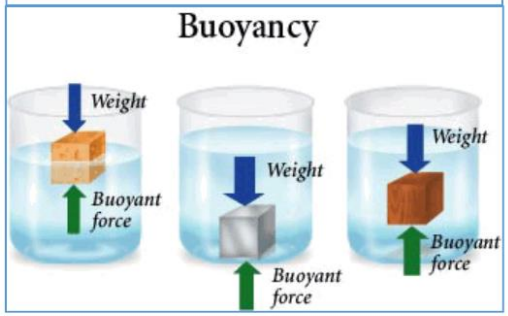
Science Curriculum Overview KS3 2024-25

Based on AQA KS3 Science Syllabus. aqa.org.uk/ks3sciencesyllabus

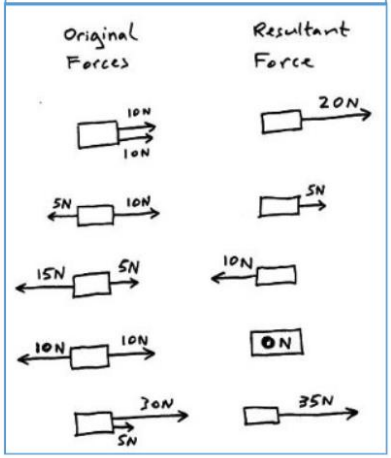
Year 7	Year 7 Introduction Topic	Contact Forces	Particle Model	Cells and Movement	Periodic Table	Sound and Light	Variation and Reproduction	Metals, Acids and Alkalis	Voltage, Current and Resistance	Interdependence	Speed and Gravity
Overview of Scheme of Learning	MCA Introduction to laboratory safety rule and the skills which will be used in science right up to GCSE.	Investigate factors that affect the size of frictional or drag forces. Investigate how pressure from your foot onto the ground varies with different footwear	Relate the features of the particle model to the properties of materials in different states. Devise ways to separate mixtures, based on their properties	Identify the principal features of a cell and describe their functions. Explore how the skeletal system and muscular system in a chicken wing work together to cause movement.	Sort elements using chemical data and relate this to their position in the periodic table. Compare the properties of elements with the properties of a compound formed from them	Relate changes in the shape of an oscilloscope trace to changes in pitch and volume. Use ray diagrams to model how light passes through lenses and transparent materials	Graph data relating to variation and explain how it may lead to the survival of a species. Relate advice to pregnant women to ideas about transfer of substances to the embryo	Use experimental results to suggest an order of reactivity of various metals. Devise an enquiry to compare how well indigestion remedies work.	Compare the voltage drop across resistors connected in series in a circuit. Compare and explain current flow in different parts of a parallel circuit	Use a model to investigate the impact of changes in a population of one organism on others in the ecosystem. Use models to evaluate the features of various types of seed dispersal	Investigate variables that affect the speed of a toy car rolling down a slope. Explain the way in which an astronaut's weight varies on a journey to the moon
Assessment Overview		Test 1. Introduction and contact forces.		Test 2. Particle Model and cells (+ previous knowledge)		Test 3. Periodic table and sound & light (+previous knowledge)		Test 4. Variation & reproduction and Metals, acids & alkalis (+ previous knowledge)		Test 5. End of year exam. Based on all topics to the end of interdependence.	
Link to detailed content		Knowledge organiser.	Knowledge organiser.	Knowledge organiser.	Knowledge organiser.	Knowledge organiser.	Knowledge organiser.	Knowledge organiser.	Knowledge organiser.	Knowledge organiser.	Knowledge organiser.

What is are forces, what are they measured in?

Why do objects float or sink?

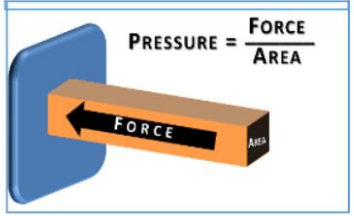


How do forces add, what is a resultant force? Draw some examples

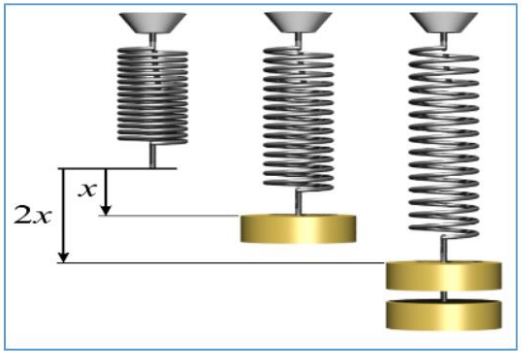


Organiser: FORCES

What is pressure? What is the Equation?

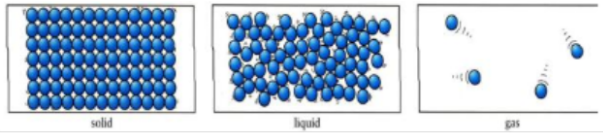


What is Hooke's law, describe a practical to measure it



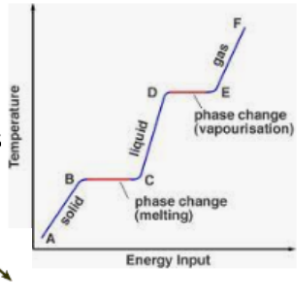
The Particle Models

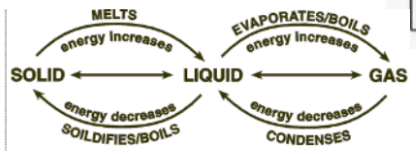
A substance is a solid below its melting point, a liquid above its melting point and a gas above its boiling point. Properties of solids, liquids and gases can be described in terms of particles in motion but with difference in the arrangement and movement of these same particles: closely spaced and vibrating (solid), in random motion but in contact (liquid), or in random motion and widely spaced (gas).



Changing State

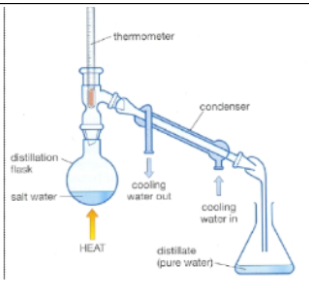
Substances which change temperature or state can be described in terms of particles gaining or losing energy.





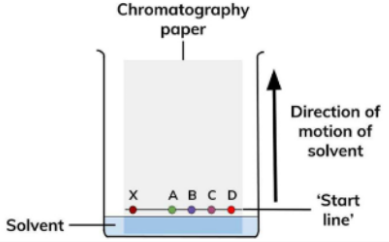
Simple Distillation

Liquids have different boiling points which allows us to separate them using simple distillation. Insoluble solids can be separated with filtration. Soluble solids can be separated out of a liquid through evaporation.



Chromatography

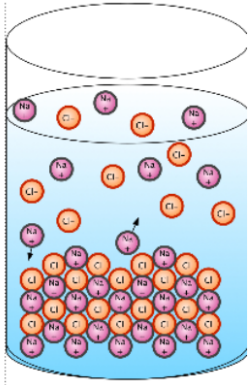
Chromatography can be used to separate soluble liquids such as inks in a pen or colouring in foods.



