

Knowledge Organiser

Year 8

Cycle 1

Name:

Tutor Group:



What is a Knowledge Organiser and why are they important?

A knowledge organiser is designed to summarise the key information, concepts, and vocabulary for a specific topic or unit of work in each subject. Its purpose is to help students:

- o Understand what they are expected to learn.
- o Make connections between ideas.
- o Retain and recall essential knowledge more effectively.
- o Support independent study and revision

Your Knowledge Organiser contains the essential knowledge that we expect every student to know. Regular use of the Knowledge Organiser helps you to recap, revise and revisit what you have learnt in lessons. This can be part of your homework in some subjects or as independent revision. The aim is to help remember this knowledge in the long term and to help strengthen your memory.

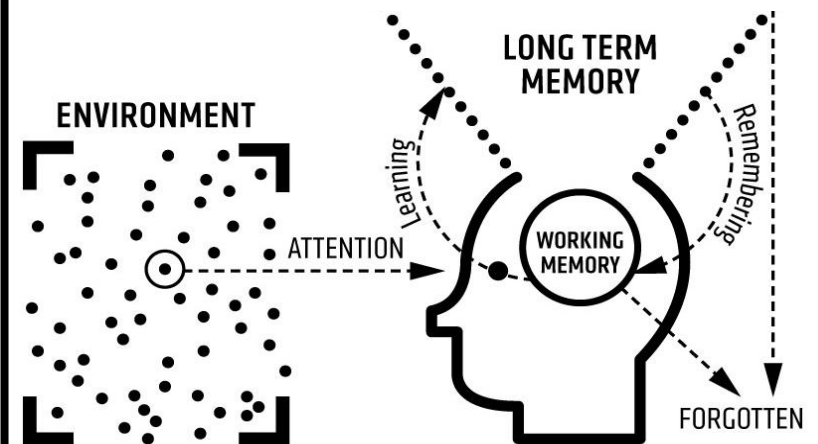
Each cycle there is an assessment in every subject and you will be assessed on the knowledge from your Knowledge Organiser; the more you revisit information the more likely it will be remembered for lessons, assessments and exams.

How we learn anything

We learn by focusing our attention on something. If we are distracted by other things in our environment (eg mobile phones, listening to music) it will affect how much/what we learn.

Information we pay attention to goes into our working memory, but our working memory is not very good and we quickly and easily forget things.

Learning happens when we think about, process or practise doing something so that it is stored in our long-term memory. Even then it can still be forgotten if we do not regularly think about it and go over it. *We remember what we think about.* Using your Knowledge Organiser outside of lessons helps you to remember things in the long-term.



Homework in Year 7-9

The purpose of homework

Homework plays a crucial role in reinforcing what you learn in the classroom, helping you to develop a deeper understanding of the material. It encourages independent learning, time management, and responsibility: skills that are essential for success both in school and in life.

Homework fosters a strong work ethic and a sense of discipline, preparing you for future academic and professional challenges. Homework is not just about completing tasks, it is about building lifelong learning habits. Learning is defined as a change in the long-term memory. You attend 5 hours of lessons per day, which is a lot of new information being taken in. Without additional opportunities to practise remembering, much of that information would be quickly forgotten.

Homework expectations

In Years 7-9 we expect every student to complete a maximum of 1 hour of homework a day, 4 days a week in the following subjects: English, Maths, Science, History, Geography, French/Spanish and RPE using the following timetable:

	Monday	Tuesday	Wednesday	Thursday	Friday
Week A	English Maths Science	English Maths Science	English Maths Science	History Geography	No homework
Week B	English Maths Science	English Maths Science	English Maths Science	French or Spanish RPE	No homework

Whilst homework is not formally set weekly/fortnightly in other subjects, you may still be provided with tasks to help further your learning, which we would strongly encourage you to complete. You should regularly review the Knowledge Organiser for all subjects to help your learning.

How do I do my Homework?

There are two types of homework that you will complete: Sparx Online (English, Maths and Science) and Knowledge Organiser homework (History, Geography, RPE and French/Spanish).

Platform	Subject	What to do	Reason we do it	How checked
Sparx	Sparx Maths	Homework is completed online. Complete the maths questions set weekly. Each student is set around 1 hour of questions per week. Book work codes must be written down in homework books.	Sparx Maths provides additional practice on topics that have been recently covered in class. This allows students to revisit and help embed mathematical procedures that may otherwise be forgotten.	Weekly check by teacher using online platform. Parents kept informed of progress by email.
	Sparx Reader (English)	Homework is completed online. Students read a book of their choice in sections and are asked comprehension questions at the end of each section. Students must earn a set number of Sparx Reader Points (SPR) to complete the homework. This should usually take around 1 hour per week.	We know that reading is essential for students to be able to access the curriculum, yet 1 in 4 students come to us in Year 7 at least one year below their chronological reading age. Sparx Reader encourages students to build positive reading habits and strengthen fluency and comprehension.	
	Sparx Science	Homework is completed online. Complete the science questions set weekly. Each student is set around 1 hour of questions per week.	Sparx Science provides questions to ensure students regularly revisit the key concepts that are required in Science.	
Knowledge Organisers	History Geography RPE French/Spanish	Using the Knowledge Organiser, complete the questions/tasks for the relevant subjects set according to the date	The Knowledge Organisers contain questions that directly relate to the content that students have learned in lessons. Regular review ensures that students embed the learning in the long-term memory. In French/Spanish students will practise learning and using key vocabulary.	Fortnightly check by teacher in lessons. Teachers will check the blue homework exercise books (provided for students) for completion of the questions.

For Thursday homework in your blue knowledge book you will always write the date, subject heading and ensure that they are underlined with a ruler.

Knowledge Organiser Contents Page

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HISTORY - Week 1

Lesson 1- Charles I and reasons for his unpopularity	Lesson 2- Why did Charles I and Parliament argue between 1629-40?	Lesson 3- What were the short-term causes of the Civil War?	EXT:
Key Phrases Civil War- A war between people from the same country Divine Right of Kings- belief that he had been appointed by God to be king.	Key Phrases Cause- Reason why something happens Parliament (17th century)- a group of people that advise the monarch Long-Term Cause- Things that have been going on for a long time before an event.	Key Phrases Short-Term Cause- things that happen immediately before an event that help cause it Puritans- strict Protestants who disagreed with the reforms that Archbishop Laud	Task: Create a timeline of these key events that led to the English Civil War. You need to put them in chronological order. Charles closes Parliament for 11 years- 1629 Charles I declared war on Parliamentarians. English Civil War begins - 1642 Charles raises taxes without the permission of Parliament- 1626 Charles I becomes King and marries Catholic princess Henrietta Maria - 1625 Charles I agrees to some changes e.g. calling Parliament every 3 years-1641 Parliament took control of the army- 1642
Content Charles I was the King of England from 1625-49. His royal line was the Stuarts, who were originally kings of Scotland. He married a Catholic French princess called Henrietta Maria and this caused many of his subjects to suspect that he was a secret protestant. He was executed in 1649 and reason given for his punishment was treason.	Content Charles I believed he had been appointed by God to rule- the Divine Right of Kings. He did not agree with Parliament questioning his decisions. Parliament had to agree to any taxes and Charles needed money. This gave Parliament power over Charles. Many arguments were also over religion. Puritans hated Charles because they thought he might be bringing Catholicism back.	Content In 1640, Parliament complained to Charles e.g. Parliament should be called every 3 years. Charles agreed to some things like ending Ship Money (an unpopular tax). Parliament then demanded more power with a list of MORE complaints called the Grand Remonstrance . In 1642, Parliament took control of the army. This caused 200 MPs to leave Parliament and join Charles' side.	
1. When did Charles become King? 2. Why was his marriage to Henrietta Maria concerning? 3. What was the Divine Right of Kings?	1. What was Parliament like in the 17 th century? 2. What is a Long-term cause? 3. What did Charles disagree with Parliament over? 4. Why did they argue over religion?	1. What was the Grand Remonstrance? 2. What was Ship Money? 3. How many MPs left Parliament to join with Charles?	

HISTORY - Week 3

Lesson 4- What were the key factors that caused the English Civil War?	Lesson 5- Mid-Cycle Assessment	Lesson 6- Overview of the English Civil War	EXT
Key Phrases Religious- relating to religion Political- relating to power and government Economic- relating to money	Key Phrases Point Sentence- Answers the question directly Evidence- Includes historical detail Explain- Explain how the evidence supports your point	Key Phrases Gentry- name for landowners Royalists or Cavaliers- soldiers who fought for the King Parliamentarians or Roundheads- soldiers who fought for Parliament	Cover and practice the spelling of the following words or write out their definitions: 1. Gentry 2. Royalists 3. Cavaliers 4. Parliamentarians 5. Roundheads 6. Political 7. Economic 8. Religious 9. Short-term Cause 10. Long-term Cause
Content Religious Reason- Many people suspected Charles of bringing back Catholicism. Archbishop Laud introduced laws that made the Church more Catholic. Political- Parliament wanted more power. They seized control of the army to prevent Charles from closing Parliament again Economic- Charles was bad with money and introduced unpopular taxes like the ship tax.	Content There are three main factors when it comes to the outbreak of English Civil War. They are Religion, Economics and Politics (power). Some of the causes are long-term because they were bubbling under the surface for years (e.g. Puritans despising Charles for his Catholic-style changes in the Church) but others are short-term because they trigger the war (e.g. Parliament taking control of the army)	Content Parliament slowly takes over the majority of England by winning a succession of Battles. At the beginning of the war, the Royalists were much better but Charles wasn't a good military leader. Parliament did not have a proper army at the start but Oliver Cromwell emerged as a very good military leader. He formed and trained the New Model Army which was disciplined and well equipped.	
1. Write a paragraph explaining which reason you think was the key cause of the English Civil War	1. What is PEE paragraph? 2. Which part of a PEE paragraph was the longest? Point, Evidence or Explain?	1. Who did the roundheads fight for? 2. Who were the New Model Army? 3. Who did the cavaliers support? 4. What does Cromwell say he will do?	

HISTORY - Week 5							
Lesson 7- Is the Battle of Bovey Heath significant?	Lesson 8- Did the English support the execution of Charles I?	Lesson 9- Was England Better off under Oliver Cromwell?	EXT				
Key Phrases and Content Significance- what is important from the past • Novelty- Is it new or original? • Applicability- It’s similar to something happening right now • Memory- They have been remembered in a particular way • Effect- Have a lot of people been effected by the event? A skirmish (a small fight) at Bovey Tracey saw Cavaliers escape Roundheads by distracting them with coins. The next day, Cromwell's forces won at Bovey Heath, capturing horses, soldiers, and cattle.	Key Phrases Regicide- the act of killing a King Treason- The crime of being disloyal to the Crown	Key Phrases Tolerance- willingness to accept behaviour and beliefs that are different from your own Democracy- allows people to be involved in running of the government	Create 5 multiple choice questions. One for each of the topics below: 1. Long-term Causes of the English Civil War 2. Short-term Causes of the English Civil War 3. Roundheads and Cavaliers 4. Battle of Bovey Heath 5. Cromwell’s reign				
	Content In 1649, King Charles I was put on trial for treason. He was found guilty and sentenced to death. There should have been 135 commissioners involved in the trial, but only 68 actually turned up. Following Charles’ execution, there was an 11-year period when England was ruled without a monarch. Oliver Cromwell led England from 1653, taking the title of ‘Lord Protector’.	Content Cromwell dismissed Parliament in 1654 for good. England was divided into 11 districts, each run by a military general-the army was in control. He allowed Puritan Christians in Parliament to make decisions that angered English people - such as banning Christmas and closing theatres. He gave people the freedom to publish what they like. He worked hard to reduce bribery and corruption in Government.					
1. Name something that was a new breakthrough or an original idea 2. Name an event in the past that is similar to something that is going on today 3. Name a historical event that holds a special place in the country’s memory 4. Name a historical event that has affected lots of people	1. When was Charles’ execution? 2. Who ruled after Charles? 3. What title did Cromwell give himself?	Sort the facts in the content box into a table like this: <table><tr><th>England was better off</th><th>England was worse off</th></tr><tr><td></td><td></td></tr></table>	England was better off	England was worse off			
England was better off	England was worse off						

HISTORY - Week 7

Lesson 10- Cromwell's actions in Ireland	Lesson 11- Why was the monarchy restored?	Lesson 12- Introduction to the Industrial Revolution	EXT
Key Phrases Provenance- a source's background- its Nature, Origin and Purpose (NOP) Objective opinion- not influenced by personal feelings but based on facts.	Key Phrases Monarchy- King or Queen Lord Protector- Name for the ruler in the absence of the monarchy	Key Phrases Industrial Revolution- A time of rapid change between 1750-1900 in the way that things are manufactured (made), going from being hand made at home to using machines in factories.	Create a timeline of these key events of the Industrial Revolution. You need to put them in chronological order. 1781- James Watt patents an improved steam engine making it useful as a power source in factories 1750- The Industrial Revolution begins in Great Britain 1876- Alexander Graham Bell invents the telephone 1811- The Luddites attack factories in Great Britain smashing machines in a protest against industry 1764- James Hargreaves invents the spinning jenny allowing a worker to produce multiple spools of thread at the same time 1712- The first steam engine is invented by Thomas Newcomen
Content English rulers colonized Ireland with Protestant settlers, causing rebellion and worsening relations, leading to Cromwell's military intervention in 1649. In September 1649, Cromwell's army attacked Drogheda. Cromwell's forces broke through, killing armed men and Catholic priests, and possibly civilians. Around 3,500 people died, and many survivors were enslaved. This brutality fuelled long-lasting Irish resentment toward the English.	Content Cromwell died in 1658. He was replaced by his son. Parliament did not believe Richard Cromwell could run the country so they refused to follow him. Instead Parliament invited Charles' son, Charles II, back from the Netherlands to be made King. This was known as The Restoration because the monarchy had been restored.	Content The Industrial Revolution, which took place between 1750 - 1900, was a period of great change in Britain. There were huge technological advances which had an impact on every aspect of life. These technological advances were happening while the British Empire was growing. Not all of these changes were positive. The population increased by 600%.	
1. What happened in Ireland?	1. Who replaced Oliver Cromwell when he died? 2. What was the Restoration?	1. In which country did the Industrial Revolution start? 2. What sort of advances were there? 3. How much did the population grow?	

HISTORY - Week 9

Lesson 13- What was factory life like?	Lesson 14- Child Labour	Lesson 15- What were living conditions like?	EXT
Key Phrases Mill- A factory Labour- work (particularly physical work)	Key Phrases Child Labourer- A child who completes hard physical labour in return for a small wage	Key Phrases Overcrowding - having too many people in one place Sanitation- process of keeping places hygienic e.g. sewage systems	Cover and practice the spelling of the following words or write out their definitions: 1. Industrial Revolution 2. Mill 3. Child Labourer 4. Sanitation 5. Overcrowding 6. Child Labourer 7. Monarchy 8. Long-term cause 9. Short-term cause 10. Provenance
Content In the 1800s, as factories spread across the North, many offered job opportunities to women and children. Working conditions were dangerous. Worker's hearing was damaged from the noise of the machines and small fibres from the cotton got into the air and gave people breathing difficulties. Wages depended on who you were. Men were paid the most, then women and then children. Most worked 16 hours a day, 6 days a week.	Content Children were used in many industries. In mining, children were used to open and close doors and had to work in the pitch black. In factories, children had to clean the machines while there were still running- this was very dangerous, many lost a limb. On farms, children often carried heavy loads and were treated very badly if they were orphans. Children also worked with chimney sweeps and were sent up chimney's to clean them.	Content Working-class housing was crowded together near the factories and other places of work. The conditions varied, but much accommodation was extremely unsanitary and unhealthy. Workers' diets were poor as they could not afford much fresh or nutritious food. In some industrial cities like Leeds, the average age of death could be as low as 14.	
1. What were working conditions in factories like? 2. Who was paid the most?	1. What were conditions like for children who worked in mines? 2. What were conditions like on farms?	1. What does overcrowding mean? 2. What does sanitation mean? 3. What was the average age of death in Leeds in the early 1800s?	

