



Knowledge Organiser

Half term 3 & 4

January – March 2023

HOW TO SELF TEST

WITH KNOWLEDGE ORGANISERS



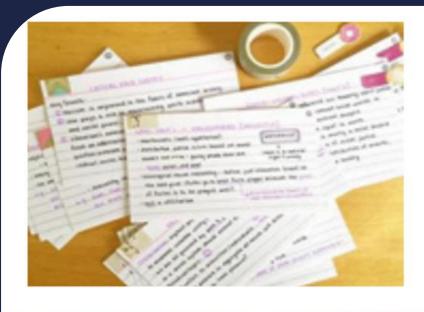
Mind Mapping

Mind mapping is simply a diagram used to visually represent or outline information.

It is a graphic technique you can use to translate what is in your mind into a visual picture. Since mind mapping works like the brain does it allows you to organise information faster and more efficiently.

Use information gathered from your knowledge organiser to create mind maps, make sure to use colours and images, keeping writing to a bare minimum. Using this technique will help to embed key information into your long-term memory.

HOW TO MIND MAP VIDEO



Flash Cards

Use your knowledge organiser to make flash cards. Write the question on one side and on the other record the answer. Test yourself or work with a friend to make sure you know all the key information for each topic. You could also use flash cards to test yourself on the definitions of key terminology.

Remember you need to revisit information 10 times for it to be embedded in your long-term memory.







Revision Clocks

Start by drawing a basic clock. Break your knowledge organiser down into 12 sub-categories. Make notes in each chunk of the clock. Revise each slot for 5 minutes, turn the clock over and then try to write out as much information as you can from one of the segments. E.g. all the information in the 2-3pm segment.

Your brain will retain more information if you include images as well as key words.

Gender and Identity

Why is it important to read fiction about LGBTQIA+ characters?	What is pride month?	In 'The Instructor', what encourages Lucy to openly express her feelings towards Fizzy?	Describe the experience of LGBT people in the 1950s. How has their experience changed?	What is tolerance and why is it important?
Create a simile to describe the feeling of love between an LGBT couple.	What are the key themes in the short story 'Penguins' by Simon James Green?	Should you judge someone based on their sexual identity? Explain your response.	What can an individual do to support pride?	When did homosexual marriage become legal in the UK?
What does LGBTQIA+ stand for?	Explain the controversy surrounding the treatment of LGBTQ+ people in Qatar.	Write down a list of themes that connect to ideas about Gender.	Create a metaphor to describe a LGBT person's experience of 'coming out'.	What are the connotations of the word 'queer'? Why do LGBTQ+ people use it?
Write down a key quote from one of the short stories you have read.	What is the difference between sex and gender?	What is stonewall?	Can you list any LGBTQIA+ stories?	What is homophobia? What is transphobia?
Can you name any inspirational LGBT people not already in this organiser?	What is the Gender Recognition Act (2004) and what did it mean for trans people?	Why does a rainbow flag represent the LGBTQIA+ community?	What were the Stonewall riots and why did they occur?	What does it mean to 'decriminalise' something?

English

What does LGBTQIA+ mean?:

<u>Lesbian:</u> A woman whose enduring physical, romantic, and/or emotional attraction is to other women. Some lesbians may prefer to identify as gay or as gay women.

<u>Gay:</u> The adjective describes people whose enduring physical, romantic, and/or emotional attractions are to people of the same sex. Sometimes lesbian is the preferred term for women.

<u>Bisexual:</u> A person who can form enduring physical, romantic, and/or emotional attractions to those of the same gender or more than one gender. People may experience this attraction in differing ways and degrees over their lifetime. Bisexual people need not have had specific sexual experiences to be bisexual; they need not have had any sexual experience at all to identify as bisexual.

<u>Transgender:</u> An umbrella term for people whose gender identity and/or gender expression differs from what is typically associated with the sex they were assigned at birth. People under the transgender umbrella may describe themselves using one or more of a wide variety of terms— including transgender or nonbinary. Some transgender people are prescribed hormones by their doctors to bring their bodies into alignment with their gender identity. Some undergo surgery as well. But not all transgender people can or will take those steps, and a transgender identity is not dependent upon physical appearance or medical procedures.

<u>Queer:</u> An adjective used by some people whose sexual orientation is not exclusively heterosexual or straight. This umbrella term includes people who have nonbinary, gender-fluid, or gender nonconforming identities. Once considered a pejorative term, queer has been reclaimed by some LGBTQIA+ people to describe themselves; however, it is not a universally accepted term even within the LGBTQIA+ community.

Questioning: Sometimes, when the Q is seen at the end of LGBT, it can also mean questioning. This term describes someone who is questioning their sexual orientation or gender identity.

<u>Intersex:</u> An adjective used to describe a person with one or more innate sex characteristics, including genitals, internal reproductive organs, and chromosomes, that fall outside of traditional conceptions of male or female bodies. Do not confuse having an intersex trait with being transgender. Intersex people are assigned a sex at birth — either male or female — and that decision by medical providers and parents may not match the gender identity of the child. Not all intersex folks identify as being part of the LGBTQIA+ community.

<u>Asexual:</u> The adjective describes a person who does not experience sexual attraction. Sometimes shortened to "ace," it is an umbrella term that can also include people who are demisexual, meaning they do experience some sexual attraction; graysexual, meaning those who may not fit the strictest definition of the word asexual; and aromantic, meaning they experience little to no romantic attraction and/or has little to no desire to form romantic relationships.

+: The 'plus' is used to signify all of the gender identities and sexual orientations that letters and words cannot yet fully describe.

English

Key dates on the Road to Equality:

- 1958 the homosexual law reform society is founded to campaign for the legalisation of same-sex relationships in the UK.
- 1967 the Sexual Offences Act 1967 decriminalises sex between two men over 21 and 'in private'.
- 1969 the stonewall riots in America.
- 1971 the Nullity of Marriage Act was passed, explicitly banning same-sex marriages between same-sex couples in England and Wales.
- 1972 the first pride is held in London, attracting approximately 2,000 participants.
- 1977 a bill to reduce the age of consent to 18 is defeated in the UK House of Lords
- 1988 UK prime minister, Margaret Thatcher, introduces Section 28 of the local government act 1988. The act states that a local authority "shall not intentionally promote homosexuality or publish material with the intention of promoting homosexuality" or "promote the teaching in any maintained school of the acceptability of homosexuality as a pretended family relationship".
- 1990 the UK crown dependency of Jersey decriminalises sex between two men.
- 2000 the UK government lifts the ban on lesbians, gay men and bi people serving in the armed forces.
- 2002 equal rights are granted to same-sex couples applying for adoption.
- 2003 Section 28 is repealed in England, Wales and Northern Ireland, lifting the ban on local authorities from 'the teaching in any maintained school of the acceptability of homosexuality'.
- 2003 employment equality (sexual orientation) regulations becomes law in the UK, making it illegal to discriminate against lesbians, gay and bi people in the workplace.
- 2004 the Civil Partnership Act 2004 is passed, granting civil partnership in the united kingdom. The act gives same-sex couples the same rights and responsibilities as married straight couples.
- 2004 the Gender Recognition act 2004 is passed giving trans people full legal recognition in their appropriate gender. The act allows trans people to acquire a new birth certificate, although gender options are still limited to 'male' or 'female'.
- 2014 the Marriage (same sex couples) Act 2013 officially comes into force, with the first samesex marriages in England and Wales taking place on 29 March 2014.

Where does the Pride Flag come from?

Harvey Milk, who was a gay politician, asked a talented designer friend, Gilbert Baker, to design an all-encompassing symbol to take on San Francisco's Pride March in 1978.

Sadly, Harvey was assassinated in 1978 by a disgruntled former supervisor!



