A major reason for this poverty can be traced back to 1884. By the end of the 1800s, much of Africa had been divided up between the European Super powers like the UK and Germany in what became known as the 'Scramble for Africa'. European powers wanted control over Africa for the following reasons: ivory, diamonds, slavery, naval bases and to build an empire.

Due to Africa's history large parts of the continent remain in poverty today. The main reasons for this are: limited access to education, occurrence of natural disasters, debt, diseases such as HIV/Aids and historical slave trade.

## Introduction to Africa

Africa is one of **7** continents. **54** different countries make up the continent of Africa this include locations such as: Egypt, South Africa, Ethiopia and Morocco.

The **Sahara desert, River Nile and mount Kilimanjaro** are the **physical features** found in the continent. The Sahara stretch across 10 countries from Mauritania in the west to Sudan in the east.

Africa is also home to a range of different ecosystems these are: deserts, grasslands, tropical rainforest and Mediterranean.

Deserts are located the north of Africa. During the day the temperature may reach 50°C, when at night it may fall to below 0°C. Deserts have less than 250 mm of rainfall per year. Vegetation such as Cacti are found here, due to such as small amount of rain there is very little vegetation in the desert.

Grasslands are located in regions of Africa such as Zimbabwe and Malawi in sub-Saharan Africa. Warm temperature all year round. There are two definitive seasons: Long dry season (winter) An extremely wet season (summer). The Vegetation here is a savannah is rolling grassland scattered with shrubs and isolated trees.

## Moutain Gorilla's and Eco-tourism

Mountain Gorilla's are critically endangered. They are found in the Tropical Rainforests of Africa. They are becoming endangered due to human activities such as poaching, habitat loss, disease, deforestation and conflict.

In order to protect these endangered species strict rules have been imposed within the national parks. One way of protecting the mountain gorillas is through ecotourism. Tourists buy expensive permits which allow them to be guided by rangers into the rainforest to find habituated family groups of gorillas and watch them go about their normal lives. Tourists must stay a distance of 7 meters from the gorillas.

Not all ecotourism principles are positive, there are some negative sides to this approach of conservation : Gorilla's can become stressed and dangerous, there population is extremely fragile and they could catch diseases carried by the tourists visiting them.

## 3. WOW WORDS

Ecosystem – An interaction between living and non living organisms.

Scramble for Africa - was the invasion, occupation and colonization of African territory by European powers during the period between 1881 and 1914.

Critically endangered – facing an extremely high risk of extinction in the wild

Ecotourism – Responsible travel to natural areas that conserves the environment and improves the well-being of local people.

Maasai - A pastoral people living in Tanzania and Kenya.

Piracy – the practise of attacking and stealing ships.

## Africa's people

### The Maasai Tribe

The Maasai Tribe are nomadic people living in Tanzania and Kenya. This tribe follows a very traditional way of life full of rituals that are very different to our own. They live in huts that they build themselves out of wood, grass and cow dung. The Maasai tribe also drink animals blood on special occasions and they made necklaces and bracelets to sell to tourists who visit the national park on safari.

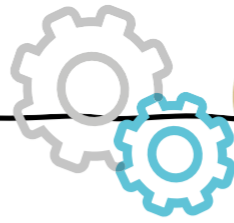
### Pirates of Somalia

Due to large unemployment, war, drought and failed fishing industries. More and more men are turning to modern day piracy in Somalia as there are no other ways to support their families. These men take over 'Super tankers' carrying goods across the ocean – these are worth an estimated \$175 million.



## KNOW IT

1. How many countries is the Sahara located in.
2. How many different ecosystems are found in Africa.
3. What vegetation would you find in the desert?
4. What was the scramble for Africa?
5. List one positive and one negative of the colonisation of Africa.
6. Define the term 'Poverty'.
7. What are the causes of poverty across Africa?
8. What is it like living in the slums in Nairobi?
9. Why do people living in Somalia turn to piracy?
10. How do the Maasai tribe live?
11. Why are the Mountain Gorillas endangered?
12. What is the role of Ecotourism in the Rwandan national park?



## THINK IT

1. Use the data from the table below to plot a bar chart to show population of the mountain gorilla in 5 year intervals. Give your graph a title.

Mountain gorilla population

\*Data is number of individuals found in the wild

1955	1960	1965	1975	1980	1985
479	417	365	275	250	360
1990	1995	2000	2005	2010	2015
620	622	600	720	880	1004

2. Describe the changes to the population on the graph that you have constructed, in particular say what has happened to gorilla numbers since the park reopened in 1999
3. Has ecotourism had a positive or negative Impact on mountain gorilla numbers? Explain your answer using full sentences.



## GRASP IT

Design a travel leaflet to be distributed to tourists planning a trip to Africa.

Success criteria:

- A map of the continent , with labelled human and physical features e.g. River Nile
- Pick one ecosystem and describe what it is like there.
- What is the history of Africa? And what problems does it face today?
- Who are the Maasai tribe and why should people visit them.
- Where are Mountain Gorillas found and what can humans do to protect them.



# History: The Industrial Revolution

## 1. Life in 1750

The majority of the British people lived in the **countryside** in 1750. A typical job during this period was working on working on the land for **farmers**.

This paid well for the majority of the population but did not provide paid work for **all of the year**.

In the **winter months** people had very little work to complete so therefore many had to survive on very little.

## 4. WOW WORDS

**Laissez-Faire:** When the government does not involve itself with the public.

**Germ Theory:** The discovery that germs cause disease by John Snow.

**Industrial Revolution:** Significant change in industry and factory's during the 18<sup>th</sup> century.

## 2. The Industrial Revolution

### What was the Industrial Revolution?

The word 'revolution' means a significant change, one which usually ends up impacting large numbers of people.

During the Victorian period, Britain's Empire was expanding rapidly.

**As a result**, many items needed to be produced to help support the empire.

Factory work offered people living in the countryside guaranteed work for all of the year, instead of being reliant only on the farming calendar.

**As a result**, much of the population moved to live in towns and cities.

## 5. Life for Children in the Industrial Revolution

Many families did not have much money during the Industrial Revolution so had no choice but to send their **children to work**. The **conditions** in the factories were awful and many children were not trained to use the machinery, meaning that many **injuries and deaths** occurred as a result.

Due to school not being compulsory at this time, many children had to **work long hours** and got little sleep. Most factory owners treated child workers in the factories **badly**.

## 3. Key Events

James Watt  
invents the  
steam engine



1769

Steam  
locomotive  
invented



1801

Slavery  
abolished



1834

Samuel Moore  
invents the  
telegraph



1844

Alexander  
Graham Bell  
invents the  
telephone



1876

Thomas  
Edison  
invents the  
light bulb



1879

Wright brothers  
invent the  
plane



1903

Start of WW1

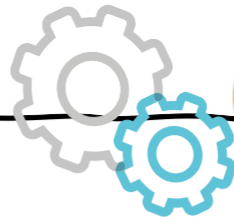


1914



## KNOW IT

1. What type of jobs did people have in Britain in 1750?
2. Why did large numbers of people move to live in towns and cities during the 1800s?
3. What were the conditions like in towns and cities during the Industrial Revolution.
4. What do we mean by the term 'Laissez-Faire'?
5. How were children often treated in the factories?
6. What was the name of the French scientist who discovered 'Germ Theory'?
7. Why was Germ Theory such an influential scientific discovery?
8. Why did the Laissez-Faire mentality of the government hold back progress in Public Health?



## THINK IT

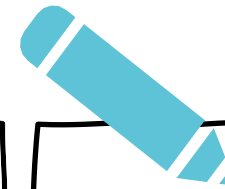


Why do you think there is a skeleton on the River Thames in London?