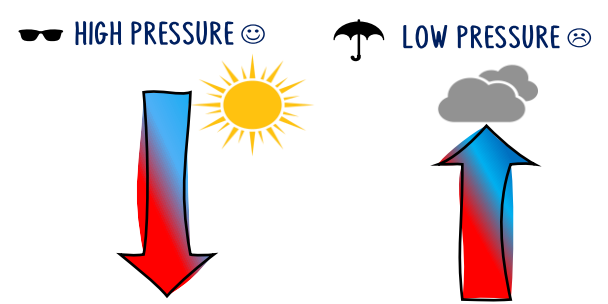
HISTORY - Week 11

Lesson 13- Jack the Ripper	Lesson 14- Why didn't politicians improve the lives of the poor?	Lesson 15- Was the Industrial Revolution a good thing?	EXT
Key Phrases Metropolitan Police - The police that covered London Whitechapel - an area of London known for its crime and poverty	Key Phrases Politician - a member of government Representative - aiming to represent something	Key Phrases Legislation - Laws Trade Unions - people from different trades who want to keep and improve their jobs and their working and living condition	Create 5 multiple choice questions. One for each of the topics below: 1. Living Conditions 2. Child Labour 3. Factory Conditions 4. Policing/ Jack the Ripper 5. Inventions in the Industrial Revolution
Content Between August and November 1888, five women were murdered in Whitechapel: Mary Ann 'Polly' Nichols, Annie Chapman, Elizabeth Stride, Catherine Eddowes and Mary Kelly. Their murderer became known as Jack the Ripper and was never caught. The Metropolitan Police in Whitechapel were criticised for failing to capture the murderer.	Content In 1780, only 3% of the population were allowed to vote. Some people lived in 'Rotten Boroughs' where only a few people voted but were represented by a whole MP (or two!) at Parliament. This gave those voters more power than they should have. It wasn't representative.	Content Steam engines had led to railways which made transportation easier. By 1866, 1300 miles of sewers had been built by Joseph Bazalgette. After 1901, no child under 12 was allowed to work. From 1870, the Education Act stated that children between 5 and 13 had to attend school. In 1861, Louis Pasteur discovered that germs cause disease.	
1. Who were the Metropolitan police? 2. What did Jack the Ripper do?	1. What percentage of the population could vote in 1780? 2. What was a rotten borough?	Each of the sentences in the content box is a statement about something that was achieved during the Industrial Revolution. Write the statements out the order of their importance (your opinion.) Put the most important one first.	



Year 8 Cycle 1 Geography Knowledge Organiser – Weather and Climate



Homework 1 - Thursday 10 th September		
Lesson 1 – Elements of weather	Lesson 2 – Factors affecting climate	Lesson 3 – High and low pressure
Key Terms: Weather: The state of the atmosphere at a given point in time. For example, dry and sunny or rain. Climate: The average weather for a place over a long period of time, typically 30 years. For example, desert, temperate, arctic. Precipitation: Any moisture that falls from the sky.	Key Terms: Latitude: The measurement on a globe or map of locations north or south of the Equator. Altitude: The distance above sea level.	Key Terms: Low Pressure: Air rising from the surface of Earth into the atmosphere. High Pressure: Air falling from the atmosphere to Earth's surface.
Content: There are several different elements that make up the weather: • Temperature: Measured in Degrees Celsius using a thermometer. • Wind Speed: Measured in kmph, knots or mph using an anemometer. • Wind Direction: Measured using a wind vane and shown as N, E, S, W. • Precipitation: Measured in mm using a rain gauge. • Pressure: Measured in millibars using a barometer.	Content: • Latitude: The equator is warmer due to the sun being directly overhead. Temperature decreases the closest you get to the poles. • Ocean currents: These can make places warmer or cooler depending on the direction. The Gulf Stream warms the UK. • Altitude: The temperature decreases by 1°C every 100m • Distance from the sea: The ocean generally has a cooling affect. • Wind: The direction of this can make a place warmer or cooler.	Content: Low pressure: Also called a depression. The air rises (evaporation), cools (condensation) causing clouds and precipitation. High pressure: Cool air is sinking; this leads to clear skies and warm sunny weather in the summer but cold sunny weather in winter.  ☀️ HIGH PRESSURE ☺️ ☂️ LOW PRESSURE ☹️
Questions: 1. What is weather? 2. What is climate? 3. How is temperature and precipitation measured? 4. How is wind speed and direction measured?	5. What is latitude and altitude? 6. How does latitude and altitude affect climate? 7. How does ocean currents and distance from sea affect climate? 8. How does cloud cover affect climate?	9. What is low pressure? 10. Draw a diagram of low pressure 11. What is high pressure? 12. Draw a diagram of high pressure.



Year 8 Cycle 1 Geography Knowledge Organiser – Weather and Climate



Homework 2 - Thursday 24th September

Lesson 4 – Global pressure

Key Terms:

Insolation: The amount of solar radiation received in the Earth's atmosphere or at the Earth's surface.

Content:

The **Equator** receives the **highest levels** of **insolation** and is hot and the **Polar** regions receive the **lowest levels** of **insolation** and are **cold**.

Global air pressures:

- **Low pressure** at the **Equator** causing clouds and precipitation. It is **hot and wet** climate which is ideal for vegetation growth (rainforests).
- **High pressure** at **30°** causing cloudless skies. This means it is **very hot and dry**, so no plants grow, creating deserts.
- **Low pressure** at **60°** causing clouds and precipitation. It is **cool and wet**.
- **High pressure** at **90°** causing it to be **very cold and dry**.

Questions:

1. What is insolation?
2. Where has high and low insolation levels?
3. What's happening at the equator?
4. What's happening at 30° and 60°?

Lesson 5 – Types of rain

Key Terms:

Evaporation: The process of turning a liquid into vapour/gas.

Condensation: The process where water vapour is changed into a liquid.

Content:

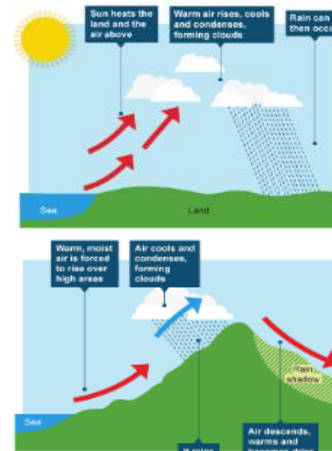
Formation of rain:

Rain forms when the sun heats water into vapor (evaporation), which cools into droplets in clouds (condensation), and falls as rain when heavy (precipitation).

Convictional rainfall:

Sun heats the land and air rises, cools, condenses and forms cloud and rain.

Relief rainfall: Warm air forced to rise, cools and condenses forming clouds and rain.



Lesson 6 – Climate graphs

Key Terms:

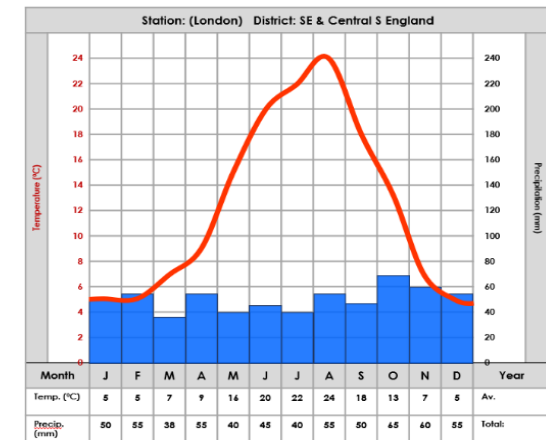
Climate Graph: A graph to show the average temperature and precipitation for a year for a given area.

Content:

Climate graphs have two y axis:

- **Red:** Temperature (Line)
- **Blue:** Precipitation (bars)

The months are along the x axis



5. What is evaporation and condensation?
6. Explain how rain is formed.
7. Explain convectional rainfall.
8. Explain relief rainfall.

9. What is a climate graph?
10. What are on the two y axis?
11. What is on the x axis?
12. How are temperature and rainfall shown on a climate graph?



Year 8 Cycle 1 Geography Knowledge Organiser – Weather and Climate

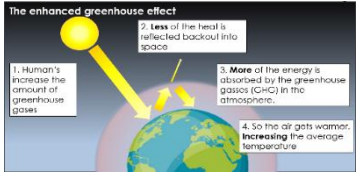


Homework 3 - Thursday 8 th October		
Lesson 7 – Weather hazards	Lesson 8 – Formation of tropical storms	Lesson 9 – Hurricane Katrina (1)
Key Terms: Meteorology: Science that deals with the atmosphere, weather, and weather forecasting. Weather hazards: Meteorological events which can have an impact on people and property.	Key Terms: Tropical Storm: A very powerful low-pressure weather systems that has strong winds and heavy rainfall. Wind shear: Changes in wind speed and/or direction with height.	Key Terms: Hurricane Katrina: A devastating tropical storm that hit the area around New Orleans, USA, on 25 August 2005. Storm surge: A change in sea level that is caused by a storm.
Content: • Drought: Prolonged period of high pressure with no rainfall. Lead to crop failure • Forest fires: Intense heat causes vegetation to dry out and vulnerable to burning. Australia 2019-2020 lead to 34 deaths. • Mid latitude storms: Happen when warm and cold air meet causing intense low pressure. E.g., Storm Denis 2020, £225 million in damages. • Flood: Caused by prolonged or intense rainfall. Monsoon in Pakistan (2022) 1739 deaths, £15 billion damage. • Blizzard: Cold weather and heavy snow e.g.: Beast from the East March 2018.	Content: Tropical storms form when ocean surface temperature is above 27°C. Tropical storms usually form between 5 and 20 degrees of latitude. Formation of a tropical storm: 1. Rapid evaporation and condensation cause large cumulous nimbus clouds to form. 2. Low wind shear means that these continue to grow. 3. More warm moist air is drawn in. 4. Cool air sinks in the middle creating the eye. 5. Start to spin due to the spin of the Earth.	Content: Formation and background: • Developed in the Atlantic. • 400 miles wide & 100-175 mph winds • New Orleans 2m below sea level. • 8m storm surge. Social impacts (people): • 1,800 people died. • 300,000 homes were destroyed. • 3 million people had no electricity. Economic impacts (money): • \$300 billion of damage. • Oil platforms were destroyed. • 80% the man-made levees, overwhelmed by extra water and broke. • Cotton and sugar cane crops were destroyed.
Questions: 1. What are weather hazards? 2. What is a drought? 3. Outline examples of forest fires and mid latitude storms 4. What are floods and blizzards?	5. What is a tropical storm? 6. What are they called in the different oceans? 7. What temperature is needed to form tropical storms? 8. State the 5 steps in creating tropical storms.	9. What is a storm surge? 10. Give 4 facts about the formation and background 11. Give 3 social impacts 12. Give 5 economic impacts



Year 8 Cycle 1 Geography Knowledge Organiser – Weather and Climate



Homework 4 - Thursday 22 nd October		
Lesson 10 – Hurricane Katrina (2)	Lesson 11 – Greenhouse effect	Lesson 12 – Causes of climate change
Key Terms: Acre: An area of land around 4,000m ² Superdome: Multi-purpose stadium located in the centre of New Orleans and seats 83,000 people.	Key Terms: Greenhouse effect: The trapping of the sun's warmth in a planet's lower atmosphere. Enhanced greenhouse effect: Additional heat retained due to the increased amounts of greenhouse gases that humans have released into the earth's atmosphere.	Key Terms: Climate change: Any change in global temperatures and precipitation (rainfall) over time, due to natural or human activity. Orbital changes: The path the earth takes around the sun can change (closer and further away).
Content: Environmental impacts: • The storm surge flooded large areas of the coast. • Coastal habitats were destroyed. • 7 million gallons of crude oil spilled. • 1.3m acres of woodland destroyed. Immediate responses: • People boarded-up homes/used sheeting. • 90% of people left the city. • 10,000 people (who were too poor to evacuate) took refuge in the Superdome. • Emergency services overwhelmed. Long term response: 220 miles of flood walls & levees strengthened or replaced to lower the chances of severe flooding.	Content: The natural greenhouse effect (GHE) is due to the gasses in our atmosphere. The greenhouse gases include: • Carbon Dioxide • Methane • Nitrous Oxide • Water vapour The enhanced greenhouse effect is caused by human activity including burning fossil fuels, intensive agriculture, deforestation.  The diagram illustrates the enhanced greenhouse effect in four steps: 1. Human activity increases greenhouse gases. 2. Less heat is reflected back into space. 3. More energy is absorbed by greenhouse gases in the atmosphere. 4. The air gets warmer, increasing the average temperature.	Content: Human causes of climate change: • Burning fossil fuels: Burned for electricity and transport (CO₂). • Deforestation: Less trees to absorb and store CO₂. • Agriculture: Causes gases like methane. Physical causes of climate change: • Orbital changes: Earth orbiting the sun changes slightly taking us closer or further away from the sun. • Sunspots: The sun can emit solar flares which can send more radiation to Earth • Volcanic eruptions: Volcanoes can release ash which blocks light and reflects back into space making it cooler.
Questions: 1. What is an acre? 2. State 4 environmental impacts 3. State 4 immediate responses 4. State a long-term response	5. What is the greenhouse effect? 6. State 4 greenhouse gases 7. What is the enhanced greenhouse effect? 8. Draw a diagram of the enhanced greenhouse effect	9. What is climate change? 10. What is deforestation? 11. State 3 human causes 12. State 3 physical causes



Year 8 Cycle 1 Geography Knowledge Organiser – Weather and Climate



Homework 5 - Thursday 12 th November		
Lesson 13 – Impacts of climate change	Lesson 14 – Climate change in Bangladesh	Lesson 15 – Reducing climate change
Key Terms: Wildfires: A large, destructive fire that spreads quickly over woodland or brush. Thermal expansion: Warming Ocean water expands and takes up more space therefore sea levels rise.	Key Terms: Bangladesh: An LIC in the north-eastern part of South Asia. Has a GNI of \$6,840 (UK is \$49,420). Mangrove: A low growing tree/ shrub that grows in warm shallow, calm seas.	Key Terms: Mitigation: To reduce or stop climate change itself by stopping GHG being released into the atmosphere. Adaptation: Changing what we do to cope with climate change rather than stopping it. Actions taken by people
Content: Location: California: Wildfires are becoming more frequent. Location: Tuvalu, South Pacific: small islands are a 1m above sea level. Thermal expansion is causing the sea to rise. Fields are flooded, and the fish are gone. Location: Switzerland, Alps: Ski season is short and unpredictable due to snow melt or lack of snow. Location: UK Somerset Levels: The River Parrett floods most years, but it is getting worse and happening more often. Location: Pakistan: Rain is becoming unpredictable. 1739 deaths in 2022, the crops are flooded.	Content: Physical Causes: • Low lying and has 3 major rivers that flood naturally • 80% of the land is 1-2m above sea level. Human Causes • Removed mangroves and these are a natural sea defence. • Glacial melt is increasing due to climate change causing river levels to rise. Impacts • People are losing farmland, so they change jobs to fishermen. • People migrate to Dhaka away from the coast.	Content: What can be done in Bangladesh? • People could leave the coast and move to the city. • The government could make an agreement for Bhutan to plant trees which may absorb the precipitation and melt water. What can the rest of the world do? • Stop buying exotic foods. The transport releases CO₂. • People could walk, cycle, and use public transport rather than using their car. • Charities, people, and governments could plant more trees. • Governments could use renewable energy to reduce CO₂.
Questions: 1. What is thermal expansion? 2. What is the impact in Tuvalu? 3. What is the impact in the Alps? 4. What is the impact in the UK?	5. Where is Bangladesh? 6. State 3 physical causes 7. State 3 human causes 8. State 2 impacts on Bangladesh	9. What is mitigation? 10. What is adaptation? 11. What can Bangladesh do? 12. What can the rest of the world can do?

Year 8 French

Cycle 1



Instructions

- Look at the list of 12 words/phrases and practice saying them
- Cover the English side and try to say them to yourself, then write them down.
- Check your answers
- Repeat until you can remember all 12
- Complete the gapfill using the correct word from the list. Enter your answers into your homework book to be checked in class

Challenge : Can you cover up the French side and remember all 12 including the spellings ?

You have **two** weeks to revise each vocabulary list at home.

You will then be tested in class on how well you know all 12 words/phrases.

Still got time left ? Look at the back of this booklet for some MFL challenges to complete at home and show your teacher.

Bon Courage !

