Knowledge Organiser

Year 8 Autumn 1 2026

"Try to learn everything about something and something about everything"

Thomas Huxley

Thomas Henry **Huxley** (4 May 1825 – 29 June 1895) was an English biologist and anthropologist who specialized in comparative anatomy.

YEAR 8 KNOWLEDGE ORGANISER: THE OTHER SIDE OF TRUTH

CHARACTERS

Sade: a brave and resourceful 12 year old girl, the **protagonist.**	**Femi:** Sade's 10 year old brother, who struggles with the **trauma** in their lives.
Papa (Folarin): Sade and Femi's father. Brave and outspoken, his **criticism** of the government puts his family in danger.	**Uncle Tunde:** Helps organise the children's escape from Nigeria.
Mrs Bankole: a cold woman who accepts money to **smuggle** the children into England.	**Iyawo Jenny:** A compassionate social worker who helps the children. (Iyawo: Bride)
Mr Nathan: A compassionate immigration official who tries to help the children navigate the difficult British asylum process.	**Mrs Appiah:** a Ghanaian social worker working for the **Refugee** Council in London who advocates for the children.
Mariam: A smart and friendly Somali **refugee** in Sade's English class.	**Marcia:** A racist classmate at Sade and Femi's new school. She bullies the siblings.

THEMES AND CONTEXT

Historical Background:

The novel is set in 1995 during the brutal military rule of Nigerian despot General Sani Abacha. The political crisis depicted mirrors real-world events, specifically the execution of the writer and activist Ken Saro-Wiwa

The Role of the Media:

The central **conflict** focuses on the children's father, an outspoken political journalist who refuses to stop printing the truth about the regime's **corruption** and **oppression**. This tackles debates about what we read in the media – there is always another side to the stories that are reported.

The Refugee Experience:

After being **smuggled** out of Nigeria on a stranger's passport, the children are abandoned in London. The book reveals the harsh realities of persecution, trauma, navigating foreign legal systems, and the emotional effects of being labeled "illegal".

VOCABULARY:

Misconception - An idea that is wrong based on incorrect or overly-simplified information.	**Perspective** – someone's viewpoint, or way of seeing something	**Refugee** – someone who has been forced to flee their country due to war, violence, or persecution
Inference – reading between the lines, drawing conclusions based on evidence	**Emotive language** – words and phrases that draw out a feeling in the reader	**Metaphor** – describing something as if it were something else
Context – background information that helps understanding	**Migrant** – someone who moves from one place to another.	**Empathy** – the ability to understand how others feel.
Smuggling – the illegal transportation of goods (or people!) across national borders	**Trauma** – emotional shock after following a stressful event.	**Prejudice** – prejudged opinions about others not based on any evidence
Conflict – serious disagreement or argument.	**Oppression** – the cruel or unfair use of power by a dominant group to limit the freedoms of others	**Structure** – how a text has been put ordered and arranged

MATHS KNOWLEDGE ORGANISER – YEAR 8 HT 1

	Topic	Information	Example
1	Percentage	Number of parts per 100.	31% means $\frac{31}{100}$
2	Simple Interest	Interest calculated as a percentage of the original amount.	£1000 invested for 3 years at 10% simple interest. 10% of £1000 = £100 Interest = $3 \times £100 = £300$
3	Increase or Decrease by a Percentage	Non-calculator: Find the percentage and add or subtract it from the original amount. Calculator: Find the percentage multiplier and multiply.	<u>Increase 500 by 20% (Non Calc):</u> 10% of 500 = 50 so 20% of 500 = 100 500 + 100 = 600 <u>Decrease 800 by 17% (Calc):</u> 100%-17%=83% 83% ÷ 100 = 0.83 0.83 x 800 = 664
4	Percentage Multiplier	The number you multiply a quantity by to increase or decrease it by a percentage.	The multiplier for increasing by 12% is 1.12 The multiplier for decreasing by 12% is 0.88
5	Ratio	Ratio compares the size of one part to another part. Written using the : symbol.	
6	Simplifying Ratios	Divide all parts of the ratio by a common factor.	5 : 10 = 1 : 2 (divide both by 5) 14 : 21 = 2 : 3 (divide both by 7)

Respiration and photosynthesis

Respiration happens in every living cell. It is the chemical reaction that releases energy from **glucose**. All living things – animals, plants and microbes (microorganisms) – need energy. Some uses are given on the right.

Animals need energy:	Plants need energy:
to grow and repair tissues	to grow and repair tissues
to reproduce	to reproduce
to keep the body at a suitable and fairly constant temperature	to transport water
to contract muscles in order to move	to absorb nutrients

Aerobic respiration uses oxygen:

glucose + oxygen → carbon dioxide + water (+ energy)

Animals get glucose from digestion of food. Glucose is carried by the blood from the small intestine to all cells of the body.	Animals get oxygen from breathing. Oxygen is carried by the blood from the alveoli in the lungs to all cells of the body.	In animals, the waste carbon dioxide and water are carried by the blood from the cells to the lungs, where it is breathed out.	The energy released is needed for many life processes in animals and plants.
Plants make glucose by the process of photosynthesis.	Plants get oxygen by diffusion from the air *or* by photosynthesis.	In plants, the waste carbon dioxide and water diffuse from the leaves into the air *or* are used in photosynthesis.	

Anaerobic respiration takes place when there is not enough oxygen for aerobic respiration or when energy is needed to be released quickly. In animals, for example, **aerobic respiration** (in mitochondria) switches to anaerobic respiration (in the cytoplasm) during vigorous exercise. Even while there is still some oxygen left in your body, anaerobic respiration may begin, as it releases energy quickly.

The process differs in animals and plants and microbes.

In animals: glucose → lactic acid (+ energy)

oxygen needed to get rid of the **lactic acid** is the '**oxygen debt**'

In plants and microbes: glucose → ethanol + carbon dioxide (+ energy)

this is called **fermentation**

Comparing aerobic and anaerobic respiration:

	Location	Reactants	Products	Energy generated
aerobic respiration	mitochondria	glucose and oxygen	carbon dioxide and water	more energy than anaerobic but not generated as quickly
anaerobic respiration	cytoplasm	glucose	animals – lactic acid plants and microbes (fermentation) – ethanol and carbon dioxide	less energy than aerobic but generated more quickly

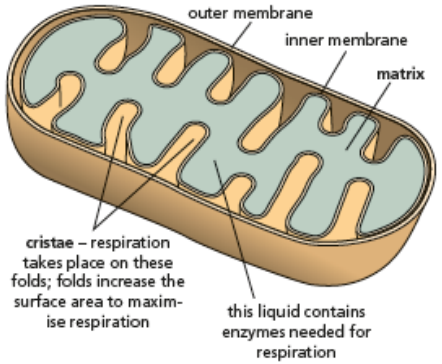
Fermentation (anaerobic respiration) by yeast is useful to humans.

- **brewing** – in beer and wine making, **ethanol** is the useful product. The type of drink made depends on the source of sugar, for example, grapes for wine, hops and barley for beer.
- **baking** – in bread making, carbon dioxide is the useful product as it causes the bread to rise.

In brewing and baking, water is first added to dried yeast to activate it. Sugar is then added as the reactant for respiration.

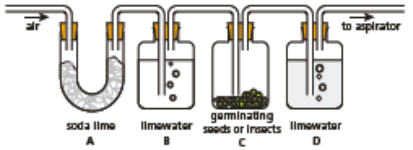
Glucose and oxygen are the **reactants**.
Carbon dioxide and water are the **products**.

Aerobic respiration takes place in cell organelles called **mitochondria**. These are sausage-shaped and found in most animal and plant cells. Their structure is adapted to carry out their function.



We can use experiments to show that animals and plants produce water and carbon dioxide, the products of respiration.

- Water – when we breathe onto a cold mirror or window, water vapour condenses onto the cold surface. If a plant is grown in a plastic bag, water vapour condenses inside the bag.
- Carbon dioxide – in the set-up below, **soda lime** absorbs carbon dioxide, **limewater** tests for carbon dioxide. B stays clear showing no carbon dioxide; D turns cloudy showing carbon dioxide has been produced.



Glucose can be stored in organisms. It can then be used to release energy as and when needed.

In the animal and human body, glucose is stored:

- as **glycogen** in muscles and the liver
- as fat.

In plants, glucose is stored as starch.

Key vocabulary

aerobic respiration	respiration involving oxygen
anaerobic respiration	respiration without using oxygen
baking	cooking with dry heat, for example, in an oven as is done with bread and pastries
brewing	the production of beer using fermentation
cristae	the folds of the inner membrane of a mitochondrion where respiration takes place
ethanol	an alcohol produced during anaerobic respiration in plants and microbes
fermentation	a type of anaerobic respiration taking place in plants and some microbes
glucose	a simple organic sugar molecule, used in respiration
glycogen	organic glucose molecules linked in a long chain; a storage molecule
lactic acid	the substance produced in anaerobic respiration in animals
limewater	a solution used to test for the presence of carbon dioxide
matrix	the liquid inside a mitochondrion which contains the enzymes needed for respiration
mitochondria	an organelle found in most animal and plant cells where respiration is carried out
oxygen debt	the oxygen needed to break down lactic acid produced as a result of vigorous exercise
products	substances that are produced by a chemical process or reaction
reactants	substances that react in a chemical process
respiration	the process in living things in which energy is released from glucose
soda lime	a chemical that absorbs carbon dioxide

Respiration And photosynthesis

Life on Earth and human activities are dependent on plants for many reasons:

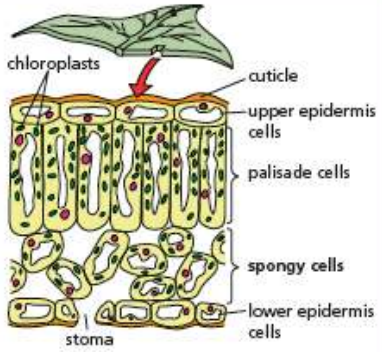
- food (green plants are at the start of all feeding relationships)
- raw materials for fabrics and building
- fuel
- medicines
- decorating homes, gardens, parks
- green plants help to maintain the balance of carbon dioxide and oxygen in the atmosphere.

Comparing photosynthesis and respiration.

- Photosynthesis takes place in green plants; respiration takes place in both plants and animals.
- The products of photosynthesis (glucose and oxygen) are the reactants of aerobic respiration.
- The products of aerobic respiration (carbon dioxide and water) are the reactants of photosynthesis.
- Photosynthesis requires energy (from light); respiration releases energy.

Photosynthesis takes place in green leaves. **Chlorophyll** is a green pigment and is found in organelles called **chloroplasts** in some plant cells. Leaves are adapted for photosynthesis.

Adaptation	Function
waxy and waterproof **cuticle**	prevents water loss
transparent layer below cuticle	allows light through
palisade cells packed with chloroplasts	increase photosynthesis
stomata on underside	open and close to control gas exchange
air spaces	allow gases to move inside the leaf



Photosynthesis is the reaction used by green plants to make the carbohydrate glucose using light energy.