What disease was carried by dirty water, and why do you think that the source is focusing on it?

What do you think that the artist who drew the source is attempting to achieve?

If you could travel back in time, what would you say about the idea of Laissez-Faire to a group of politicians?



## GRASP IT

Design an information booklet to be distributed to politicians making the key decisions during the mid 1850s. Explain to them:

What the scientist John Snow has found out about how Cholera is spread.

How they can prevent the spread of it.

Why it is time to end the Laissez-Faire approach



# Information Technology: Computer Systems and Networks

## 1: Advantages & Disadvantages

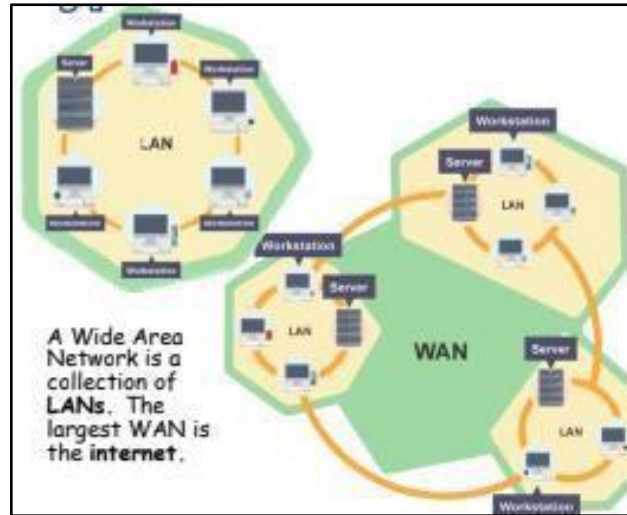
**Advantages**

- Share files
- Share internet connection and devices
- Communication
- Roaming profile

**Disadvantages**

- Reliance on networked resources
- Expensive hardware
- Risk of viruses and hacking
- Specialist staff often required

## 2: Types of Network



## 5: Keywords

- Internet:** A global computer network.
- WWW:** Linked pages hosted by the internet to provide information.
- ISP:** The company that provides users access to the internet.
- Computer network:** A group of connected computers.
- Social network:** A website that connects people to allow them to communicate and share.
- Router:** A device that forwards data packets across the internet to devices.
- IP address:** A unique string of numbers that identifies each computer using the internet.
- Switch:** Connects devices together on a network.
- MAC address:** A unique identifier assigned to a device by the manufacturer.
- Bandwidth:** How much data can be sent over an amount of time.
- Topology:** The pattern in which devices are connected in a network.
- WAN:** Network over a wide geographical area.
- LAN:** Network over a small geographical area.

## 3: Arithmetic Operators

Computer Misuse Act 1990	This Act has three main principles, designed to prevent unauthorised access or 'hacking' of programs or data. These are: unauthorised access to computer material; unauthorised access with intent to commit a crime; unauthorised modification of computer material.	Data Protection Act 1998	This Act states that anyone who stores personal details must keep them secure. Companies with computer systems that store any personal data must have processes and security designed into the system to meet this.
Copyright Designs and Patents Act 1988	This Act is designed to protect the creators of books, music, video and software from having their work illegally copied. Public cannot use their work as their own without first gaining permission.	Freedom of Information Act 2000	This Act gives people access to data held by public authorities, including state schools, police forces, local authorities and the NHS. It does not give access to personal data about people, but it means, for example, that anyone can ask for a list of all of the state schools in a certain area.

## 4: Hardware

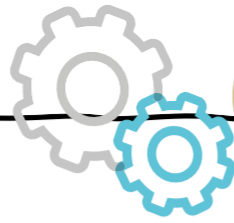
- Switch/Hub
- Router
- Ethernet cable
- NIC





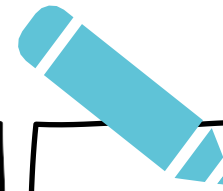
## KNOW IT

- Design an information booklet to be distributed to politicians making the key decisions during the mid 1850s. Explain to them:
- What the scientist John Snow has found out about how Cholera is spread.
- How they can prevent the spread of it.
- Why it is time to end the Laissez-Faire approach



## THINK IT

- Think back to 20 years ago what pieces of technology do you think did not exist then?
- Think back to the War what impact did Alan Turing have on the War?
- Can you identify at least 5 components that make up a computer system?
- Which component do you think is the most important and explain why?



## GRASP IT

- What do the 3 acronym's below mean:
- LAN:
- WAN:
- PAN:
- Of those 3 which covers the largest radius?
- Which one covers the shortest radius and why may that be?

# Modern Foreign Languages: On Déménagement

## 1. THERE IS/ THERE ISN'T

il y a - there is / there are  
il n'y a pas **de** - there isn't/ there aren't









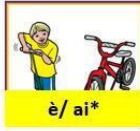

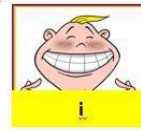
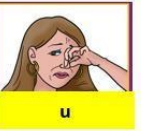
A Toulouse, il y a un stade de rugby et une rivière, mais il n'y a pas **de** plage.

In Toulouse there is a rugby stadium but there isn't a beach.

Il n'y a pas **de** montagnes.

There aren't any mountains.

## 2. KEY PHONICS

1  <b>ou</b>	2  <b>th</b>	3  <b>ch</b>	4  <b>au/ eau</b>
5  <b>é/ ai*</b>	6  <b>an/ on/ en</b>	7  <b>ge</b>	8  <b>gn</b>
9  <b>è/ ai*</b>	10  <b>eu</b>	11  <b>i</b>	12  <b>u</b>

## 3. STAR WORDS

Mon/ma/mes - my  
Demain je voudrais acheter un  
Cadeau pour **ma** mère/ **mon** père/  
**mes** amis

Tomorrow I would like to buy a  
present for my mum/ my dad/ my  
friends

Negative – ne **verb** pas  
Birmingham n'est pas bruyant

Giving opinions  
Je pense que – I think that  
Je dirais que – I would say that  
À **mon** avis – In my opinion  
Selon moi – In my view  
C'est mon truc – It's my thing

## 4. USE OF 'QUE'

que = that/ which

La ville **que** je préfère est Toulouse parce que c'est la plus pittoresque.

The town **that** I prefer is Toulouse because it is the most picturesque.

## 5. COMPARATIVE

plus - 2 ways  
quicker / **more** rapid

La semaine prochaine, je vais visiter le Capitole et je vais aller en métro parce que c'est **plus** rapide et **plus** pratique **que** la voiture.

Next week, I am going to visit the Capitol and I'm going to go by underground because it's quicker and **more** practical **than** the car.

## 6. DAYS OF THE WEEK

~~On~~ Monday

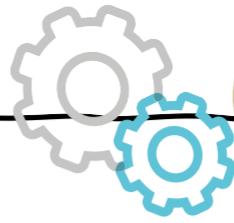
Samedi, je voudrais aller à la cité de l'Espace où on peut voir la vie extraordinaire des astronautes.

**On** Saturday, I would like to go to the Space Museum where you can see the extraordinary life of astronauts.



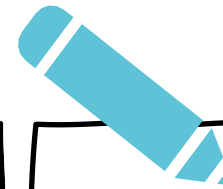
## KNOW IT

1. Translate:  
La ville que je préfère est Toulouse parce que c'est la plus pittoresque.
2. Translate:  
A Toulouse, il y a un stade de rugby et une rivière, mais il n'y a pas de plage.
3. Translate:  
La semaine prochaine, je vais visiter le Capitole et je vais aller en métro parce que c'est plus rapide et plus pratique que la voiture.
4. Translate:  
J'habite dans une belle maison confortable.
5. Translate:  
Samedi, je voudrais aller à la cité de l'Espace où on peut voir la vie extraordinaire des astronautes.
6. Translate:  
La semaine dernière, je suis allé à la place et j'ai pris des photos. C'était génial!
7. Translate:  
Demain je voudrais acheter un cadeau pour ma mère.