Test 1 – Qu'est-ce que tu regardes à la télé LC1

FRANCAIS	ANGLAIS
1. Je regarde les émissions de sport	I watch sports programmes
2. Je ne regarde pas les infos	I don't watch the news
3. Je ne regarde jamais les documentaires	I never watch documentaries
4. Je ne rate jamais les jeux télévisés	I never miss game shows
5. J'adore les émissions de télé réalité car je trouve ça bien	I love reality TV shows because I find it good
6. Je déteste les séries parce que je trouve ça barbant	I hate series because I find it boring
7. Je regarde les dessins animés car je trouve ça chouette	I watch cartoons because I find it great
8. Je ne rate jamais les émissions musicales car je trouve ça génial	I never miss music programmes because I find it great
9. Je n'aime pas les infos car je trouve ça effrayant	I don't like the news because I find it scary
10. Je ne regarde pas les jeux télévisés mais j'aime les séries	I don't watch game shows but I like series
11. Je ne rate jamais les documentaires car je trouve ça émouvant	I never miss documentaries because I find it moving
12. J'adore les émissions musicales parce que je trouve ça passionnant	I love music programmes because I find it exciting

Gapfill (Complete in your homework book)

1. Je _____ les infos = I watch the news
2. J'adore les _____ de sport = I love sports programmes
3. Je ne _____ jamais les documentaires = I never miss documentaries
4. Je trouve ça _____ = I find it great
5. Je n'aime pas les _____ = I don't like the news
6. je _____ regarde _____ les émissions musicales = I don't watch music programmes
7. J'adore les émissions de _____ = I love reality programmes
8. Je regarde les _____ animés = I watch cartoons

Test 2 – Tu aimes regarder les films ? LC1

FRANCAIS	ANGLAIS
1. J'aime les films d'action	I like Action films
2. Je ne regarde jamais les comédies	I never watch comedies
3. Je ne supporte pas les films d'amour	I can't stand romantic films
4. Je suis fan de films d'art martiaux	I am a fan of martial arts films
5. Je ne suis pas fan de films de science-fiction	I am not a fan of Sci-Fi films
6. Je trouve ça assez effrayant mais émouvant	I find it quite scary but moving
7. Je regarde les films d'aventure car je trouve ça vraiment passionnant	I watch adventure films because I find it really exciting
8. J'ai une passion pour les films musicaux parce que je trouve ça hyper génial	I have a passion for musical films because I find it super great
9. Je n'aime pas les comédies car je trouve ça un peu stupide	I don't like comedies because I find it a bit stupid
10. Je ne regarde jamais les films fantastiques car je trouve ça très barbant	I never watch fantasy films because I find it very boring
11. Je suis fan de dessins-animés car je trouve ça assez amusant	I'm a fan of cartoons because I find it quite funny
12. J'aime les films d'action car je trouve ça extrêmement chouette et intéressant	I like action films because I find it extremely great and interesting

Gapfill (Complete in your homework book)

1. Je ne _____ pas les films d'action = I can't stand action films
2. J'ai une passion pour les _____ = I have a passion for comedies
3. Je suis _____ de films d'amour = I am a fan of romantic films
4. Je ne regarde _____ les films musicaux = I never watch musical films
5. Je trouve ça _____ stupide = I find it really stupid
6. Je n'aime pas les _____ fantastiques = I don't like fantasy films
7. Je _____ ça barbant = I find it boring
8. Je trouve ça _____ mais intéressant = I find it scary but interesting

Test 3 – Tu aimes lire ? LC1

FRANCAIS	ANGLAIS
1. En ce moment je lis un roman policier	At the moment I am reading a crime novel
2. Normalement je lis un magazine	Normally I read a magazine
3. D'habitude je lis un livre d'épouvante	Usually I read a horror / scary book
4. C'est assez drôle mais un peu triste	It is quite funny but a bit sad
5. À mon avis c'est trop difficile mais c'est vraiment intéressant	In my opinion it is too difficult but it is really interesting
6. Je lis un livre sur les animaux et c'est émouvant	I'm reading a book about animals and it is moving
7. Quelquefois je lis un BD et je pense que c'est très passionnant	Sometimes I read a comic and I think that it is very exciting
8. Je lis un roman d'amour et c'est complètement nul	I am reading a romantic novel and it is completely rubbish
9. Je lis un journal et à mon avis c'est un peu ennuyeux	I'm reading a newspaper and in my opinion it is a bit boring
10. D'habitude je lis un roman de science-fiction et c'est assez passionnant	Usually I read a sci-fi novel and it's quite exciting
11. Je lis un manga et je pense que c'est trop triste mais c'est vraiment intéressant	I'm reading a manga book and I think that it is too sad but really interesting
12. Quelquefois je lis un roman fantastique et c'est complètement drôle	Sometimes I read a fantasy novel and it is completely funny

Gapfill (Complete in your homework book)

1. Quelquefois je _____ un roman = Sometimes I read a novel
2. _____ je lis un livre d'épouvante = Normally I read a scary book
3. Je pense que c'est assez _____ = I think it's quite interesting
4. En _____ je lis un BD = At the moment I am reading a comic
5. Je lis un manga – c'est trop _____ = I'm reading a Manga – it is too sad
6. C'est assez _____ = It is quite exciting
7. _____ je lis un magazine = Sometimes I read a magazine
8. Je lis un _____ policier = I read a crime novel

Test 4 – Que fais-tu en ligne ? LC1

FRANCAIS	ANGLAIS
1. Quand je suis connecté tous les soirs je fais des achats	When I am connected every evening I make purchases
2. Quelquefois je joue à des jeux	Sometimes I play games
3. Une fois par semaine je lis des infos	Once a week I read the news
4. D'habitude je tchatte en ligne	Usually I chat online
5. Souvent je fais mes devoirs	Often I do my homework
6. Selon moi c'est génial	According to me it is great
7. Je trouve que c'est assez pratique	I find that it is quite practical
8. Quand je suis connecté je fais des quiz car c'est amusant	When I am connected I do quizzes because it is fun
9. Souvent je télécharge des chansons car je pense que c'est passionnant	I often download songs because I think that it is exciting
10. D'habitude j'envoie des textos parce que c'est assez bien	Usually I send messages because it is quite good
11. Tous les soirs je regarde des clips vidéos car à mon avis c'est chouette	Every evening I watch video clips because in my opinion it is great
12. Quand je suis connecté je joue à des jeux car selon moi c'est génial	When I am connected I play games because according to me it is great

Gapfill (Complete in your homework book)

1. Quand je suis connecté je tchatte ____ = When I'm connected I chat online
2. Quelquefois je fais ____ = Sometimes I do my homework
3. ____ moi c'est pratique = According to me it is practical
4. Souvent je ____ des chansons = Often I download songs
5. Tous les ____ je joue = Every evening I play
6. Je fais des quiz car ____ amusant = I do quizzes because it is fun
7. Une ____ par semaine j'envoie des textos = Once a week I send texts
8. D'habitude ____ des clips vidéos = Usually I watch video clips

Test 5 – Qu'est-ce que tu vas faire demain ?

FRANCAIS	ANGLAIS
1. Demain je vais regarder la télé	Tomorrow I'm going to watch TV
2. Demain soir je vais écouter de la musique	Tomorrow evening I'm going to listen to music
3. Demain matin je vais tchatter en ligne	Tomorrow morning I'm going to chat online
4. Ce weekend je vais lire mon livre	This weekend I'm going to read my book
5. Plus tard je vais poster des photos. Ce sera chouette.	Later I'm going to post photos. It will be great.
6. Ensuite je vais dîner en famille. Ce sera amusant.	Then I'm going to eat with my family. It will be funny
7. Finalement je vais faire mes devoirs. Ce sera barbant.	Finally I'm going to do my homework. It will be boring.
8. Puis je vais lire mon livre. Ce ne sera pas passionnant	Then I'm going to read my book. It won't be exciting.
9. Demain je vais jouer aux jeux en ligne après je vais écouter de la musique	Tomorrow I'm going to play games online after I'm going to listen to music
10. Ce weekend je vais regarder un film avec ma soeur. Ce sera génial	This weekend I'm going to watch a film with my sister. It will be great.
11. Ensuite je vais surfer sur internet avec mon frère. Ce sera idiot.	Next I'm going to surf the internet with my brother. It will be stupid.
12. Finalement je vais télécharger des chansons et ce sera chouette	Finally I'm going to download songs and it will be great.

Gapfill (Complete in your homework book)

1. _____ je vais écouter de la musique = Tomorrow I'm going to listen to music
2. Demain soir ____ la télé = Tomorrow evening I'm going to watch TV
3. _____ tard je vais surfer sur internet = Later I'm going to surf the net
4. Ce _____ passionnant = It will be exciting
5. Finalement je vais ____ aux jeux en ligne = Finally I'm going to play games online
6. Je ____ en famille. Ce sera chouette = I'm going to eat with family. It will be great.
7. Demain _____ je vais poster des photos = Tomorrow morning I'm going to post photos
8. Je vais _____ de la musique = I'm going to listen to music

MFL challenges

These are some ideas for tasks to complete at home – they are totally optional but bring them in to show your teacher!

1. Research a French speaking country (*Francophone*) and create a poster to show what you have learnt
2. Research a French or Francophone recipe and have a go at making something at home
3. Create a poster all about you using the vocab in the lists – include pictures
4. Watch your favourite film in French or with French subtitles
5. Imagine you have £1000 to spend on holiday in France. Plan and budget for your holiday including travel, accommodation and activities for a one week stay
6. Find a song you like by a French speaking artist
7. Research Francophone flags and make a poster with 5 different flags
8. Research a Francophone festival or landmark that interests you and present in a poster / presentation.

Year 8 Spanish

Cycle 1



Instructions

- Look at the list of 12 words/phrases and practice saying them
- Cover the English side and try to say them to yourself, then write them down.
- Check your answers
- Repeat until you can remember all 12
- Complete the gapfill using the correct word from the list. Enter your answers into your homework book to be checked in class

Challenge : Can you cover up the Spanish side and remember all 12 including the spellings ?

You have **two** weeks to revise each vocabulary list at home.

You will then be tested in class on how well you know all 12 words/phrases.

Still got time left ? Look at the back of this booklet for some MFL challenges to complete at home and show your teacher.

Buena Suerte!

Test 1 – ¿Qué hay en la foto? LC1

Español	Inglés
1. En la foto hay	In the picture there is/ are
2. En el centro de la foto hay	In the centre of the picture there is / are
3. A la izquierda de la foto hay	On the left of the picture there is/ are
4. A la derecha de la foto hay	On the right of the picture there is / are
5. Al fondo hay	In the background there is / are
6. En la foto hay 5 personas	In the picture there is 5 people
7. En el centro de la foto hay un hombre y una mujer	In the centre of the picture there is a man and a woman
8. Creo que están alegres	I think they are happy
9. Creo que está triste	I think he/she is sad
10. Creo que es elegante	I think he/she is smart
11. Creo que es asqueroso	I think it is disgusting
12. La foto tiene lugar en una escuela	The picture takes place in a school

Gap fill (Complete in your homework book)

1. En foto hay= In the photo there is/are
2. Creo que tristes = I think they are sad
3. = On the right there is/are
4. es elegante = I think it is elegant
5. Hay un = There is a man
6. Hay siete = There are 7 people
7. La foto una calle = The photo takes place in a street
8. = In the photo there are 2 people

Test 2 – ¿Qué vas a ser en el futuro? LC1

Español	Inglés
1. Voy a ser pintor	I am going to be a painter
2. Voy a ser camarero	I am going to be a waiter
3. Quisiera ser mecánico	I would like to be a mechanic
4. Quisiera ser policía	I would like to be a police officer
5. Quisiera ser músico	I would like to be a musician
6. Voy a ser abogado porque me encanta el derecho	I am going to be a lawyer because I love law
7. Voy a ser cantante porque me gusta cantar	I am going to be a singer because I like singing
8. Quisiera ser futbolista porque me gusta el deporte	I would like to be a footballer because I like sport
9. Quisiera ser periodista porque me interesa la tecnología	I would like to be a journalist because I am interested in technologies
10. Quisiera ser jefe porque se me dan bien los negocios	I would like to be a boss because I am good at business studies
11. Voy a ser actor porque me interesa el teatro	I am going to be an actor because I am interested in drama
12. Voy a ser científico porque me interesan las ciencias	I am going to be a scientist because I am interested in science

Gapfill (Complete in your homework book)

1. ____ _ ____ **camarero** = I'm going to be a waiter
2. **Quisiera** ____ **pintor** = I'd like to be a painter
3. ____ **ser abogada** = I'd like to be a lawyer
4. **porque** ____ **el dibujo** = Because I love art
5. **Porque** ____ **el derecho** = because I'm interested in Law
6. ____ _ ____ **bien las ciencias** = I'm good at Sciences
7. **Quisiera** ____ ____ = I'd like to be an actor
8. ____ _ ____ ____ = I'm going to be a boss

Test 3: ¿Cuáles son las ventajas / desventajas de?

Español	Inglés
1. Una ventaja es ...	An advantage is
2. Una ventaja es que es emocionante	An advantage is that it is exciting
3. Una ventaja es que es necesario e útil	An advantage is that it is necessary and useful
4. Una ventaja de ser azafata es que está bien pagado	An advantage of being an air hostess is that it is well paid
5. Una ventaja de ser periodista es que es un trabajo importante	An advantage of being a journalist is that it is an important job
6. Una ventaja de ser secretari@ es que es útil	An advantage of being a secretary is that it is useful
7. Una desventaja es ...	A disadvantage is...
8. Una desventaja es que está mal pagado	A disadvantage is that it is badly paid
9. Una desventaja de ser actriz es que es duro	A disadvantage of being an actress is that it is hard
10. Una desventaja de ser soldado es que está mal pagado	A disadvantage of being a soldier is that is badly paid
11. Una desventaja de ser jefe es que es difícil	A disadvantage of being a boss is that it is difficult
12. Una desventaja de ser mecánico es que está mal pagado	A disadvantage of being a mechanic is that is badly paid

Gapfill (Complete in your homework book)

1. _____ es que....= A disadvantage is that....
2. _____ es que... = An advantage is that...
3. _____ bien pagado = it is well paid
4. _____ = It is difficult
5. Una ventaja _____ = an advantage of being an actress
6. una desventaja _____ = A disadvantage of being a journalist
7. es que _____ = Is that it is an important job
8. _____ = Mis that it is badly paid

Test 4 – ¿Qué debes para ser policía? LC1

Español	Inglés
1. Abogado	Lawyer
2. Científico	Scientist
3. Azafata	Flight attendant
4. Camarero	Waiter
5. empresario	Businessman
6. médico	Doctor
7. Para ser cantante necesito cantar mucho	In order to be a singer I need to sing a lot
8. Para ser estrella necesitas trabajar mucho	In order to be a star you need to work a lot
9. Para ser ingeniero necesito diseñar mucho	In order to be an engineer I need to design a lot
10. Para ser periodista debo saber mucho	In order to be a journalist I must know a lot
11. Para ser medico voy a deber estudiar mucho	In order to be a doctor I'm going to have to study a lot
12. Para ser pintor necesito hablar poco	In order to be a painter I need to talk a little bit

Gapfill (Complete in your homework book)

1. **para ser** _____ = In order to be a waiter
2. _____ **médico** = In order to be a doctor
3. **necesito** _____ = I need to know a lot
4. _____ **trabajar mucho** = I need to work a lot
5. **para ser** _____ **necesito** _____ = To be a star I need to sing
6. **voy a** _____ **diseñar** = I'm going to need to design
7. _____ = I need to talk a little bit
8. _____ = To be a journalist I'm going to need to study

Test 5 – ¿Qué es el trabajo ideal para ti? LC1

Español	Inglés
1. Mi trabajo ideal sería...	My ideal job would be...
2. Mi trabajo ideal sería abogado	My ideal job would be a lawyer
3. Mi trabajo ideal sería jefe	My ideal job would be a boss
4. Mi trabajo ideal sería policía	My ideal job would be policeman
5. Porque puedo...	Because I can...
6. Construir edificios increíbles	Construct impressive buildings
7. Puedo trabajar con otros	I can work with others
8. Puedo cuidar a las personas	I can take care of people
9. Puedo escribir y ser creativo	I can write and be creative
10. Puedo cocinar para mis clientes y hablar con la gente	I can cook for my clients and talk to people
11. Mi trabajo ideal sería artista porque puedo diseñar	My ideal job would be an artist because I can design
12. Mi trabajo ideal sería futbolista porque puedo hacer lo que quiera	My ideal job would be a footballer because I can do whatever I want

Gapfill (Complete in your homework book)

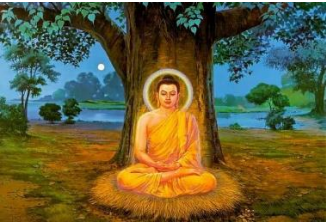
1. _____ = My ideal job would be
2. Mi trabajo ideal _____ = My ideal job would be a boss
3. Sería _____ = It would be a lawyer because I can
4. _____ a las personas = I can look after people
5. puedo _____ = I can do what I want
6. _____ = to be creative
7. _____ = to talk to people
8. _____ = I can construct impressive buildings

MFL challenges

These are some ideas for tasks to complete at home – they are totally optional but bring them in to show your teacher!

1. Research a Spanish speaking country and create a poster to show what you have learnt
2. Research a Hispanic recipe and have a go at making something at home
3. Create a poster all about you using the vocab in the lists – include pictures
4. Watch your favourite film in Spanish or with Spanish subtitles
5. Imagine you have £1000 to spend on holiday in Spain. Plan and budget for your holiday including travel, accommodation and activities for a one week stay
6. Find a song you like by a Spanish speaking artist
7. Research flags from Spanish speaking countries and make a poster with 5 different flags
8. Research a Spanish/Latin American festival or landmark that interests you and present in a poster / presentation.

RPE

Week 2		Week 4	
Lesson 1 – What Is The Problem Of Evil?	Lesson 2 – Is Suffering Necessary?	Lesson 3 – Responses to The Problem Of Evil	Lesson 4 – Who Was The Buddha?
Key Terms: Evil: Morally bad or cruel. Believed by some to be contrary to the will of God. Natural Evil: Suffering that humans have no control over, which occurs naturally. E.g. Natural disasters. Moral Evil: Acts of humans considered to be morally wrong. E.g. Murder.	Key Terms: Suffering: Physical or mental pain that a person is feeling. Free Will: The ability to choose between different possible courses of action. Necessary: Absolutely essential; needed to achieve a particular result. Theodicy: An explanation of how to reconcile/explain the idea of a Just God with a world containing evil.	Key Terms: Satan: The Devil; a powerful evil being, believed by some to be the chief opponent of God. Epistemic distance: A distance in dimension or knowledge between humans and God. 	Key Terms: Buddha: The holy man on whose life and teachings Buddhism is based. Enlightenment: The state of understanding something; the highest spiritual state that can be achieved. 
Content: The Problem of Evil is the philosophical question of how to reconcile the existence of evil with an omnipotent, omniscient and omnibenevolent God. The Greek philosopher, Epicurus, claimed that the existence of evil proved there is no God.	Content: Everyone experiences suffering. As human beings have free will, they have the ability to choose their actions. For many Christians, freedom of choice can lead to evil. Both Irenaeus and Augustine's theodicies depend on the existence of free will.	Content: Some religious people believe much of the suffering in this world is caused by humans misusing God's gift of free will. In John Hick's theodicy, he highlighted the importance of God allowing humans to develop for themselves.	Content: Buddhism started with Siddhartha Gautama who came to be known as the Buddha. He was born into a life of luxury as a Prince and shielded from seeing any pain or suffering. Meditation is the way in which the Buddha gained enlightenment.
Questions: 1. What is evil? 2. What is the difference between natural and moral evil? 3. What is the Problem of Evil?	Questions: 1. What is suffering? 2. Do religious believers think suffering is necessary? 3. What do the theodicies of Irenaeus and Augustine say about free will?	Questions: 1. Who do many religious believers think is responsible for evil? 2. What did Hick mean when he described the world as 'soul making'?	Questions: 1. What was the Buddha's upbringing like? 2. What four sights did he see when he left the Palace? 3. How did he achieve enlightenment?