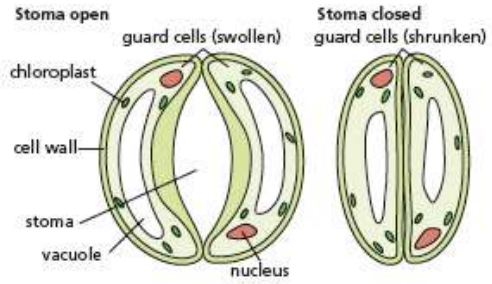
carbon dioxide + water —(light)→ glucose + oxygen

reactants → *products*

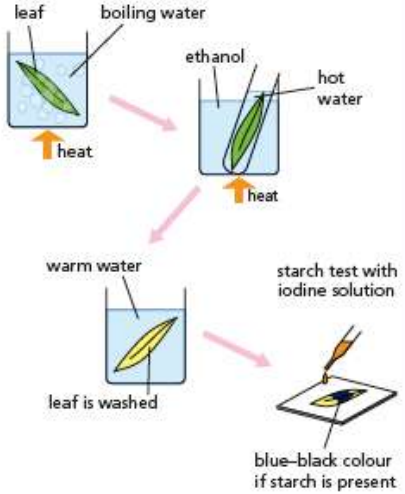
Stomata are opened and closed by specialised **guard cells**. Through the stomata:

- gas exchange happens – gases pass in and out of the leaf
- water can be lost.

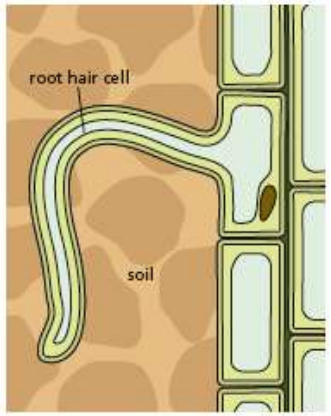
Stomata close when water levels are low and at night (as there is no sunlight for photosynthesis).



Glucose from photosynthesis is stored as starch. Testing leaves for starch with **iodine** shows whether or not a plant has been photosynthesising. The experimental steps are shown below.



Water and **minerals** move into a plant through the roots from the soil. **Root hair cells** do not contain chloroplasts because they are not exposed to light. The cells are adapted to their function by having extensions called root hairs, to increase the surface area for absorption.



Some minerals are essential nutrients to keep plants healthy. If they are missing or deficient the plant's health is affected.

Mineral	Effect of deficiency
nitrates (contain nitrogen)	poor growth and yellow leaves
magnesium	cannot make chlorophyll
phosphates (contain phosphorus)	poor root growth

Plants have tissues that are specialised to transport substances.

1. Water moves up the plant from the roots to the leaves through **xylem**.
2. Glucose made by photosynthesis moves from the leaves and around the plant through **phloem**.

Transpiration is the loss of water from a leaf. Most water is lost in hot, dry, windy conditions. Leaves can be adapted to reduce water loss by:

- having a thick waxy cuticle
- having narrow, curled or folded leaves to reduce their surface area
- closing their stomata.

Key vocabulary

chlorophyll	the green pigment in plants that traps sunlight for photosynthesis
chloroplasts	organelles within some plant cells that contain chlorophyll
cuticle	the waxy, waterproof outer layer of a leaf
guard cells	cells that open and close the stomata
iodine	a chemical used to test for the presence of starch
minerals	elements such as iron and calcium needed to keep living things healthy
palisade cell	a plant leaf cell that is long and narrow and packed with chloroplasts
phloem	a tissue made up of long tubes that transport glucose made in the leaves to other parts of the plant
photosynthesis	a process carried out by green plants; light energy, carbon dioxide and water react to produce glucose and oxygen
rate of photosynthesis	the measure of how much photosynthesis takes place in a set time
spongy cells	plant leaf cells that have large spaces around them to allow gas exchange
starch	a large molecule made by plants as a way to store food (glucose)
stomata (singular: stoma)	a minute pore in the lower surface of a leaf
root hair cell	a specialised cell in roots of plants, hair-like extensions that provide a large surface area
transpiration	the movement of water in plants as it is taken up through the roots and released from the leaves as water vapour
xylem	a tissue made of cells that form a long tube through the plant to transport water and minerals from the roots

Chemical reactions

A **chemical reaction** is a change in which new substances are made. During a chemical reaction you may see:

- bubbles of gas
- a change in temperature
- a colour change
- a change in mass.

In any chemical reaction, the total mass of the reactants is the same as the total mass of the products. This is called the law of conservation of mass. Sometimes it may appear that the mass has changed. When this happens, there is normally a gas, either as a reactant or as a product, which accounts for the 'missing' mass.

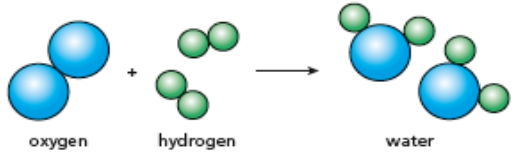
Burning is an example of a chemical reaction. The scientific name for burning is **combustion**. During combustion, a **fuel** reacts with oxygen to make carbon dioxide and water. The reaction releases useful energy. We can summarise combustion using an equation:

fuel + oxygen → carbon dioxide + water

If there is not enough oxygen available to react with all of the fuel, **incomplete combustion** takes place. The reaction has different products.

fuel + oxygen → carbon monoxide + carbon + water

During a chemical reaction, atoms rearrange and join together in a different way. New **products** are formed from the **reactants**. For example, hydrogen and oxygen react together to form water. Hydrogen and oxygen are the reactants and water is the product. One molecule of oxygen reacts with two molecules of hydrogen to form two molecules of water.



Notice that there are the same numbers of oxygen and hydrogen atoms at the start of the reaction as there are at the end of the reaction. They have been rearranged to form a new substance, water.

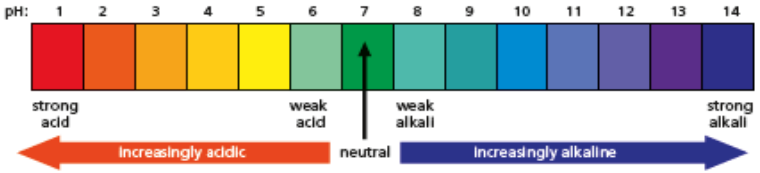
Some of the substances we use at home or in the laboratory are **acids**. Vinegar and lemon juice contain acids. Acids are substances with a **pH** less than 7. Concentrated acids are **corrosive**; dilute acids may be **irritants**. All acids contain the element hydrogen.

Some other substances are **alkalis**. Soap and detergents contain alkalis. Alkalis are substances with a pH greater than 7. Like acids, concentrated alkalis can be corrosive and dilute alkalis may be irritants. All alkalis contain hydroxide particles (**chemical formula** OH).


'Corrosive' hazard sign


'Harmful' hazard sign, which is used for substances that are not corrosive but are irritants.

An **indicator** is a substance that is a different colour in an acid and in an alkali. One example of an indicator is litmus. Litmus solution turns *red in acid* and *blue in alkali*. If a solution is neither an acid nor an alkali, we say it is **neutral.**



Universal indicator turns a range of different colours. The colour depends on whether the substance is an acid or an alkali *and* on how strong or weak it is. Each colour is given a **pH number**. The pH scale is a measure of the acidity or alkalinity of a substance.

Hydrochloric acid is an example of a strong acid, with a pH of 1. Vinegar is an example of a weak acid, with a pH of 3.

Oxidation reactions involve oxygen being added to another substance. This reaction forms compounds called oxides. During the combustion of a metal, oxygen is added to the metal:

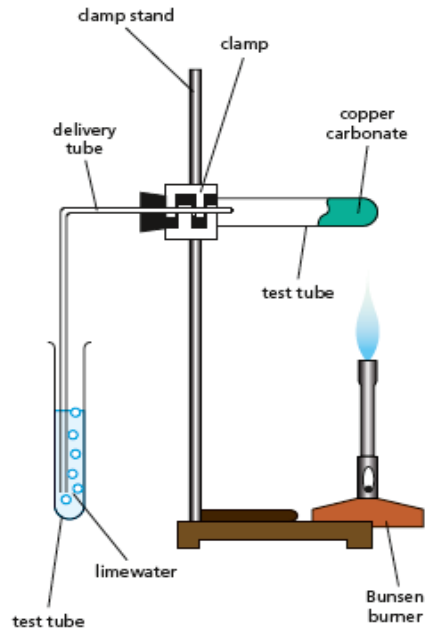
metal + oxygen → metal oxide

The mass of the metal oxide is greater than the mass of the metal because oxygen has been added.

When oxygen is removed from a metal oxide, the reaction is called **reduction**. This is the opposite of oxidation. Carbon can be used to remove oxygen from iron oxide.

Thermal decomposition reactions happen when some substances are heated and break down into simpler products. No new substances are added. When carbonates decompose, they produce a metal oxide and carbon dioxide:

metal carbonate → metal oxide + carbon dioxide

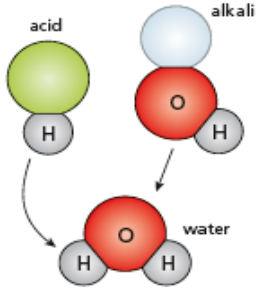


Key vocabulary

acid	a substance that will neutralise a base; has a pH lower than 7
alkali	a base that is soluble in water; has a pH above 7
chemical formula	chemical symbols and numbers that show how many atoms of which elements are contained in a molecule of an element or compound
chemical reaction	a process in which one or more substances are changed into others, by the rearrangement of their atoms
combustion	the reaction of a fuel with oxygen that transfers thermal energy to the surroundings
conserved	when the quantity of something does not change after a process takes place
corrosive	can destroy skin and attack metal if spilled
fuel	any material that can be burned to release energy
incomplete combustion	when there is not enough oxygen available to react with all of a fuel during combustion
indicator	chemical that is a different colour in an alkali and an acid; used to identify whether an unknown solution is acidic or alkaline
irritant	a substance that causes the skin to become red, blistered and itchy
neutral	has a pH of 7
oxidation	a reaction in which a substance combines with oxygen
pH	a number from 1 to 14 on the pH scale of acidity and alkalinity
product	(of a chemical reaction) a substance made in a chemical reaction
reactant	a starting substance in a chemical reaction
reduction	a reaction in which oxygen is removed from a compound
thermal decomposition	a chemical change caused by heating, when one substance is changed into at least two new substances
universal indicator	an indicator that turns a range of different colours; each colour indicates a different pH value

Chemical reactions

A neutral substance has pH 7. It is made when an acid and alkali exactly neutralise one another. This is called **neutralisation**. Neutralisation is a chemical reaction; new products are formed.



acid + alkali → salt + water

Water is a product of the neutralisation reaction between acids and alkalis. The hydrogen from the acid combines with the hydroxide from the alkali to form water.