## THINK IT

1. Adapt sentence 1 to write:  
The town I like the most is Toulouse because it is very lively.
2. Adapt sentence 2 to write:  
In Reims, there is a market, some parks and an airport but there is no castle.
3. Adapt sentence 3 to write:  
Next weekend, I am going to visit the stadium and I am going to travel by bus because it is easier than by foot.
4. Adapt sentence 4 to write:  
I live in a small house, there is a pretty garden but there is no dining room.
5. Adapt sentence 5 to write:  
On Sunday, I would like to go to the market where you can buy fruit and vegetables.
6. Adapt sentence 6 to write:  
Last week, I went to the science museum, it was very boring.
7. Adapt sentence 7 to write:  
Next weekend, I would like to go to the shop to buy a souvenir for my dad.

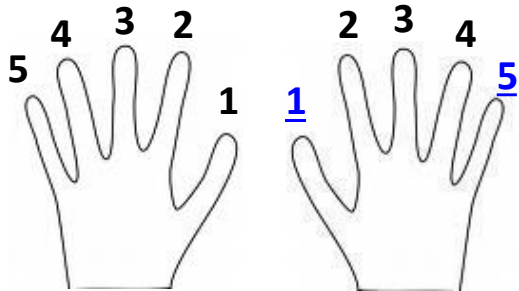


## GRASP IT

1. Use the structures in sentence 1 to write a sentence about why you do or don't like Toulouse.
2. Use the structures in sentence 2 to write a sentence about what there is in Toulouse and what there isn't in Toulouse.
3. Use the structures in sentence 3 to write about where you are going to go tomorrow, how you will travel and why.
4. Use the structures in sentence 4 to describe your new home and state one thing that it has and one thing that it doesn't have.
5. Use the structures in sentence 5 to write about what you are going to do next weekend.
6. Use the structures in sentence 6 to write about what you did in Birmingham and give your opinion.
7. Use the structures in sentence 7 to write about what you would like to buy.

# Music: Keyboard Skills: Piano Duet

## 1. FINGER POSITIONS FOR C MAJOR SCALE



LEFT HAND

RIGHT HAND

5-4-3-2-1 3-2-1

1-2-3 1-2-3-4-5

## 2. KEYWORD DEFINITIONS 1

**CHORD:** a group of 2 or more notes played at the same time

**MELODY:** Different pitches organised into a pattern

**VARIATION:** The music is repeated but slightly changed.

## 4. COMPOSERS

**CLASSICAL:** Mozart



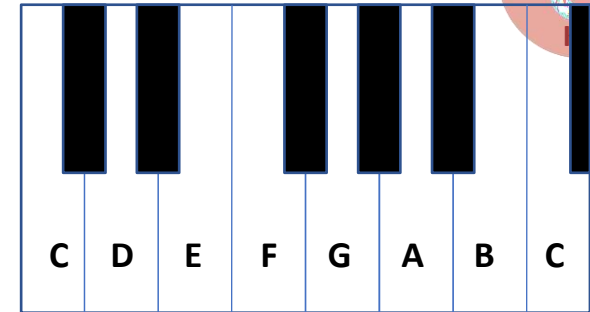
**MINIMALISM:** Glass



## 5. KEYWORD DEFINITIONS 2

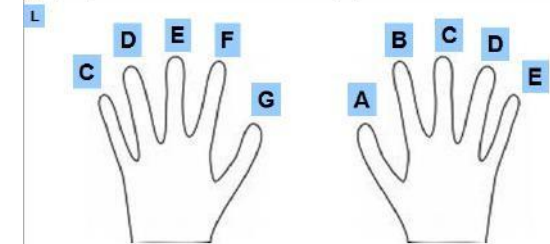
KEYWORDS	DEFINITIONS
<b>PITCH</b>	How high or low the note is
<b>TEMPO</b>	Speed
<b>DYNAMICS</b>	Volume
<b>STRUCTURE</b>	How the music is organised
<b>MAJOR</b>	Sounds happy
<b>MINOR</b>	Sounds sad
<b>BLOCK PATTERN</b>	Notes of a chord are played at the same time
<b>BROKEN PATTERN</b>	Notes of a chord are played separately

## 3. KEYBOARD LETTERS

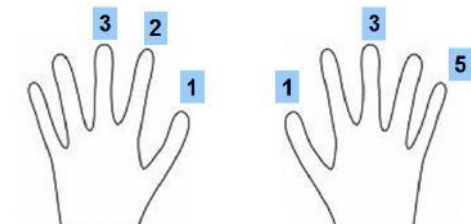


## 6. PIANO DUET NOTATION

### PIANO I



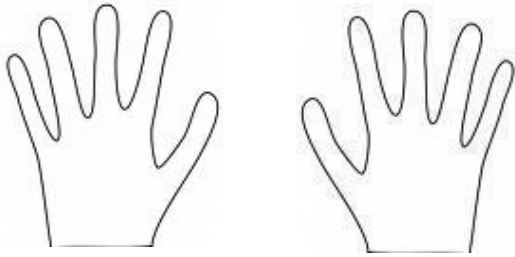
### PIANO II



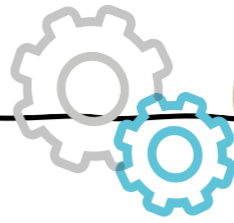


## KNOW IT

1. Where do you find a letter C on the keyboard?
2. Identify the notes (letter names) in a C major scale?
3. Label the fingers with the correct numbers.



4. Define chord.
5. Define triad.
6. How do you find a letter A on the keyboard?
7. What finger should you use for the root (first note) of each chord in your right hand?
8. Define melody.
9. On what finger should you start the right hand part of piano 1?
10. On what finger should you start the left hand part of piano 1?



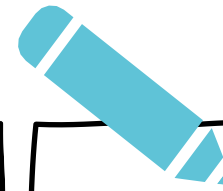
## THINK IT

1. What are the finger positions for a C major scale?

RIGHT HAND:

LEFT HAND:

2. Can you explain the difference between a chord and a melody?
3. How do you build a triad on the keyboard? What other notes are in a triad beginning on A?
4. Piano 1 uses a syncopated rhythm. Can you explain what this means?



## GRASP IT

1. Listen to the following extract and identify the instrument playing.

[Mozart's Sonata in C Major, 2nd Mvt. – YouTube](#)

2. This piece is from a sonata which has three movements. Can you describe the tempo of this second movement? Does it stay the same or change?
3. How many beats are there in a bar?
4. The left hand part plays both block and broken chords? Can you explain the difference between these?