Organiser: Particle Model and Mixtures

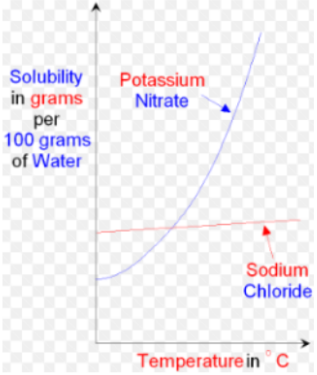
Solubility

Some substances are able to dissolve and this can be represented with the particle model.



Solubility Curves

Using solubility curves of a solute can be used explain observations about solutions.



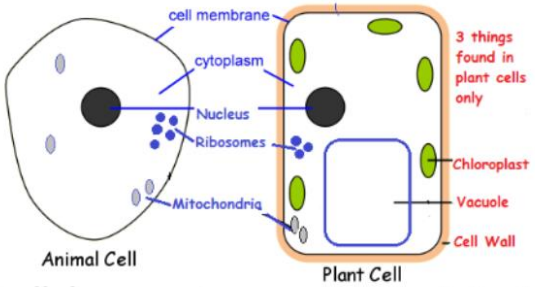
Pure Substances

Pure substances consist of only 1 type of element or compound and has [illegible]t. Air, fruit juice and milk are all example of

Organiser: Cells and Movement

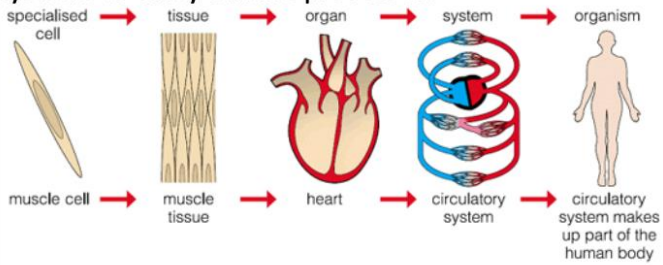
Eukaryotic cells: Plant and animal cells.

Plant and animal cells have a cell membrane, nucleus, cytoplasm, ribosomes and mitochondria. Plant cells also have a cell wall, chloroplasts and usually a permanent vacuole.

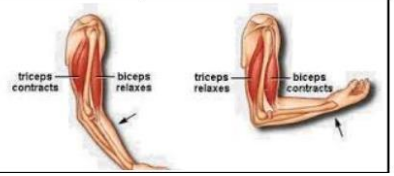


Multicellular organisms

Multicellular organisms are composed of cells which are organised into tissues, organs and systems to carry out life processes.



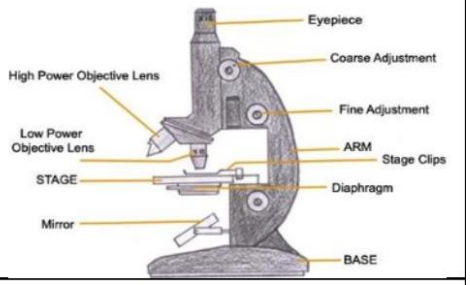
Antagonistic pairs of **muscles** create movement when one contracts and



Light Microscopes

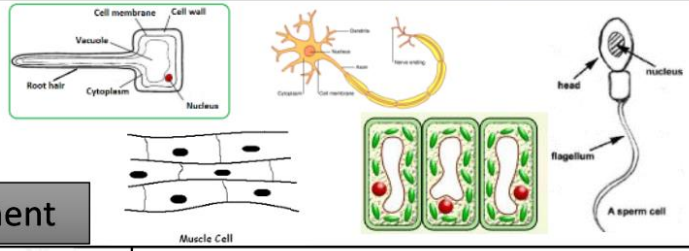
Light microscopes are used to see and compare cells by magnifying them so that they are visible to the human eye.

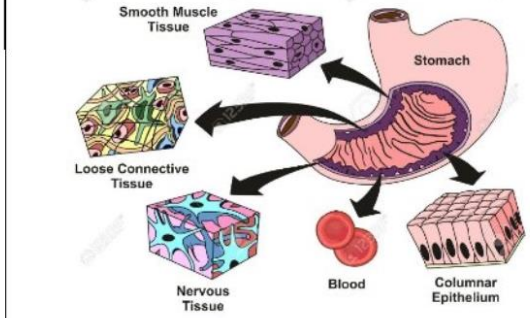
Plant or animal cells are placed on a slide and fixed with a cover slip to view. Some larger organelles can be seen



Specialised Cells

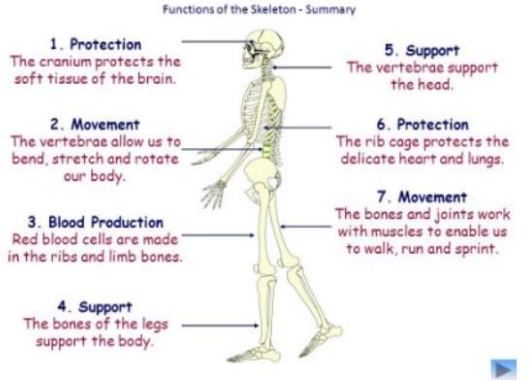
There are many types of cell. Each has a different structure or feature so it can do a specific job.





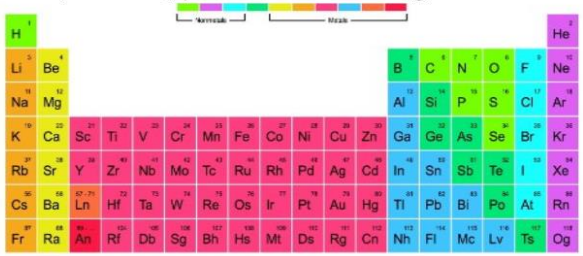
Organs contain different tissues that work together.

The parts of the human **skeleton** work as a system for support, protection, movement and the production of new blood cells.



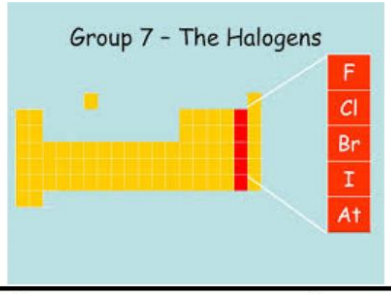
The Arrangement of The Periodic Table.

Metals are generally found on the left side of the table and non-metals on the right. Recognise the symbols for hydrogen, oxygen, nitrogen, carbon, iron, zinc, copper, sulphur, aluminium, iodine, bromine, chlorine, sodium, potassium and magnesium.