English

Inspirational LGBTQIA+:

Nicola Adams

Nicola Adam's is a British professional boxer who was the first ever female boxer to represent England at the 2012 summer Olympics (where she won gold). Nicola is openly bisexual and even won the most influential LGBT person in Britain 2012. She is also the president of a sporting initiative called 'Us Girls' which aims to increase young women's participation in sport.

Sir Ian McKellen

Sir Ian McKellen is better known for his acting roles in The Hobbit, Lord of the Rings, Beauty and the Beast (2017), X-Men plus many more. But did you know he came out as being gay in 1988 on radio. He has since been a patron and ambassador of the LGBTQ movement and has launched many new programmes and charities to support LGBTQ communities.

Alan Turing

Alan Turing was a Scientist and Codebreaker, his ideas led to early versions of modern computing and helped win Word War II. Tragically, Turing died a criminal under Victorian laws as a homosexual man in 1954. Britain didn't take its first steps to decriminalising homosexuality until 1967. In 2009, the government apologised for his treatment.

Quotes from LGBTQIA+ Books and Authors:

- "Race, gender, religion, sexuality, we are all people and that's it. We're all people. We're all equal."
- "This is why homophobia is a terrible evil: it disguises itself as concern while it is inherently hate."
- "Two dudes met. They fell in love. They lived. That's our story."
- "You don't need to have big hairy feet to read The Hobbit, why should you be gay to read a gay book?"
- "To love oneself is the beginning of a life-long romance."

Key Themes:

Gender, Identity, Pride, Sexuality, Romance, Society, Language, Loss, Hope, Acceptance, Hate

How to log in to Sparx



- 1 Go to sparx.co.uk and click **Log in**
- 2 Select Student Login
- Carefully select your school from the list
- 4 Select New Sparx user
- 5 Enter your:
 - First Name
 - Last Name
 - Date of Birth
- 6 Click Submit
- You will be prompted to set your own password. The password must be at least 6 characters long and you will need to remember it
- Confirm your username and password, and click **Finish**
- You can now log in to Sparx using your username and password
- If a password is lost, you can select the option to request a new password from your teacher





Now set a password, m choose one that you w	
Choose your password	
***********	Show
Your paseword needs to:	

To finish, enter your	details below:
billysmith	5
	5





Topic 6: Genes 1

In this unit we will be studying:

- Variation
- Human reproductive system
- Menstrual cycle
- Fertilisation and development of the foetus
- Drugs, alcohol and the foetus
- Contraception
- Reproduction in plants
- Sexual and Asexual reproduction

Use the QR codes to find more information on BBC bitesize





Key ideas: Variation

Plants and animals within the same species show variation, due to differences in DNA.

Continuous Variation

- Continuous variation describes characteristics that can have a range of values.
- Height is an example of continuous variation. You are not just tall or short there are a range of values.
- Examples of continuous variation can be <u>affected by</u> <u>both environmental and</u> <u>inherited factors.</u>

Discontinuous Variation

- Discontinuous variation describes characteristics that can be <u>one of a</u> <u>limited number of options.</u>
- Eye colour is an example of discontinuous variation. It can be blue, brown, hazel there is not a range of values.
- Examples of discontinuous variation are <u>inherited</u>, <u>only caused by</u> <u>genes</u>. (The environment does not have an impact.)

Key ideas: Variation

Variation in a characteristic that is a result of genetic information from the parents is called <u>inherited variation</u>.

Children usually look a little like their father, and a little like their mother. This is because they get half of their DNA and inherited features from each parent.

Some examples of inherited characteristics:

- eye colour
- hair colour
- skin colour



Environmental factors are things which can change your appearance, but which could not be passed onto your children.

Some examples of environmental

characteristics:

- climate
- culture
- tattoo

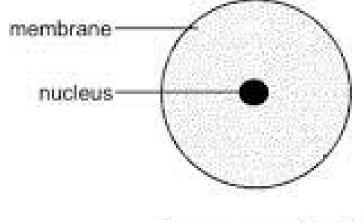


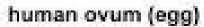
Some factors are not just Environmental or Inherited, they can be a combination of both.

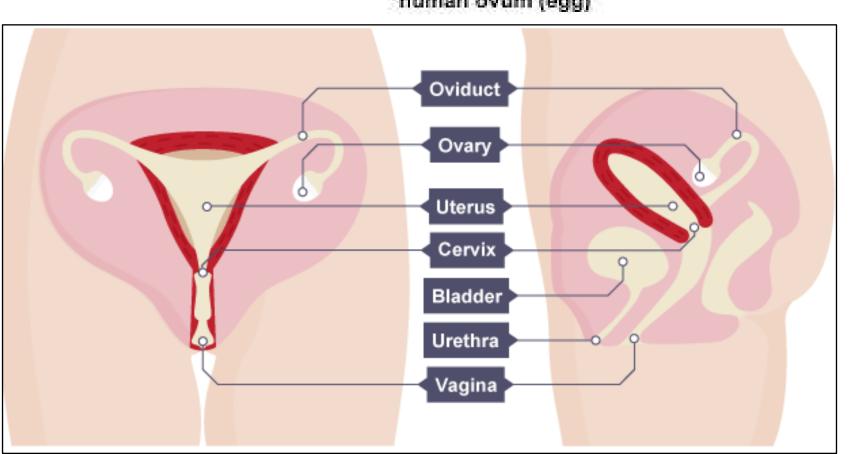
E.g.: Hair Colour, Skin Colour, Height, Weight

Key ideas: Human Reproductive System

- •The <u>egg cells</u> These are the female sex cells and are produced in the ovary.
- •The <u>sperm cells</u> These are the male sex cells and are produced in the testes