RPE

Week 6		Week 8	
Lesson 5 – What Are Dhamma & Dukkha?	Lesson 6 – What Is Dependent Arising?	Lesson 7 – What Are The 3 Marks Of Existence?	Lesson 8 – What Are The 4 Noble Truths?
Key Terms: Dhamma: Buddhist doctrine; often interpreted to mean the teachings of the Buddha. Dukkha: Suffering; life as unsatisfactory.	Key Terms: Dependent Arising: The Buddhist idea of reality; everything arises and is dependent on something else to exist.	Key Terms: Anicca: Instability or a lack of permanence. Anatta: No soul; people do and can change in life.	Key terms: Four Noble Truths: Four of the most important elements of the Buddhist teaching. Noble Eightfold Path: The path to be followed by a Buddhist; the Middle Way
Content: Rather than just physical pain, Dukkha refers to the unsatisfactory nature of the whole of life. Buddhists believe that life is unsatisfactory because of greed and selfishness. Buddhists believe that the things the Buddha taught (Dharma) have always existed. They believe that the Buddha was the first person to be able to understand the teachings fully. He was then able to pass them onto other people.	Content: Dependent Arising is a belief that is essential in fully understanding the Buddha's Dharma. It is the belief that everything that is in existence exists because other things are in existence. Therefore, everything is interconnected and everything affects everyone. Dependent Arising may influence the way a Buddhist behaves and have an impact on their moral conduct.	Content: The 3 Marks of Existence are sometimes known as the 3 Universal Truths. They are Anicca, Dukkha and Anatta. Anicca is concerned with how resilient a Buddhist is. Dukkha is belief in 3 types of suffering. Anatta is the belief that there is no soul but energy can be reborn.	Content: If you are ill and go to a Doctor, you want to know what is wrong, what has caused your illness, what will cure it and how to get treatment. The Buddha's teaching can be set out in the same way, as a cure for the world's illness: 1. All life involves suffering. 2. The origin of suffering is craving. 3. If craving ceases, suffering will also cease. 4. The Middle Way.
Questions: 1. What are Dhamma and Dukkha? 2. How do Buddhists use Dhamma to help them to overcome Dukkha?	Questions: 1. What is Dependent Arising? 2. How could the concept of Dependent Arising help to prevent or stop suffering?	Questions: 1. What are the 3 Marks of Existence? 2. How could the 3 Marks of Existence lead to Buddhists accepting the idea of suffering as part of life?	Questions: 1. What are the Four Noble Truths? 2. How can Dukkha be overcome according to the Four Noble Truths?

RPE

Week 10		Week 12	
Lesson 9 – What Is Karma?	Lesson 10 – Assessment Preparation	Lesson 11 – End of Cycle Assessment	Lesson 12 – Assessment Repair Work
Key Terms: Karma: ‘Action.’ All actions have consequences. Samsara: The cycle of birth, life, death and rebirth. Nirvana: The ultimate goal of Buddhists, involving breaking free from the cycle of Samsara. Content: Buddhists believe that the ultimate goal is to reach Nirvana. This is not really a place but a state of being. Buddhists believe that we are trapped on a wheel of life. They believe that people will be reborn many times in order to have the opportunity to reach Nirvana, which is freedom from suffering. Buddhists believe that the rebirths that arise are a result of karma. Questions: 1. What is Karma? 2. How does the idea of Karma link to Buddhist ideas of what happens after death?		Create a glossary of key words from this cycle	

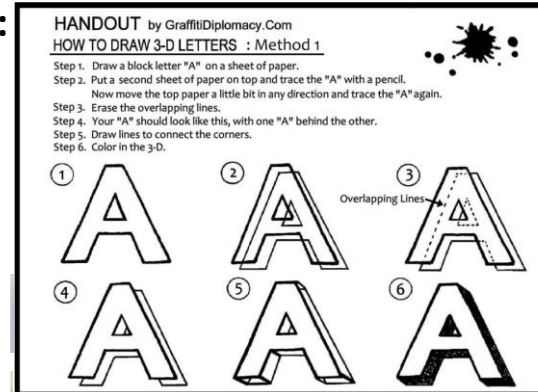
A. Visual Elements Keywords

Line	Line is the path left by a moving point. A line can be horizontal, diagonal or curved and can also change length.
Shape	A shape is an area enclosed by a line. Shapes can be geometric or irregular.
Form	Form is a three dimensional shape, such as a cube, sphere or cone.
Tone	This refers to the lightness or darkness of something. This could be a shade, or how dark or light a colour appears.
Texture	This is to do with the surface quality of something. There are two types of texture: Actual texture really exists, so you can feel it or touch it; Visual texture is created using marks to represent actual texture.
Pattern	A design that is created by repeating lines, shapes, tones or colours.
Colour	Red, yellow and blue are primary colours, which means they can't be mixed using any other colours.

B. Key Knowledge 1:

Use this guide to help practice your 3D lettering

Practice drawing letters 3D – try a variety of curved and straight letter forms



E. Expert Modelling:



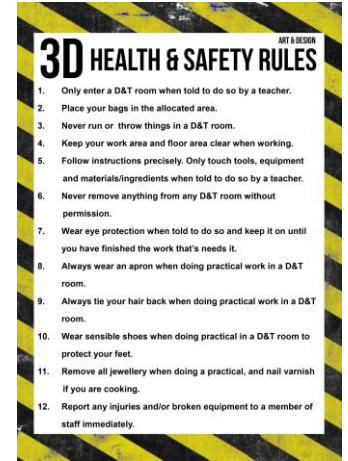
What Visual Elements can you see in this work?
What equipment is needed to create a 3D letter?

CREATIVE ARTS

3D DESIGN – YR 8 – 3D LETTERS

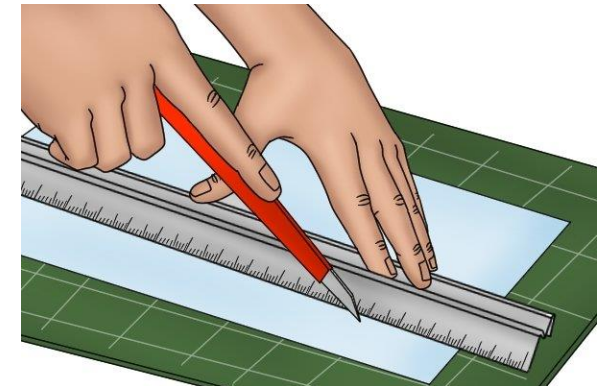
C. Key Knowledge 2: HEALTH & SAFETY RULES

Refer to your booklet for a larger version of the H&S Rules



D. Key Knowledge 3: Using a craft knife safely

- Use a metal safety ruler
- Hold ruler firmly with fingers in the middle away from the edge
- Keep the blade against the ruler when cutting



F. Wider thinking / further reading:

<https://www.youtube.com/watch?v=BfL5m9epBxg>

Check out this tutorial on drawing 3D letters

A. Visual Elements Keywords

Line	Line is the path left by a moving point. A line can be horizontal, diagonal or curved and can also change length.
Shape	A shape is an area enclosed by a line. Shapes can be geometric or irregular.
Form	Form is a three dimensional shape, such as a cube, sphere or cone.
Tone	This refers to the lightness or darkness of something. This could be a shade, or how dark or light a colour appears.
Texture	This is to do with the surface quality of something. There are two types of texture: Actual texture really exists, so you can feel it or touch it; Visual texture is created using marks to represent actual texture.
Pattern	A design that is created by repeating lines, shapes, tones or colours.
Colour	Red, yellow and blue are primary colours, which means they can't be mixed using any other colours.

B. Key Knowledge 1: DAY of the DEAD FESTIVAL

The Day of the Dead is a Mexican holiday celebrated throughout Mexico, in particular the Central and South regions, and by people of Mexican heritage elsewhere.

Celebrations: Creation of altars to remember the dead, traditional dishes for the Day of the Dead

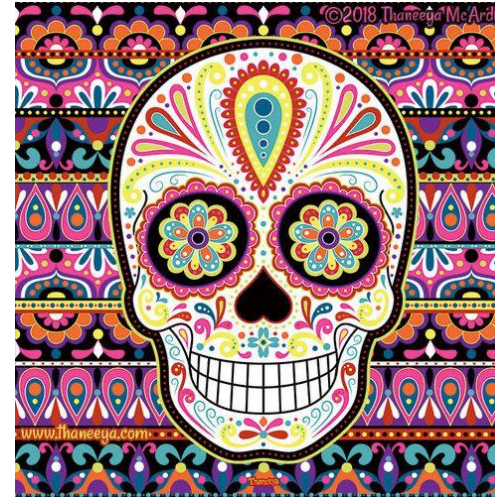
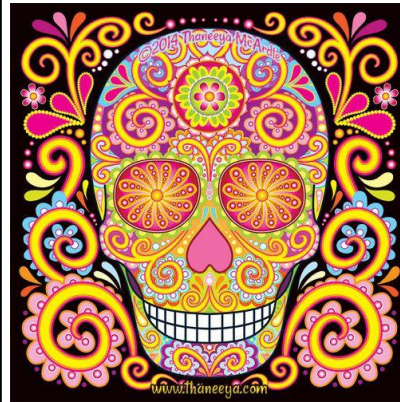
Date: Monday, 2 November 2020

Significance: Prayer and remembrance of friends and **family** members who have died

Observed by: **Mexico**, and regions with large **Mexican** population and Latin America



E. Expert Modelling: Thaneeya McArdle



What Visual Elements can you see in this work?

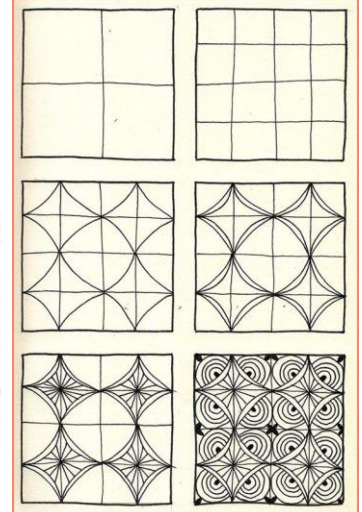
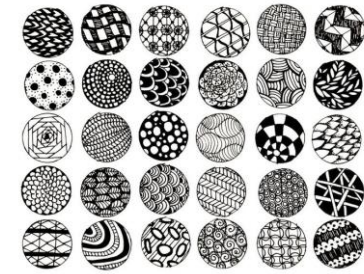
CREATIVE ARTS - ART & DESIGN

Project – YEAR 8 TRADITION & INNOVATION

Threshold Concept #4 – Artists use traditional methods to create art. They also experiment and rebel against the 'rules' to create new ideas

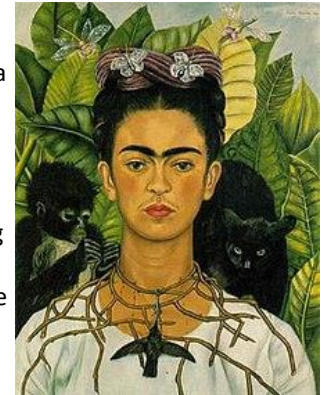
C. Key Knowledge 2:

Research Zentangle patterns and practice them using this grid technique to help you.



D. Key Knowledge 3:

Frida Kahlo (6 July 1907 – 13 July 1954) was a Mexican painter known for her many portraits, self-portraits, and works inspired by the nature and artifacts of Mexico. Artist **Frida Kahlo** was considered one of Mexico's greatest artists who began painting mostly self-portraits after she was severely injured in a bus accident. **Kahlo** later became politically active and married fellow communist artist Diego Rivera in 1929.



F. Wider thinking / further reading:

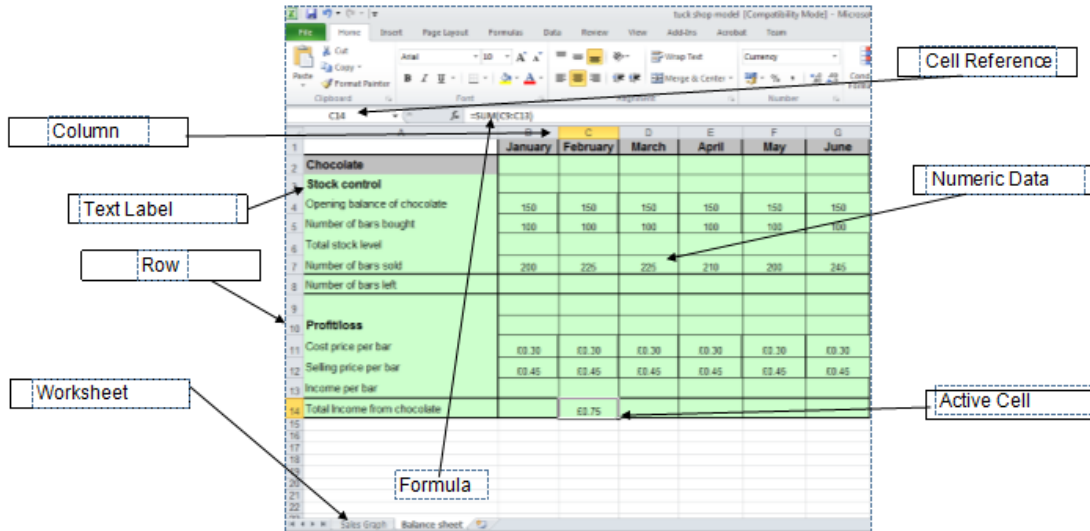
<https://www.youtube.com/watch?v=sSawpU81cl>

What this short film about the Day of the Dead Festival

Spreadsheets are used to store information and data. Once we have our information in a spreadsheet we can run powerful calculations, make graphs and charts and analyse patterns.

Other uses for spreadsheets –

- Modelling and Planning
- Home/Business Finance and Budgeting
- Wages/Invoices
- Predictions / Simulations / Calculations
- Creating charts and graphs



Knowledge Organiser - Spreadsheets

What is a Function?

A **function** is a standard routine used to perform common tasks. It represents a complex formula that uses reserved words e.g. VLOOKUP, IF. A **function** performs a specific set of operations on its input values to produce a single output value.

What is a Formula?

Using **formulas** in **spreadsheets** can allow you to quickly make **calculations** and get totals of multiple cells, rows, or columns in a **spreadsheet**.

Conditional Formatting

is a tool that allows you to apply **formats** to a cell or range of cells, and have that **formatting** change depending on the value of the cell or the value of a formula. For example, you can have a cell appear bold only when the value of the cell is greater than 100.

Common Formulas/Functions

= SUM	Adds a range of cells together
= AVERAGE	Finds an average for a range of cells
= MIN	Returns the smallest value in range
= MAX	Returns the highest value in a range
= COUNT	Counts cells if they meet a condition

Golden rule: every formula always starts with an =

Cell references begin with a letter, and finish with a number. EG: **A1**

A range is a selection of cells. EG: **A2:F4**

	A	B	C	D	E	F	G
1							
2							
3							
4							
5							

	A	B	C	D	E	F	G
1							
2							
3							
4							
5							

Operators

+	Adds two numbers / cells
-	Subtracts one cell or number from another
*	Multiplies two numbers/cells
/	Divides one number / cell from another one
<	Less than
>	Greater than
<=	Less than or equal to
>=	Greater than or equal to

Extra Reading

<http://www.bbc.co.uk/education/guides/zdydmp3/revision>

<http://www.bbc.co.uk/schools/gcsebitesize/ict/modelling/0spreadsheetsrev1.shtml>³⁶

IF

one of the logical **functions**, to return one value **if** a condition is true and another value **if** it's false. For example: **=IF(A2>B2,"Over Budget","OK") =IF(A2=B2,B4-A4,"")**

Count IF

=COUNTIF (Where do you want to look?, What do you want to look for?)

Auto SUM

Excel automatically enters a formula (that uses the **SUM**function) to **sum** the numbers

= COUNT

Counts cells if they meet a condition

Year 8 Cycle 1 - Drama Knowledge Organiser

A. The Costermongers

Costermonger: is a street seller of fruit and vegetables in London and other British towns.

A Domestic Unit: refers to a dwelling that has no more than one family **unit** resident in place of permanent or semi-permanent, and which is used as a habitation

Cockney: A Cockney is a certain type of Londoner who speaks a distinctive Cockney dialect of English used in and around London (like the East End) by the working and lower-middle classes.