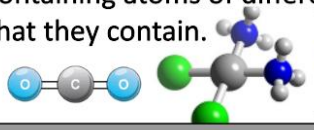
The Halogens

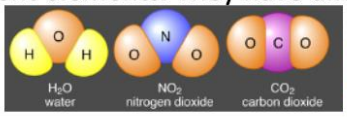
Group 7 contains non-metal elements called the halogens

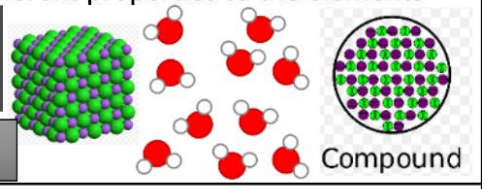


halogen	molecule	structure	model
fluorine	F_2	F—F	
chlorine	Cl_2	Cl—Cl	
bromine	Br_2	Br—Br	
iodine	I_2	I—I	

Compounds – Most substances are not pure elements, but compounds or mixtures containing atoms of different elements. They have different properties to the elements that they contain.



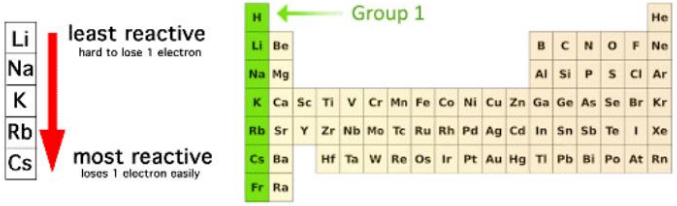




Organiser: The Periodic Table of Elements

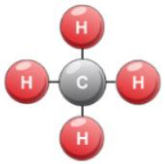
The Alkali Metals

Group 1 contains reactive metals called the Alkali metals.



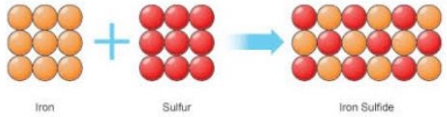
Atoms of a compound – Compounds are made of elements that are chemically joined. Formulae of the compound can be used to see which elements are involved and the number of each type of atom.

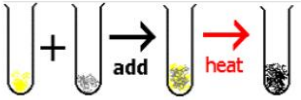
Methane: CH_4



1 carbon atom and 4 hydrogen atoms. Chemically joined.

Properties of elements (Some students) Compare and contrast the properties of elements and compounds and give reasons for their differences.

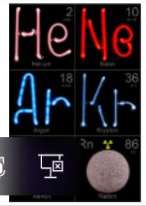


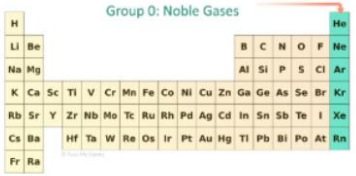


S + Fe ==> FeS

The Noble Gases

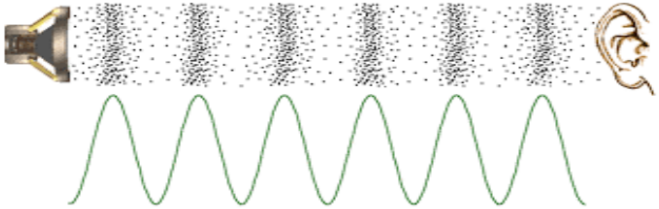
Group 0 contain unreactive gases called the noble g





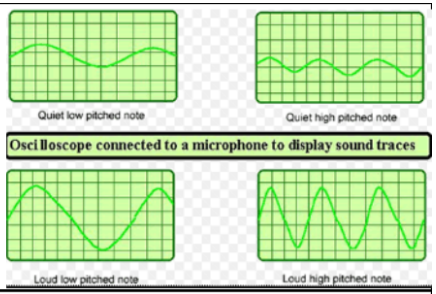
Sound waves

Sound waves travel through a medium by making the particles vibrate.
Sound waves cannot travel through a vacuum.
The more dense a medium is the faster the sound waves travel.



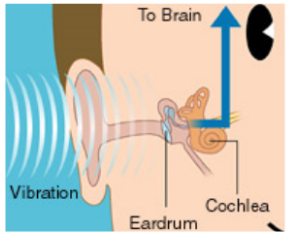
Looking at sound waves

We can use drawings of waves to describe how sound waves change with volume or pitch, this is how the sound appear on an oscilloscope.
Volume changes the wave amplitude, pitch changes the wave frequency.



Loud sounds and the ear

The ear is divided into three parts: The outer, middle and inner ear. Sound waves travel from the outer ear and causes the eardrum to vibrate. This in turn causes three small bones in the middle ear to move. **Loud** bursts of **sound**, such as gunshots or explosions, can rupture **the** eardrum or damage **the** bones in **the** middle **ear.**



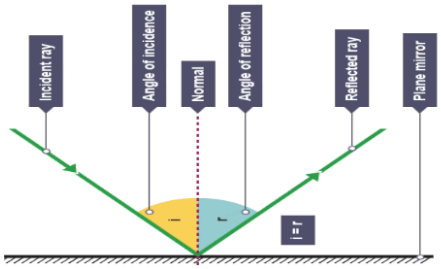
Transparency

Light travels as transverse waves, like the ripples in a tank of water. Light travels in straight lines.
Unlike sound waves, light waves can travel through a vacuum (empty space). They do not need a substance to travel through, but they can travel through transparent and translucent substances. They cannot travel through opaque objects.

Organiser: Sound and Light

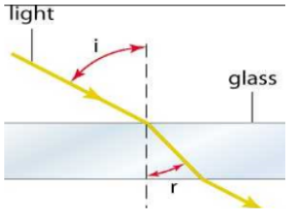
Reflection

When light reaches a mirror, it reflects off the surface: the incident ray is the light going towards the mirror, the reflected ray is the light coming away from the mirror.



Refraction

Light waves change speed when they pass across the boundary between two substances with a different density, such as air and glass. This causes them to change direction, an effect called refraction.



Colours

Objects appear black in white light because they absorb all colours and reflect none. Objects also appear black in any colour is not the same as the light.

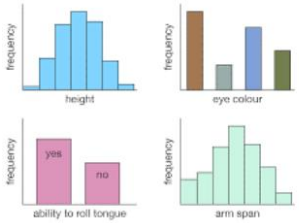
Year 7 Variation and reproduction

Variation

Organisms show differences or variation.
It can be caused by inherited factors – genes or as a result of environment

Displaying data

Variation can be continuous with lots of different values for a characteristic. Or, it can be discontinuous with only a small number of categories. We can show this in graphs

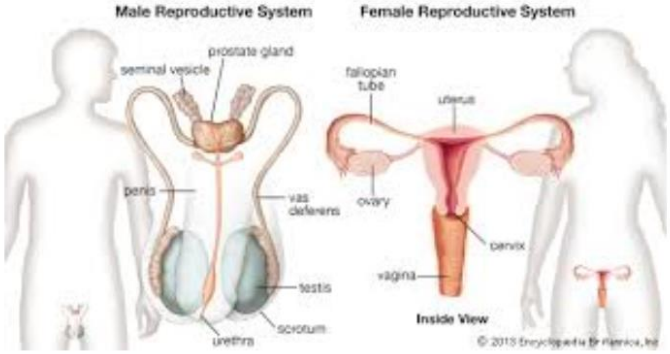


Survival

Variation is important in helping organisms survive in changing environments.