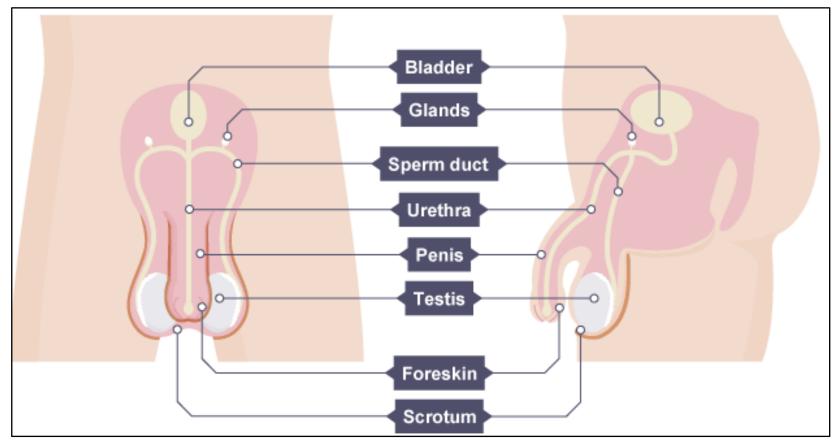








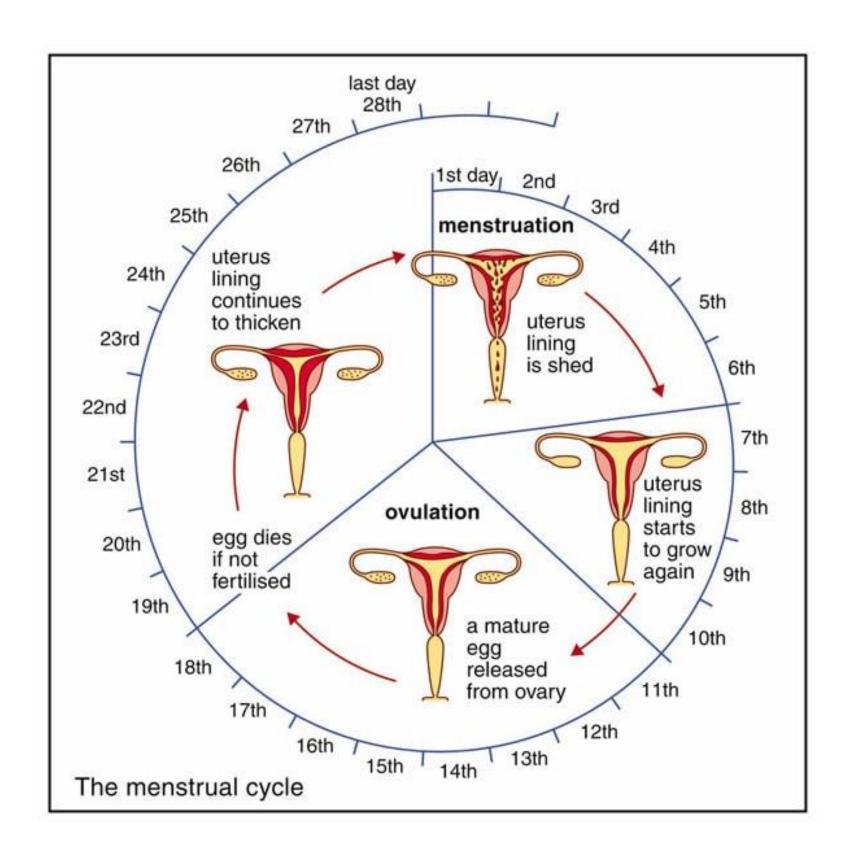
human sperm



Key ideas: Menstrual Cycle

During puberty girls will eventually start menstruation (have a period).

The **menstrual cycle** is the monthly series of changes a woman's body goes through in preparation for the possibility of pregnancy. Each month, one of the ovaries releases an egg — a process called ovulation. At the same time, hormonal changes prepare the uterus for pregnancy.



Key ideas: Fertilisation and development of the foetus

In sexual reproduction, a male and female gamete can join together. This is **fertilisation**.

Around days 14-17 of the menstrual cycle, the egg cell might fuse with a sperm cell in the oviduct. If this occurs, the egg cell may become fertilised, creating a **zygote**. A **zygote** is the name given to the newly created cell when a sperm cell fertilises an egg cell.









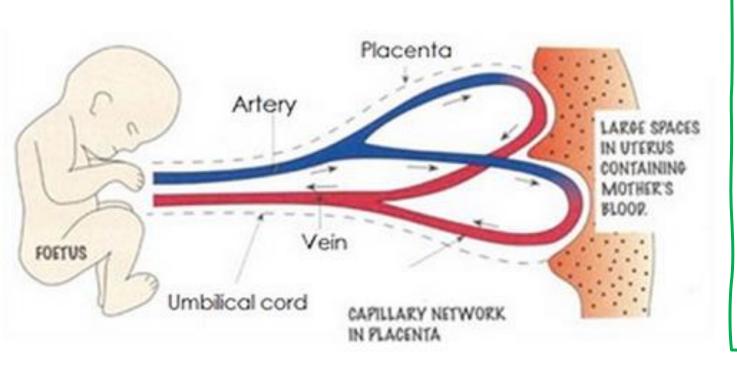


9 MONTHS

The foetus is surrounded by a fluid-filled sac (amnion) filled with amniotic fluid that protects it. In the placenta the blood of the foetus flows close to the blood of the mother, but they **do not mix**.

Key ideas: Drugs, alcohol and the foetus

The blood of the foetus and blood of the mother never actually mix, they just come really close to each other. The mother's lifestyle can affect the developing foetus because any substance that the mother takes into her body can be transferred across the placenta and into the foetus. This means that toxins found in certain substances could cause damage to the foetus' development.



Drinking alcohol, smoking or taking drugs during pregnancy or while breastfeeding can affect your child's health.

Women who are pregnant, trying to conceive or breastfeeding should avoid smoking, drinking alcohol or taking illegal drugs.

Key ideas: Contraception 1

There are two types of barrier contraception/condoms:



- Male condoms, which are worn on the penis.
- Female condoms, which are worn inside the vagina.

Advantages:

Prevent to transmission of diseases, up to 98% effective

<u>Disadvantage:</u>

Can tear if not used properly, can expire if not used in time

Two examples of **hormonal contraception** are:



- The contraceptive pill.
- The contraceptive implant.

Advantages:

When taken correctly, the pill is over 99% effective at preventing pregnancy

<u>Disadvantage:</u>

Minor side effects include mood swings, breast tenderness and headaches, does not protect against STIs

Key ideas: Contraception 2

Sterilisation is a permanent way of preventing pregnancy

During male sterilisation, the tubes that carry sperm from a man's testicles to the penis are cut, blocked or sealed.

Female sterilisation involves blocking or sealing the fallopian tubes, which link the ovaries to the womb (uterus).

Advantage:

Permanent, more than 99% effective Disadvantage:

Irreversible, does not protect against STIs

Abstinence can mean different things for different people but strictly speaking it means no sexual contact of any kind.

Advantages:

Free to all, 100% effective against pregnancy, no risk of STIs

Disadvantage:

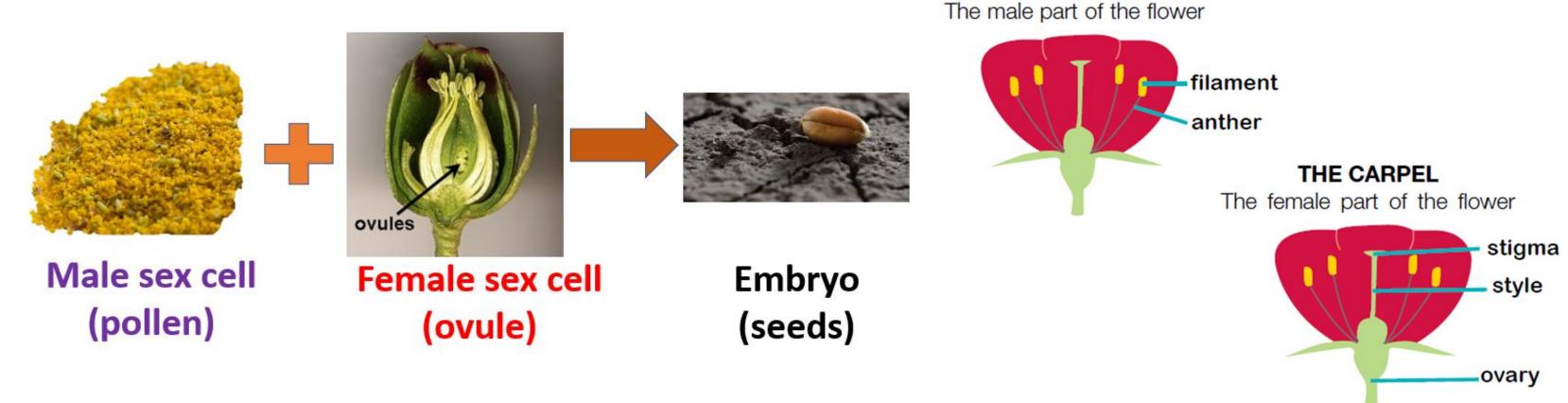
If you change your mind, their might not be any contraception to hand



Key ideas: Reproduction in Plants

Pollination is the transferring of pollen from the anther of one flower to the stigma of another. **Fertilisation** takes place when there is fusion between the nucleus of the pollen grain with the ovule. Seeds are then formed and **dispersed** to grow into new plants.

THE STAMEN



There are two main ways that pollination can take place; either by <u>insects</u> or by the <u>wind</u>. Flowers which are pollinated by insects have different features to those pollinated by the wind.

Key ideas: Sexual and Asexual Reproduction

Reproduction must occur to ensure the **survival** of a living species. This could be a plant, animal or even bacteria. But the **way** they reproduce can be very different.



Sexual reproduction

- Requires 2 parents and the fusion of gametes
- Provides variation in organisms which is why everyone in this class looks different from one another.