Acids react with bases to produce a **salt** and water. This is similar to the reaction you saw above between an acid and an alkali.

acid + base → salt + water

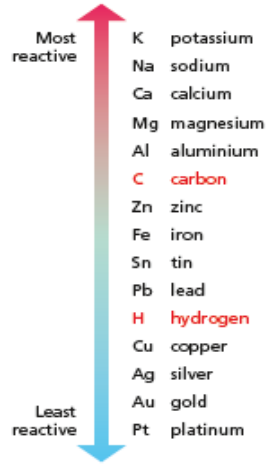
Salts are also formed in other reactions that involve acids. Acids react with metals to form a salt and hydrogen gas.

acid + metal → salt + hydrogen

Acids react with metal carbonates to form a salt, water and carbon dioxide.

acid + metal carbonate → salt + water + carbon dioxide

The reactivity series of metals places metals in order of their reactivity. It also includes two non-metals: hydrogen and carbon.



In a **displacement reaction** a more **reactive** substance displaces (pushes out) a less reactive substance from a compound. An example is when iron is added to a copper sulfate solution. Iron is more reactive than copper. A chemical change occurs – iron displaces the copper to make iron sulfate:

iron + copper sulfate → iron sulfate + copper

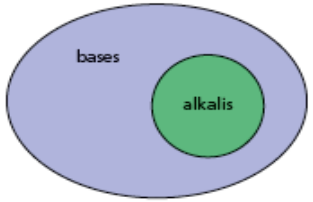
Acids contain hydrogen. When reactive metals react with acids, a displacement reaction occurs and hydrogen is displaced from the acid. If a metal is above hydrogen in the reactivity series, it will react to displace hydrogen. For example:

zinc + hydrochloric acid → zinc chloride + hydrogen

Non-metals also undergo displacement reactions. Chlorine and iodine are non-metals. Chlorine is more reactive than iodine. When chlorine gas is passed through sodium iodide solution, the chlorine displaces the iodine:

chlorine + sodium iodide → sodium chloride + iodine

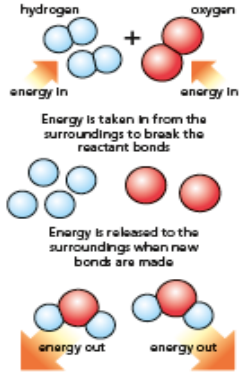
A **base** is any substance that neutralises an acid to produce a salt and water. An alkali is a soluble base – one that dissolves in water. Therefore, all alkalis are bases, but not all bases are alkalis. Metal oxides, metal hydroxides and metal carbonates are all examples of bases.



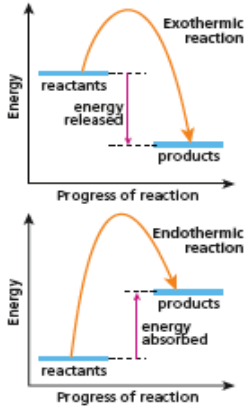
The name of a salt has two parts. The first part comes from the reactant that is not the acid; it is often a metal. For example, the alkali sodium hydroxide forms salts that start with 'sodium'. The end part of the name comes from the acid. For example, a salt formed from sulfuric acid and sodium hydroxide is called 'sodium sulfate'.

Acid used in reaction	Forms salts that end in...
hydrochloric acid	chloride
sulfuric acid	sulfate
nitric acid	nitrate

In a chemical reaction, existing **chemical bonds** are broken and new ones are made. Energy is needed to break chemical bonds; energy is released when new chemical bonds are made. The balance between these two processes explains why some reactions are endothermic and others are exothermic. If more energy is needed for **bond breaking** than is released in **bond making**, the reaction is endothermic. If less energy is needed for bond-breaking than is released in bond-making, the reaction is exothermic.



In some reactions, like combustion, there is an **energy transfer** to the surroundings – these are known as **exothermic reactions**, which cause the temperature of the surroundings to increase. Other reactions, like thermal decomposition, take energy from their surroundings – these are known as **endothermic reactions**, which cause the temperature of the surroundings to decrease. An energy profile diagram shows the energy changes taking place during exothermic and endothermic reactions.



A **catalyst** is a substance that is added to a chemical reaction to make the reaction faster. Catalysts are not changed by the reaction – they alter the **rate of reaction**. Most catalysts provide an alternative 'pathway' for the reaction that lowers the amount of energy needed for the reaction to proceed.

Key vocabulary

base	a substance that will neutralise an acid
bond breaking	when a chemical bond is broken by overcoming the force of attraction between particles; energy is transferred in from the surroundings
bond making	when a chemical bond is made by the force of attraction between particles; energy is transferred out to the surroundings
catalyst	substance that speeds up a chemical reaction
chemical bond	the force of attraction between two atoms
displacement reaction	a chemical reaction in which one substance takes the place of another in a compound
endothermic reaction	a chemical reaction in which energy is taken in, causing a cooling of the surroundings
energy transfer	the passing on of energy from one energy store to another energy store
exothermic reaction	a chemical reaction in which energy is given out, causing a warming of the surroundings
neutralisation	to make a substance neutral (pH 7) by adding an acid or a base
rate	the number of times something happens in a unit of time, such as a second
rate of reaction	a measure of the speed of a reaction; for example, the number of molecules of product produced over a set time
reactive	inclined to react in a chemical reaction; some substances are more reactive than others
salt	a substance formed when an acid reacts with a base, a metal or a metal carbonate

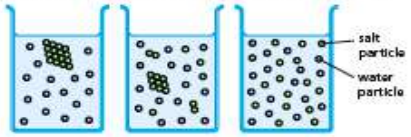
Matter

In a solid the **particles** are closely packed and arranged in a fixed pattern. In a liquid the particles are still close together but are not in a fixed arrangement. In a gas the particles are much further apart and move around freely in all directions, colliding with each other and the container.

Changes of **state** occur when a material goes from one state to another; for example, **melting** is when a solid changes to a liquid. The particles do not change apart from gaining or losing energy and the number of particles of the substance stays the same.

Metals change shape easily when a force is applied, because they have layers of **atoms** that slide over each other. This makes metals **malleable** and **ductile**.

When a substance **dissolves** in water, the solution that forms is a mixture of the solute particles and particles (**molecules**) of water. Dissolving is a physical change and can be reversed by **evaporation**.



Physical changes such as melting and dissolving are reversible because no new substance is made. **Chemical changes** are irreversible because in a chemical reaction atoms are combined in new ways to produce one or more new substances. There is **conservation of mass** in both physical and chemical changes.

The term particles can refer to both atoms and molecules. This is because in some substances the atoms move or are arranged individually but in others two or more atoms have combined to form molecules.

The closeness of particles in solids, liquids and gases explains why solids are denser than liquids and gases are less dense than either.

Key vocabulary	
atom	the basic 'building block' of an element; an atom cannot be chemically broken down
boiling point	temperature at which a liquid changes state to a gas (or a gas condenses)
chemical change	an irreversible change caused when one substance combines with another to form a new substance or one substance breaks down to form two others
condensation	process that happens when a gas changes into a liquid
density	the mass per unit volume; unit kg/m³
dissolve	the process in which particles of a solute mix with particles of a solvent to form a solution
evaporation	the process that happens when a liquid changes to a gas at the surface of the liquid
freezing	the process in which a liquid changes to a solid; it occurs when the liquid reaches its freezing point
melting point	the temperature at which a solid changes to a liquid (or a liquid substance freezes)
physical change	a reversible change, such as dissolving and changes of state
state (of matter)	solid, liquid or gas
sublimation	the process when a solid turns into a gas, without becoming a liquid first
thermal expansion	when particles in a solid or a liquid gain enough energy to occupy more space

As a result of energy being transferred by heating there may be a change in the temperature of a material, or a change in how close the particles in a material are to each other.

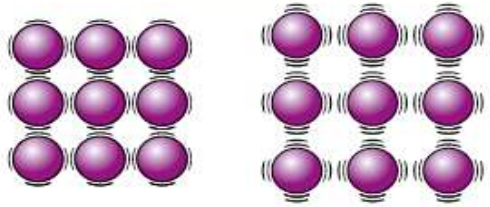
Changing the **internal energy** of a material will alter either its temperature or its state. Melting and boiling can take place without a change in temperature because the additional energy transferred by heating gives particles energy to move further apart and overcome forces of attraction.

When a substance is heated the internal energy of its particles increases. This means particles of the material have different amounts of internal energy when the material is a solid, liquid or gas.

As the temperature of a material is increased, its particles move faster.

Key vocabulary	
Brownian motion	the movement of solid particles caused by collisions with gas particles
conservation of mass	matter cannot be destroyed or created, just transformed; this means the total mass does not change during physical or chemical reactions
internal energy	the sum of the kinetic energy and the chemical potential energy of all the particles in a material

Most solids expand when heated and contract when cooled. This is because increasing the temperature causes the particles to move faster and so take up slightly more space. Liquids also expand when heated.

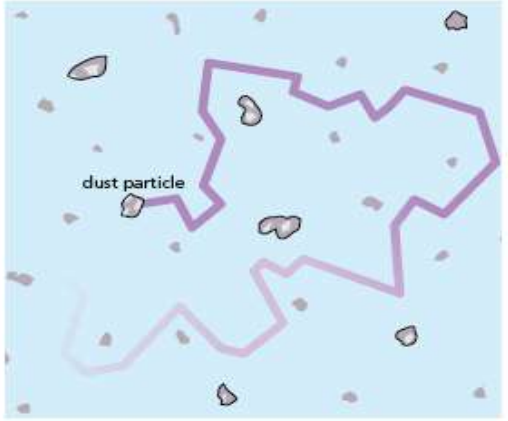


Both these effects cause an increase in the material's store of internal energy.

Most materials get less **dense** when going from a solid to a liquid, and more dense when going from a liquid to a solid.

The change from ice to water is different to other solids when they melt. Unlike other solids, water expands and becomes less dense when it is cooled close to its **freezing** point. This is why ice floats on water.

Particles of dust or smoke suspended in a gas move randomly in all directions. This is known as **Brownian motion** and is caused when the dust specks are hit by the moving particles that make up the gas.

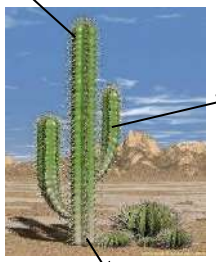


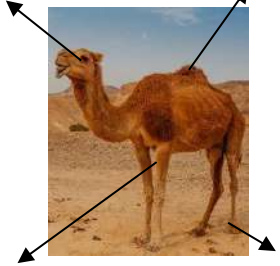
Year 8 Geography – Topic 1 - Extreme Environments Knowledge Organiser

Week 1 – What is an extreme environment? An environment which is hard for plants, animals and humans to survive in.