Human body and reproduction

The male and female reproductive systems are specialised to carry out the role of reproduction. Males produce the sperm cells in the testes an females produce eggs or ova in the ovaries.



The menstrual cycle

From puberty onwards females release an egg each month this is called ovulation.
If pregnancy does not occur then the female has a period.

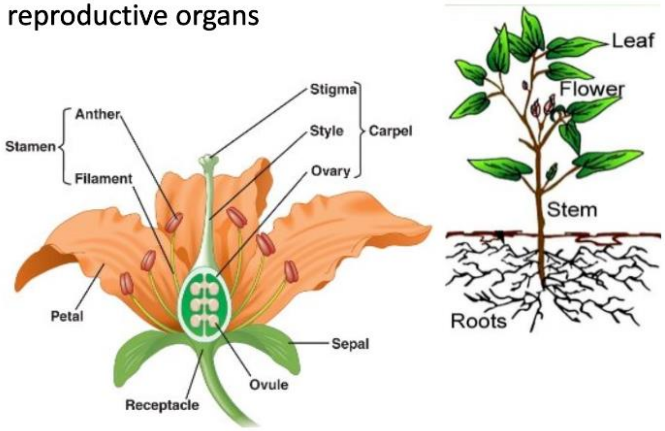
Pregnancy

Pregnancy lasts for 9 months. During this time the foetus develops in the uterus.

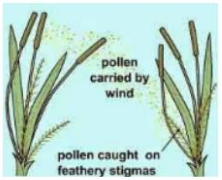
Fertility

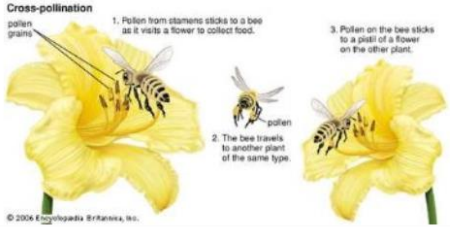
Couples can control when they have a baby by using contraceptives. If they are not able to get pregnant naturally then they may have IVF.

Plant organs - Flowers contain the plants reproductive organs

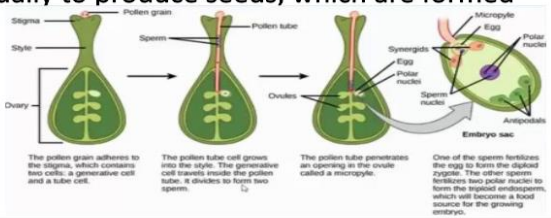


Pollination - Pollen can be carried by the wind, pollinating insects or other animal. Insects are needed to pollinate food crops.



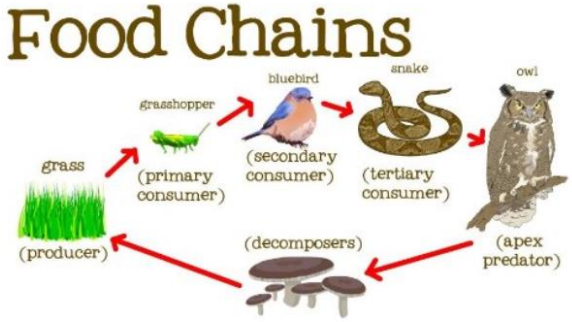


Fertilisation in plants - Plants reproduce sexually to produce seeds, which are formed following fertilisation in the ovary.



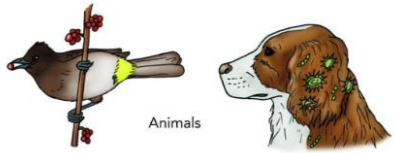
Organiser: Plant reproduction & Interdependence

Food chains & food webs - Organisms in a food web (decomposers, producers and consumers) depend on each other for nutrients.

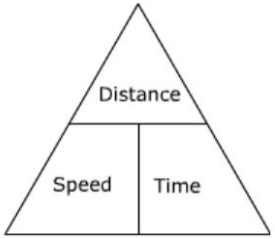


Populations - Population of a species is affected by the number of its predators and prey, disease, pollution, and competition between individuals for limited resources such as water and nutrients.

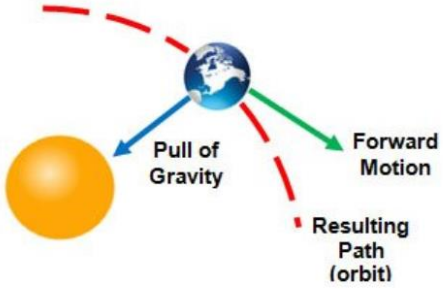
Seed dispersal - Plants have adaptations to disperse seeds using wind, water or animals



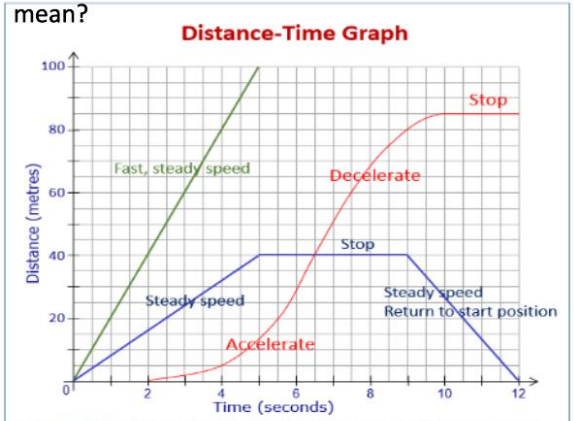
What is the formula for speed?



How are planets kept in orbit?



What do these lines on a distance time graph mean?

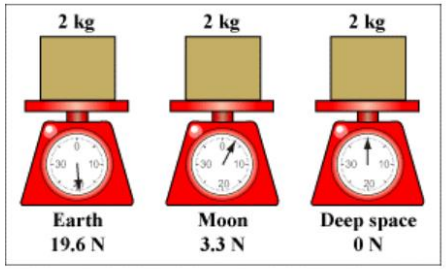


The **green line** shows a fast, steady speed, moving from 0 to 100 m in 5 seconds.
The **blue line** shows a journey with a stop and a return to the starting position.
The **red line** shows a journey starting 2 seconds later than the other two, with an initial acceleration, then a deceleration and then a stop.