Asexual reproduction

- Requires only 1 parent
- Does not provide variation as the off offspring of asexual reproduction are clones of their parents.
- Examples: bacteria, yeast, stick insects



Topic 7: Waves 1

In this unit we will be studying:

- Sound waves
- The ear
- Light
- Reflection
- Refraction
- Lenses
- The eye
- Colour

Use the QR codes to find more information on BBC bitesize



Key ideas: Sound waves

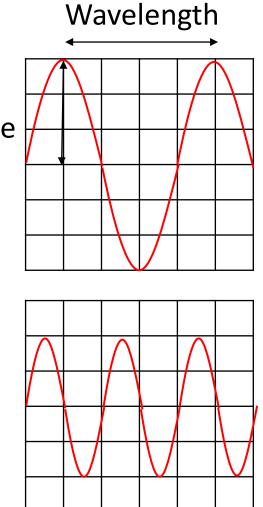
- Sound travels through the air in **longitudinal waves**. This means that the **vibrations** are in the same direction as the direction of travel.
- An object vibrates which causes <u>air particles</u> nearby to vibrate. The vibrations are then passed from particle to particle until it reaches your <u>ear</u>.
- Sounds can travel through <u>solids</u>, <u>liquids</u> and <u>gases</u>.

Keyword	Definition		
Frequency	How many waves there are in a second.		
Amplitude	How tall the peak/ trough of a wave is, from rest.		
Pitch	How high or low a sound is.		

 Sound waves can be shown on an Amplitude oscilloscope.

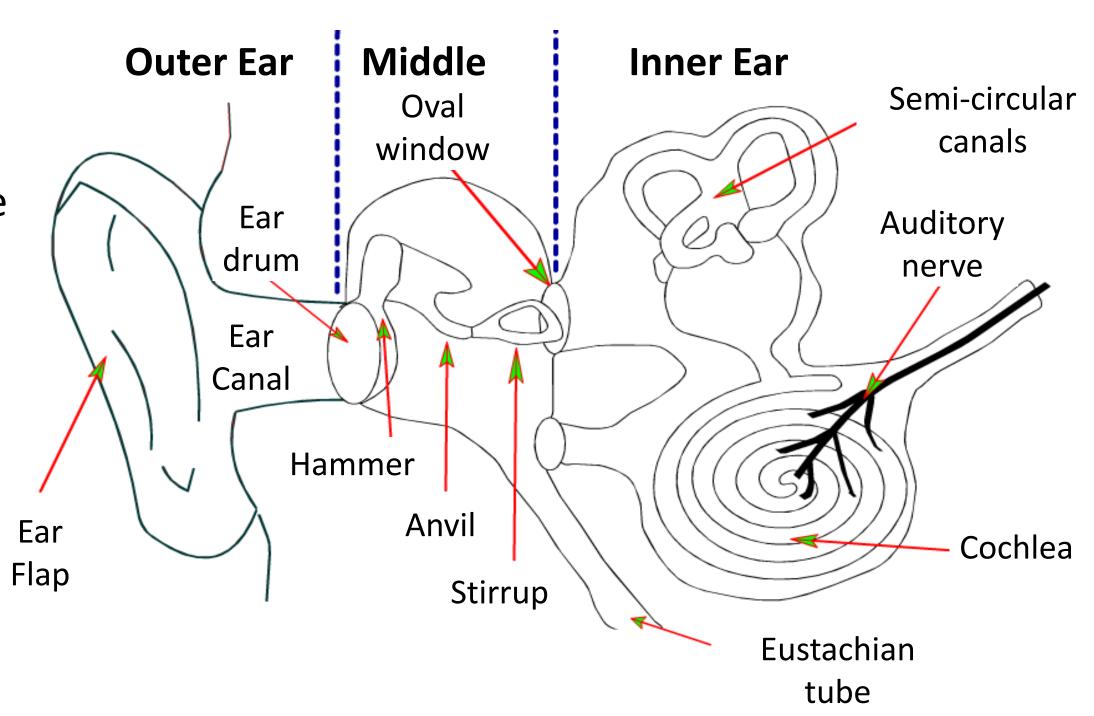


 High pitch sounds have a high frequency.



Key ideas: The ear

- Sound waves first travel through the <u>ear canal</u> and then hit the <u>ear drum</u>.
- Vibrations of the eardrum pass on to tiny bones in the middle ear; the <u>hammer</u>, the <u>anvil</u> and the <u>stirrup</u>.
- These bones transmit the vibrations to the <u>cochlea</u> in the inner ear via the oval window.
- Electrical signals are sent from the cochlea through the <u>auditory nerve</u> to the brain.

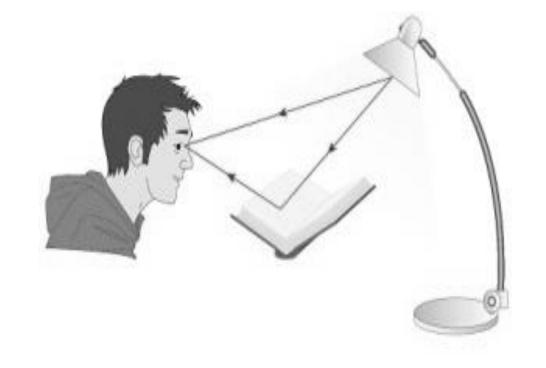


Key ideas: Light

- Something that gives out light is luminous. Most objects that you look at are non-luminous. You see them because they reflect light into your eyes. Light spreads out, just like sound.
- Light travels at 300 000 000 m/s.
- Light can travel through a vacuum (does not need

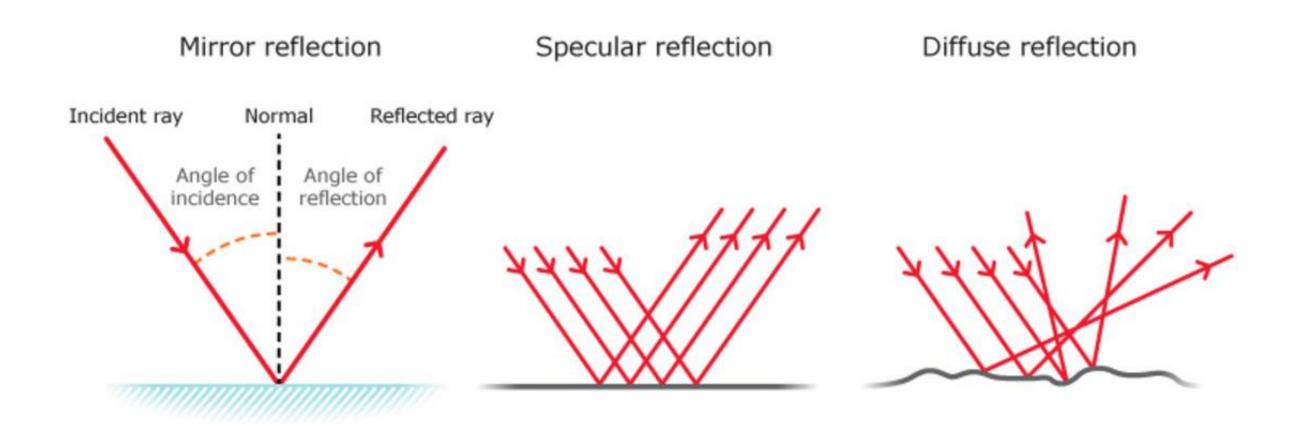
particles).