# Music: Theory

## 1. NOTE VALUES

Note Symbol	Rest Symbol	Note Value	Note Name
		1/2	Quaver
		1	Crotchet
		2	Minim
		4	Semibreve

## 2. PITCHES

Every Green Bus Drives Fast

## 3. NOTATION SYMBOLS

Notation Symbol	Definition
	Treble clef
	Bar line

## 4. NOTATION EXAMPLES

5a. (i) (ii) (iii)

5b. (i) (ii) (iii)

Graphic scores show the length of the notes and the pitch direction

5c. (i) (ii) (iii)

Staff notation shows precise note lengths and pitches on a staff

## 5. KEYWORDS

<b>PITCH</b>	How high or low the note is
<b>TEMPO</b>	Speed (how fast or slow)
<b>DYNAMICS</b>	Volume (how loud or soft)
<b>RHYTHM</b>	Different length notes in a pattern
<b>MELODY</b>	Different pitches in a pattern
<b>TEXTURE</b>	How much sound/many layers we hear (thick or thin)
<b>TIMBRE/ SONORITY</b>	Tone quality of the instrument e.g. mellow or shrill
<b>ARTICULATION</b>	How notes are played (smooth or detached)
<b>DURATION</b>	How long or short the note or music is
<b>SILENCE</b>	No sound at all

## 6. INSTRUMENTAL FAMILIES

Violin, Viola, Guitar, Cello, Double Bass, Harp

Piccolo, Flute, Clarinet, Oboe, Bassoon, Saxophone, Recorder

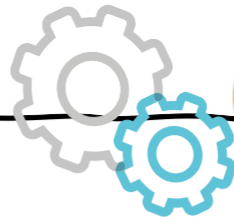
Trumpet, Trombone, Tuba, French Horn

Xylophone, Claves, Triangle, Snare Drum, Cymbals, Tambourine, Maracas, Bass Drum, Piano, Timpani



## KNOW IT

1. Define pitch.
2. Define tempo.
3. Define dynamics.
4. What is the note value of a crochet?
5. What is the note value of a quaver?
6. What is the note value of a minim?
7. State the four instrumental families.
8. What is a rhythm?
9. What is a melody?
10. Can you explain the term texture?
11. Can you explain the term timbre?
12. What is articulation?
13. What is a duration?

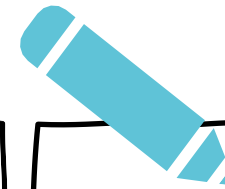
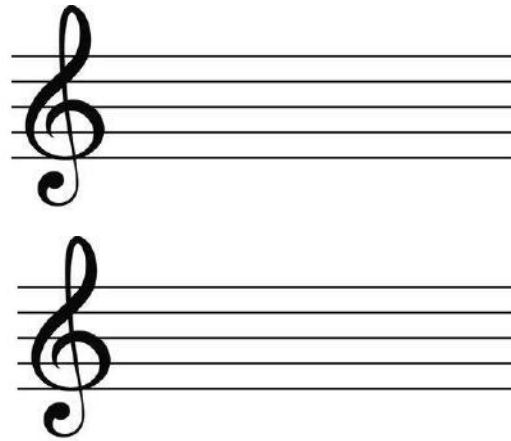


## THINK IT

1. Can you explain the difference between a graphic score and staff notation?
2. Can you identify an instrument from each instrumental family and describe its timbre?

WOODWIND  
BRASS  
STRINGS  
PERCUSSION

2. On the staff, draw and label the line and space pitches.



## GRASP IT

1. Complete the table below with the note values and note names.

Note Symbol	Rest Symbol	Note Value	Note Name

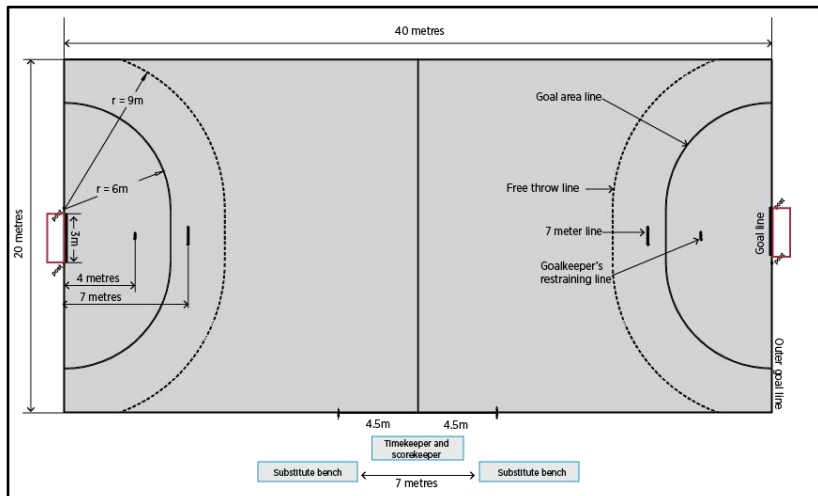
2. Listen to a piece of music of your choice and describe the pitch, tempo and dynamics. What instruments can you identify and can you describe their timbres?

# Physical Education: Handball

## Rules

- **Travelling:** take a maximum of three steps when in possession of the ball, after this you must bounce it.
- **Contact/Hitting:** You must not hit the ball out of the hands of an opponent
- **Restraining/holding:** you must not hold, push, run or jump into an opponent
- **Illegal dribble:** you must not bounce the ball, catch it then bounce it again when moving. This is called double dribble.
- **You can hold the ball for three seconds.** After that, you must dribble three times or take three steps. If you hold it for longer it is a foul.
- Only the goalkeeper is allowed to come into contact with the floor of the goal area.

## Court



## Wow words

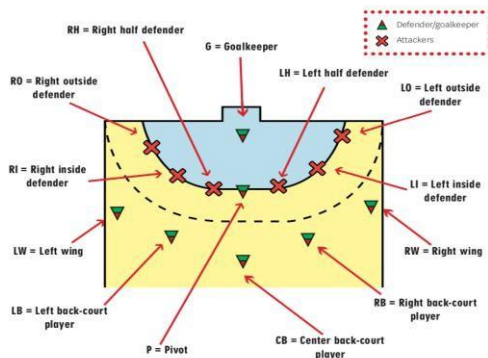
Attack	Deception	Defence
Dribbling		Free throw
Goalkeeping		Jump shot
	Passing	Left side
Right side		Travel
7m penalty throw		Zonal

## Game Regulations

- Junior Players use a size 1 ball up to 14, then a size 2 ball up to 16.
- Each team consists of **7 players**; a goalkeeper and 6 outfield players.
- Outfield players can touch the ball with any part of their body that is above the knee
- The playing court is 40m long and 20m wide, with two goal areas and a playing area.
- The goals are 2m high and 3m wide.

## Extra-curricular/satellite club links

Birmingham Handball Club- have both boys and girls Under 16's sides.







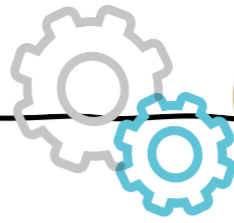
## KNOW IT

### Technical

1. How must you move with the ball?
2. How many seconds can you hold the ball for?
3. How can I attack space effectively?
4. What methods can I use to intercept the ball?
5. Where can an outfield player not go?
6. Which player can use their feet?

### Health, Fitness & Well-Being

7. How can exercise help my well-being?
8. Why do we warm up?
9. How can I train for invasion sports?
10. What are the principles of training?



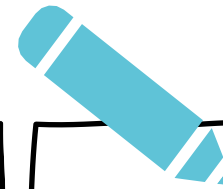
## THINK IT

### Technical

1. What do we call it when bouncing the ball?
2. Describe three things a player can do when they have the ball.
3. Why is attacking space important?
4. Where should you be to intercept a pass?
5. Give an example of creating space for your sport.
6. Why is this person allowed to use their feet?

### Health, Fitness & Well-Being

6. What mental benefits do you get out of playing invasion games?
7. What 3 components of a warm-up should be used?
8. How will this develop my body to give me an advantage?
9. How can they be applied to your training?



## GRASP IT

### Technical

1. What happens if you dribble the ball, stop, then dribble the ball again?
2. What are your three main options when you receive the ball?
3. Explain a situation where you might do each answer you gave in the question above.
4. Why is there a 7m line?

### Health, Fitness & Well-Being

5. How do you think sport will help you improve your physical literacy?
6. Explain a warm-up plan for you to use before a match.
7. Why is muscular endurance a benefit for invasion sports?
9. What will happen to my body if I keep practising my training?