What is the difference between weight and mass? What is the formula?

$$W = mg$$

Weight of object = mass of object x acceleration of gravity



ORGANISER: Y7 SPEED & GRAVITY

Science Curriculum Overview KS3 2024-25

Year 8	Magnetism	Energy Types and Costs	Digestion	Work, Heating and Cooling	Breathing and respiration	Chemical Reactions	Evolution and Inheritance	Wave Effects and the Earth	Earth Climate and resources	Plants
Overview of Scheme of Learning	Explore the magnetic field pattern around different types or combinations of magnets. Investigate ways of varying strength of an electromagnet.	Compare the running costs of fluorescent and filament light bulbs. Explain the energy transfers in a hand-crank torch.	Evaluate how well a model represents key features of the digestive system.	Explain how an electric motor raising a weight is doing work. Investigate how to prevent heat loss by conduction, convection and radiation.	Investigate a claim linking height to lung volume. Use data from investigating fermentation with yeast to explore respiration	Investigate a phenomenon that relies on an exothermic or endothermic reaction. Investigate changes in mass for chemical and physical processes.	Review the evidence for theories about how a particular species went extinct. Model the inheritance of a specific trait and explore the variation in the offspring produced.	Relate the impact of different waves on living cells to the energy carried by the wave. Use the wave model to explain transmission of waves. Model the processes that are responsible for rock formation and link these to rock features.	Investigate the contribution that natural and human chemical processes make to our carbon dioxide emissions. Predict the method used for extracting metal based on its position in the reactivity series	Use lab tests on variegated leaves to show that chlorophyll is essential for photosynthesis. .
Assessment overview		Test 1, Magnetism, energy and speed and gravity (+ year 7 content)		Test 2. Digestion, work, heating & cooling (+previous content)		Test 3. Breathing & respiration and chemical reactions (+ previous content)		Test 4. Evolution & inheritance and wave effects & the earth (+ previous content)		Test 5. End of year assessment, based on all content from year 7 and year 8.
Link to detailed content	Knowledge Organiser.	Knowledge Organiser.	Knowledge Organiser.	Knowledge Organiser.	Knowledge Organiser.	Knowledge Organiser.	Knowledge Organiser.	Knowledge Organiser.	Knowledge Organiser.	Knowledge Organiser.

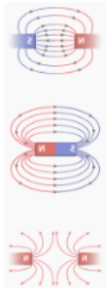
S N N S Repel

S N S N Attract

N S S N Repel

Some materials are attracted to magnets, for example steel and iron.
Only a magnet can repel another magnet.
This is the test to find out if a material is a magnet.

Magnetism is a force that acts only between magnetic materials like iron, steel, cobalt and nickel.
Magnets have 2 poles – a north and a south.
If two magnets are put together the poles that are the same will repel each other. If two magnets are put together the poles that are different will attract each other.

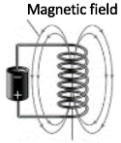


Magnetic field lines flow from _____ to _____

The magnetic field is strongest at the _____.

The closer together the magnetic field lines are, the _____ the magnet.

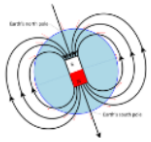
Magnetic field



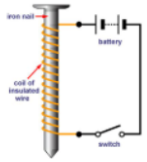
Wire coil

A solenoid

A solenoid is a coil of wire that acts like a magnet when a flow of electricity/electrons passes through it.



Magnets and Electromagnets



An electromagnet is a coil of wire with an iron core, like a nail in the middle of it.

The iron core makes the magnetic field stronger.

When an electric current is flowing, a magnetic field is produced

The field can be switched on and off.

Ways to increase the strength of an electromagnet are

1 Increase the number of turns

2. Increase the current flowing in the wre

3. Place an iron core

Experiment to show how increasing the number of turns on an electromagnet can make it pick up more paper clips.

Independent variable
the number of turns of wire

Dependent variable
The number of paper clips picked up

Control variables
Use the same current, place the paperclips at the same position on the nail

Conclusion

The larger the number of turns of the wire the larger the number of paperclips that can be picked up

Other variables we could have tested
The effect of increasing the current flowing in the circuit, using cores made of different materials

Electromagnets are useful because :-
They can be turned on and off
Their strength can be changed

Types of Energy

Chemical
Kinetic
Gravitational Potential
Thermal
Sound
Light
Nuclear
Elastic Potential
Electrical

Law of Energy Conservation
Energy Cannot be created or destroyed, just transferred from type to type.

Energy Types and costs

Energy Efficiency

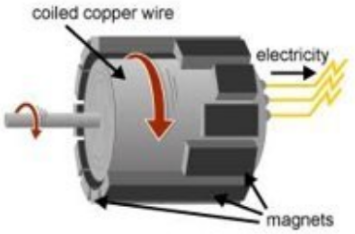
Energy Efficiency is the percentage of the total energy supplied that is transferred into useful energy

Energy Resources
There are many sources of Energy, some are Renewable, other non-renewable. Each resource has it's own advantages and disadvantages

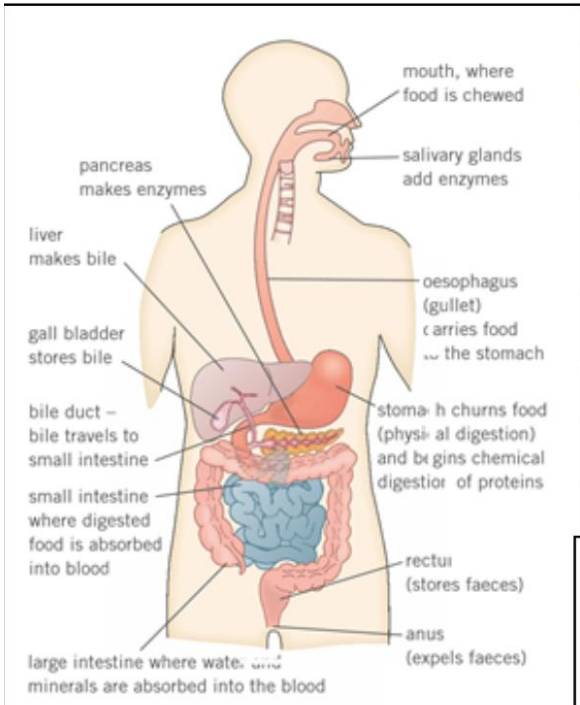
Energy at home
Electrical energy can be expensive, and resources to generate it are running out. We can conserve energy in many ways including loft insulation, cavity wall insulation, draught excluders, lagging the boiler, double glazing.

Electricity Generation

Electricity is generated by transferring energy from one store into kinetic energy which is then transferred into electrical energy in a generator



Non-renewable
Coal, Oil, Gas Nuclear.
Renewable
Wind, Wave, Solar, Hydro-electric, Geothermal, Tidal, Biomass



Food tests:

Starch – add a few drops of iodine solution to food. Turns blue-black if positive.

Sugar – add a few drops of Benedict's solution and heat in a water bath. Turns orange-red with sugar.

Protein – add Biurets A and B. Turns lilac purple if protein is present.

Fats (lipids) – rub on paper. Contains fat if the paper becomes translucent.

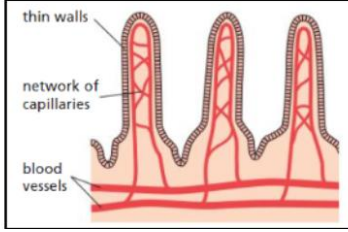
Nutrient	Use in the body	Good sources
Carbohydrate	To provide energy	Cereals, bread, pasta, rice and potatoes
Protein	For growth and repair	Fish, meat, eggs, beans, pulses and dairy products
Lipids (fats and oils)	To provide energy. Also to store energy in the body and insulate it against the cold.	Butter, oil and nuts
Minerals	Needed in small amounts to maintain health	Salt, milk (for calcium) and liver (for iron)
Vitamins	Needed in small amounts to maintain health	Fruit, vegetables, dairy foods
Dietary fibre	To provide roughage to help to keep the food moving through the gut	Vegetables, bran
Water	Needed for cells and body fluids	Water, fruit juice, milk

Stages of digestion:

Food is digested in the **mouth**, **stomach** and **small intestine**. Digested food is absorbed into the bloodstream in the small intestine.