Poverty: the state of being extremely poor.

Pick Pocketing: the action of stealing from a person's pockets.

Rent: a tenant's regular payment to a landlord for the use of property or land.



B. Developing Mood and Characterisation

Mood: is the overall feeling created in a **dramatic** performance.

Tension: A sense of anticipation or conflict within characters or character relationships, or problems, surprise and mystery in stories and ideas to propel dramatic action and create audience engagement.

Character: a person portrayed in a drama, novel, or other artistic piece.

Characterisation: how an actor uses body, voice, and thought to develop and portray a character. choreography: the movement of actors and dancers to music in a play.

Posture: is the position of a person's body when standing or sitting

Stance: way of standing. Gesture. movement of any part of the body to express idea, feeling. or mood.

Expression: Communicate ideas through actions and words using imagination and background knowledge

C. Costume Vocabulary

Dress Rehearsal: Dress full costume/ lighting effects/ sound/ effects/ action rehearsal.

Costume Plot: A list or chart, made by the costume designer showing the characters appearing in each scene, and what they are wearing.

Costume and Props: Items worn during a performance to communicate location, time period or character: Clothing, Make-up, Face paint, Mask.
Hot Seating:

Cockney Rhyming Slang:

Apples and pears = Stairs
Army and Navy = Gravy
Bees and Honey = Money
Bottle and Stopper = Copper
Day's a Dawning = Morning
Trouble and Strife = Wife



E. Lighting

Strobe light: flashing light.

Par Can: A very cheap lantern, it is bright and gels can be used to set the mood.

General Wash: A general fill of light and colour across the stage.

Working Lights: Lights used by stage crew to aid work.

Challenge: How would you use space, sound and movement to communicate that you were nervous about not being able to pay the rent?



D. Key Words & Definitions

Health and Safety: Ensuring the rehearsal space is appropriate for performance.

Technical Rehearsal: Rehearsing the cues of the performance in order to input lighting and sound.

Set Design: Backdrops, props, stage furniture.

Scene: A small section or portion of a play.

Stimulus: A starting point and approach to devising work.

Performance Skills:

Gesture: a defined movement which clearly communicates meaning.

Mime: the theatrical technique of suggesting action, character or emotion without words

Audience Awareness: being aware of the audience and not having your back to them.

Silence: complete absence of sound.

Stillness: the absence of movement or sound.

F. Performance Skills

Non Verbal communication: the transfer of information through the use of body language

Thought Track: when a character steps out of a scene to address the audience about how they're feeling

Vocalisation: When an actor uses the voice to build their character considering: pitch, pace, tone, volume, emphasis, intonation, age, dialect, speech pattern, and personality

Audience engagement: to use performance skills to engage the audience in the performance.

Character Motivation: is what drives them or what they achieve

Challenge: Find out who Henry Mayhew is. If he was to ask questions to people in the Market, what might he say? Make a list of 4-6 questions.



Your English homework is to complete your Sparx Reader homework online.

You can access Sparx Reader by typing it into an internet search function, or you can sign into Sparx Maths, click 'Menu' and access Sparx Reader there.

You will not be able to complete Sparx Reader as your homework until you have completed the Sparx Reader test in one of your English lessons. If you have not yet completed this test, please use the following pages of the KO as your English homework, using the 'look, cover, write, check' method.

Once you are using Sparx Reader as your homework, you do not need to do the KO as well. If Sparx Reader does not work for any reason, return to completing the KO until you can access Sparx again. If your Sparx Reader is not working, let your English teacher know as soon as you can.



What do I have to do on Sparx Reader?

Select a book, read it and answer the questions that pop up as you read. The questions are checking your understanding of the book.

How will I know I have completed my homework?

Your target is to reach 300 SRP (Sparx Reader Points) every week. 300 SRP = roughly 30 minutes of reading. You get points by correctly answering questions. You get more points if you answer a question correctly the first time. You get more points the more carefully you read – Sparx Reader knows when you have read too quickly or improperly, which stops you from getting as many points.



Well done!

Your score was 4/4.

+38 SRP

+13 Check passed

+25 First try bonus

Next >

Task Progress



64 / 200 SRP

Continue >

When will my homework be due in and checked?

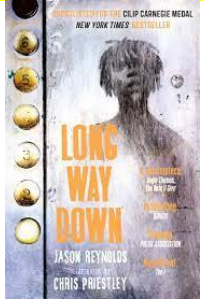
Your English teacher will decide what day of the week you have to complete your homework by and they will inform you of this day. Don't worry if your homework is due a different day to your friend's homework; go by what your teacher has told you.

What do I do if I'm confused or stuck?

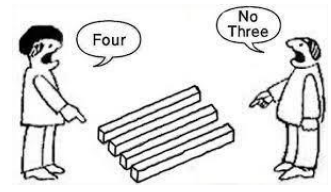
Ask your English teacher as soon as you can – they will be able to help you with any questions you may have.

English

Start with Week 1. Each week, complete the next colour block. Write each word out 3 times and each definition once. Write as much of the 'digging deeper' information as you can remember. Check it all with a purple pen. Tick what is correct, fix what is wrong.

Coombeshead Academy Inspiring Excellence			English Learning Area		Year 8 Long Way Down and Poetry	
wk	keyword	definition	example			
Week 1	Verb	Words that show an action, occurrence or state of being.	The man ran (action). The man became a rocket (occurrence). The man was a rocket (state of being).			Digging Deeper: Overview Verse novel: - A form of literature. - A story is told through the form of a poem rather than prose (written language in its ordinary form). - There will usually be lots of characters and description. 'Long Way Down' was written by Jason Reynolds and published in 2017. 
	Adverb	A word that modifies a verb.	The man ran quickly . The woman ate hungrily .			
	Adjective	A word that modifies a noun.	The red door. The blue sky.			
Week 2	Pronoun	A word that replaces a noun.	Fred went to the shop. He bought some milk.			Digging Deeper: Key theme Love and Loyalty - Will (main character) tells the story of his brother's death from a gang-related incident. - He travels in an elevator on his way to avenge his brother's death. - Throughout his journey to the ground floor, lots of people join the elevator. - They are the ghosts of people who died in similar incidents to his brother. - The book suggests that although it is good to have love and loyalty for people, it can be used in a destructive way. 
	Simile Sim/a/lee	Where things are compared using 'like' or 'as'.	The sun glittered like a jewel. The sun was as glittery as a jewel.			
	Metaphor Met/a/for	Where things are compared by saying that something 'is' something else.	The sun was a jewel. The sun is a jewel.			

Week 3	Noun	The name of a person, thing or place.	Billy is in my class. Put the pen on the table. I am going to Exeter at the weekend.	Week 3	Digging Deeper: Key theme Grief - Will introduces the idea that people in the neighbourhood have to live by 'rules'. - These include things like no 'snitching' (telling the police), no crying and getting revenge where it is needed. - The book suggests that it is these 'rules' that cause the problems with violence. - This is ironic because the people who follow the rules think that they make sure that society is fair and just.	
	Verse	Writing arranged with a metrical rhythm.	'Long Way Down' is a verse novel because the text has a rhythm.			
	Rhythm Ri/th/m	A strong, repeated pattern of sound.	'Long Way Down' has rhythm in its verses.			

Week 4	Connective	A word or phrase that connects words/sentences.	Similarly, however, on the other hand.	Week 4	Digging Deeper: Key theme Perspective and reality - All of the people in the elevator except Will are ghosts. - The book therefore offers an insight into a perspective that the audience would not have in real life- the viewpoints of the dead. - The message given is that what people believe to be true, and what is actually true, can be very different. - This is emphasised by the fact that Will spends a lot of time trying to avoid the ghost's difficult questions. 
	Audience Or/dee/un/s	The person/people a text is written for.	'Long Way Down' was written for young people.		
	Purpose	The reason a text is written.	The purpose of the novel is to help prevent gun and gang violence.		
Week 5	Dialogue Die/a/log	Speech between two or more characters.	"May as well do the job properly," Oliver said with some satisfaction. "Oh, you boys ..." "Now come on, Will, your turn, isn't it?" "No, Edmund's." (From TWIB, Chapter 1)	Week 5	Digging Deeper: Masculinity and coming of age - Will is 15 and on the brink of coming of age. - When his brother is killed, he realises that he must mature more quickly than expected. - For Will, this means how capable he is of killing someone else. - The ghosts remind Will that he is still only a child and his idea of being masculine is misguided. - The irony is that acting in the way that Will wants to will not make him 'grow up', but will actually cut his life short. 
	Genre Shon/ra	A style or category of literature.	'Long Way Down' belongs to the Young Adult fiction genre .		
	Simple sentence	A clause that contains a subject and a verb.	The man kicked the football. Subject Verb		
Week 6	Narrative	A spoken or written telling of events; a story.	The narrative of 'Long Way Down' is a boy is search of revenge for his brother's death. 41	Week 6	

	Compound sentence	Two main clauses joined with a connective.	The sun was shining and it was hot. Main clause Connective			Digging Deeper: Key character Will Holloman - The story is told from Will's perspective. - He is sensitive and loves language, but is desperate to grow up. - He thinks he can achieve this by following his other male family members; following the 'rules' of the neighbourhood.	
	Sonnet	A poem of 14 lines, usually having 10 syllables per line.	Shakespeare wrote lots of sonnets.				

Week 7	Complex Sentence	A main clause and a subordinate clause glued together with a comma.	Although it was raining, he went outside. Main clause Subordinate clause	Week 7	Digging Deeper: Key character Shawn Holloman - Will's older brother who was killed in a revenge attack. - Had a clean side of the bedroom, but a messy middle drawer. - Will thinks this represents Shawn's dark side. - Shawn gets into the elevator but doesn't speak to Will. Instead, he cries. - He simply asks if he will get out of the elevator with the ghosts. 
	Speech	A formal address given to an audience.	"Friends, Romans, countrymen, lend me your ears". The first line of Mark Antony's speech.		
	Analysis Ana/la/sis	A detailed examination of something.	In English, we analyse texts to get an understanding of their deeper meaning.		
Week 8	Enjambment En/jam/bu/ment	Where the end of a line of poetry follows into the next without punctuation.	There is lots of enjambment in the novel to reflect the narrative.	Week 8	Digging Deeper: Key anthology theme Power - The ability to do something or act in a particular way. - Will wants to feel powerful, but is struggling. - He realises that he is still only a child and actually doesn't have the character to act upon the revenge. - We saw a loss of power when the animals in 'Animal Farm' were exploited. - Arthur Kipps lost power over his family to the woman in black. - Julius Caesar lost power when he was assassinated. 
	Rhetorical Question	A question that is there to cause drama; it does not need an answer.	"Who is here so vile that will not love his country?" This is said to create tension, not because Brutus wants someone to answer.		
	Question mark	The punctuation that goes at the end of a sentence.	"Who is here so vile that will not love his country?" We know this is a question because it has a question mark at the end of it.		
Week 9	Protagonist	The main character in a story/narrative.	Julius Caesar is the protagonist in the play. 43		

	Triplet/Rule of Three	When three words/phrases/ideas are used to create effect	"I came, I saw, I conquered"		Digging Deeper: Key anthology theme Conflict  - In English, we come across both physical and internal conflict. - Lots of our studied poems are focused on war and the effects of this on soldiers. - Examples include 'Bayonet Charge' and 'The Charge of the Light Brigade'. - Other poems focus on internal conflict. This means that someone feels two opposite emotions/feelings at the same time. - Examples include 'Poppies' and 'Kamikaze'. - In 'Long Way Down', there is a physical conflict between gang members. - Will is also having an internal conflict because he doesn't know what to do for the best.
	Fronted Adverbial	An adverb, or phrase that works like an adverb, at the start of a sentence	"After the funeral, I want you to go to Eel Marsh House"(TWIB). <i>Is this an adverbial of time, manner or place?</i>		
Week 10	Antagonist	The character that goes against the main character creating conflict.	Cassius is a possible antagonist in Julius Caesar.		Digging Deeper extension Tasks: Either  - Write a diary entry from the perspective of Will or Shawn. OR - Rewrite the main narrative of the story from someone else's perspective. For example, would Buck have seen Will's story in the same way? OR - Create a poster that has a picture of the characters in the elevator
	Tension	The feeling of nervousness or worry about what may happen in a story.	The audience feels tension when Arthur is about to open the nursery door.		
	Tone	The overall attitude or mood of a text.	The tone of the novel is often sombre.		

Week 1 & 2

Nutrition recall

Balanced diet definition: Eating a wide variety of foods in the right proportions, and the right amount of food and drink to achieve and maintain a healthy body weight.

8 tips for a healthy diet

1. Base your meals on higher fibre starchy carbohydrates.
2. Eat lots of fruit and veg.
3. Eat more fish, including a portion of oily fish.
4. Cut down on saturated fat and sugar.
5. Eat less salt: no more than 6g a day for adults.
6. Get active and be a healthy weight.
7. Do not get thirsty.
8. Do not skip breakfast.

VITAMINS AND THEIR FUNCTIONS

	Function (what does it do?)	Source (foods found in)
A	• Healthy skin • Helps us see in the dark	• Animals – liver and milk • Plants – carrots and red peppers
B	• Releases energy from food	• Bread, fish, broccoli, liver, milk, peas, rice
C	• Keeps connective tissue healthy • Helps absorb iron	• Oranges, blackcurrants, broccoli, red and green peppers
D	• Helps the body absorb calcium	• Butter, eggs, milk, oily fish

MINERALS AND THEIR FUNCTIONS

	Function (what does it do?)	Source (foods found in)
Calcium	Build strong bones and teeth	Yoghurt, cheese, milk, tofu
Sodium (salt)	Keeps the correct water balance in the body	Cheese, ready meals, salted nuts, bacon
Iron	Keeps red blood cells healthy	Dark green vegetables, beans, fish, egg yolk, red meat

Questions:

1. What colour is each section of the Eatwell guide?
2. What should we cut down on eating too much of?
3. What do the letters GERM stand for in proteins function in the body?
4. What do the letter PIE stand for in fats functions in the body?

Week 3 & 4

Diet, nutrition & Health

Over vs under-nutrition

Over-nutrition – eating too much food, or too much of a certain food.

Under-nutrition - eating too little food or too little of a particular nutrient

Definitions:

- Obesity, or being obese, means being very overweight.
- Cardiovascular disease covers a group of diseases, including diseases of the heart and blood vessels.
- CHD (coronary heart disease) occurs when blood vessels to the heart become blocked with fatty deposits.
- Type 2 diabetes is the most common type of diabetes in the UK. It causes the sugar in the blood to get too high.

The main health problems linked to **obesity**?

- Type 2 diabetes
- Coronary heart disease
- Stroke
- Cancers
- Arthritis
- Depression

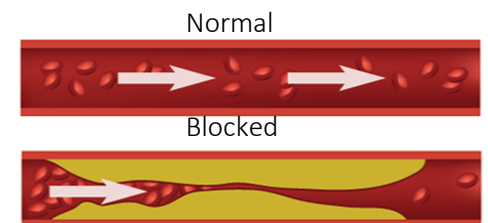


The main the risk factors are for **CHD**

- High blood pressure
- Smoking
- High cholesterol
- Diabetes
- Not exercising enough
- Being overweight or obese
- DNA
- Ethnic background

The signs of **type 2 diabetes**

- Feeling tired all the time
- Feeling thirsty
- Passing more urine than normal



Questions:

1. What are the main health problems associated with obesity?
2. What is coronary heart disease? Explain
3. What is the difference between type 1 and 2 diabetes?
4. How can you treat type 2 diabetes?

Week 5 & 6

Allergies and intolerances

Definitions:

Allergen – a substance or food that may cause an allergic reaction.

Allergic reaction – Where the body reacts suddenly and often seriously to certain foods.

The 14 allergens

Consumers may be allergic or have intolerance to other ingredients, but only the 14 allergens are required to be declared as allergens by food law.

1. Celery



2. Cereals containing gluten



3. Crustaceans



4. Eggs



5. Fish



6. Lupin



7. Milk



8. Molluscs



9. Mustard



10 & 11. Nuts including peanuts



12. Sesame seed



13. Soya



14. Sulphates



In the worst cases of food allergies, some people suffer severe reactions which can stop them breathing. They will need an injection of adrenaline from an **EpiPen** to help them recover.

Allergy information should be clearly shown on any ingredients list by **highlighting the ingredient in bold**.

The 2 main types of intolerance are **lactose intolerance** (dairy) and **coeliac disease** (gluten).

- Lactose intolerance = one of the **most common**. People who cannot digest lactose (**natural sugar** found in **milk** and other **dairy foods**).
- Intolerance to gluten is known as **coeliac** disease. Symptoms include Diarrhoea, Bloating and Weight loss

Questions:

1. What is the difference between a food allergy and intolerance?
2. Name 5 foods that could cause a food allergy?
3. What can happen to somebody who accidentally eats a food that they are severely allergic to e.g. nuts?

Plan a meal for a teenager who is a Coeliac. Explain what you would substitute and for what?

Week 7 & 8

Seasonality and food waste

Some foods are seasonal. This means that they are only available and grown at certain times of the year.

How is food wasted?