# Physical Education: Football

## Rules

- **Offside (offence):** when a player goes behind the line of opposing defenders before the ball
- **Handling the ball:** Players are not allowed to use their hands or arms to control the ball unless they are the goalkeeper
- **Throw in:** a throw in occurs when the ball have completed passed the touchline
- **A corner kick** is awarded when the defencing team kicks the ball over the goal line
- **A goal kick** is awarded when a ball passes wholly over the goal line, having last touched an attacking team player has been kicked to them
- **A free kick** is awarded to the opposing team when a player is guilty of an offence
- **A penalty kick** is awarded if a player commits a direct free kick offence inside their penalty area. Goals may be scored directly from a penalty kick.



## Positions



## Wow Words

Attacking      Balance  
 Coordination Crossing    Defending  
 Offside  
 Dominant/ non-dominant foot  
 Dribble              Free Kick  
 Lofted pass          Penalty Shoot Tackle  
 Throw-in



## Regulations

- 2 teams, each with a maximum of eleven players; one must be the goalkeeper
- A match is usually played in two halves, lasting up to a maximum of 45 minutes. This depends on your age.
- A kick-off starts both halves or to restart after a goal is scored.
- Each team will play with a set formation, where players have different positions & roles

## Skills & Techniques

- Control the ball to cushion it with different parts of the body.
- Pass to team mates or into space to progress your side further up the pitch.
- Dribbling- allows you to move the ball around opponents quickly.
- Shooting- can be side foot for more accuracy or laces/top of foot for more power.



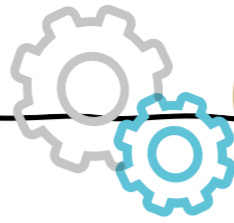
## KNOW IT

### Technical

1. How do I pass effectively?
2. How can I receive the ball?
3. How can I attack space effectively?
4. What methods can I use to score?
5. How do I create space?

### Health, Fitness & Well-Being

6. How can exercise help improve my well-being?
7. How do we warm up?
8. What physical benefits does a warm-up bring?
9. How can I train for invasion sports, like football?
10. What are the principles of training?



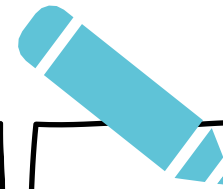
## THINK IT

### Technical

1. What type of pass is most appropriate in small spaces?
2. Describe three things a player should do to show they are ready to receive the ball.
3. Why is attacking space important?
4. Where should you aim when shooting in football?
5. Give an example of creating space for your sport.

### Health, Fitness & Well-Being

6. What benefits do you get out of playing invasion games?
7. What 3 components of a warm-up should be used?
8. How will this develop your body to gain an advantage?
9. How can this be applied to your play?



## GRASP IT

### Technical

1. Why is it important to give a pass appropriate accuracy and power?
2. How can signally be used to receive the ball in a game situation?
3. What are your three main options when you receive the ball in space?
4. Explain 3 ways to score points in rugby.
5. Why is good \_\_\_\_\_ at creating space in the game?

### Health, Fitness & Well-Being

6. How do you think sport will help you at school?
7. Create a warm-up plan for you to use before a competitive match.
8. Why is muscular endurance a benefit for invasion sports?
9. What will happen to my body if I keep overloading my training?

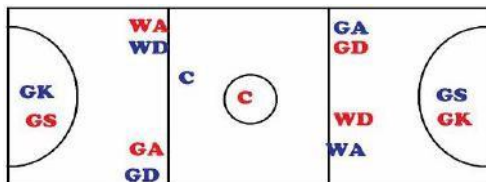


# Physical Education: Netball



## 1. RULES

- **Centre pass:** After each goal is score, play restarts with a centre pass.
- **Contact:** you must not interfere with play by touching, or pushing an opponent.
- **Footwork:** You must not move your landing foot or take 3 steps whilst in possession of the ball
- **Held ball:** You can only hold the ball for 3 seconds
- **Obstruction:** You must be 1 metre away from your opponent before your arms go up up and over the ball.
- **Offside:** If you go in an area you're not allowed in, the umpire will call you offside
- **Replaying the ball:** You must not pick the ball up or bounce the ball if you have dropped it.



## 2. COURT & POSITIONS

- Netball Positions: (and who they mark)
- Goal Shooter- allowed in the shooting third only (GK)
- Goal attack- allowed in the shooting and centre third (GD)
- Wing attack- allowed in the centre and shooting third but not the circle(WD)
- Centre- allowed everywhere except the 2 circles (C)
- Wing defence - allowed in the centre and defending third but not the circle (WA)
- Goal defence- allowed in the defending third and the centre third (GA)
- Goal keeper- allowed in the defending third only. (GS)

## 4. REGULATIONS

- 2 teams of 7 players
- A netball court is 30.5m long and 15.25m wide. The longer sides are called the side lines and the shorter sides the goal lines.
- **Scoring** : 1 goal each time the ball passes through the net
- Each team will have the following position;  
GK- goal keeper, GD- goal defence, WD- wing defence, C- centre, WA- wing attack, GA- goal attack  
GS- goal shooter

## 3. WOW WORDS

Passing	Pivot
Contact	Replaying the ball
Defence	Shoulder pass
Dodging	Change of direction
Footwork	Marking
Held Ball	Obstruction
Interception	
Landing	
Offside	

## 5. EXTRA CURRICULAR ROUTES

Sutton Town Netball Club;  
[SUTTON TOWN home page \(hitssports.com\)](#)  
 Birmingham Netball Association (15+)  
[Senior Clubs - Birmingham Netball](#)  
 Sutton Royals Netball Club  
[Home - Sutton Royals Netball Club](#)  
 Wyndley Netball Club  
[Wyndley - Netball West Midlands](#)



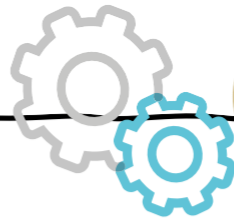
## KNOW IT

### Technical

1. What are the three types of pass?
2. How can I receive the ball?
3. How can I attack space effectively?
4. What players can I use to score?
5. What are the 7 positions in a team?

### Health, Fitness & Well-Being

6. How can running help improve my well-being?
7. How do we warm up for netball?
8. What physical benefits does a warm-up bring?
9. How can I train for invasion sports, like netball?
10. What are the principles of training?



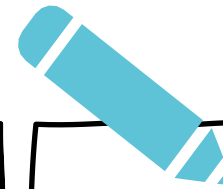
## THINK IT

### Technical

1. What type of pass is most appropriate in small spaces?
2. Describe three attacking players positions and what their roles are in the team.
3. Why is attacking space important?
4. What order of play should you go through? Start from the GK. Why?
5. Give an example of creating space for your position.

### Health, Fitness & Well-Being

6. What benefits do you get out of playing invasion games like netball?
7. What 3 components of a warm-up should be used?
8. How will this develop your body to gain an advantage in netball?
9. How can this be applied to your game?
10. What is your favourite position & why?



## GRASP IT

### Technical

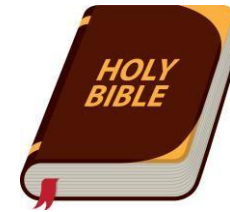
1. Why is it important to give a pass appropriate accuracy and power?
2. How can signaling be used to receive the ball in a game situation?
3. Who are your main options when you restart from a centre pass?
4. Explain 3 patterns to score points.
5. Why do GS need to be good creating space in the game?

### Health, Fitness & Well-Being

6. How do you think this sport will help you at school?
7. Create a warm-up plan for you to use before a competitive match.
8. Why is muscular endurance a benefit for invasion sports?
9. What will happen to your understanding if you play in all the different positions?