Excess water is absorbed back into the body in the **large intestine**.

Any undigested food passes out of the **anus** as faeces when we go to the toilet.



The **small intestines** are adapted to help with digestion by increasing the surface area with folding, having thin walls so a shorter pathway for digested food to get into the blood and a good blood supply.

Deficiencies

If you have too little of a particular nutrient, we say that you have a deficiency in that nutrient

1. iron deficiency can cause anaemia, where there are too few red blood cells
2. iodine deficiency can cause a swelling in the neck called goitre
3. vitamin A deficiency can cause blindness
4. vitamin D deficiency causes rickets, which makes the legs bow outwards in growing children
5. vitamin C deficiency causes scurvy, which makes the gums bleed

Enzymes

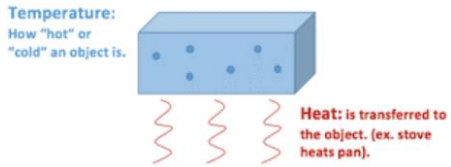
Food has to be broken down chemically into really small particles before it can be absorbed. Enzymes are the biological catalysts needed to make this happen quickly enough to be useful. Enzymes are proteins that can break large molecules into small molecules. Different types of enzymes can break down different nutrients:

1. amylase and other carbohydrase enzymes break down starch into sugar
2. protease enzymes break down proteins into amino acids
3. lipase enzymes break down lipids (fats and oils) into fatty acids and glycerol

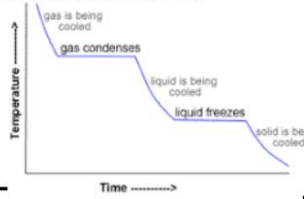
Websites that might be useful:
https://www.bbc.com/bitesize/articles/zmw vgdm
https://www.natgeokids.com/uk/discover/science/general-science/digestive-system/

Temperature And Heat What is the difference?

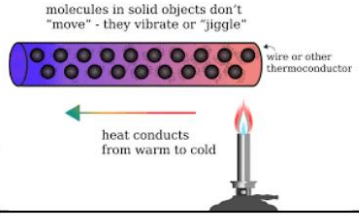
Temperature is a measure of the average energy of the particles in the object. Heat is Thermal Energy, the total amount of energy in the object



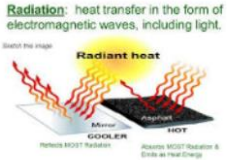
Heating and Cooling. Objects gain or lose thermal energy when heated or cooled. The rate the gain or lose this energy depends on the surrounding temperature, the material and the mass



Conduction Thermal energy can be transferred from particle to particle in conduction. The closer the particles, the better the rate of conduction

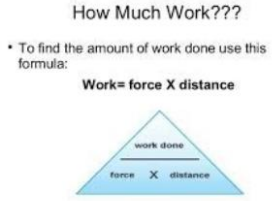


Radiation Thermal energy can be transferred directly by radiation. No particles are needed for this to occur. Some surfaces, colours and materials absorb radiation better than others.

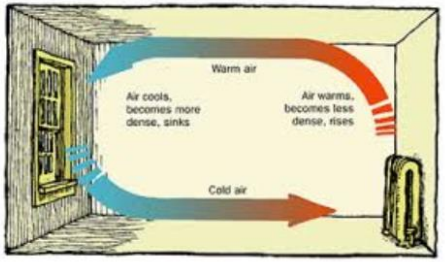


Organiser: Heating and Work Done

Work Done This is the amount of energy transferred. It is calculated using W = F x d



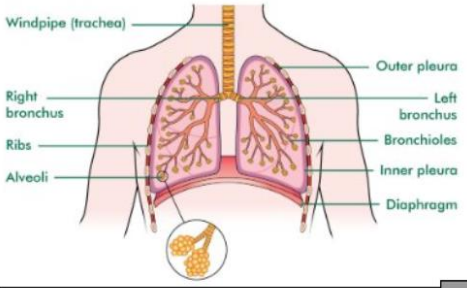
Convection Thermal energy can be transferred by convection if the particles can move and form a convection current. This is only possible in liquids and gases.



Insulation You can reduce the rate of cooling by insulating an object. Preventing convection currents, using poor conductors or using reflective surfaces all affect rates of cooling

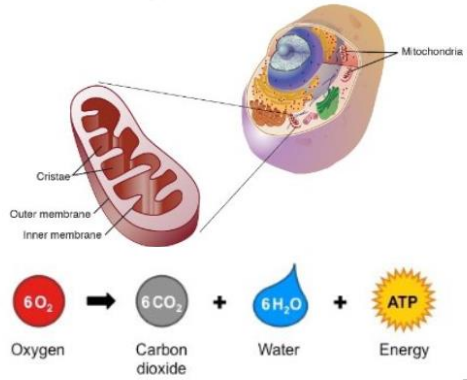
Organiser: Breathing and Respiration

Breathing occurs through the action of muscles in the ribcage and diaphragm. The amount of oxygen required by body cells determines the rate of breathing.

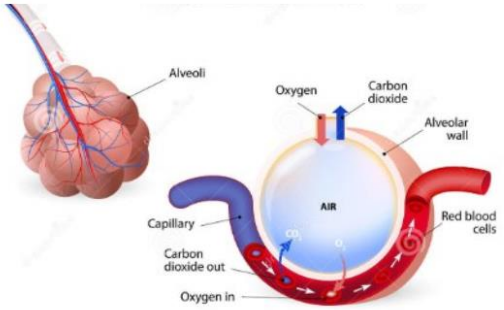


Anaerobic respiration - Most living things use aerobic respiration but switch to anaerobic respiration, which provides less energy, when oxygen is unavailable.

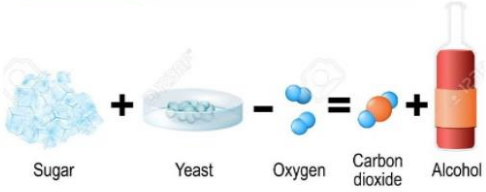
Aerobic respiration - Respiration is a series of chemical reactions, in cells, that breaks down glucose to provide energy and form new molecules.



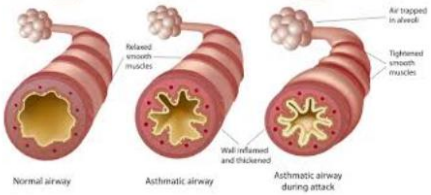
In **gas exchange,** oxygen and carbon dioxide move between alveoli and the blood. Oxygen is transported to cells for aerobic respiration and carbon dioxide, a waste product of respiration, is removed from the body.