Keyword	Definition	
Transmit	A wave can pass through	
Transparent	Lets light pass through	
Translucent	Light is scattered in this process	
Opaque	Blocks light	



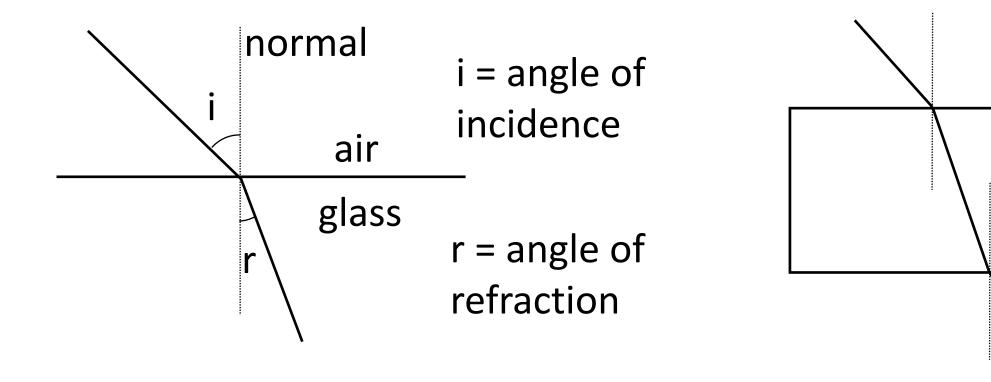
Key ideas: Reflection

- Reflection from a mirror: reflected angle = incident angle
- Specular reflection: all light reflects at the same angle due to smooth surface
- Diffuse reflection: light reflects at random angles due to rough surface



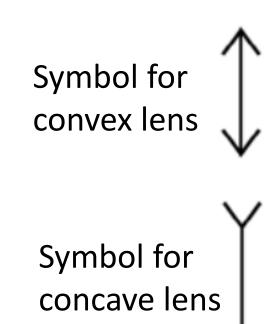
Key ideas: Refraction

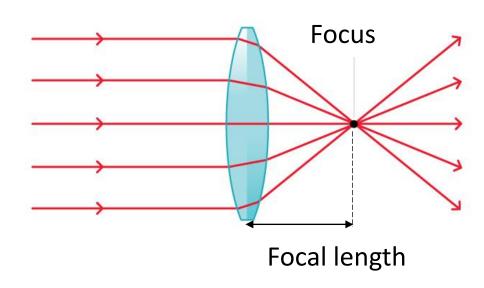
- The change in direction of light when it moves from one medium to another is <u>refraction</u>. Refraction happens because light <u>changes speed</u>.
- In substances such as <u>glass</u> and <u>water</u> which are denser, light travels <u>slower than in air</u>.
- When light slows down, it refracts towards the normal.
- When light speeds up, it refracts away from the normal.



Key ideas: Lenses

- A lens forms an image by refracting light.
- In a convex lens, parallel rays of light are brought to a focus at the principal focus.
- The distance from the lens to the principal focus is called the focal length.
- The image produced by a convex lens can be either real or virtual. The image produced by a concave lens is always virtual.



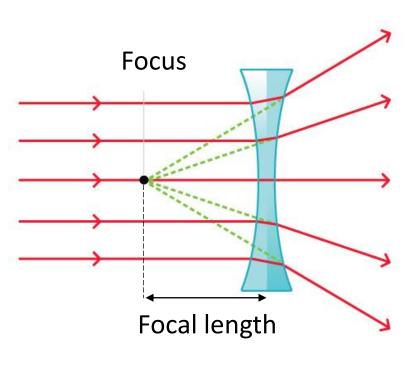


Convex / converging lens

- Parallel rays cross at the focus.
- A real image is formed at the focus where the rays cross.
- It is a real image because it can be formed on a screen.

Concave / diverging lens

- Parallel rays appear to have come from the focus.
- A virtual image is formed at the focus where the rays appear to have crossed.
- It is a virtual image because it cannot be formed on a screen.



Key ideas: The eye

Lens – to focus the light onto the retina. Retina – detect light and converts it into an electrical signal.

Optical nerve – transmits the electrical signals to the brain.

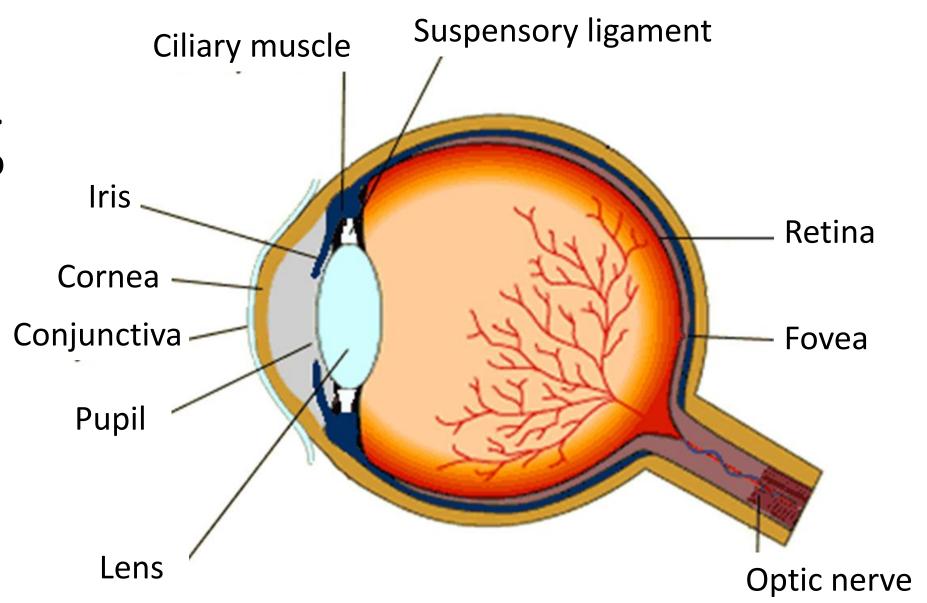
Pupil – a "hole" in the eye that allows light to enter the eye.

Iris – coloured part of the eye, controls the size of the pupil.

Eyelid – protects the eye from damage.

Sclera – the white, tough outer membrane of the eye.

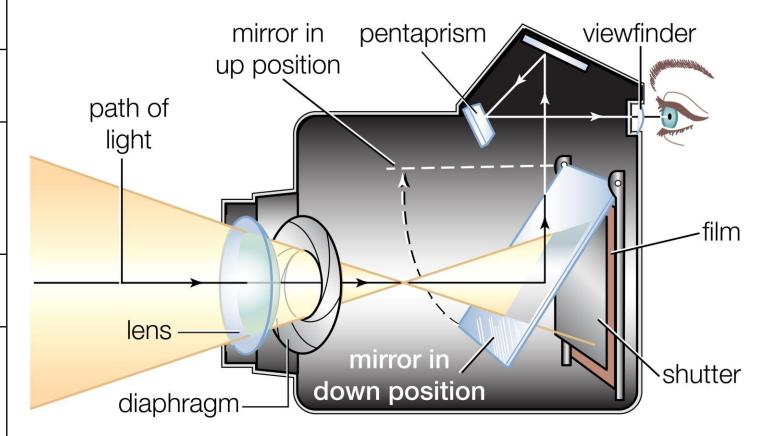
Vitreous humour – transparent, colourless and gelatinous mass that fills the eye.



Long sighted - Without a lens, the rays of light <u>meet</u> <u>behind the retina</u>. A <u>convex lens</u> is used to bring the rays of lights together sooner, by <u>refracting the light</u>. The light now becomes <u>focussed on the back of the eye</u>, the retina. This improves the quality of the image and makes the <u>image clearer</u>.