# Religious Education: Christian Concepts



## 1. Christian Concepts

Throughout the ages Jesus has been pictured as a white man with blonde hair and blue eyes.

However with Christianity being the largest religion in the world, some people feel Jesus needs to look more like them or at least more accurate to his origins (he was from the Middle East)

Jesus is seen as universal – which means he is for everyone – so sometimes he is shown as black or Chinese in artwork for example.

## 2. Jesus' Life

Jesus' life is seen a very special for Christians – Right from his birth to his death his life is remembered by Christians today

### His birth:

Born to a Virgin

Angel told Mary she would have God's son

The wise men came to visit him

King Herod at the time was very angry at the birth of a new king

Throughout his life:

He taught many parables

He taught to love you neighbour and how to get into heaven

His death:

Lots of people were worried of his power and messages so had him crucified

He died and resurrected after 3 days

## 3. Corrie Ten Boom

A Christian writer and public speaker, who worked with her father, Casper ten Boom, her sister Betsie ten Boom and other family members to help many Jewish people escape from the Nazis during the Holocaust in World War II by hiding them in her home. They were caught, and she was arrested and sent to the Ravensbrück concentration camp.

## 4. WOW Words

**Miracles:** Events which cannot be explained by science.

**Parable:** A religious morality story.

**Holocaust:** The systematic extermination of the Jewish people.

## 5. The Parable of the Lost Son

There was once a man who had two sons. The younger said to his father, " Father, I want right now what's coming to me."

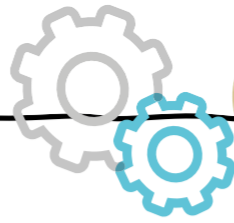
"So the father divided the property between them. It wasn't long before the younger son packed his bags and left for a distant country. There, he wasted everything he had, spending it on food, friends and luxuries. After he had gone through all his money, there was a shortage of food all through that country and he began to starve. He found a job looking after pigs. He was so hungry he would have eaten the pig's food, but no one would give him any.

"That brought him to his senses. He said, "My father's servants eat three meals a day, and here I am starving to death. I'm going back to my father. I'll say to him, "Father, I've sinned against God, I've sinned before you; I don't deserve to be called your son. Take me on as a servant.' He got right up and went home to his father.



## KNOW IT

1. How has Jesus been represented in the media through the years?
2. What does universal mean?
3. What are the first stages of Jesus' life?
4. What happened to Jesus after he died?
5. Who was Corrie Ten Boom?
6. What did she do which is seen as selfless?
7. What is an example of a miracle?
8. What is the Parable of the Lost Son?

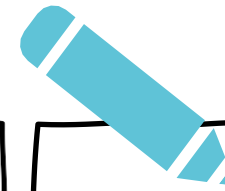


## THINK IT

Why do Christians use Parables?

Why was Corrie Ten Boom considered as brave?

What does the Parable of the Lost Son teach us?



## GRASP IT

**Using the Parable of the Lost Son, create a story board explaining the main stages:**

There was once a man who had two sons. The younger said to his father, "Father, I want right now what's coming to me."

"So the father divided the property between them. It wasn't long before the younger son packed his bags and left for a distant country. There, he wasted everything he had, spending it on food, friends and luxuries. After he had gone through all his money, there was a shortage of food all through that country and he began to starve. He found a job looking after pigs. He was so hungry he would have eaten the pig's food, but no one would give him any.

"That brought him to his senses. He said, "My father's servants eat three meals a day, and here I am starving to death. I'm going back to my father. I'll say to him, "Father, I've sinned against God, I've sinned before you; I don't deserve to be called your son. Take me on as a servant.' He got right up and went home to his father.

"When he was still a long way off, his father saw him. His heart pounding, he ran out, hugged him, and kissed him.

The son started his speech:

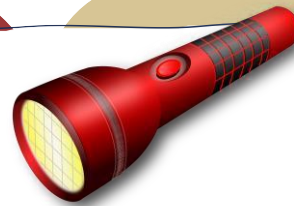
'Father, I've sinned against God, I've sinned before you; I don't deserve to be called your son ever again.'

But the father wasn't listening. He was calling to the servants, "Quick. Bring a clean set of clothes and dress him. Put the family ring on his finger and sandals on his feet.

Then get the biggest cow and roast it. We're going to feast! We're going to party! My son is here--given up for dead and now alive! Given up for lost and now found!' And they began to have a wonderful time, reunited and back together again.



# Science: Energy



Year  
8  
KO

## Section 1: Energy Resources

Renewable energy resources will never run out it will always be there. Examples: Wind power, hydroelectric, wave, tidal, geothermal, solar, biomass.



Non-renewable resources will one day run out. Examples: Coal, oil, gas and nuclear.

### Advantages of using the renewables

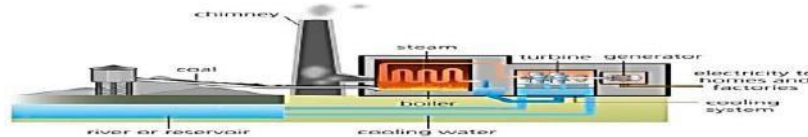
- ☺ No carbon dioxide released
- ☺ May be free to use (wind and Sun)
- ☹ Equipment may be expensive
- ☹ Can be unreliable (weather/ time of day dependent)

## Section 4: Energy Stores

1. Chemical
2. Thermal
3. Elastic
4. Kinetic
5. Gravitational potential
6. Nuclear
7. Magnetic
8. Electrostatic

## Section 2: Energy in Fuels

- Energy in fuel is used to heat homes and cook food.
- Fuel is also burnt in power stations to produce current in order for electrical appliances to work at home.



1. Fuel is burnt in a furnace to heat water in the boiler.
2. The water turns to steam; this turns a turbine.
3. The turbine turns a generator which generates electricity.

- ☺ Fossil fuels are reliable and produce lots of electricity.
- ☹ Release carbon dioxide and contribute to global warming.
- ☹ Produce pollutants; sulfur dioxide, nitrogen oxides and particulates..

## Section 5: Reducing Energy

1. Use fewer appliances.
2. Use appliances with a lower power rating.
3. Use appliances for fewer hours.
4. Insulate the home; this reduces the rate at which energy is transferred to surroundings; reducing need to heat the house.
5. Governments can raise awareness; this will make fuel last longer and benefit the environment.

## 3: WOW Words

**Non-renewable** Something with stored energy that can be released in a useful way.

### **Renewable**

An energy resource that can be replaced and will not run out; e.g. solar, wind, waves, geothermal and biomass.

### **Energy resources**

Something with stored energy that can be released in a useful way.

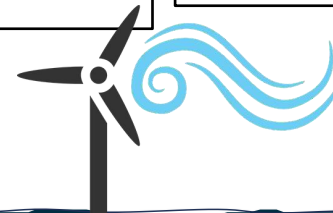
### **Law of conservation of energy**

Energy cannot be created or destroyed, only transferred between stores.

## Section 6: Energy and Power

- The power rating of an appliance tells you *how much energy is transferred per second* – **the rate** of energy transfer.
- **Power (W) = energy (J) ÷ time (s)**
- You can calculate the cost of using an appliance at home using the equation:  
**cost = power (kW) x time (hours) x price (per kWh)**

**NOTE:** You may need to convert units when completing calculations.

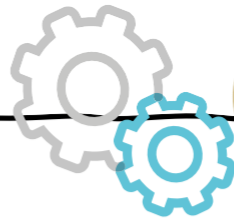






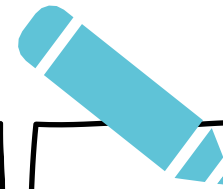
## KNOW IT

1. Energy is measured in?
2. 1000J is how many kJ?
1. What is a renewable energy resource?
2. What is a non-renewable energy resource?
3. Identify 3 examples of renewable and non-renewable energy resources?
5. Describe the difference between energy in food and energy in moving objects?
6. Name the energy stored in objects that are raised above the ground is?
7. The energy stored in a catapult is? What is the energy store in batteries and describe the energy transfer that will take place when the torch is switched on?