Environment	Climate	Location
Arid (desert)	• Low rainfall, little or no vegetation due to lack of water. • Cloudless skies associated with anticyclones.	• Sahara Desert • Arabian Desert
Tropical	• Over 2,500 mm of rainfall annually • Hot, humid weather (daytime max. temp 30-35ºC) • Little seasonal difference.	• Amazon, Brazil • Congo Basin, West Africa • Indonesia
Polar	• Long cold winters • Annual temperatures mostly below freezing • Often windy with very little precipitation.	• Arctic • Antarctica

Week 2 – How have people, plants and animals adapted to live in a hot desert?





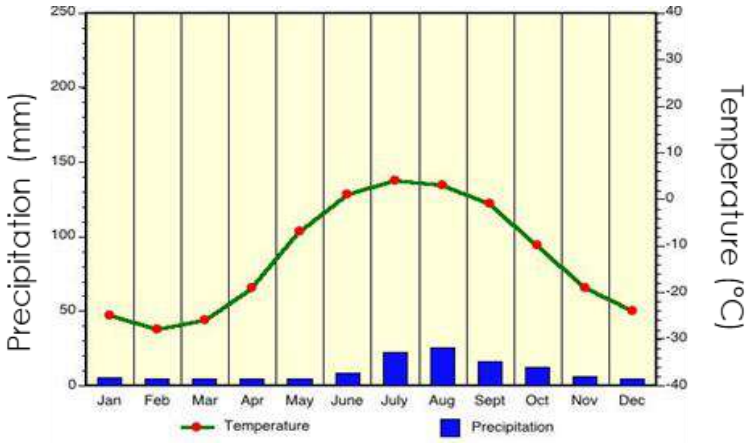
Week 3 – Surviving in hot deserts.

Questions:	Answers:
What is the largest hot desert in the world?	The Sahara Desert, North Africa, about 3.5 million square miles, located in 9 countries
How much rainfall must there be in a hot desert?	Under 250 mm/year
Name the 11 countries that the Sahara Desert is found in.	Algeria, Chad, Egypt, Libya, Mali, Mauritania, Morocco, Niger, Western Sahara, Sudan and Tunisia
What is meant by the term biodiversity?	Plants and animals found in an ecosystem
What is meant by the term adaptation?	How living things change there way to survive in a harsh environment
Name 5 plants and animals that live in a hot desert	Cactus, Acacia Tree, camel, Mojave Desert snake, Jackrabbits

Week 4 – Climate graph of a polar biome.

A polar region has very little precipitation, very cold temperatures and can be windy.

Month	Temperature (°C)	Precipitation (mm)
Jan	-25	5
Feb	-28	4
Mar	-26	4
Apr	-20	5
May	-7	4
Jun	0	9
Jul	3	20
Aug	2	24
Sep	-1	15
Oct	-10	12
Nov	-20	5
Dec	-24	3



Week 5 – People in polar regions

Svalbard, Norway

- Experiences Polar Night from mid-Nov to late Jan
- Winter temperatures can fall below −20°C
- Polar bears live across the islands

Churchill, Canada

- Winter temperatures often fall below −25°C,
- Around 1,000 polar bears gather near Churchill each autumn
- There are no roads connecting Churchill to large cities

Year 8 Geography – Topic 1 - Extreme Environments Knowledge Organiser – Homework Tasks

Week 1 Homework – Extreme Environments

Task 1: Write a paragraph to compare the three extreme environments:
- hot desert
- tropical area
- polar region.

What makes them extreme?

Task 2: Which extreme environment is the hardest to live in? Why?

Which extreme environment is the easiest to live in? Why?

Week 2 Homework – Adaptations in hot deserts

True or False? State whether the statement is true or false, if false say why.

A. The cactus stem stores water. _____
B. The cactus spines help the plant collect large amounts of rainwater. _____
C. The cactus roots grow deep into the ocean to find water. _____
D. The camel's hump stores fat. _____
E. The camel's long legs make it harder to travel across hot deserts. _____
F. The camel's feet help the camel walk on soft sand. _____
G. Desert clothing is designed to make people hotter. _____
H. The camel's hump is filled with water. _____
I. The cactus features shown are adaptations for living in wet rainforest conditions. _____
J. The features shown on the cactus, camel, and clothing are adaptations to desert conditions. _____

Week 3 Homework – Surviving in hot deserts.

Re-write the paragraph with correct words. Highlight or underline the words you add.

Word Bank:, *cactus, North Africa, 250 mm, biodiversity, adaptation, Sahara Desert, camel, 11*

The **(1)** _____ is the largest hot desert in the world. It is located in **(2)** _____ and covers about 3.5 million square miles. The desert is found in **(3)** _____ countries. A hot desert receives less than **(4)** _____ of rainfall each year. The term **(5)** _____ means all the plants and animals found in an ecosystem. An **(6)** _____ is a feature or behaviour that helps living things survive in a harsh environment. Examples of living things found in the Sahara Desert include the **(7)** _____ and the **(8)** _____.

Week 4 Homework – Polar biome climate graph

Task : Answer the questions below using the climate graph on the previous page of a polar biome.

1. What does a climate graph show?
2. What is the peak precipitation?
3. What is the peak temperature?
4. What is the lowest precipitation?
5. What is the lowest temperature?
6. What is the total precipitation?
7. What is the mean precipitation?
8. What is the temperature range?

Week 5 Homework – People in polar regions

1. Which place experiences Polar Night?
2. Which place has winter temperatures below −25°C?
3. How many polar bears gather near Churchill each autumn?
4. Why might living in Svalbard be challenging during Polar Night?
5. Why might having no roads connecting Churchill to large cities make life difficult?
6. Give one similarity between Svalbard and Churchill.
7. Give one reason why both places are considered extreme environments.

Challenge: Would you rather live in Svalbard or Churchill? Give two reasons for your choice.

Year 8-'Charles I deserved to be executed'. How far do you agree? Knowledge Organiser

1. Key terms

Word	Definition
Divine Right	The belief that kings were chosen by God and should not be challenged.
Absolutism	A system where the monarch has total power.
Prerogative	The king's personal powers (without needing Parliament).
Puritan	A strict Protestant who wanted to remove all Catholic elements from the Church.
Ship Money	A tax Charles collected without Parliament's approval.
Petition of Right	A 1628 document demanding Charles stop illegal taxes and arrests.
Grand Remonstrance	A list of complaints against Charles by Parliament (1641).
New Model Army	Parliament's professional army, formed in 1645.
Radical	Someone who wants major political or religious change.
Regicide	The killing of a king.
Restoration	The return of the monarchy in 1660 (Charles II).

2. Key events 1625- 1649

Year	Event
1625	Charles I becomes King of England
1629–1640	Charles rules without Parliament (Personal Rule)
1637	Prayer Book introduced in Scotland – causes rebellion
1640	Charles recalls Parliament (Short and then Long Parliament)
1642	Civil War begins between Royalists and Parliamentarians
1645	Parliament's New Model Army defeats Royalists
1648	Charles starts the Second Civil War by making a secret deal with the Scots
1649	Charles I is put on trial and executed

3. Who's who?

Henrietta Maria- Charles I's Catholic French wife – many feared her influence	Archbishop Laud- Charles' religious advisor who enforced strict Church reforms.	John Pym- Leading Parliamentarian critic of Charles I.	Oliver Cromwell- Commander of the New Model Army and key figure in Charles' trial.	The Levellers- Radical political group who demanded more equality and rights.

4. The changing relationship between Charles and Parliament

Period	What Happened
1625–1629	Early clashes over money, religion, and war. Parliament refuses to give Charles full taxes; he arrests MPs.
1629–1640	Personal Rule – Charles governs alone. He raises money using fines and unpopular taxes (like Ship Money).
1640–1642	Charles needs money for war with Scotland. Parliament makes demands before giving funds – Charles agrees to some but becomes angry.
1642	Charles tries to arrest 5 MPs. Civil War begins.
1648	After losing the war, Charles secretly plots another one. Trust is broken.
1649	Parliament puts Charles on trial and executes him.

5. Did Charles deserve to be executed?

Arguments for	Arguments against
1. Betrayal of trust- After losing the first Civil War, Charles made a secret deal with the Scots to start a second war. 2. Abused his power- Ruled without Parliament (1629–40), collected illegal taxes, and punished critics harshly. 3. Caused civil war- Refused to compromise; tried to arrest MPs; his actions directly led to war and suffering. 4. Seen as a tyrant- Believed in Divine Right and never accepted limits to his power. 5. Army's view- The New Model Army called him a "Man of Blood" for starting more violence after defeat.	1. Divine Right of Kings- Many believed the king was God's chosen ruler — killing him was a sin. 2. Unfair trial- Charles was not allowed a proper defence and didn't recognise the court's authority. 3. Peace was possible- Parliament had offered deals and wanted peace; some believed his execution was avoidable. 4. Political power grab- Some saw the trial as the army taking control, not justice. 5. Shock to the country- Many were horrified — never before had an English king been publicly executed.

French Knowledge Organiser – Year 8 - Half Term 1

Homework 1	
Speaking French in class helps us to practice and feel more confident in the language. Here are some useful phrases:	
J'ai besoin d'un stylo	I need a pen
Puis-je aller aux toilettes ?	Can I go to the toilet?
Oui	Yes
Non	No
S'il vous plaît	Please
Merci	Thank you
De rien	You're welcome
Répétez	Repeat
Je ne comprends pas	I don't understand
Je ne sais pas	I don't know

Homework 2
A verb: a word used to describe an action or state
AN infinitive verb: a verb in its dictionary form – it has no subject, object or tense
In French, infinitive verbs end in one of three ways: - **er** (e.g. regard**er** = to watch) - **ir** (e.g. fin**ir** = to finish) - **re** (e.g. vend**re** = to sell)
Regular verb: A verb that follows a pattern we can learn.
Irregular verb: A verb that does not follow the usual pattern.
The present tense is used to talk about actions or states that are currently happening or that happen regularly.
In English, we have **two** present tenses: the simple and the continuous. e.g. 1. I play 2. I'm playing Both of these examples are in the present tense – they describe a current action.
However, in French, there is **only one** present tense. Therefore, 'je joue' means both 'I play' and 'I'm playing'.