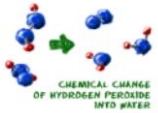
Fermentation - Yeast fermentation is used in brewing and bread-making.



Smoking, asthma and exercise that can change the effectiveness of the gas exchange system.

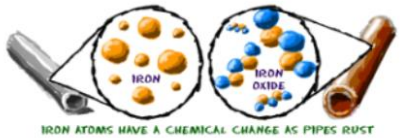


Chemical and physical reactions.



Physical reactions do not have a change in mass and a new product is NOT made.

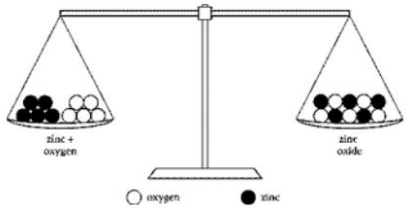
In a chemical reaction a new product is formed.



Conservation of Mass.

During a chemical reaction, atoms are NOT created or destroyed, they just become re-arranged.

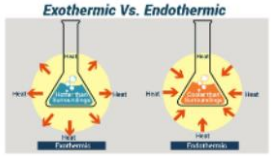
To follow this rule, symbol equations might need to be balanced.



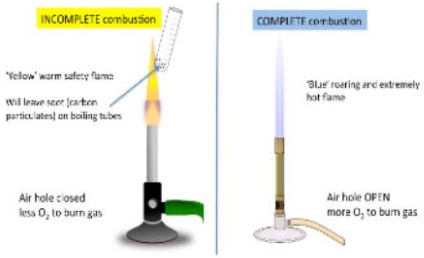
Endothermic / Exothermic reactions

Exothermic reactions get hot as heat is exiting.

Endothermic reactions get colder as heat enters the reaction



Combustion



Complete combustion happens when there is sufficient oxygen present. incomplete combustion is when there is not enough oxygen present.

Fuel + Oxygen = Carbon dioxide + Water

Fuel + Oxygen = Carbon + Carbon Monoxide + water

Fuels

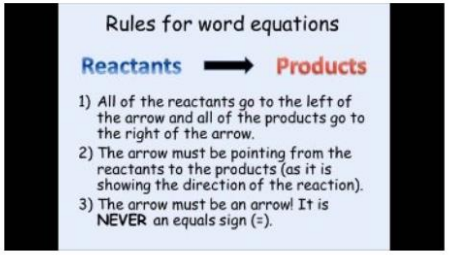
Easy to ignite, provided enough energy, burns with a clean flame.

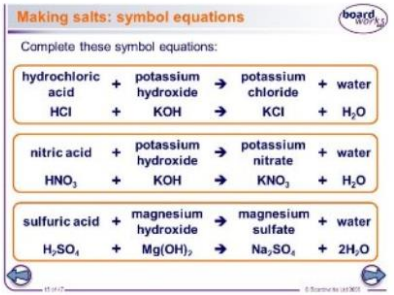
Why do chemical reactions happen?

Representing chemical reactions as symbol equations

Elements must always be represent by CAPITAL letters. Take care with elements like Cl, chlorine, not carbon and iodine.

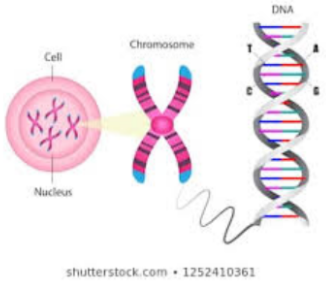
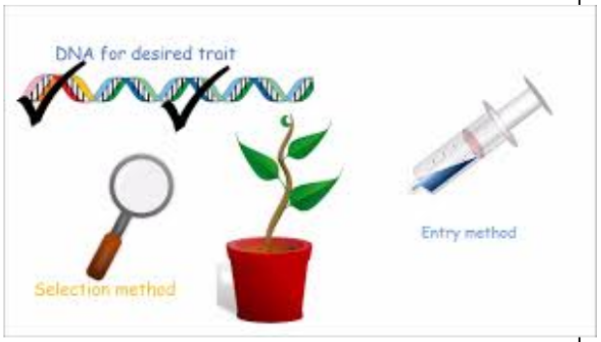
Subscript numbers are only relevant to the element they are directly behind.
Pre-fix numbers refer to every thing in the compound.



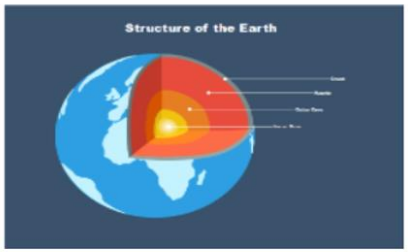


Biodiversity	The importance of biodiversity	Protecting biodiversity
This is the number of organisms of different species living in an ecosystem. 	It is important that we try and conserve species to maintain the balance in an ecosystem. Some species perform services for humans and other species. 	There are lots of ways we can try and conserve species such as protecting habitats, preventing poaching and captive breeding programmes.

Year 8 Evolution and inheritance

Inheritance and how variation occurs	Genetic modification
Our features are determined by the DNA we inherit from our parents. Gametes contain half the number of chromosomes compared with a body cell. At fertilisation the male and female gametes fuse together. 	Scientists have mapped the genome of many species of plants and animals. This has allowed Them to identify where Genes are located. They Are able to transfer Desirable genes from one Species to another in a bid to improve outcomes. There are concerns raised by some people about this process. 

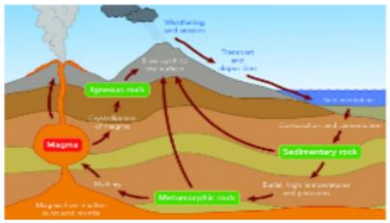
Structure of the Earth. Draw the structure of the Earth and label the layers.



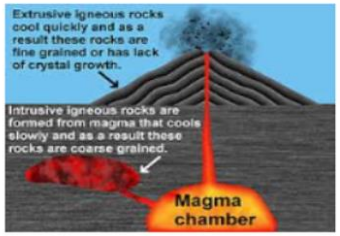
Weathering. List an example of chemical, physical and biological weathering.
Chemical – acid rain.
Physical – freeze thaw
Biological – tree roots.

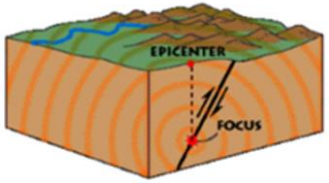
Wave Effects and the Earth

Rock cycle. Draw a labelled diagram of the rock cycle



Rock formation and properties. Draw a diagram of the formation of Igneous rocks.



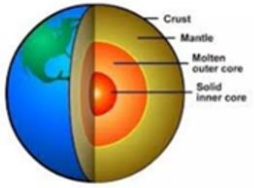


Earthquakes: Explain what those words mean. Explain how Earthquakes happen. Draw and label a picture of the inside of the Earth.