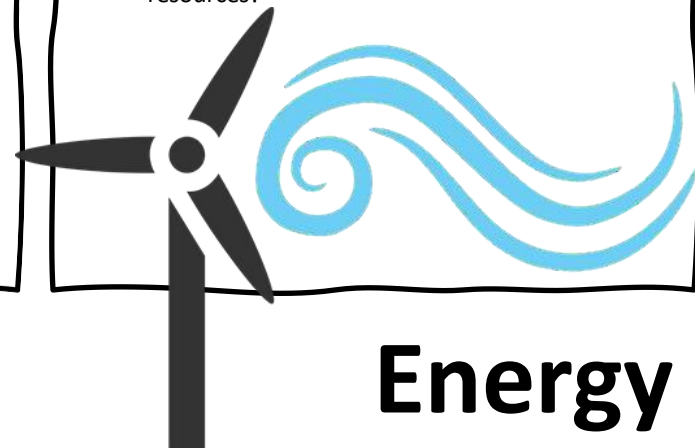
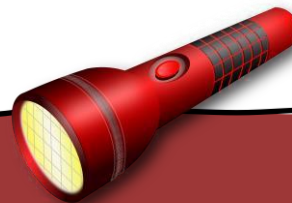
## THINK IT

1. Describe the laws of energy conservation
2. Describe the energy transfer in a torch..
3. Identify the different energy stores
4. What is an advantage and disadvantage of wind power?
5. Explain how fossil fuels are formed
6. Explain an experiment that you could do to release energy in food?
7. Explain the energy transfer in a electrical heater?
8. Explain the energy transfer in a bouncing ball.



## GRASP IT

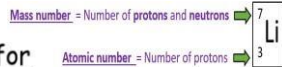
1. What is the relationship between energy transferred and Power?
2. Explain how we can reduce the amount of fossil fuels used?
3. Explain how electrical energy is produced using a coal powered, power station. Describe the energy transfer at each point.
4. Which has more energy solids, liquids or gases? Explain your answer?
5. Evaluate the environmental impact between using electricity produced using renewable energy resources and non-renewable energy resources?



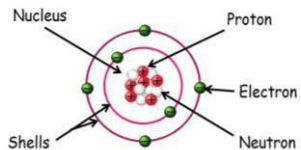
# Science: Atomic Structure and The Periodic Table

## 1. Atomic Structure

Elements are found on the periodic table. They have a symbol for the name and a mass number and an atomic number. From this information, we can work out what subatomic particles are in an atom and where they are located. The 3 subatomic particles are the protons neutrons and electrons.



The is a labelled diagram for the structure of an atom.



## 4. The Periodic Table

The metals are on the left and the non-metals are on the right. Elements in vertical rows are called groups. Elements in the same group have similar properties (e.g. The group 1 metals are very reactive with oxygen and water).

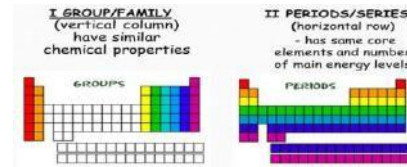
**Nobel gases** are unreactive (due to a full outer shell of electrons). **Transition metals** are placed into the middle block.

Metal										Metalloid						Nonmetal					
H	Li	Be											B	C	N	O	F	Ne			
Na	Mg											Al	Si	P	S	Cl	Ar				
K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr				
Rb	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	I	Xe				
Cs	Ba	La	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn				
Fr	Ra	Ac																			

## 2. Development of the Periodic Table

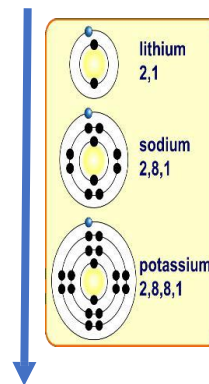
Early periodic tables were arranged in order of atomic weight, this meant some elements were in the wrong groups so didn't fit the pattern.

A Russian chemist called Dmitri Mendeleev first came up with this idea of the modern periodic table. He put elements in order of atomic mass and left gaps for undiscovered elements, the elements discovered filled those gaps and proved his theory correct. The modern periodic table shows all of the different elements arranged by atomic number and their properties



## 5. Group 1 Alkali Metals

Alkali metals are very reactive metals due to having one electron on its outer shell. They react with oxygen to form oxides and react with water to form the hydroxide and hydrogen. They also react with chlorine to form chlorides. Reactivity **increases** down the group. As the atom gets bigger the attraction between the nucleus and outer electron decreases and the electron is easily lost.

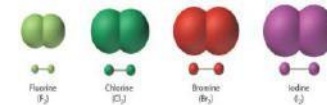


## 3. WOW Words

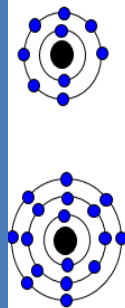
- Datomic** - molecules that exist in pairs.
- Period** – a horizontal row on the periodic table
- Groups**– a vertical column on the periodic table. All atoms in the group have the same number of electrons on their outer shell.
- Molecule** – a particle made up of at least two atoms held together by a covalent bond
- Chemical properties** – description of how a substance reacts with other substances.
- Physical properties** – description of the substance.
- Trends** – specific patterns in the properties of chemical elements on the periodic table.
- Nucleus**- the name for the middle of the atom that contains protons and neutrons.

## 6. Group 7 Halogens

Halogens are non-meals. They exist in pairs as diatomic molecules. This means they go round in pairs.



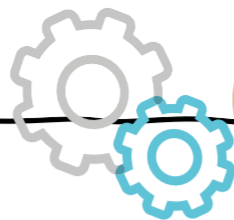
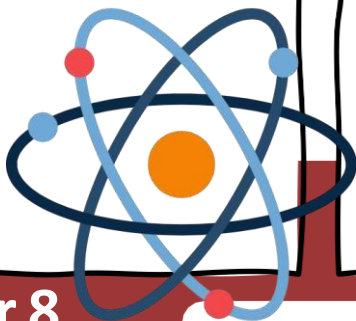
The reactivity **decreases** down the group. This is because as you move down the group the distance between the outer electron shell and the nucleus increases. There is less attraction from the nucleus pulling the electron into the atom.





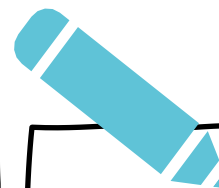
## KNOW IT

1. Name the positive particle in an atom.
2. Name the negative particle in an atom.
3. Name the particle in an atom that has no charge.
4. What is the middle of the atom called?
5. Name the elements in group 1 of the periodic table.
6. Name the elements in group 7 of the periodic table.
7. Name the scientist who developed the periodic table we use today.
8. Which side of the periodic table would you find the metal elements?
9. Identify the symbol for gold?
10. Define an element.



## THINK IT

1. Name the 3 subatomic particles in an atom.
2. Where would you find the protons in an atom?
3. Where would you find the neutrons in an atom?
4. Where would you find the electrons on an atom?
5. What does the mass number tell us about an atom?
6. What happens to the reactivity of group 1 elements as you go down the group?
7. What happens to the reactivity of Halogens as you go down the group?
8. How many protons, neutrons and electrons are there in a lithium atom?
9. What did Dimitri Mendeleev do for an undiscovered elements on the periodic table.
10. Write a word equation for the reaction of lithium reacting with oxygen.