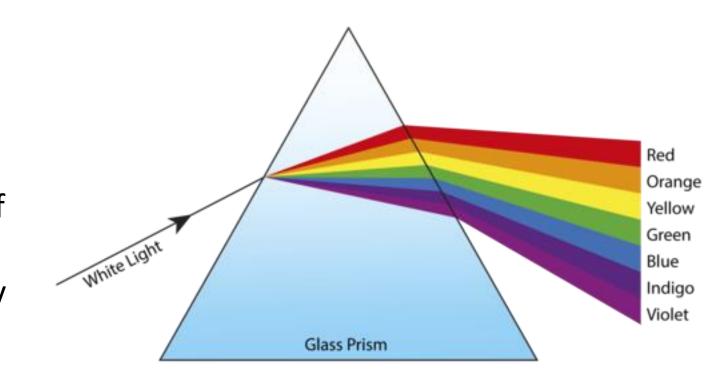
Key ideas: Comparing camera to the eye

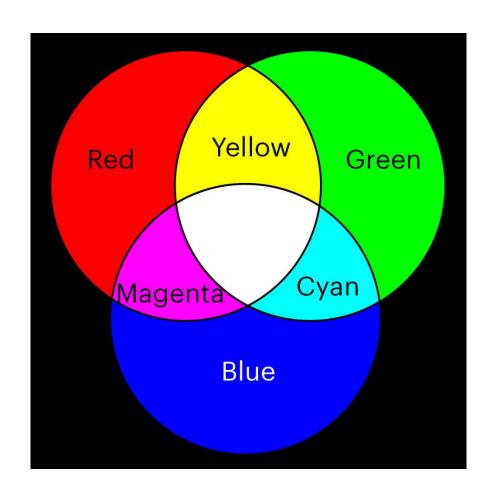
Camera	Eye	Function
Film	Retina	Detects light
Diaphragm	Iris	Controls amount of light
Lens	Lens	Focusses the light
Aperture	Pupil	Allows the light to enter



Key ideas: Colour

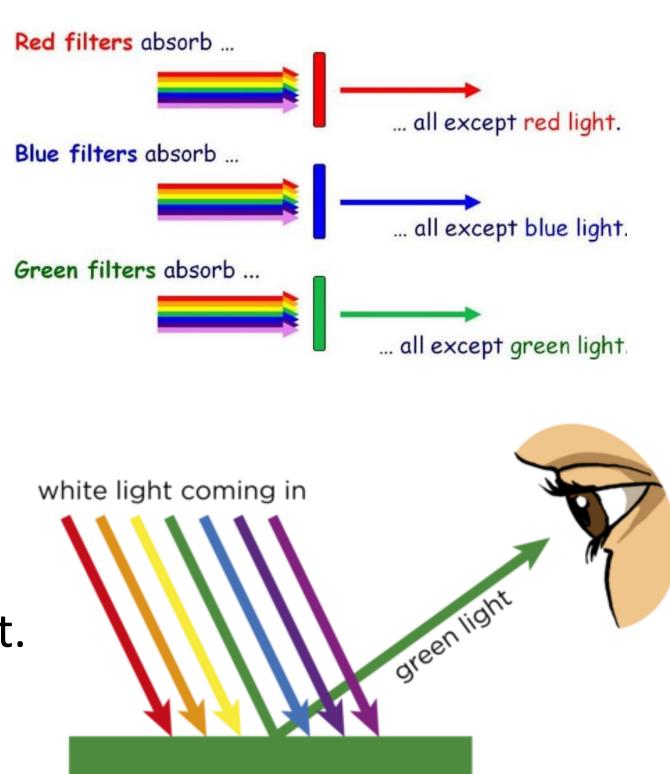
- White light is made of a spectrum of different colours.
- Light can be split up into these separate colours using a prism.
- There are seven colours of the visible light spectrum. In order of their frequency, from the lowest frequency (fewest waves per second) to the highest frequency (most waves per second), they are:
- Red Orange Yellow Green Blue Indigo Violet
- White light can be split up into a spectrum of these colours using a triangular block of glass or acrylic, known as a prism.
- Light is refracted when it enters the prism, and each colour is refracted by a different amount. This means that the light leaving the prism is spread out into its different colours, a process called dispersion.
- There are three primary colours of light: red, green and blue. Light in these colours can be added (combined) together to make the secondary colours: magenta, cyan and yellow.





Key ideas: Colour

- Colour filters only transmit (let through) a specific colour.
 - A green filter transmits green light. It absorbs all other wavelengths of light.
- Objects appear a particular colour because they reflect and absorb different colours of light.
 - A white object reflects all colours of light.
 - A green object reflects only green light.
 It absorbs all the other colours.
 - A black object absorbs all colours of light.



green surface

Topic 8: Reactions 1

In this topic we will be studying:

- Metals and Non-metals
- Oxidation reactions
- Acids and Alkalis
- pH indicators
- Neutralisation Reactions
- Reactivity series of metals
- Metals and acids reactions
- Metal oxides and acids reactions
- Displacement reactions





Metal properties are features they have in common

Some properties of **metals** are:

- Shiny (lustrous)
- Malleable (they bend without breaking)
- Solid at room temperature (except mercury)
- Good conductor of heat/electricity
- Ductile (can be drawn into wires)
- High density

Non-Metal properties are features they have in common

Some properties of **metals** are:

- Bull (not shiny)
- Brittle (break/shatter easily)
- Solid at room temperature (except bromine)
- Poor conductor of heat/electricity
- Not magnetic
- Low density

When metals react with oxygen they form metal oxides.

Metal + Oxygen → Metal Oxide

The reactants

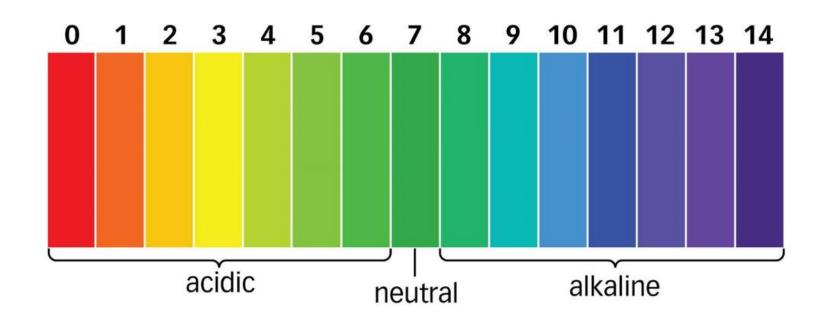
The product(s)

This is called an **oxidation** reaction because oxygen is added.

Sodium + Oxygen → Sodium **Oxide**Lithium + Oxygen → Lithium **Oxide**

The pH scale shows the strength of acids and alkalis. It goes from 0-14.

The scale shows you how strongly acidic or alkaline a substance is.



Acids and alkalis are opposites on the pH scale.

Indicators are special dyes which change colour.

It changes colour depending on whether it is an acid, alkaline or neutral. In school we most often use universal indicator.

Another example of an indicator is litmus paper.

Blue litmus paper turns red under acidic conditions, and red litmus paper turns blue under alkaline conditions.

A pH probe could be used to produce an exact numerical value of pH.

Acids and alkalis neutralise each other.

We can make a neutral solution by mixing the right volume of an acid and alkali.

The reaction is:

What happens when Hydrochloric acid is added to Lithium hydroxide?

Hydrochloric Acid + Lithium Hydroxide → Lithium Chloride + Water

Different metals have different 'reactivity'.

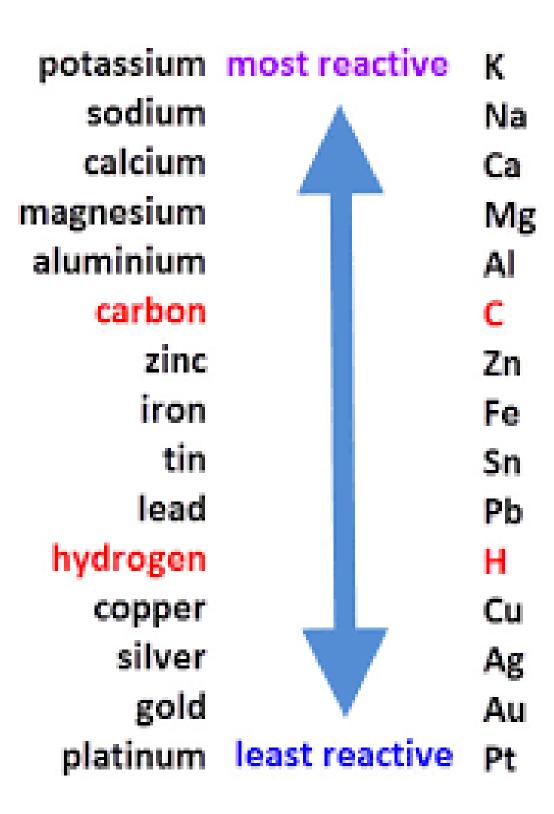
The more reactive a metal is: the more vigorously it reacts with other substances such as water or oxygen. These can be placed in a **reactivity series**.