There are 2 main reasons we waste food at home:

1. We make too much
2. We don't use food before it goes off

Using leftovers

You could use leftover food to make another dish such as:

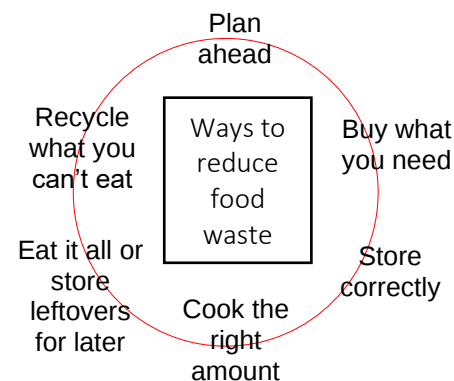
- Rice and pasta in salads
- Bread for breadcrumbs. Used to coat fishcakes, chicken goujons
- Potatoes used for bubble and squeak or frittata
- Chicken used in chicken curry or pie

Advantages of seasonal foods

- More likely to be grown in the UK
- Reduced food miles and carbon footprint
- Supports local businesses
- Can be fresher than buying out of season
- More available which makes them cheaper

Disadvantages of seasonal foods

- They can be used a lot during some seasons which means people could become bored of them
- There can be too much of some foods that will be wasted if they are not eaten



Questions:

1. What does 'seasonal' mean?
2. Give 2 advantages and 2 disadvantages of seasonal foods
3. What are the 4 seasons in the UK?
4. Create a meal that could be made using leftovers from a roast chicken dinner.

Y8C1 Key Maths Knowledge

Your Maths Homework is to complete your sparx

Use this guide to make sure you know **what to do, when to do it and how to do it**:

Maths homework is to complete sparx



What to do

- Do Sparx **on the days in the homework timetable**
- **Compulsory Homework:** You **must** do this part of your homework every week
- Optional/Target Homework: Do this to **gain loads of XP** and to improve your maths!

Top Tips

- Do your homework as soon as you can
- Watch the help video
- If you are stuck, speak to your maths teacher before hand-in or pop in to Sparx Support club during breaks

Always:

- Write down the date
- Write down your bookwork code
- Read the question carefully
- Show all your workings
- Highlight/underline your final answer
- Tick if correct/cross if wrong

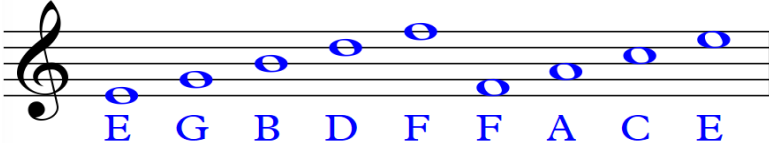


We want you to do well with your maths and doing Sparx will help.

If you've tried something, watched the video and are still not sure how to do something make sure you ask for help!

You're expected to complete it every week and catch up if you haven't.

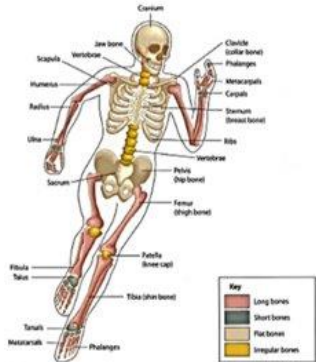
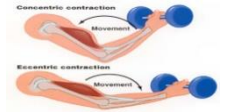
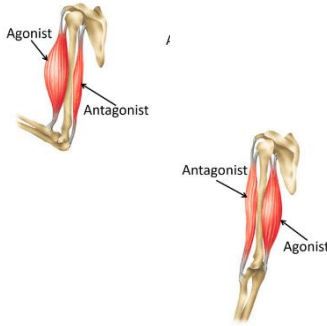
Item	Description
The multiplication rule of indices	$a^m \times a^n = a^{m+n}$ (Add the indices)
The division rule of indices	$a^m \div a^n = a^{m-n}$ (Subtract the indices)
The brackets rule of indices	$(a^m)^n = a^{mn}$ (Multiply the indices)
'Expand' or 'Multiply out'	Means 'to rewrite an expression without brackets '
'Factorise'	Means 'to write an expression with brackets '
Area of a circle	$area = \pi \times radius^2$
Circumference of a circle	$circumference = \pi \times diameter$
Sector area	$area = \frac{angle}{360} \times \pi \times radius^2$
Arc length	$arc\ length = \frac{angle}{360} \times \pi \times diameter$
Average	The mean , median or mode . They measure the centre of a group of data.
Spread	The range . It measures how spread out a group of data is.
Estimating the mean from grouped data	Find the total of <i>midpoint</i> $\times$ <i>frequency</i> Divide this total by the total of the frequencies

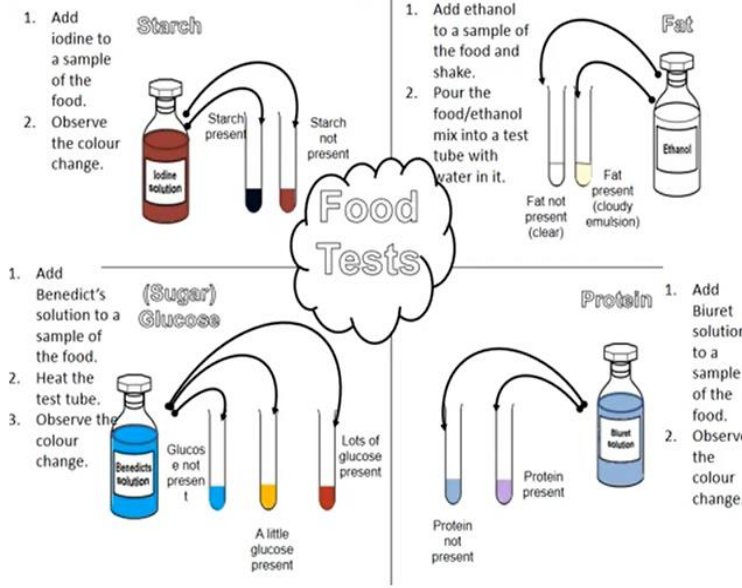
Year 8 Music – Arranging Music – Cycle 1	Week 1	Week 2	Week 3	Week 4	Week 5
	<u>KEYBOARD MUSIC</u>	<u>KEYBOARD MUSIC</u>	<u>KEYBOARD MUSIC</u>	<u>KEYBOARD MUSIC</u>	<u>KEYBOARD MUSIC</u>
	<u>THE BAROQUE PERIOD</u> The Baroque period was an important time in the history of the world. The dates of this musical period are 1600 – 1750. Galileo, Kepler and Newton were discovering new ways to explain the universe. In music, art, architecture, and fashion, fancy decoration and ornamentation became the rule. Both men and women wore wigs and coats with lace.	<u>PACHELBEL’S CANON</u> Facts about Pachelbel’s Canon Composed around 1690 Originally in the key of D major Has a repeating sequence of 8 chords Each time the chord sequence repeats a different melody is introduced Many modern pop songs have used the same chord sequence	<u>HOW TO BUILD A CHORD</u> Chords are created by taking the 1st, 3rd and 5th notes from a scale: C major scale - C D E F G A B C major chord - C E G C minor scale - C D E^b F G A^b B^b C minor chord - C E^b G When you play the three notes together, you have a chord. The difference between a major and minor chord is the middle note of the chord. In a minor chord it is a semitone lower.	<u>ELEMENTS OF MUSIC</u> Pitch How high or low a note is. Tempo The speed of the music. Texture How many instruments / voices are playing – layers. Timbre The sounds or instruments used in a piece of music. Dynamics How loud or quiet a piece of music is. Tonality What key are we in? Major/Minor Duration How long a sound lasts. Structure How many different sections are there in a piece of music Silence No sound! – As important as sound.	<u>MELODY</u> Melodies have different characters. Some are conjunct, some are disjunct. Conjunct = move by small steps between notes:  Disjunct = move by leaps between notes: 
	<u>CHARACTERISTICS</u> Famous composers - J. S. Bach, Vivaldi, Handel, Monteverdi. Instruments used - Violin, Viola, Cello, Bass, Flute, Oboe, Bassoon, Trumpet, Horn, Harpsichord. Musical features - busy, ornate melodies, instruments play different melodies at the same time creating a POLYPHONIC texture. Pieces were often written for people to dance to.				

Year 8 Music – Arranging Music – Cycle 1	Week 6	Week 7	Week 8	Week 9	Week 10
	<u>VARIATION FORM</u>	<u>VARIATION FORM</u>	<u>VARIATION FORM</u>	<u>VARIATION FORM</u>	<u>VARIATION FORM</u>
	<u>WHAT IS VARIATION FORM</u> Variation Form is a compositional / arranging technique which dates back to the 18th century. Using various themes and melodies we will see how music can change through varying the instruments, style and key (Major + Minor). Variation Form is a popular plan used by composers when writing music. A composer takes an existing melody and will write a series of changes so that the original melody was disguised. Creating variations is one of the oldest forms in music. It became popular in the 17th century. It was an easy way of making pieces longer without having to compose new ideas.	<u>HOW CAN WE CHANGE A PIECE OF MUSIC?</u> - Using the Major or Minor key. - Add a drone or bass ostinato accompaniment. - Add extra notes to the melody – double notes. - Take some notes away. - Play some bars backwards. - Change the rhythm – jazz it up. - Play as a round. - Think of your own original idea. - Change the tempo – slow down or speed up.	<u>PIECES OF MUSIC THAT USE VARIATION FORM</u> Can you name any pieces of music that use Variation Form? Research the links between Pachelbel's Canon, All together Now by the Farm and I'll see you when you get there. What are the links between these pieces? How many years apart are all three? Can you name any instruments used?	<u>KEYWORDS</u> Theme The main musical or melodic idea in a piece of music. Variation When one or more of the musical elements are manipulated to produce a different version of the theme Melody Another word for melody is 'tune'. A melody is a mixture of moving by step, and moving by leap. If the tune goes up in pitch, it is called 'ascending'. If the tune goes down in pitch, it is called 'descending'. Major/Minor There are 2 types of chord: Major (sounds happy) and Minor (sounds sad). The difference is 1 semitone. The middle note in a minor chord is a semitone lower	<u>KEYWORDS</u> Canon A canon is like a round. The same piece of music is played, then a second layer is played slightly after. Each melody is played fully and musically fits with the other layers. Ostinato A repeated melody or pattern Drone A drone is made up from 2 notes (usually low pitched) being played and held underneath a melody to provide a bass Style/Genre The characteristics to a piece of music Round More than one part playing the same music, but they start at different times



Year 8 Cycle 1 Sport and PE Knowledge Organiser

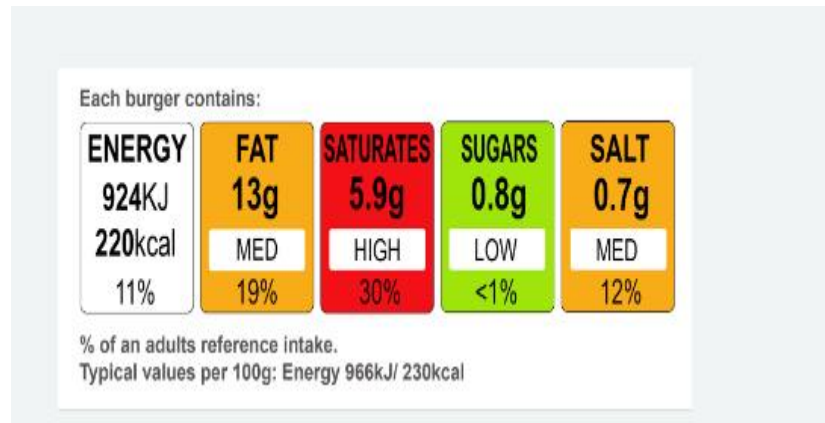
Week 1 and 2	Week 3 and 4	Week 5 and 6	Week 7 and 8	Week 9 and 10	Week 11 & 12
Major Bones	Major Bones	Major Muscles	Types of Muscle Contraction	Muscles working in pairs	Types of movement
 Can you label the major bones? • Cranium • Vertebrae • Scapula • Humerus • Radius • Ulna • Pelvis • Femur • Tibia • Fibula • Patella	The functions of the Skeleton Remember the acronym: Scary Skeletons Make Many People Petrified Support Bones keep us upright and support muscles and organs. Shape Skeleton gives us our height and build. Mineral Storage Bones store minerals such as calcium and phosphorus. Movement Muscles attach to and pull on bones to produce movement. Bones act as levers. Protection Bones protect vital organs – e.g. Cranium protects brain, ribs protect heart and lungs. Production of red blood cells Inner marrow of bones produces red and white blood cells. Red cells carry oxygen, white cells fight infections.	 Can you label the major Muscles? • latissimus dorsi • deltoid • pectorals • biceps • triceps • abdominals • hip flexors • gluteus maximus • hamstring • quadriceps group • gastrocnemius • tibialis anterior	Isotonic Contraction Muscle changes shape and creates movement. There are 2 types; concentric & eccentric  Concentric Contraction Muscle contracts and shortens Eccentric Contraction Muscle contracts and lengthens – only used in the downwards phase of a movement.  Isometric Contraction Muscle contracts but the length of the muscle <u>does not</u> change. There is no movement e.g. holding a balance 	Antagonist & Agonist Muscles are arranged in <u>antagonistic pairs</u>. One muscle contracts & shortens (Agonist) and a partner muscle relaxes and lengthens (Antagonist) to create a movement.  Examples in the body • Biceps & Triceps • Quadriceps & Hamstrings • Hip flexors & Gluteus Maximus • Tibialis Anterior & Gastrocnemius	Flexion Decreasing the angle at a joint (bending) Extension Increasing the angle at a joint (straightening)  Abduction Taking a limb away from the body (abduct) Adduction Bringing a limb back towards the body (Add)  Rotation Turning a limb along its axis (circular)  Plantar flexion Pointing toes (P for Point) Dorsi flexion Toes towards the nose 

Lesson 1 Nutrients	Lesson 2 Food Tests	Lesson 3 Energy Requirements																																																																															
Diet – What you eat. Food is needed for: 1) Energy 2) Growth & Repair 3) Health There are 7 different food nutrients <table><tr><th>Name of nutrient</th><th>Function</th></tr><tr><td>Carbohydrate</td><td>Energy</td></tr><tr><td>Vitamins</td><td>Health</td></tr><tr><td>Fats (lipids)</td><td>Energy & warmth</td></tr><tr><td>Fibre</td><td>Helps food move through digestive system</td></tr><tr><td>Protein</td><td>Growth & repair</td></tr><tr><td>Water</td><td>Helps keep cells hydrated</td></tr><tr><td>Minerals</td><td>Health</td></tr></table>	Name of nutrient	Function	Carbohydrate	Energy	Vitamins	Health	Fats (lipids)	Energy & warmth	Fibre	Helps food move through digestive system	Protein	Growth & repair	Water	Helps keep cells hydrated	Minerals	Health	Foods can be tested to identify which nutrients they contain  Starch 1. Add iodine to a sample of the food. 2. Observe the colour change. Starch present (blue/black) Starch not present (yellow) Fat 1. Add ethanol to a sample of the food and shake. 2. Pour the food/ethanol mix into a test tube with water in it. Fat not present (clear) Fat present (cloudy emulsion) (Sugar) Glucose 1. Add Benedict's solution to a sample of the food. 2. Heat the test tube. 3. Observe the colour change. Glucose not present (blue) A little glucose present (yellow) Lots of glucose present (red) Protein 1. Add Biuret solution to a sample of the food. 2. Observe the colour change. Protein not present (blue) Protein present (purple)	On average, women should have around 2,000 calories a day and men should have around 2,500 calories a day. We all need different amounts of energy (or calories) from food to be a healthy weight. How much you need depends on lots of things, including how active you are. <table><tr><th colspan="7">Recommended Daily Nutritional Requirements for Different Age Groups</th></tr><tr><th>Category</th><th>Age (years)</th><th>Protein (g)</th><th>Fat (g)</th><th>Calories (kcal)</th><th>Calcium (mg)</th><th>Iron (mg)</th></tr><tr><td>Children</td><td>2–3</td><td>16.7</td><td>27</td><td>1060</td><td>600</td><td>9</td></tr><tr><td>Children</td><td>4–6</td><td>20.1</td><td>25</td><td>1350</td><td>600</td><td>13</td></tr><tr><td>Children</td><td>7–9</td><td>29.5</td><td>30</td><td>1690</td><td>600</td><td>16</td></tr><tr><td>Boys</td><td>10–12</td><td>39.9</td><td>35</td><td>2190</td><td>800</td><td>21</td></tr><tr><td>Boys</td><td>13–15</td><td>54.3</td><td>45</td><td>2750</td><td>800</td><td>32</td></tr><tr><td>Boys</td><td>16–17</td><td>61.5</td><td>50</td><td>3020</td><td>800</td><td>28</td></tr><tr><td>Adult (males)</td><td>Above 18</td><td>25</td><td>60</td><td>2320</td><td>600</td><td>17</td></tr></table>	Recommended Daily Nutritional Requirements for Different Age Groups							Category	Age (years)	Protein (g)	Fat (g)	Calories (kcal)	Calcium (mg)	Iron (mg)	Children	2–3	16.7	27	1060	600	9	Children	4–6	20.1	25	1350	600	13	Children	7–9	29.5	30	1690	600	16	Boys	10–12	39.9	35	2190	800	21	Boys	13–15	54.3	45	2750	800	32	Boys	16–17	61.5	50	3020	800	28	Adult (males)	Above 18	25	60	2320	600	17
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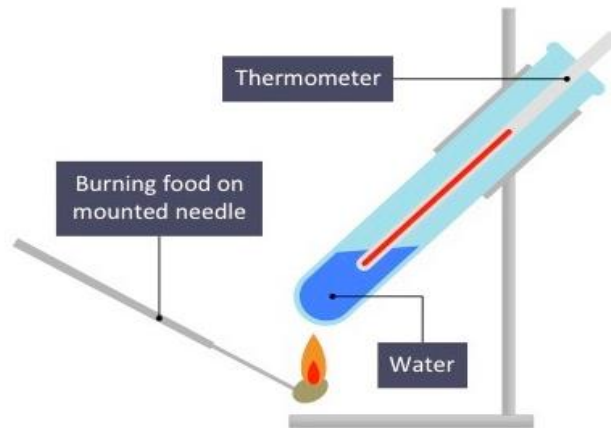
Lesson 4