## GRASP IT

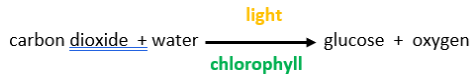
1. Explain why all elements in group 1 have similar chemical properties.
2. Explain how to calculate the number of electrons in an atom.
3. Draw the atomic structure for magnesium, including the position of subatomic particles.
4. Compare and contrast the physical and chemical differences and similarities between alkali metals and normal metals.
5. Explain why alkali metals get more reactive as we go down the group.
6. Draw a flow diagram to show the development of the periodic table over time.
7. Explain what is meant by the term diatomic.
8. Explain why noble gases are unreactive.
9. Explain why the reactivity of alkali metals increases as we go down the group
10. Explain why the reactivity of halogens decreases as we go down the group.

# Science: Bioenergetics

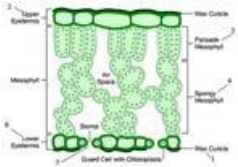
## 1. Photosynthesis

Photosynthesis is a process that occurs in the leaves of a plant and needs both chlorophyll and light energy.

During photosynthesis, the chlorophyll in leaves help convert carbon dioxide and water into the products oxygen and glucose. The product glucose acts as a vital source of food for the plant. Carbon dioxide water and light are all needed for photosynthesis to take place.



## 4. Structure of a leaf



**Waxy cuticle** – prevents evaporation and allows water to run off  
**Upper epidermis** – thin layer that allows sunlight to penetrate

**Palisade layer** – where photosynthesis takes place - full of chloroplasts

**Spongy layer** – has air spaces for gases to diffuse in and out of cells

**Stoma** – tiny holes on the underside of the leaf that gases move through

**Guard cells** – control the size of the stoma

### How plants use glucose

Stored as starch, for respiration, stored as fats and oils in seeds, to produce cellulose for cell walls, for growth.

## 2. Respiration

Respiration is a chemical reaction which occurs in all living cells, releasing energy from glucose. Aerobic respiration occurs with oxygen and releases more energy but slowly. Anaerobic respiration occurs without oxygen and releases less energy but more quickly. Respiration also occurs in plants, aerobic respiration occurs 100% of the time.

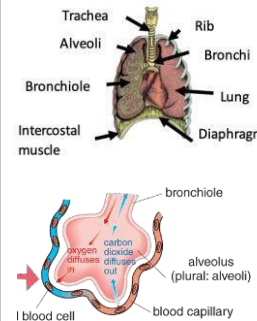
**Aerobic respiration** (with oxygen)  
glucose + oxygen → carbon dioxide + water + energy

**Animal anaerobic respiration** (with oxygen)  
glucose → lactic acid + some energy

**Yeast anaerobic respiration** (with oxygen)  
glucose → ethanol + carbon dioxide + some energy

## 5. The lungs

Gas exchange is a process that involves the swapping of gases that occurs at exchange surfaces such as the alveoli found within the lungs. The alveoli have large surface area to enable more diffusion of oxygen and carbon dioxide. They are one cell thick, have a good blood supply and moist surfaces for faster diffusion. During ventilation, the air moves down the trachea and into the bronchi which then divides into the bronchioles then to the alveoli.



## 3. WOW Words

**Photosynthesis** – The process of glucose production in plants that uses energy from sunlight.

**Glucose** – A type of sugar

**Chlorophyll** – The chemical in leaf cells that absorbs sunlight for photosynthesis.

**Aerobic respiration** – Respiration of glucose using oxygen.

**Mitochondria** – Where aerobic respiration takes place within the cell.

**Anaerobic respiration** – Respiration without oxygen

**Lactic acid** – a waste product of anaerobic respiration.

**Muscle fatigue** – Lactic acid causes a heavy feeling in the muscles.

**Fermentation** – When yeast anaerobically respire.

## 6. Effects on gas exchange

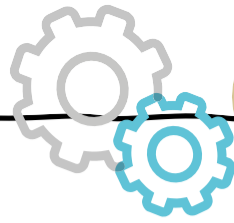
Asthma is a condition that affects the airways carrying air into and out of the lungs the constriction and inflammation of the airways.

Smoking causes lung diseases, heart disease and increased risk of several different types of cancer due to the tobacco, nicotine, tar and carbon monoxide. Exercise increases the demands of the gas exchange system as there is a greater need for oxygen in respiration, and a larger production of carbon dioxide that needs to be removed from the body, so the breathing rate increases and the heart rate increases so that the blood carrying the oxygen and glucose needed for respiration gets around the body quicker.



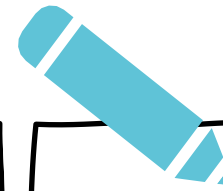
## KNOW IT

1. Write the equation for photosynthesis.
2. State the waste product of photosynthesis
3. State the useful product of photosynthesis
4. State where photosynthesis takes place.
5. State the equation for aerobic respiration.
6. State the equation for anaerobic respiration.
7. State the waste product of anaerobic respiration.
8. State the equation for fermentation.
9. What type of organisms respire in fermentation?
10. State how we can speed up the process of fermentation.



## THINK IT

1. Describe how the reactants of photosynthesis get into the plant.
2. Describe what happens when your muscles have been anaerobically respiring.
3. Describe where in the cell aerobic respiration takes place.
4. Describe where in the cell anaerobic respiration takes place.
5. Describe how carbon dioxide moves in and oxygen moves out of a leaf.
6. Describe a test for carbon dioxide.
7. Describe a test for water vapour.
8. Describe when respiration is highest during your daily life.
9. Explain why fermentation is another type of anaerobic respiration.
10. Suggest and explain where in the world photosynthesis happens in plants the quickest.



## GRASP IT

1. Explain why plants produce more carbon dioxide than oxygen at night.
2. Explain why you can't just use the anaerobic respiration system all the time.
3. Explain why you still breathe heavily for a few minutes after intense exercise.
4. Suggest what type of cell would have a high number of mitochondria. Explain your answer.
5. Suggest a reason why red blood cells have a low number of mitochondria.
6. Suggest what a farmer should do to ensure they get the highest harvest from their crop as possible.
7. Explain your suggestions from Think it Q6.
8. Describe what happens in your body to help your muscles get enough oxygen when you exercise.
9. Suggest why asthma can make you feel dizzy.
10. Describe where glucose is stored in a plant until it is needed.

# Technology: Board Game Design

## 1. Graphic Design

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

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

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

## 2. ACCESS FM

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

## 3. WOW Words

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

## 4. Paper

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

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



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



## 5. Board

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

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

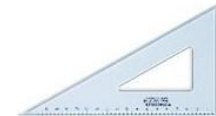


**Folding boxboard** is a board which has a good printing surface, can be scored, bent and creased easily.



## 6. Equipment

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



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



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





## KNOW IT

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

### How to describe a game:

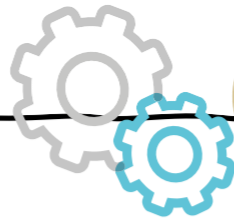
- What is it made from?
- Who is it for?
- When would it be used?
- Where is it used?
- How much does it cost?
- How has it been made?
- What sort, type or category of product is it?
- What other products are like this?

### Comprehensive – Critical analysis of a game:

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

### Demonstrate how the product is used:

- Explain why this game was developed.
- Explain the purpose of different features of the game.



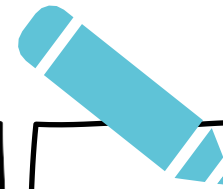
## THINK IT

### How to interpret games that are new:

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

### Analysis – breaking down into parts, forms:

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



## GRASP IT

### Synthesis – combining elements into a pattern:

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

### Evaluation – according to criteria and state:

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