The **most** reactive metal is at the **top**

The **least** reactive metal is at the **bottom**

Why are Carbon and Hydrogen in red?

Carbon and hydrogen are in the reactivity series because these elements can be used to extract metals.



Displacement reactions involve a metal and a compound of a different metal.

In a displacement reaction a more reactive metal will displace a less reactive metal from it's compound.

Magnesium + Copper Sulphate → Magnesium Sulphate + Copper

Copper Sulphate + Magnesium → No reaction

Name of acid	Name of salt produced	
Hydrochloric acid	Chloride	
Sulfuric acid	Sulfate	
Nitric acid	Nitrate	

When we react a metal with an acid, we get a salt and hydrogen gas produced.

Metal + Acid → Salt + Hydrogen

Hydrochloric acid + Sodium → Sodium chloride + hydrogen

Sulfuric acid + Sodium → Sodium sulfate + hydrogen

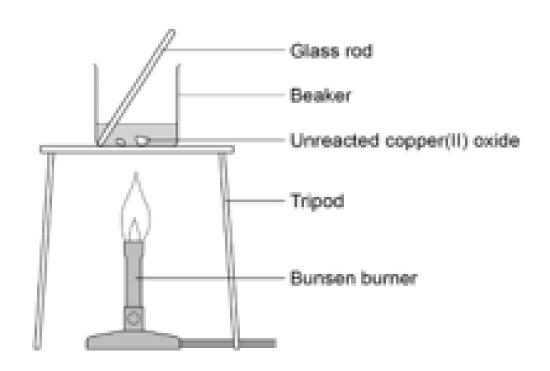
Nitric acid + Sodium → Sodium nitrate + hydrogen

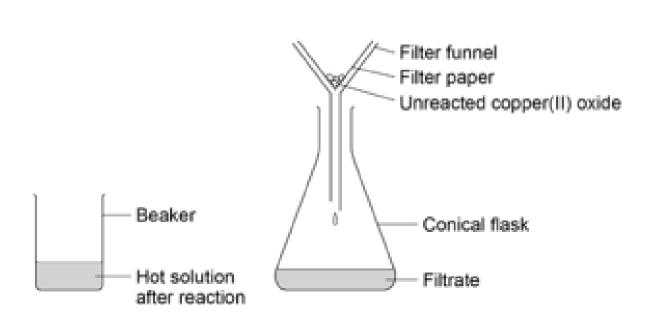
When we react a metal oxide with an acid, we get a salt and water produced.

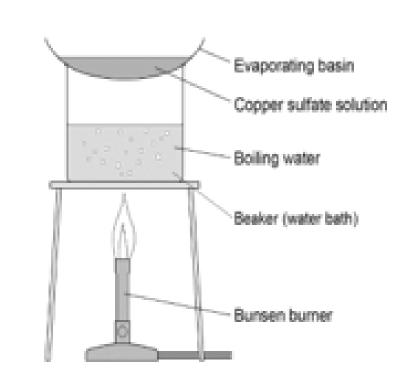
Hydrochloric acid + Sodium → Sodium chloride + hydrogen

Sulfuric acid + Sodium → Sodium sulfate + hydrogen

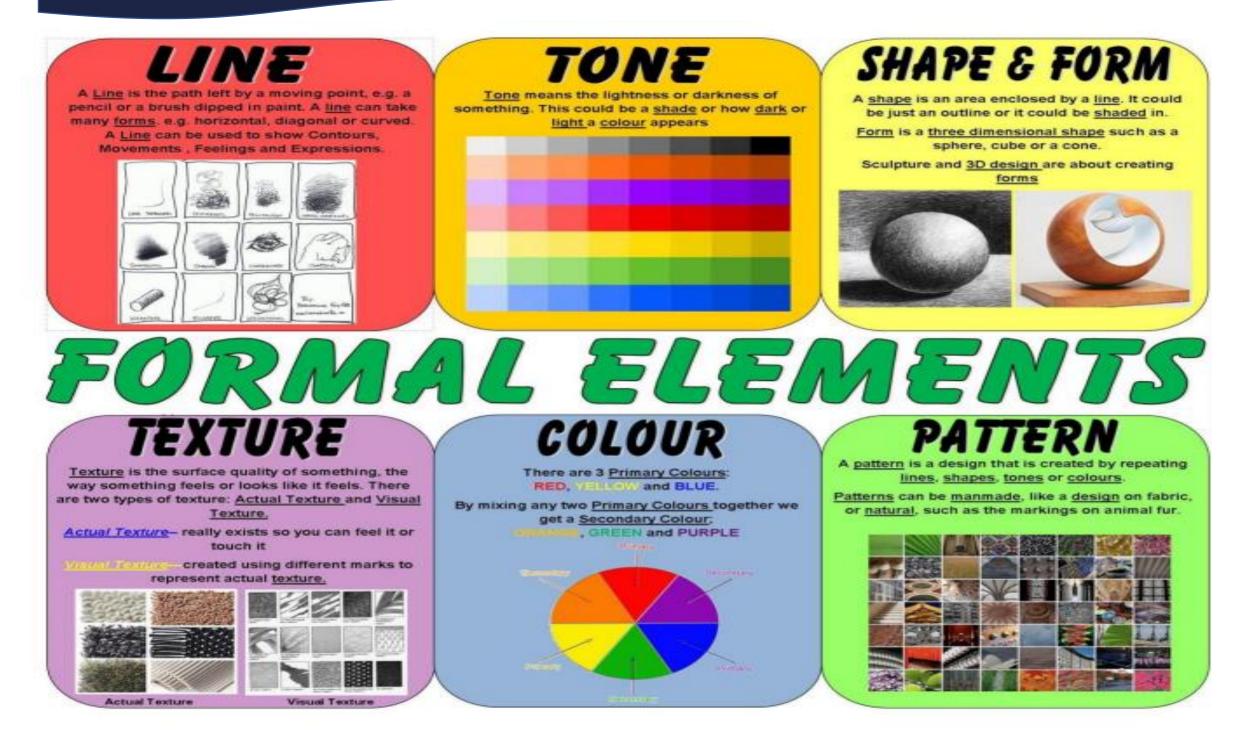
Nitric acid + Sodium → Sodium nitrate + hydrogen





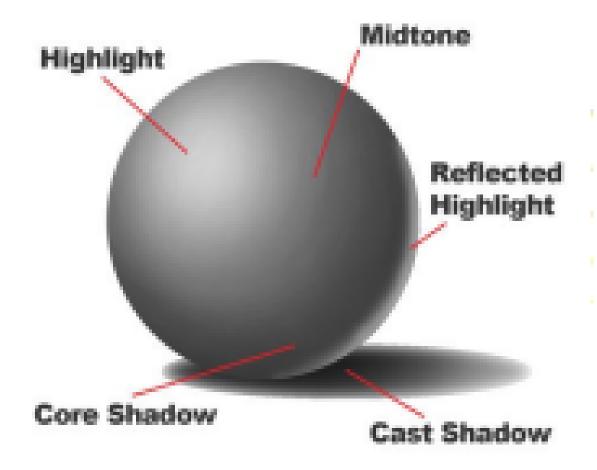


- 1. Measure sulfuric acid into the 100 cm³ beaker.
- 2. Use the spatula to add **small** amounts of copper (II) oxide powder. Stir with the glass rod. Continue to add copper (II) oxide if it keeps disappearing when stirred.
- 3. Stop adding the copper (II) oxide when some of it remains after stirring so it is in 'excess'.
- 4. Set up the filter funnel and paper over the conical flask. Use the clamp stand to hold the funnel. Filter the contents of the beaker from step **3**.
- 5. Pour the contents of the conical flask into the evaporating basin. Evaporate this gently using a water bath on the tripod. Stop heating once crystals start to form.
- 6. Leave this in a cool place for at least 24 hours.
- 7. **Gently** pat the crystals dry with pieces of filter paper. These are pure dry crystals of copper (II) sulphate.