Comparing Energy in Foods

Food packaging gives us useful information about the food we are going to eat

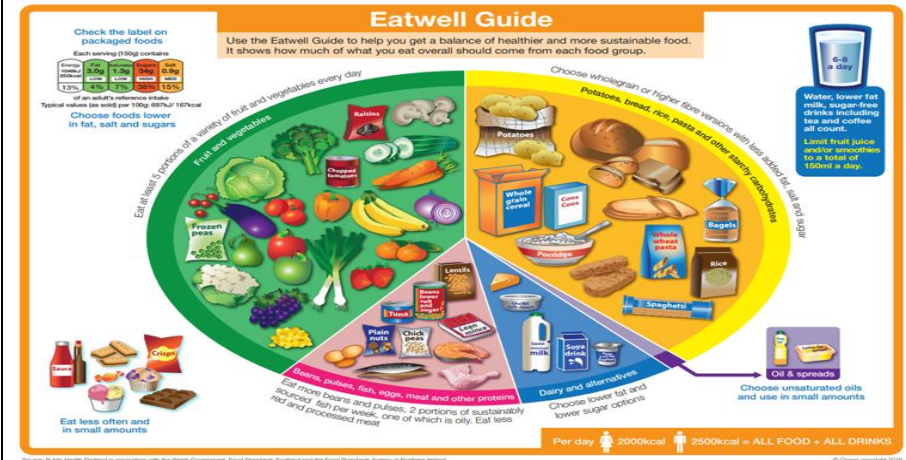


We can compare energy content of a food by measuring how much heat energy is released when we burn it



Lesson 5

Unhealthy Diets



We need to eat a healthy balanced diet which contains the correct amounts of each of the food nutrients

Not eating enough of a nutrient means you have an unbalanced diet, and this can lead to a **deficiency**.

Obesity – if you take in more energy than you use, the excess energy is stored as fat.

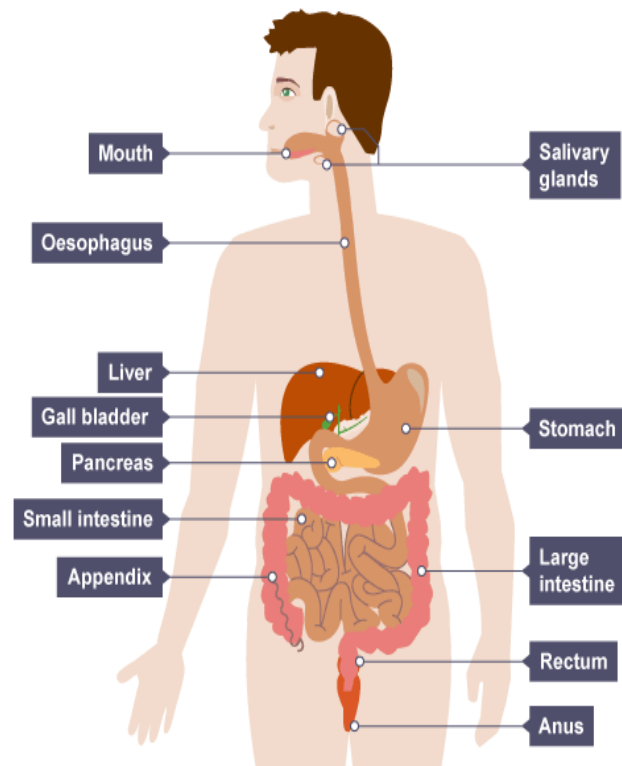
Overtime, this can lead to a person being overweight or obese.

Anorexia - An eating disorder where energy output and energy input are imbalanced, energy input is lower than energy output. Symptoms – extreme weight loss, thin appearance, fatigue, insomnia, dehydration

Lessons 6 & 7 Digestion

The digestive system breaks down food into tiny particles which are absorbed into the blood.

- These particles provide energy for the body to grow, repair itself and remain healthy.
- Food that cannot be broken down is released from the body as faeces (poo).



Organ	Function
Mouth	Chew food, break into smaller bits, start digestion off using enzymes in saliva.
Oesophagus	Tube connecting the mouth to stomach
Stomach	Sac where food is mixed with acidic juices to start digestion of proteins and kill microorganisms
Small intestine	Upper part is where digestion is completed. Lower part where nutrients are absorbed into the blood.
Large intestine	Water from food is removed here, and faeces made.

Lessons 8 & 9 Digestive Enzymes and Bacteria

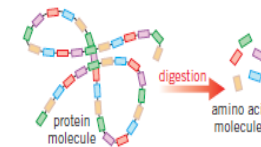
Enzymes are biological **catalysts**, they speed up the digestion of **nutrients**

- Each enzyme is specific to each nutrient
- The way the enzyme and nutrient bind with each other is called a lock and key model

Carbohydrase's break down **carbohydrates** into **sugars**

Proteases break down **proteins** into **amino acids**

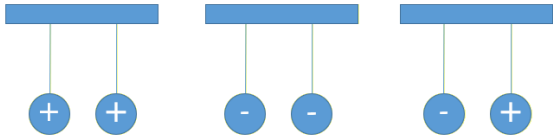
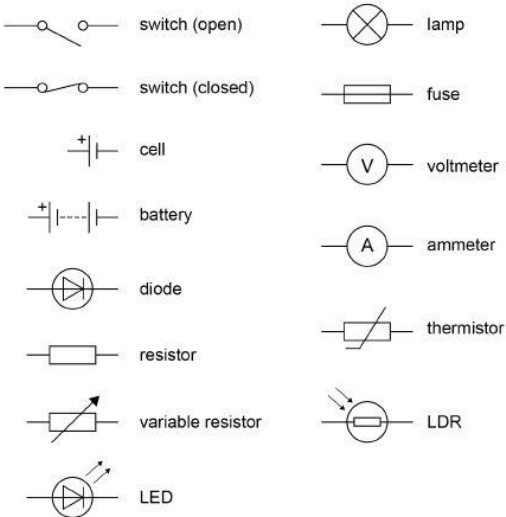
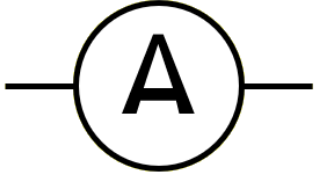
Lipases breakdown fats into **fatty acids** and **glycerol**



Gut Flora – the “good bacteria” that live in your digestive system, useful for digestion, helpful for immunity and boosts vitamin levels.

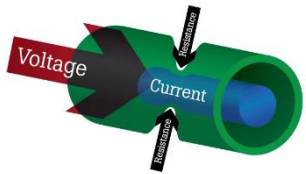
Answer these questions in full sentences in your homework book:

Lesson 1 1. Define diet 2. List 3 reasons we need to eat food 3. How many nutrients are in our food? 4. Which 2 nutrients provide energy? 5. Why do we need to include protein in our diet?	Lesson 2 1. Which reagent do we use to test for starch? 2. What colour does a food go if it is positive for starch? 3. How do we test for protein in a food? 4. Which food test involves using ethanol and water? 5. How do we test for sugar?	Lesson 3 1. How many calories should a woman eat in a day? 2. How much protein does a 5-year-old child need per day? 3. How many Kilo calories should a 11-year-old boy eat? 4. Which age group needs to eat the most protein every day? 5. Which age group need the least amount of fat per day?	Lesson 4 1. Where can we find information about the food we eat? 2. Look at something you have eaten today and write down how much energy, fat and sugar was contained in it.	Lesson 5 1. What is a balanced diet? 2. What happens if you don't eat enough of a nutrient? 3. What is obesity? 4. What is anorexia? 5. Give 2 symptoms of anorexia
Lesson 6 1. What is the function of the digestive system? 2. Where does digestion start? 3. What happens to your food in the mouth? 4. How does food get from your mouth to your stomach? 5. What happens in the stomach?	Lesson 7 1. What happens in the upper part of the small intestine? 2. What happens to nutrients in the lower part of the Small intestine? 3. Where is water removed from food? 4. Where is faeces made? 5. What is faeces?	Lesson 8 1. What are enzymes? 2. How do they help digestion? 3. Which type of enzyme breaks down carbohydrates? 4. What do proteases do? 5. What do lipases break down?	Lesson 9 1. What are proteins broken down into? 2. Why do we digest carbohydrates? 3. Name the 2 products of fat digestion. 4. Are all bacteria bad? 5. Why do we need gut flora?	

Lesson 1 Static Electricity	Lesson 2 Circuit Symbols	Lesson 3 Electric Current and pd
Static Electricity is when two objects are rubbed together, electrons are transferred from one object to the other. One object becomes positive and the other negative. Charge is a property of matter and can be positive or negative. Charged atoms are called ions. Charge of materials - A material which loses electrons will become positively charged. - A material which gains electrons will become negatively charged. Like and unlike charges  - Like charges repel - Unlike (opposite) charges attract Van der Graaf generator is an electrostatic generator which uses a moving belt to accumulate electric charge.	Standard circuit diagram symbols  Rules for drawing simple circuits - All the wires in your circuit are straight lines. - That the circuit is closed.	Current is the flow of charge – the movement of electrons. The electrons just keep going! The units for current are Amperes (A) – sometimes just called Amps. Current is measured with an ammeter and the diagram symbol is below.  Potential difference (p.d.) – sometimes called voltage is a measure of the energy carried around a circuit. The higher the potential difference, the more energy that is carried by the electrons.  p.d. is measured with a voltmeter. The units for potential difference are volts (V)

Lesson 4 Resistance

Resistance is a measure of how hard or easy it is for a current to flow.



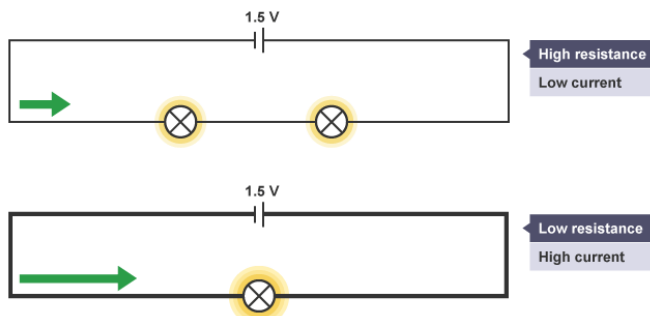
Resistance is measured in Ohms (Ω)

Resistance happens because the ions that make up a metal are constantly vibrating.

The more the electrons are slowed down the higher the resistance

The following factors effect resistance.

- As the length of the wire increases resistance increases
- As the thickness of the wire increases resistance decreases



Lesson 5 Circuit Models

Models can be used to help us understand electrical circuits.

One example is the water model of electricity, using a central heating system:

the pump acts like the cell or battery

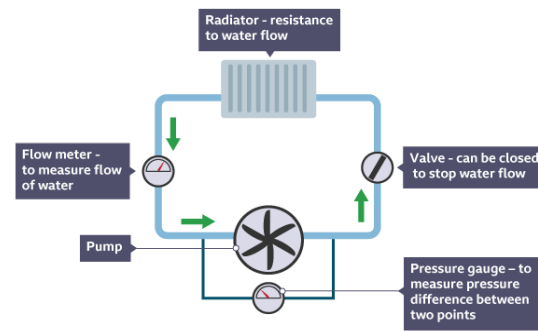
the pipes are like the wires

the radiator is like a component, for example a lamp, transferring energy to the room

the water flow is like the electrical current

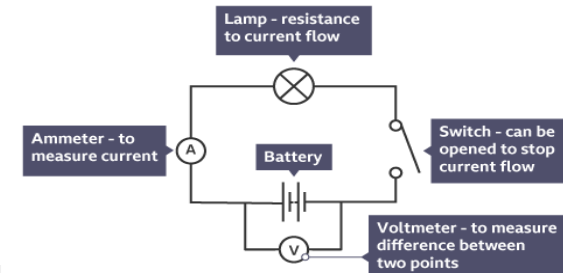
In many ways, electrical current behaves like water flowing through a closed ring of piping. The movement of the water through the pipe is like the movement of electrons through a circuit.

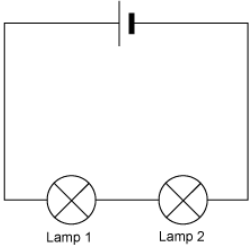
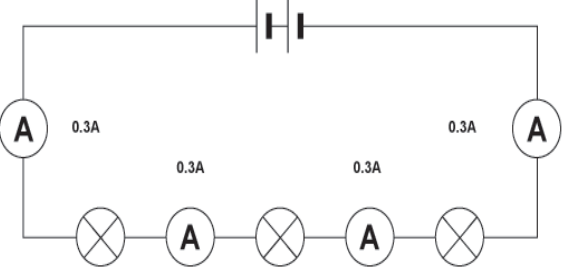
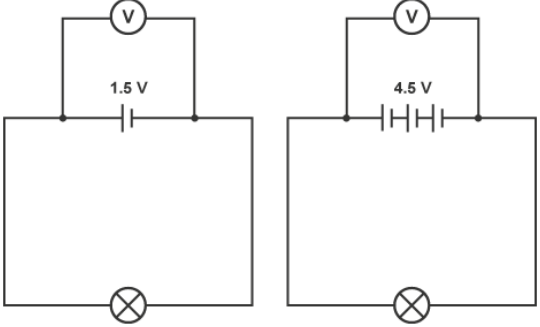
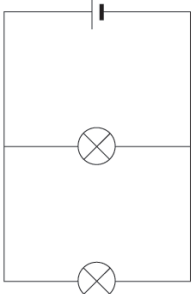
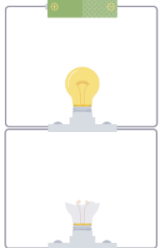
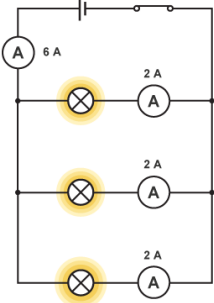
The diagram shows a central heating system.



Water flowing through a closed ring of piping behaves like electrical current in a circuit

This circuit diagram represents the water model



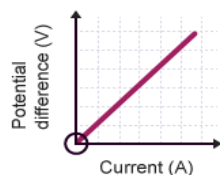
Lesson 6 Current in Series Circuits	Lesson 7 Potential Difference in Series Circuits	Lesson 8 Current in Parallel Circuits
You will Investigate how current changes in a series circuit and how increasing the number of bulbs in a series circuit decreases the brightness of the bulbs.  Current is the same everywhere in a series circuit 	You can measure the potential difference across a cell or battery. If the two or more cells point in the same direction, the more cells, the bigger the potential difference.  Each cell has a potential difference of 1.5 V, so three cells give 4.5 V	 A parallel circuit has more than one loop – there is more than one way for current to flow.  If one part of the circuit breaks – for example, a bulb blows – the rest of the circuit is still complete and a current will flow through that part.  The total current in a parallel circuit is equal to the sum of the currents in each branch. 6 Amps 3 Parallel circuits 2 Amps in each branch

Lesson 9 Potential Difference in Parallel Circuits

Potential difference (p.d.) – sometimes called voltage is a measure of the energy carried around a circuit.

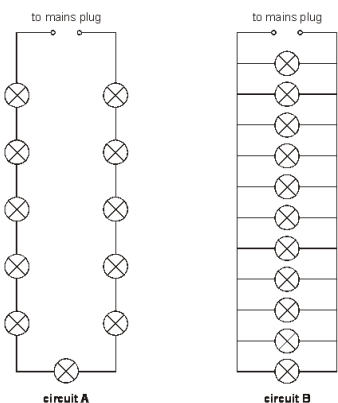
Potential difference changes at different places in a parallel circuit.

If you plot a graph of current against potential difference for a wire, you get a straight line.



The gradient of the line is equal to the resistance of the wire

Possible ways to set up fairy lights.