Homework 3	
-er verbs are the biggest group of verbs in French.	
To form the present tense of regular –er verbs in French:	
1. Take the –er off the infinitive	
2. Add the correct ending for the person / object doing the action	
Present tense endings for regular –er verbs:	
Je	**-e**
Tu	**-es**
Il/Elle/On	**-e**
Nous	**-ons**
Vous	**-ez**
Ils/Elles	**-ent**

Homework 4	
J'habite…	I live…
dans un village	in a village
dans une ville	in a town
à Londres	in London
en France	in France
en Angleterre	in England
au Maroc	in Morocco
au Canada	in Canada
au bord de la mer	at the seaside
à la campagne	in the countryside

Homework 5	
'Aller' (to go) is a common irregular verb. It is important you learn how to form them in the present tense.	
Aller = to go	
Je vais	I go
Tu vas	You go
Il/Elle va **On va**	He / She goes We go
Nous allons	We go
Vous allez	You go (pl)
Ils/Elles vont	They go
For the near future tense, we use aller followed by an infinitive. Here are a few infinitives to learn:	
manger	to eat
jouer	to plau
sortir	to go out
regarder	to watch
faire	to do

Homework 6	
Je vais aller…	I'm going to go…
On va aller…	We are going to go…
au château	to the castle
au centre commercial	to the shopping centre
au marché	to the market
au parc d'attractions	to the theme park
au restaurant	to the restaurant
au stade	to the stadium
à la plage	to the beach
à la patinoire	to the ice rink

GERMAN YEAR 8
HT1 into HT2

Homework 1: (recall)

1. A **cognate** = a word which is similar in German and in English e.g. **Januar – January**
2. A **noun** = a word used to identify something e.g. **table**
3. Nouns in German always begin with a capital letter
4. Can you put MY / THE / A in front of it ? It's a noun = needs a capital letter !
5. A **pronoun** = a word that takes the place of a noun e.g. I, he, she
6. A **verb** = a word used to describe an action e.g. to live ➔ German infinitive verbs usually end in 'en', e.g. wohnen
7. An **adjective** = a word which describes a noun e.g. gut (good); adjectives in German do not have a capital letter

Homework 2:

Brot	bread
Brötchen	rolls
Butter	butter
ein Ei / Eier	an egg / eggs
Joghurt	yoghurt
Kaffee	coffee
Käse	cheese
Marmelade	jam
Milch	milk
Müsli	muesli
Schinken	ham
Schokomilch	chocolate milk
Tee	tea
Toast(brot)	toast
Trinkjoghurt	drinking yoghurt
nichts	nothing

Homework 3:

Eintopf	stew
Fisch	fish
Gemüse	vegetables
Hähnchen	chicken
Kartoffeln	potatoes
Nudeln	pasta
Pizza	pizza
Reis	rice
Salat	salad
Tomaten	tomatoes

Homework 4:

DEFINITE article = THE

	masculine	feminine	neuter
Nominative	der	die	das
Accusative	den	die	das
Dative	dem	der	dem

Homework 5:

INDEFINITE article = A / AN

	masculine	feminine	neuter
Nominative	ein	eine	ein
Accusative MOVEMENT	einen	eine	ein
Dative POSITION	einem	einer	einem

Homework 6:

1. A **preposition** = denotes the position of the noun e.g. the shop is opposite the school
2. gegenüber von — opposite
3. neben — next to
4. zwischen — between
5. Wohin gehst du? — Where are you going ? (MOVEMENT: ACCUSATIVE)
6. Ich gehe in den/die/das … — I'm going into the …
7. Wo bist du? — Where are you ? (NO MOVEMENT: DATIVE)
8. Ich bin im / in der / im … — I'm in the …

Homework 7:

Richtungen	**Directions**
Wie komme ich am besten zum / zur …	What is the best way to get to …
Gehen Sie / Geh …	Go …
geradeaus	straight on
nach links	left
nach rechts	right
über die Brücke	over the bridge
Nehmen Sie / Nimm …	Take …
die erste Straße links	the first road on the left
die zweite Straße rechts	the second road on the right
auf der linken Seite	on the left-hand side
auf der rechten Seite	on the right-hand side

Knowledge Organiser – Term 1

Spanish

HOMEWORK 1	
¿Dónde vives?	**Where do you live?**
Vivo en …	I live in …
¿Dónde vive …?	Where does (he) … live?
Vive en …	He/She/It lives in …
una casa	a house
una granja	a farm
un chalet	a detached house/villa
un piso	a flat
un bloque antiguo	an old block of flats
un bloque moderno	A modern block of flats

HOMEWORK 2	
¿Dónde está?	**Where is it?**
Está …	It's …
en el/un pueblo	in the/a town, village
en el/un barrio	in the/a neighbourhood
en el campo	in the country
en el centro	in the (town) centre
en la/una ciudad	in the/a city
en la costa	on the coast
en la montaña/sierra	in the mountains
en las afueras	on the outskirts
el este	east
el norte	north
el oeste	west
el sur	south

HOMEWORK 3	
Las habitaciones	**The rooms**
¿Cuántas habitaciones tiene?	How many rooms does it have?
Tiene (cinco) habitaciones.	It has (five) rooms.
Hay …	There is/are …
el aseo	toilet
el (cuarto de) baño	bathroom
el salón-comedor	lounge-diner
el comedor	dining room
el salón	the living room
el dormitorio	bedroom
el despacho	office
el pasillo	corridor
el garaje	garage
el jardín	garden
la escalera	stairs
la piscina	swimming pool
la ducha	shower
la cocina	kitchen

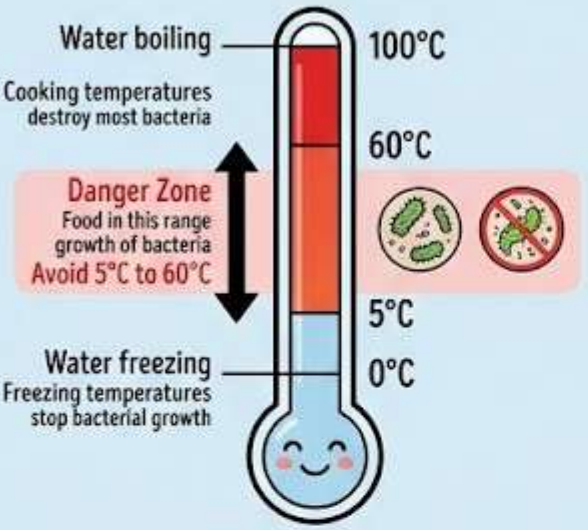
HOMEWORK 5	
¿Dónde?	**Where?**
a la derecha (de)	to the right (of)
a la izquierda (de)	to the left (of)
al lado de	next to
debajo (de)	below
delante (de)	in front (of)
detrás (de)	behind
encima (de)	on (top) (of)
enfrente (de)	opposite
entre	between

HOMEWORK 4	
Mi dormitorio	**My bedroom**
¿Qué hay en tu dormitorio?	What is there in your bedroom?
En mi dormitorio, hay…	In my bedroom, there is/are…
una alfombra	rug
un armario	wardrobe
un ordenador	computer
un lavabo	washbasin
un equipo de música	sound system
una cama	bed
una lámpara	lamp
una silla	chair
una librería	bookcase
una mesa	table
una televisión	television
una pared	wall
una ventana	window
una puerta	door
unos pósters	posters
unas cortinas	curtains
unas estanterías	shelves

HOMEWORK 6	
Mi rutina diaria	**My daily routine**
Me despierto	I wake up
Me levanto	I get up
Me ducho	I shower
Me visto	I get dressed
Me peino	I brush my hair
Me lavo los dientes	I brush my teeth
Desayuno	I have breakfast
Voy al colegio	I go to school
Me acuesto	I go to bed

YEAR 8 FOOD TECHNOLOGY
KNOWLEDGE ORGANISER

WEEK 1: KEY TEMPERATURES

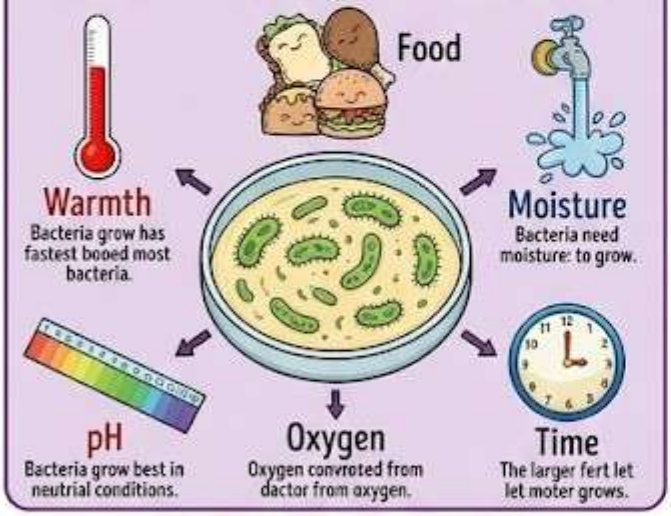


WEEK 2: THE EATWELL GUIDE

Cereals/Bread
Green beand: fruit and sald
Fruit/Veg
Red heart and poulltry
Milk/Dairy
Kep heat and poultry

WEEK 3

CONDITIONS FOR BACTERIA GROWTH



CHOPPING BOARD COLORS

Raw Meat	Fruit & Salad	Fish	Cooked Meat	Root Vegetables

WEEK 4

NUTRITION - MACRO & MICRONUTRIENTS

Macronutrients (Needed in large amounts)

Carbohydrates	Energy (e.g., pasta, potato)
Protein	Growth & Repair (e.g., chicken, beans)
Fat	Energy storage, Insulation (e.g., butter, oil)

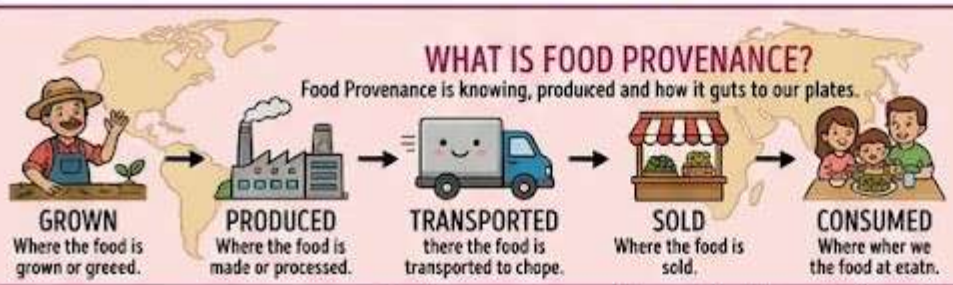
Micronutrients (Needed in small amounts)

Vitamins	e.g. Vit C - Immune system, oranges Vit A - Vision, carrots
Minerals	e.g. Calcium - Strong bones, milk Iron – Red blood cells, spinach

Star tip: Try to eat a variety from all the food groups every day!

WHAT IS FOOD PROVENANCE?

Food Provenance is knowing, produced and how it guts to our plates.



WHY IS IT IMPORTANT?

- Supports local farmers and busineses.
- Helps environment (lower food miles).
- Helps maks healthy choices.

KEY MESSAGE: Good temperatures, safe growth, balanced diet and smart nutrition help us make healthy choices for our bodies and the planet!