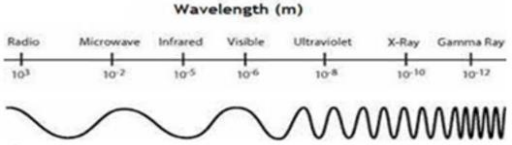
Focus is point Under ground where the rocks Slip past each other. The Epicentre is the Point directly Above the Focus

The Tectonic Plates Float on the Mantle they collide with each other this causes Earthquakes

Cross Section of the Earth

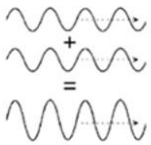


Electromagnetic Spectrum
(list a use for each one. Which ones are dangerous?)

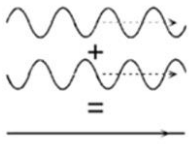


Radio: Communication_
Microwaves: Communication_, Cooking food
Infrared: Remote Controls, Heat Treatment
Visible: Seeing, Photography
UV: Sun Tan, Security
X-Ray: Broken Bones, Airport Security
Gamma Ray: Killing Cancer Cells

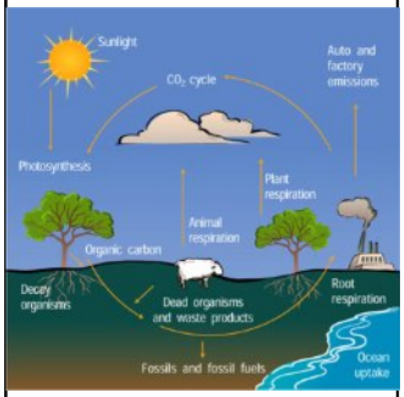
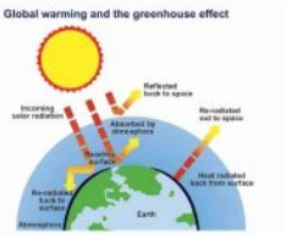
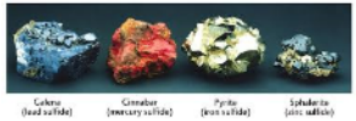
INTERFERENCE
Draw pictures to show how constructive and destructive interference work



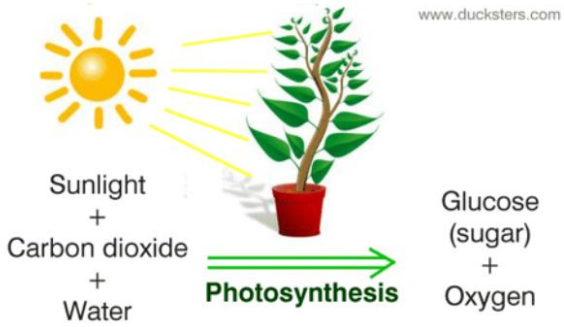
Energy adds to make bigger wave



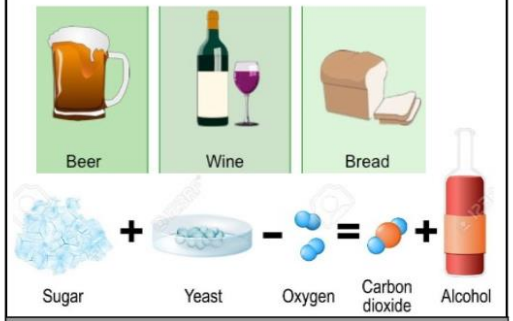
Energy cancels out

The carbon cycle. Draw a diagram of the carbon cycle. 	Climate change. Draw a diagram to describe the process of global warming 	Greenhouse gases. Make a list of greenhouse gases and where they come from. Carbon dioxide (from respiration, burning fossil fuels and farming) Methane (from livestock farming) Water vapour (from respiration and combustion.	Natural climate change. Describe an example of a natural factor affecting the climate - Volcanoes - Solar flares - Natural periods of warm and colder temperatures
Metal ores Make a list of metals and their common ores  Iron (pyrite, hematite and magnetite). Aluminium (bauxite)	Extracting aluminium Explain why aluminium can't be extracted by heating with carbon. Aluminium is too reactive for carbon to remove the oxygen from the aluminium oxide. Electrolysis has to be used instead	Recycling List some materials that can be recycled. Aluminium, Tin, Iron, glass, plastics and paper.	Recycling Explain why recycling helps the environment. Reduces the need to extract finite resources from the earth. Reduces the need for burying waste in landfill.

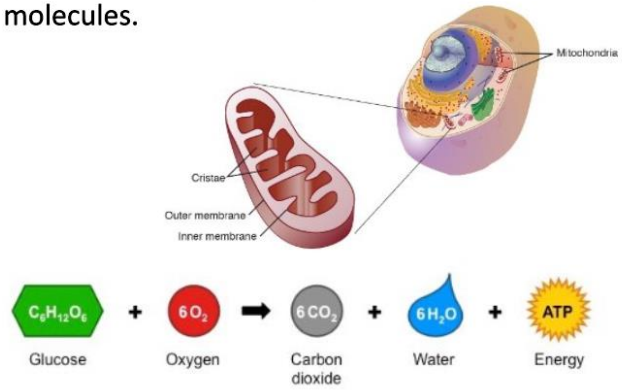
Photosynthesis - Plants either use the glucose as an energy source, to build new tissue, or store it for later use.



Fermentation - Yeast fermentation is used in brewing and breadmaking.

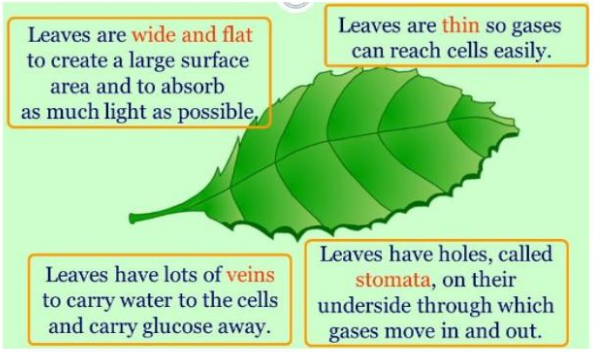


Aerobic respiration - Respiration is a series of chemical reactions, in cells, that breaks down glucose to provide energy and form new molecules.

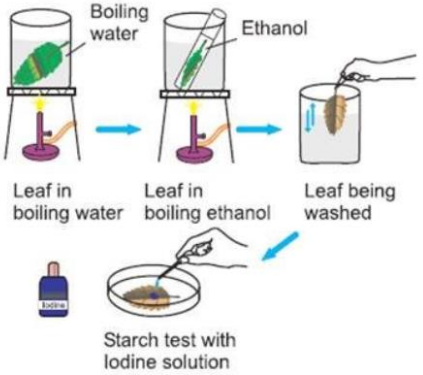


Organiser: Plants

Leaves - Plants have specially-adapted organs that allow them to obtain resources needed for photosynthesis. Suggest reasons for particular adaptations of leaves.



Testing a leaf for starch - Iodine is used to test for the presence of starch.
Blue/black colour shows that starch is present



Anaerobic respiration - Most living things use aerobic respiration but switch to anaerobic respiration, which provides less energy, when oxygen is unavailable.