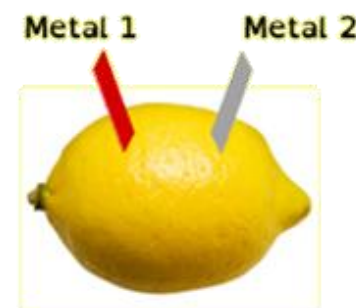


Circuit A – if one bulb breaks all go out, but needs fewer wires/less wire

Circuit B – needs more wires/more wire, but if one bulb breaks the others stay on

Lesson 10 Fruit Batteries

If two metals are inserted into a fruit, a potential difference will flow.



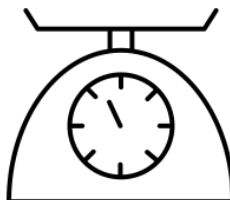
Chemical energy within the fruit is transferred by an electric current to the voltmeter.

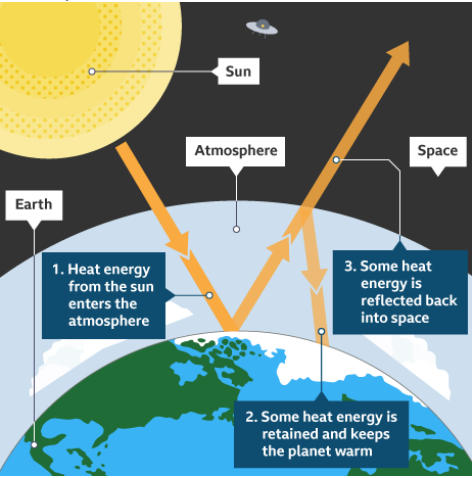
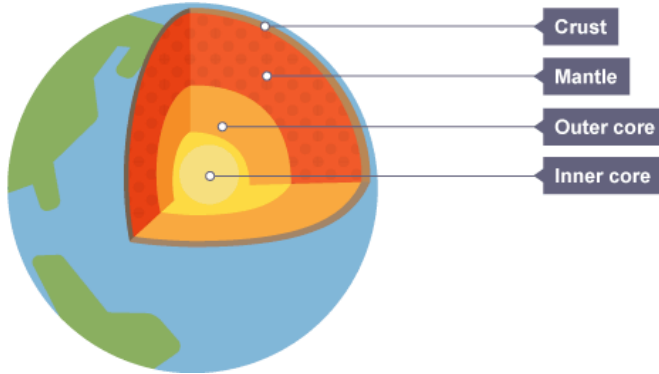
Any citrus fruit such as lemons, limes, oranges and grapefruit will work because they all contain citric acid for the electrolyte.

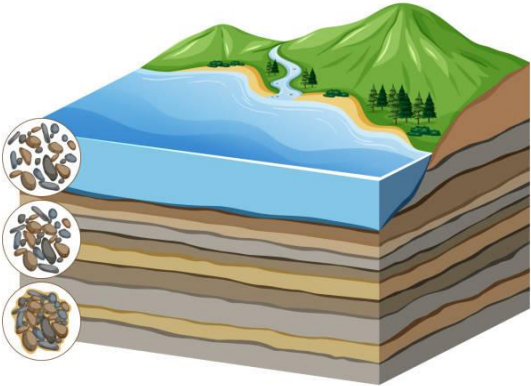
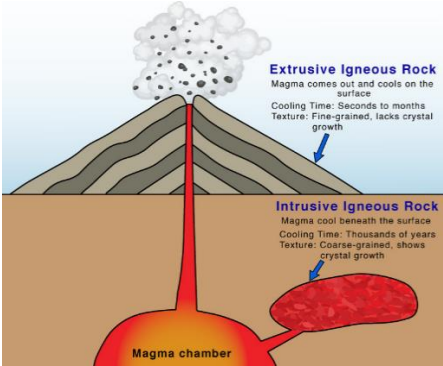
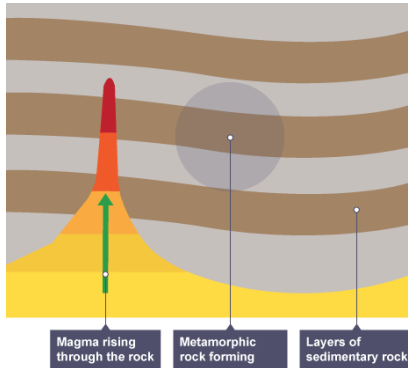
You can investigate which metal makes the best fruit battery out of Copper, Aluminium, Iron and Zinc.

Answer these questions in full sentences in your homework book:

Lesson 1 1. When does static electricity occur? 2. What are transferred as objects are rubbed together? 3. What is an ion? 4. What happens when an object gains electrons? 5. What happens when an object loses electrons?	Lesson 2 Draw and label the symbol for a... 1. Open switch 2. Cell 3. Lamp 4. Ammeter 5. Voltmeter	Lesson 3 1. Define current 2. What are the units for current? 3. Which piece of equipment is used to measure current? 4. What is potential difference? 5. Which piece of equipment is used to measure voltage?	Lesson 4 1. What is resistance in a circuit? 2. What unit is resistance measured in? 3. Why does resistance happen? 4. What happens to resistance as a wire gets longer? 5. Do thinner wires have more or less resistance?	Lesson 5 1. Why do we use models in science? 2. In the water model, what does the pump represent? 3. Which part of the water model represents the wires in a circuit? 4. Which part of the water model represents a lamp in a circuit? 5. Which part of the water model represents the electrical current in a circuit?
Lesson 6 1. What unit do we measure current in? 2. Which piece of equipment do we use to measure current? 3. Draw a circuit diagram with one cell, one lamp, 3 wires and 1 ammeter 4. What happens to the brightness of the bulbs as we increase the number of bulbs? 5. Does current change around a circuit?	Lesson 7 1. What unit do we measure potential difference in? 2. Which piece of equipment do we use to measure potential difference? 3. What happens to the potential difference of the bulbs as we increase the number of cells? 4. Where do we place a voltmeter in a circuit?	Lesson 8 1. How does a parallel circuit differ from a series circuit? 2. What happens if a bulb breaks in one part of a parallel circuit? 3. How do you calculate the total current in a parallel circuit?	Lesson 9 1. How do you measure the energy carried in a circuit? 2. Is pd the same all around a parallel circuit? 3. Why is a parallel circuit the best way to set up fairy lights on a Christmas tree? 4. What is the disadvantage of using a parallel circuit on fairy lights?	Lesson 10 1. How can you measure the potential difference in a fruit? 2. What type of energy is stored in the fruit? 3. What type of energy is this transferred to? 4. What type of acid do citrus fruits contain? 5. Which metals can you use in a fruity battery?

Lesson 1 Combustion	Lesson 2 Fuels Investigation	Lesson 3 Fuel Pollutants																				
Combustion is a chemical reaction where a fuel reacts with oxygen. Fuel: A chemical energy store that releases energy when burned in oxygen <i>fuel + oxygen → carbon dioxide + water</i> We can test for the products of combustion using chemical tests: <table><tr><th>TEST</th><th>Observation</th></tr><tr><td>limewater</td><td>Turns cloudy in the presence of carbon dioxide</td></tr><tr><td>cobalt chloride paper</td><td>Turns from blue to pink in the presence of water vapour</td></tr></table> Complete combustion occurs in excess oxygen. Incomplete combustion occurs in a limited supply of oxygen.	TEST	Observation	limewater	Turns cloudy in the presence of carbon dioxide	cobalt chloride paper	Turns from blue to pink in the presence of water vapour	Independent Variable: The one thing you change in an experiment. Dependent Variable: The thing you measure in an experiment. Control Variable: All of the things you keep the same in an experiment. Mass is measured with a top pan balance and its units are grams (g) or kilograms (kg)  Temperature is measure with a thermometer and its units are degrees Celsius (°C) 	When fuels are burned, a number of atmospheric pollutants are produced. <table><tr><th>Pollutant</th><th>Source</th></tr><tr><td>Carbon dioxide, CO₂</td><td>Complete combustion of any fuel containing carbon atoms</td></tr><tr><td>Carbon monoxide, CO</td><td>Incomplete combustion of any fuel containing carbon atoms</td></tr><tr><td>Particulate carbon, C (soot)</td><td>Incomplete combustion of any fuel containing carbon atoms</td></tr><tr><td>Unburned hydrocarbons</td><td>Hydrocarbon fuel molecules which have not been oxidised at all</td></tr><tr><td>Sulfur dioxide, SO₂</td><td>Combustion of a fossil fuel which contains sulfur impurities</td></tr><tr><td>Nitrogen oxides, NO_x</td><td>Oxidation of atmospheric nitrogen inside the engine of a car, lorry, etc</td></tr></table> CO is toxic as it prevents oxygen binding with red blood cells C (soot) irritates the lings and causes global dimming SO₂ & NO_x produce acid rain: Acid rain harms and kills plants and animals, especially those that live in aquatic environments. It can also damage man-made objects like statues and buildings.	Pollutant	Source	Carbon dioxide, CO ₂	Complete combustion of any fuel containing carbon atoms	Carbon monoxide, CO	Incomplete combustion of any fuel containing carbon atoms	Particulate carbon, C (soot)	Incomplete combustion of any fuel containing carbon atoms	Unburned hydrocarbons	Hydrocarbon fuel molecules which have not been oxidised at all	Sulfur dioxide, SO ₂	Combustion of a fossil fuel which contains sulfur impurities	Nitrogen oxides, NO _x	Oxidation of atmospheric nitrogen inside the engine of a car, lorry, etc
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Lesson 4 Atmosphere & Greenhouse Effect	Lesson 5 Global Warming	Lesson 6 Structure of the Earth
Greenhouse gases are gases in the atmosphere that act like a blanket around the Earth, trapping the heat that radiates from the surface of the Earth and preventing it from escaping back out into space. This is called the greenhouse effect, and it's what keeps the Earth warm enough to sustain life. Without greenhouse gases, the Earth would be too cold at night for plants to grow or for animals to survive. There are three main greenhouse gases: • carbon dioxide (CO₂) • methane (CH₄) • water vapour (H₂O) 	As a result of human activities, the levels of greenhouse gases in the upper atmosphere are rising rapidly. These greenhouse gases are causing a lot more heat energy to be trapped in the atmosphere. As a result, the overall average temperature of the Earth is increasing. This is known as global warming. How are greenhouse gases produced by humans: • Burning Fossil Fuels • Farming • Deforestation Global warming is leading to climate change, which is already having many serious impacts on our planet. • More extreme weather events: ➢ Heatwaves ➢ Forest fires ➢ Storms ➢ Droughts ➢ Floods • More unpredictable weather • Sea level rise All of these factors are having an impact on habitats around the planet leading to the potential extinction of some plants and animals.	The Earth is a planet and is roughly the shape of a sphere. There are three layers that make up the Earth's structure. The three layers, starting from the outside, are: • the crust – the rocky outer layer • the mantle – the semi-solid middle layer • the core - the innermost layer which is divided into an inner core and outer core  The crust is made of huge pieces of land called tectonic plates which fit together like a huge jigsaw. These plates move around very slowly. The tectonic plates only move a few centimetres each year.

Lesson 7 Sedimentary Rocks	Lesson 8 Igneous Rocks	Lesson 9 Metamorphic Rocks
The grains in sedimentary rocks are arranged in layers. The oldest layers are at the bottom and the youngest layers are at the top. Chalk, limestone, shale, and sandstone are all examples of sedimentary rocks. All these different sedimentary rocks are formed from the broken remains of other rocks that become joined together.  There are five processes that make a sedimentary rock: • transport • deposition • sedimentation • compaction • cementation	The inside of the Earth is so hot that rocks deep underground are often liquid. Molten (liquid) rock underground is called magma. Volcanoes can bring molten rock to the surface, which we call lava. When the molten rock cools, it turns into a solid and igneous rock forms.  Extrusive igneous rocks are formed by magma that has erupted onto the surface as lava and then cooled quickly. Intrusive igneous rocks are formed by magma that has cooled slowly, deep underground.	Metamorphic rocks are formed from other rocks which change due to heat or pressure. The original rocks are usually sedimentary rocks or igneous rocks. Sometimes one metamorphic rock can be turned into a different metamorphic rock. There are three stages involved in the formation of metamorphic rocks: 1. Earth movements cause rocks to be deeply buried or compressed. 2. This causes the rocks to be heated and puts them under great pressure. 3. They do not melt, but the minerals they contain are changed chemically, and form metamorphic rocks. 

Lesson 10 Rock Cycle

Rocks on Earth do not always stay the same.

Rocks are continually changing due to processes such as weathering, erosion and large earth movements. The rocks are gradually recycled over millions of years, changing between the different rock types.

This recycling of rocks is a process called the rock cycle.

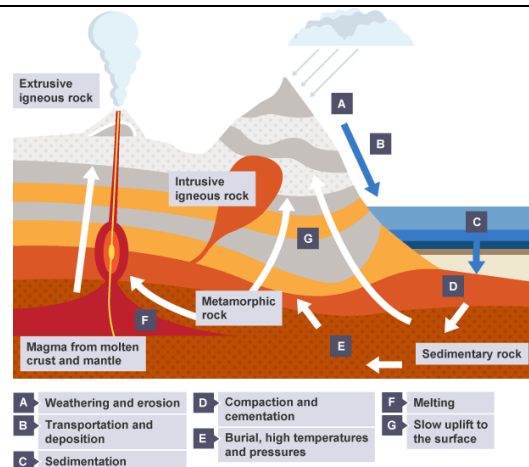
Weathering is one of the many processes that occur in the rock cycle

Weathering breaks down rocks on the surface of the Earth.

- **Biological weathering**
This describes rocks being broken up by the roots of plants, or animals burrowing into them.
- **Chemical weathering**
This describes rocks being broken up because substances in rainwater, rivers and seawater or the air, react with the minerals in the rocks.
- **Physical weathering**
This describes rocks being broken up by changes in temperature, freezing and thawing of trapped water or the action of waves and rivers.

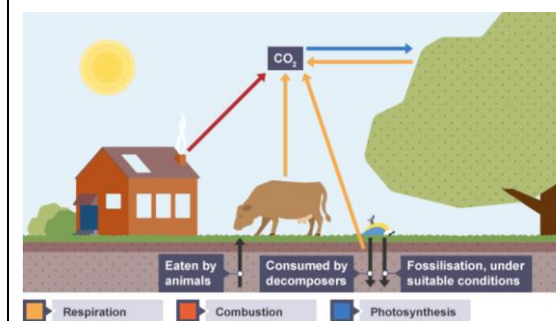
Another process of the rock cycle is **Erosion**.

Erosion is the process of moving the small pieces of rock formed by weathering. Erosion occurs from the action of water or wind.



Lesson 11 Carbon Cycle

The carbon cycle shows how atoms of carbon can exist within different compounds at different times and be recycled between living organisms and the environment.



Carbon dioxide is absorbed by producers to make carbohydrates in photosynthesis.

Animals feed on plants, passing the carbon compounds along the food chain. Most carbon they consume is exhaled as carbon dioxide during respiration. The animals and plants eventually die.

Dead organisms are eaten by decomposers and carbon in their bodies is returned to the atmosphere as carbon dioxide. In some conditions decomposition is blocked. The plant and animal material may then be available as fossil fuel in the future for combustion.

Answer these questions in full sentences in your homework book:

Lesson 1 1. What is the word equation for combustion? 2. What is a fuel? 3. What is the test for carbon dioxide? 4. What is cobalt chloride paper a test for? 5. When does incomplete combustion occur?	Lesson 2 What is: 1. An independent variable? 2. A control variable? 3. Dependent variable? 4. Mass, measured with? 5. Temperature, measured with?	Lesson 3 1. How is carbon dioxide produced? 2. How is soot formed? 3. What problems can soot cause? 4. Why is carbon monoxide toxic? 5. What problems do NO_x and SO₂ cause?	Lesson 4 1. Name the three greenhouse gases. 2. Write out the formula of the three greenhouse gases. 3. What is the greenhouse effect? 4. True or false? Without the greenhouse effect life wouldn't be the same. 5. True or false? Carbon monoxide is a greenhouse gas.	Lesson 5 1. What is global warming? 2. How are humans causing global warming? 3. True or false? Global warming is causing climate change. 4. True or false? Climate change will not cause animals to go extinct 5. Name ways in which the climate may change.
Lesson 6 1. Name the layers of the earth. 2. Which layer of the earth contains two parts? 3. Which layer of the earth do we live on? 4. What are the names of the big pieces of crust that fit together like a jigsaw? 5. How far can these pieces move each year?	Lesson 7 1. Name the five processes that make a sedimentary rock. 2. State two examples of sedimentary rocks. 3. True or false? Sedimentary rocks are made from other rocks 4. True or false? The oldest layer in a sedimentary rock is at the top 5. True or false? Sedimentary rocks can be made from grains of sand.	Lesson 8 1. What is magma? 2. What is lava? 3. How does liquid rock turn into solid rock? 4. What is an extrusive igneous rock? 5. What is an intrusive igneous rock?	Lesson 9 1. How are metamorphic rocks formed? 2. True or false? Metamorphic rocks can be made from other metamorphic rocks? 3. True or false? Metamorphic rocks form when older rocks are melted 4. True or false? Metamorphic rocks are formed due to only heat 5. True or false? Metamorphic rocks are formed due to only pressure?	Lesson 10 & 11 1. What is weathering? 2. Name three types of weathering. 3. What is erosion? 4. How is carbon dioxide removed from the atmosphere? 5. Name one way carbon dioxide is released into the atmosphere.