Engineering & Technology – Knowledge Organiser

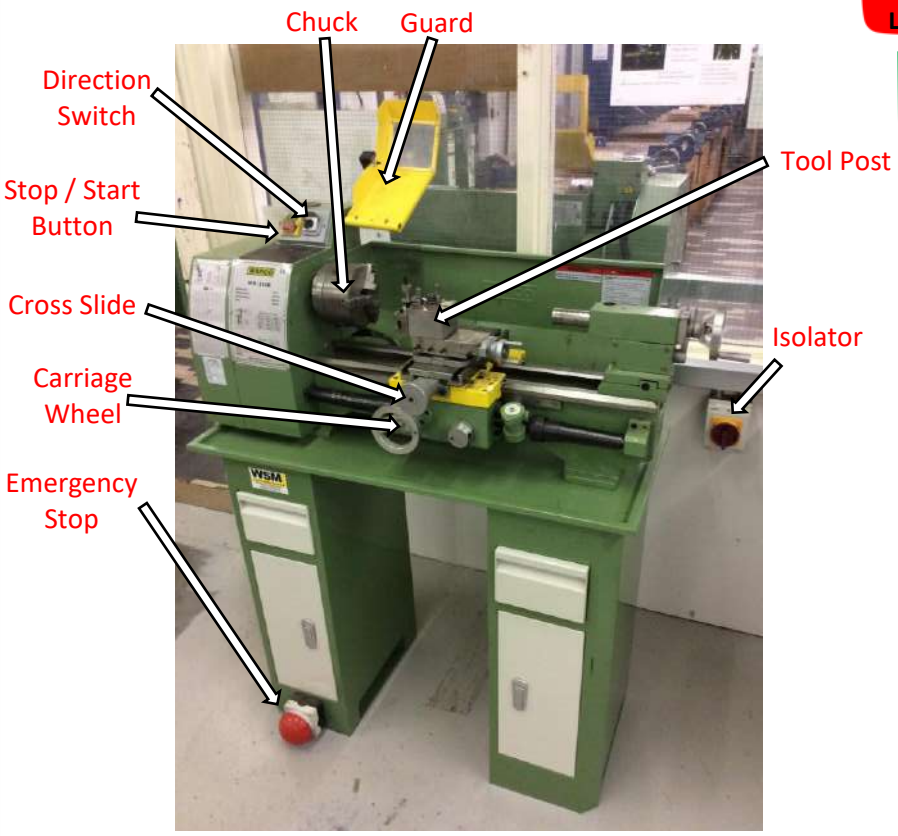
Year 8 Engineering Manufacture

Watch & LEARN

https://www.youtube.com/watch?v=fLlETAHNIkg

Hwk 1

Identify basic parts of a metal lathe:



Hwk 2

Identify engineering tools:

Engineers Vice

Junior Hacksaw

Engineers Square

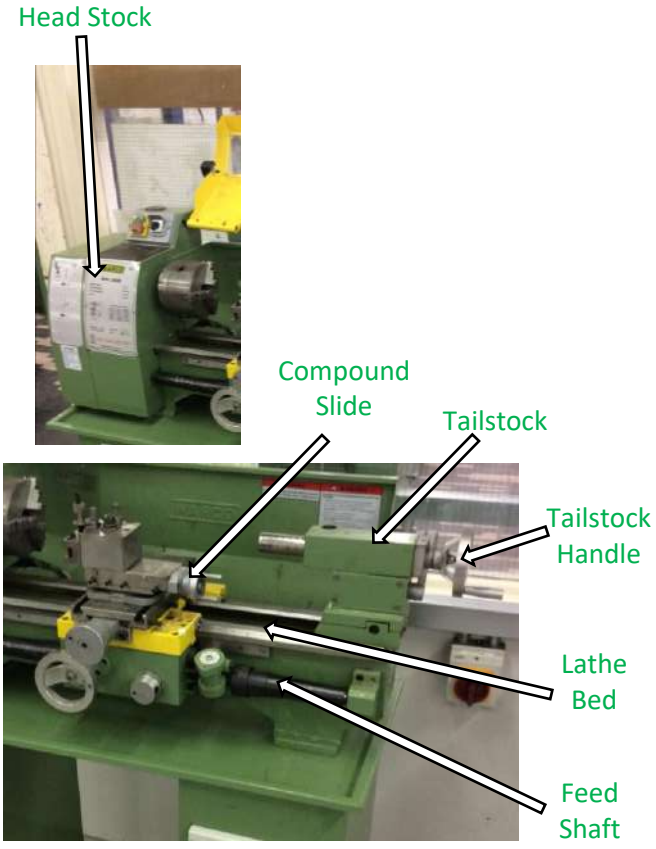
Twist Drill Bit

Centre Drill

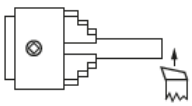
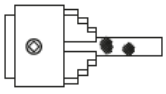
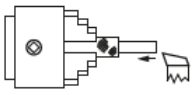
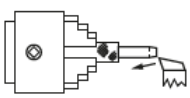
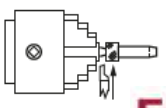
Drill Chuck

Hwk 3

Identify advanced parts of a metal lathe:



Hwk 4 Name the five machining processes:

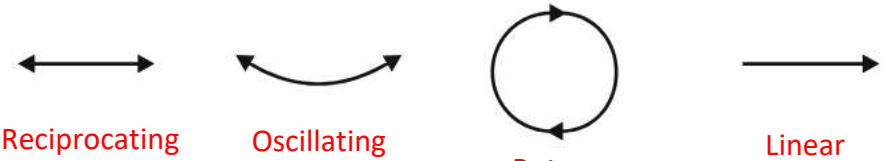
Process	Description of process	Name of process
	Cutting across the end of the Ø20 mild steel bar	Facing Off
	Putting a grip on the outside of the bar	Knurling
	Reduce the peg to Ø10	Turning Down
	Putting the angle on the end of the peg	Taper Turning
	Cutting off the finished peg	Parting Off

EXCELLENCE IN EVERYTHING

Engineering & Technology – Knowledge Organiser

Year 8 Engineering Systems

Hwk 1 Identify 4 types of motion:



Reciprocating | Oscillating | Rotary | Linear

Watch & LEARN

https://www.youtube.com/watch?v=5hKTvVG6eqA

Hwk 2 Identify the parts of the diagram below: System Block Diagram

Hwk 3 Identify input and output components:

Input

Light Dependent Resistor

Push-to-make

Thermistor

Output

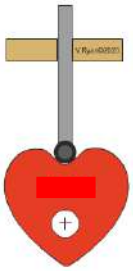
Light Emitting Diode

Servo

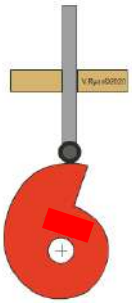
Buzzer

Hwk 4

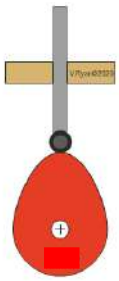
Identify 4 cam profiles:



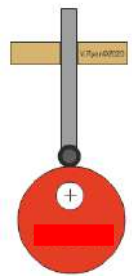
Heart



Drop

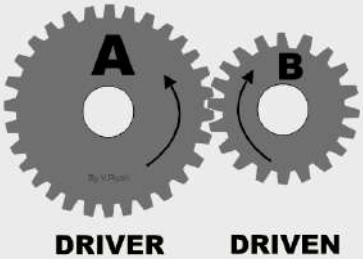


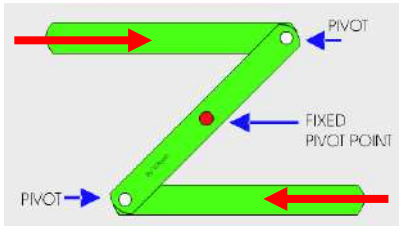
Pear



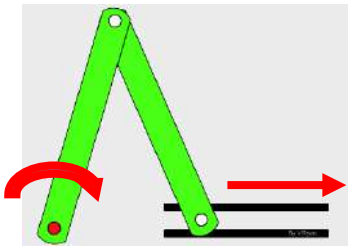
Eccentric

Hwk 5 Identify gears & linkages:

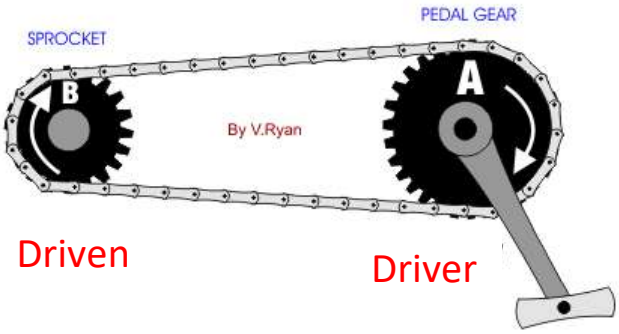




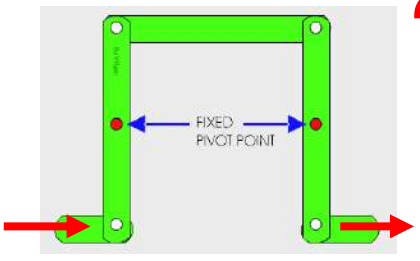
Reverse Motion



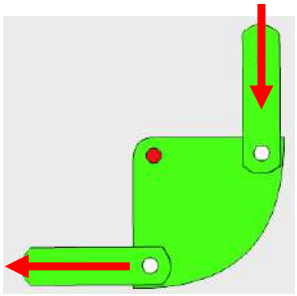
Crank and Slider



Driven | Driver



Parallel Motion

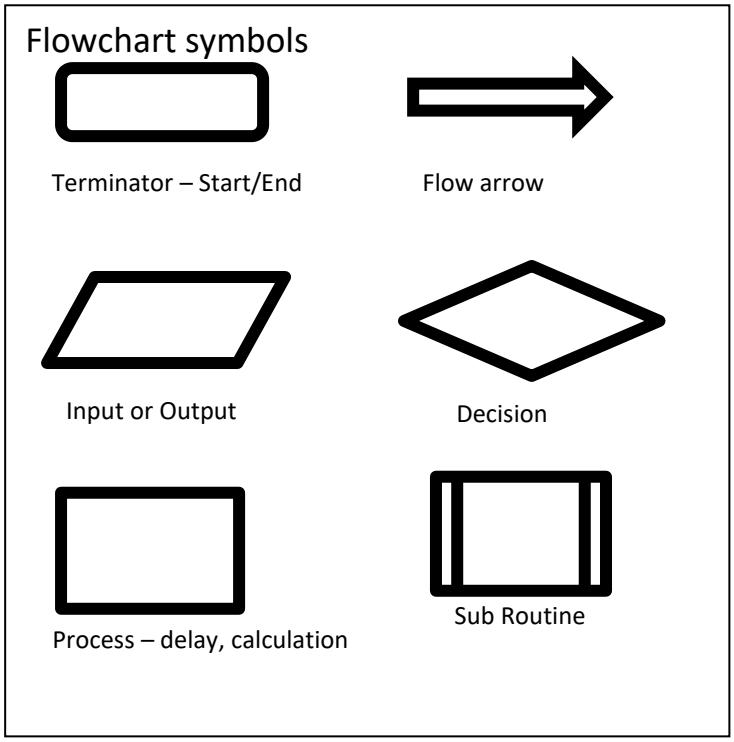


Bell Crank

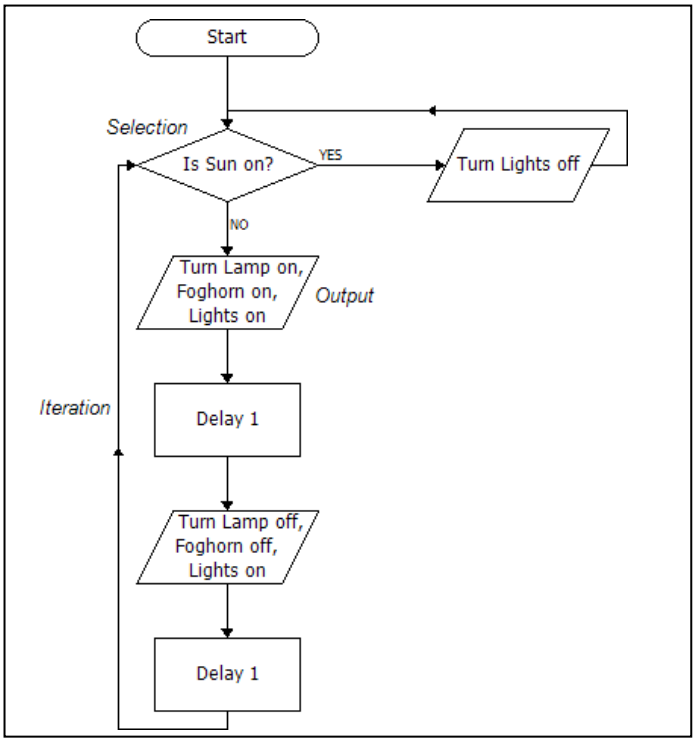
EXCELLENCE IN EVERYTHING

Computing

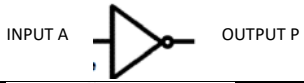
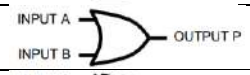
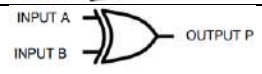
Year 8 COMP 1



Homework 1 Be able to draw and use these symbols



Homework 2 Describe how this flowchart works

	Key Term	Definition	Examples	
Control	Sequence	The order in which instructions are executed.	1) Wake up 2) Get dressed	
	Input	A way to get data into a computer.	Switch being pressed. Temperature reading taken.	
	Output	A way to show results or an action.	Something turns on or off.	
	Iteration	Repeating a set of instructions.	Repeat 4: Alarm on, wait 1, Alarm off, wait 1	
	Selection	There is a choice of ways to go.	Flowol uses decisions that have Yes and No routes.	***Homework 3/4***
	Sub-routine	A separate chunk of code that does a particular job. They only run when called.	Sub Fire: Fire on	
Logic Gates	NOT gate	Where the Input is the opposite of the output		
	AND gate	Where only both Inputs must be on		
	OR gate	Where either Input must be on (or both)		***Homework 5***
	XOR gate	Where one of the Inputs must be on, the other off		
E-Safety	Cyberbullying	Bullying an individual or group of people using digital technology	Bullying via Social Media such as WhatsApp, TikTok	
	Grooming	A process involving an offender building a relationship with a child, gaining their trust and a position of power over the child, in preparation for abuse.	Gaining a child's trust in preparation for abuse	***Homework 6***
	Social Media	internet-based platforms and applications that allow people to communicate, build communities, and create or share content	Instagram, Facebook, WhatsApp	

Year 8- ARCHITECTURE

The Visual Elements are the parts used to make a piece of artwork:
Line, colour, tone, shape, form, space, pattern and texture

Line: The path left by a moving point. For example, a pencil on paper. A line can be horizontal, diagonal or curved and can also change thickness & length.

Tone: How light or dark an object is. Tone can create contrast from shadows to highlights and can help to create a sense of depth or distance.
Shape: A flat area enclosed by line.

Pattern: A design from repeating lines, shapes, colours or tones

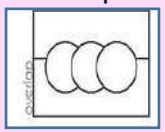
Form: Shapes are flat and are 2D Forms have three dimensions. (height, width and depth).

Space: the distances or areas around, between, and within components of a piece.

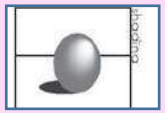
Texture: the perceived sur face quality of a work of art

Ways to create depth/space in your work:

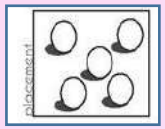
Overlap



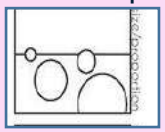
Tone



Placement

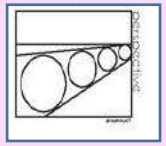


Size/Proportion



Detail

Perspective



Colour

In art depth refers to the illusion of three dimensional space (e.g. fruit or a landscape) on a two dimensional surface (e.g. paper or a canvas).

Mark Making

Mark making is a term used to describe the different lines, patterns, and textures we create in a piece of art. It applies to any art material on any surface, not only paint on canvas or pencil on paper. Mark making can be used to create tone.

Mono Printing

Mono printing is a form of printing where the image can only be made once.
Mono definition: one, alone, single.
Other examples of the use of the term Mono:
Monologue - speech given by one person.
Monotone - using one tone only when speaking.

How Stencils Work:

A stencil is a thin sheet of material (cardboard, plastic, metal) with areas cut out to form a design or letters.

The stencil is placed on the surface, and pigment is applied over the cut-out areas, passing through to create the image.

Colour schemes

Analogous/Harmonious
Colour that are near each other on the colour wheel, like orange and red.
Complementary
Pairs of colours from the opposite sides of the colour wheel- e.g reds and greens
Triadic
Three colours evenly spaced on the colour wheel. E.g. orange, purple, and green.

Darker tones are created by overlapping marks so they are closer together.

Decorative Embroidery

Decorative embroidery is the art of embellishing (decorating) fabrics with stitched designs. It uses a needle and thread to create patterns.
Types of decorative stitch include:

Sewing Steps

1. Thread needle
2. Tie a knot in the end furthest from the needle
3. Draw light guidelines to follow
4. Start from the back (so the knot is hidden)
5. Finish off on the back with 2 stitches on the spot

YEAR 8 | MUSIC | HT1/2 - MUSICAL THEATRE

HOMEWORK 1

Musical Theatre	A drama characterised by storyline, plot and characters interspersed with dialogue and different musical numbers including scenery, costumes and
Opera	A play, set to music, sung and acted, with scenery, costumes and lighting.
Solo	A song for a single voice, with or without instrumental accompaniment.
Duet	A song for a two voices, with or without instrumental accompaniment.

HOMEWORK 2

Recitative	A style of singing in opera or musicals that sounds like talking, used to move the story along.
Unison	When two or more people sing or play the exact same note at the same time.
Ensemble	A small group of singers or a piece of music written for a small group.
Aria	A solo song in an opera or musical where a character shows their feelings, often very emotional and expressive.

HOMEWORK 3

Soprano	The highest type of female voice
Alto	The lowest female voice
Vibrato	A slight, quick wobble in pitch that singers or players use to make a note sound warmer or more expressive.
In Harmony	When two or more notes are sung or played together

HOMEWORK 4

Accompaniment	The musical support or background provided for the solo voices or instruments in the musical texture.
Tenor	A high adult male voice.
Baritone	A male voice whose range lies between that of a tenor and bass voice.
Bass	The lowest male voice.

Want to Explore more?

Research famous musical theatre composers and listen to their music. Start with 'Leonard Bernstein'.

YEAR 8

MUSIC

HT1/2 - THE GUITAR

HOMEWORK 1

Electric Guitar	A guitar that needs to be plugged into an amp to make sound. It uses electricity to get louder and often sounds great for rock music!
Acoustic Guitar	A guitar that makes sound all by itself, using its wooden body to echo the sound of the strings.
Bass Guitar	A guitar with thicker strings that plays low notes and helps keep the beat in a band.
Chord	A group of notes played at the same time that often sound good together.

HOMEWORK 2

Finger-picking	Performing the guitar using the thumb and fingers of the right hand.
Strumming	Playing most of the strings at once in a downward and upward motion.
Chord box	A little diagram that shows you where to put your fingers on the guitar to play a chord
Tablature	A way to read music for guitar using numbers and lines instead of regular music notes.

HOMEWORK 3

Distortion	Effect which adds grit to the tone of the guitar by making it a square wave.
Chorus (effect)	Creates the sound of two instruments playing simultaneously.
Delay	Effect which repeats the note played.
Plectrum	A small tool you hold in your fingers to strum or pluck the guitar strings.

HOMEWORK 4

Reverb	Effect which creates artificial space.
Riff	A short, catchy part of music that's often repeated—like a musical hook. This is often played on an electric guitar.
Amplifier	A speaker that makes your electric guitar sound louder.
Fret	The gaps between metal strips on the neck of a guitar that help you play different notes when you press the strings down.

Want to Explore more?

Research famous guitarists and listen to their music. Start with 'Jimi Hendrix'.

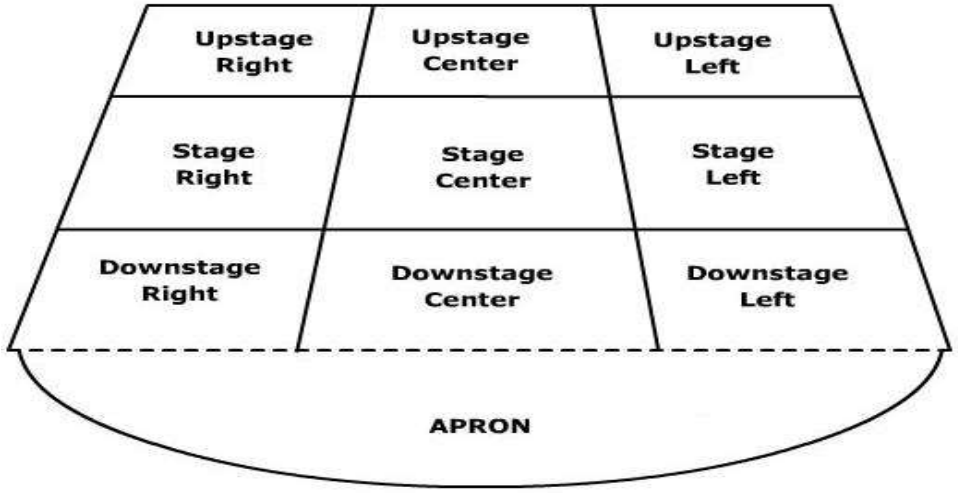
Melodramatic Theatre

A

Areas that need exaggeration in Melodramatic Theatre:

Gesture and Movement	Any movement of the body or use of hand or head gesture needs to be seen by all members of the audience. As a result there can be no subtlety of movement.
Voice and Vocal Tone	Voice must be loud so that all members of the audience can hear what is being said. Vocal tone indicates the mood and expectation of the line being delivered so this can not be misunderstood to mean anything other than what is intended.
Language	The words used would indicate the type of character speaking. A more formal use of language would indicate a wealthy character or official (like a police officer) whilst an informal tone or even the use of slang or abbreviated language might suggest a rogue or particularly nasty character.

B



C

Stock Characters used in Melodramatic Theatre:

Hero	This character is loved by the Heroine. He is honourable and good and tries to do the best by everybody. This often means he is too trusting.
Heroine	This character is loved by the Hero. She is often young and wealthy and is expected to marry. She is devoted but is often portrayed (as were the times) as needing a man to support her as she is weak.
Villain	This character is manipulative and often wants to marry the Heroine in order to gain status. He is the antagonist to the Hero, getting him banished at some point in the story in order to take the hand of the Heroine.
Loveable Rogue	The Hero's friend. This character looks after the Heroine, supporting her when the Hero is sent away. Loyal and just on the right side of good.
Aged Parent	Usually the parent to the Heroine. Old, wealthy and usually makes decisions without considering the consequences. Often seen as a little foolish.
Villain's Sidekick	This character is often treated badly by the Villain but continues to do as he is told. Often portrayed as being very unintelligent and thuggish.

D

Melodramatic Theatre is similar to Greek Theatre in that large gestures and loud volume was used to communicate to the audience. In Greek Theatre this was used to ensure that the audience were aware of who the characters were from far away; as there were multiple characters played by only three actors, whilst in Melodramatic Theatre it was to show the type of character being played and to allow them to follow the narrative of the plot in a very simple way.

John Port Spencer Academy PE Department Knowledge Organiser
YR 8 Badminton

Key Skills:

READY POSITION – balanced stance, side on, racket up, ready to go: knees bent, on your toes.

SERVING –There are several types of serve – short/backhand, long ,flick. A backhand serve should land close to the service line on your opponent's side of the net. The racket head must start from below the waist.

UNDERARM CLEAR (long serve) **–** This shot is played high to the back of your opponent's court. Start sideways on and use a whip action with the wrist to create power.

OVERHEAD CLEAR – Played to the back of your opponents' court and is a defensive shot. Start sideways on, racket up and behind you, contact the shuttle in front of you.

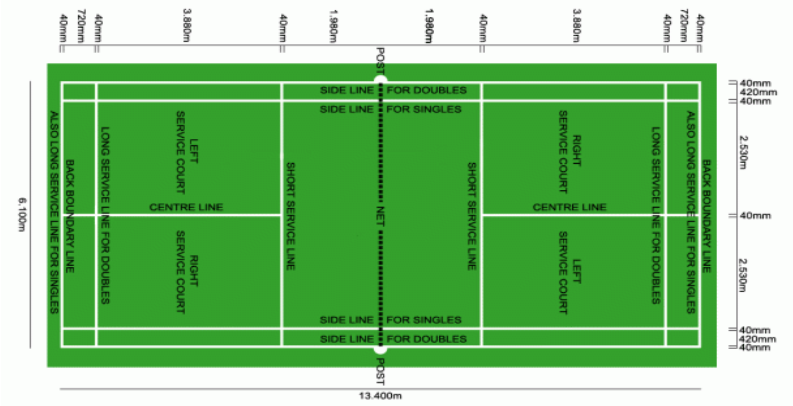
DROP SHOT- a shot played with finesse to land the shuttle as close as possible to the net on your opponent's side.

SMASH SHOT – This is the main attacking shot in badminton. It is an overhead shot, hit in front of the body, that aims to get the shuttle down on the floor at a sharp angle. The wrist needs to "snap" to get it down.

TACTICS
- Hitting into space – keep your opposition moving around the court
- Shot selection – selecting the right shot for the right situation
- Targeting opponent's weaknesses
- Disguised shots – trying to make it look like you are going to play a particular shot but then play a different shot to fool an opponent.
- Doubles play – role of players. Front/back formations or side to side.

Rules

Game starts with a diagonal serve- right hand side to right hand side.
Serve must land over the service line.
Play to 21 points – but must win by 2 clear points up to 30. 29-29 next point wins.
A point is won every rally.
Whoever wins the point serves next.
When your score is even, serve from right. When your score is odd, serve from left.
Court is long and thin for singles, short and wide for doubles.
You cannot touch the net with your racket or any body part.



Stretch and Challenge Task:

-When might you use front and back play in doubles and when might you use side to side?
- Go online and watch some doubles play form the Olympics or Commonwealth games.

Key Terms to learn:

Grip and ready position Drop shot Rally Disguised shot Smash
Overarm/underarm Clear Serve –backhand/short, long, flick

John Port Spencer Academy PE Department Knowledge Organiser

Activity: Football

Year: 8

Key Skills:

- Controlling the ball – using different parts of the body – this could be the feet, thigh, chest and head. Try and use both feet. Remember to cushion the ball.
- Passing – there are 3 types of passes. Side foot pass, driven pass with the laces and a lofted pass. Using the side of the foot allows you to pass accurately over a short distance, a driven pass allows you to pass the ball on the floor, but a greater distance. Finally, a lofted pass allows you to lift the ball in the air over players and change direction. Remember to keep your standing foot next to the ball when you make the pass.
- Dribbling – dribbling allows you to move the ball quickly around the pitch using the inside and outside of your feet and keeping, the ball close to your feet and your head up.
- Turning with the ball and outwitting a defender – turning with the ball allows you to change direction using different techniques, such as dragging the ball back with the sole of your boot. Outwitting and opponent allows you to beat a defender using different techniques such as a step over.
- Shooting – there are different types of shots that allows you to score goals. You instep can be used to control and place the ball into the goal. If you use your laces then this allows more power to be produced.
- Heading – you can use an attacker header, a defensive header or a controlled header, which might be passing the ball back to someone with your head.
- Attacking – keeping possession – making a number of passes allows your team to keep possession and advance up the field.
- Tackling techniques – tackling, jockeying and forcing the player onto their weaker foot.

Strategies and Tactics:

Attacking – using the width is very important when attacking. It is important teams keep possession and play one and two touch to move the ball quickly. Also, another effective strategy is to 'switch' the play using a lofted pass.

Defending – players are normally marked man to man, but can be marked zonal from corners.

Stretch and Challenge Task:

- What are the advantages of using man to man marking when defending?
- Research the different types of formations (pictured) and positions.
- Why is it important to use width in a game.

Key Content and Terms to learn:

Passing, dribbling, shooting, heading, attacking, defending, possession, width, depth, different formations

John Port Spencer Academy PE Department
Knowledge Organiser – YR 8 NETBALL

Key Skills:

Passing and receiving – different types of passes include chest pass, bounce pass, shoulder pass and overhead pass.

Attacking – getting free from an opponent in order to receive the ball. Includes the skills of sprinting, dodging and changing direction.

Shooting – With one hand under the ball and the other steadying it at the side, keep your eyes on the hoop, bend your knees and push the ball with the fingers.

Defending – Marking your opposite player both with (2nd stage defence) and without the ball (1st stage defence).

Footwork – You must land with a 1-2 landing or with 2 feet. You must then not move the landing foot.

Holding space- used by C, WA and WD on edge of circles.

POSITIONS AND RESPONSIBILITIES

Goal Shooter (GS) – To score goals and work in and around the circle with the GA. Marks the GK.

Goal Attack (GA) – To feed the ball to the GS and to score goals. Marks the GD.

Wing Attack (WA) – To feed the ball into the circle and to help move the ball down to the teams attacking third. Marks the WD.

Centre (C) – To take the centre pass and to act as a link between defence and attack. Moves the ball down the court. Marks the opposite C.

Wing Defence (WD) – To look for interceptions and move the ball down into attack. Marks the WA.

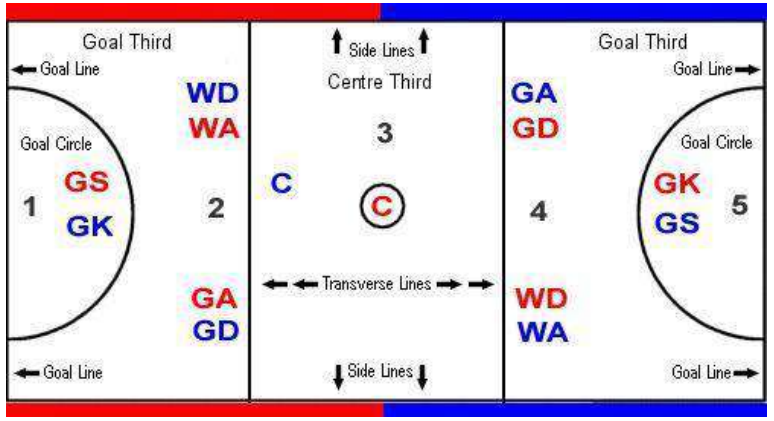
Goal Defence (GD) – To get the ball from the attack and help pass it back down the court. To prevent the GA from scoring. Marks the GA.

Goalkeeper (GK)- To work with the GD and to prevent the GA/GS from scoring. Marks the GS.

Stretch and challenge task

- Watch an international game of netball and try and spot if any of the players do not obey the footwork rule and if they contact any other players.
- List the reasons why you might get a free pass.
- List the reasons why you might get a penalty pass.

Rules: The game starts with a centre pass and the ball must be caught in the centre third.
You must comply with the footwork rule e.g. a 1-2 landing.
You only have 3 seconds to release the ball.
When defending you must be 1 metre away from the player. If you are too close you get a penalty against you and you must stand with the player. This is called obstruction.
There must be no contact with an opposing player. If you do contact them, it is a penalty against you, and you must stand with the player.
Only GS and GA may score a goal.
You must stay in the correct area of the court for your position. If you go offside, it is a free pass to the opposite team.
Teams take it in turns to take a centre pass.
The ball must be touched in each third of the court.



Key content and Terms to learn

Passing and receiving	**Shooting**
Attacking	**Dodging**
Defending	**Penalty**
Footwork	**Obstruction**
Contact	

John Port Spencer Academy PE Department
Knowledge Organiser

Activity: Swimming – Water Safety	Year: **8**
Key Skills: **Endurance – Increasing Distance and adding clothing** **Timed swim – set distance in a specified time** **HELP – Learning the Heat Escape Lessening Position** **Treading Water – attracting attention** **Safe Deep Water Entry – straddle or slide** **Surface dives – Head & Feet first** **Reach Rescue – using clothing or pole** **Throwing Rescue – Using ball or rope**	**Warm up – Using the 4 x Life Saving strokes** **Head up front crawl, Head up Breaststroke, Lifesaving Backstroke and Side stroke** 
Stretch and Challenge Task: **Investigate use of Beach Flags on British Beaches**	**Key Content and Terms to learn:** **Non-swimmer, weak swimmer, injured swimmer – knowing the difference** **Keeping ourselves safe in order to help others**