TONE

Tone means how light or dark something is. The tones artists and designers use and the contrast between them can create very different moods and visual effects. In art and design, tone refers to how light or dark something is. Tones could refer to black, white and the grey tones between. It could refer to how light or dark a colour appears.

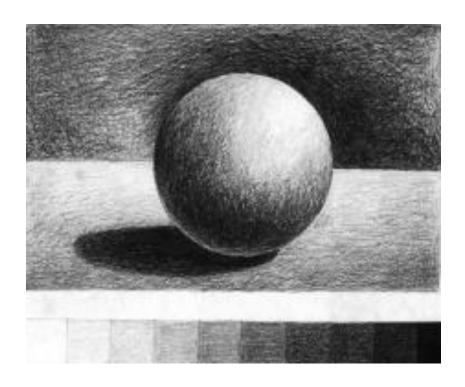


In real life tone is created by the way light falls on an object. The parts of the object on which the light is strongest are called highlights and the darker areas are called shadows

Tone can be used for a range of effects:

- to create the illusion of form
- to create a particular atmosphere
- to create contrast and focus attention
- to suggest depth and distance

Shading is used to create different tones in a drawing. A range of different techniques can be used to build up tones.



Value

Value refers to how light or dark a tone is. Dark tones are said to have low value. Light tones are said to have high value.



Tone can be used to create atmosphere in art and design work. Different atmospheres will be created depending on the value and contrast of the tones used. Value refers to how light or dark a tone is. Dark tones are said to have low value. Light tones are said to have high value.

Contrast

Contrast refers to the difference between tones. A small amount of contrast, or low contrast, between the lightest and darkest tones will tend to result in a more subtle or calm image. The greater, or higher, the contrast of tones, the more dramatic the atmosphere.



Haystacks (Effect of Snow and Sun), 1891, by Claude Monet.



Haystack (Morning Snow Effect). (Meule, Effet de Neige, le Matin), 1891, by Claude Monet.

Tone

Try answering the following questions:

- 1. Tone means?
- 2. Tone is created by the way 'what' falls on an object?
- 3. The parts of the object where the light is the strongest are called?
- 4. The darker areas of an object are called?
- 5. Tone can be used to create the illusion of what?
- 6. Shading techniques are used to create different tones in a?
- 7. Which term refers to how dark or light a tone is?
- 8. Which term refers to the difference between tones?

The formal element of Tone

(15) Elements of Art: Value | KQED Arts - YouTube

Chiaroscuro

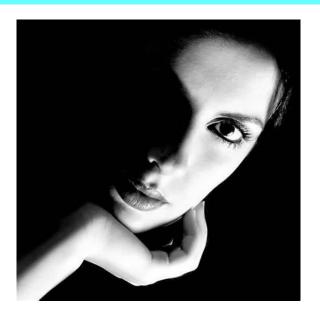
(15) The Power of Chiaroscuro | Art Terms | LittleArtTalks -YouTube

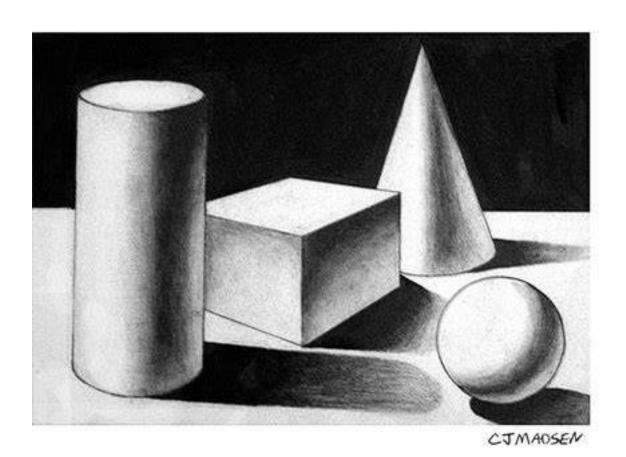
Caravaggio: Master Of Light

(15) Caravaggio: Master Of Light - YouTube

Task:

Create a contrasting work with deep blacks and bright whites. Inspired by the technique of chiaroscuro.





Geography Year 7: Water on the Land: Rivers and Glaciation

Week 1: Weathering

Our world is home to a variety of different scenery. Some places are mountainous. Some are flat. Geographers call the scenery of a place the <u>landscape</u>. Weathering is the breakdown of rocks by physical and chemical processes. Weathering breaks down rocks on the surface of the Earth. There are three types of weathering; biological, physical and chemical.









Week 2 : Erosion



cliffs and break off rock particles, which are broken up into sand.



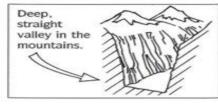


In deserts, the wind carries tiny grains of sand and blasts them into rocks, eroding them into strange shapes.





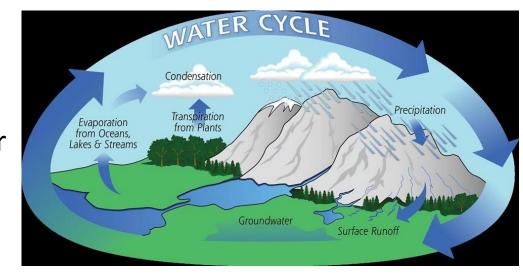
In high mountains, ice collects and moves down valleys as glaciers, grinding away the rock as it travels.



Erosion is when land is worn away by another material and is carried away by rivers, ice, waves and wind. Water moving in rivers erodes valley's by removing tiny pieces of rocks from the bed and banks. Waves at sea smash into cliffs and break off rock particles which are broken up into sand. In deserts the wind carries tiny grains of sand and blasts them into rocks, eroding them into strange shapes. In high mountains, ice collects and moves down valleys into glaciers, grinding away the rock as it travels.

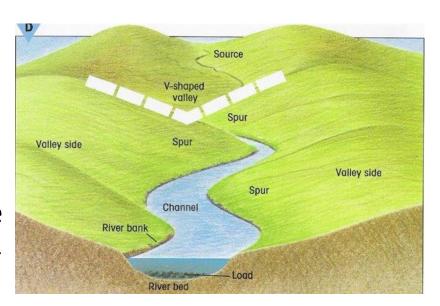
Week 3: The Water Cycle

The water cycle is the journey water takes as it moves from the land to the sky and back again. It follows a cycle of evaporation, condensation and precipitation. The water cycle helps us to understand how rivers work. It is called a cycle because water continuously moves around the system. It can be a liquid, vapour or a solid. Key components of the water cycle are; evaporation, precipitation, transpiration, surface water, condensation and groundwater.



Week 4: Water shaping the land

Rivers work hard. They continually erode and move material downstream. It is not the water that does most of this, but the boulders, stones and rocks that the river water pushes down the river's channel. This causes the river valley (where the river is found) to change shape. Rivers change as they move downstream. As weathering and erosion work to change the shape of the river, different features and landforms can be seen. These include spurs, V-shaped valleys, riverbanks and valley sides.





Weeks 4 & 5: Drainage basin and river flooding

A river basin or drainage basin is an area of land drained by a river and its tributaries . The edge of the drainage basin is known as the watershed . This can be compared to a sink or basin, which catches the water falling into it. Several important features can be found within a drainage basin. These include the source, watershed, tributary channel and mouth. A river floods when the water normally flowing in the channel overflows its banks and spreads out onto the surrounding land. Flooding can be caused by physical features such as heavy rainfall, steep sided valleys and impermeable rock as well as human factors such as urbanisation and deforestation.

Weeks 6 & 7: Bangladesh case study and Calder Valley flooding enquiry

Bangladesh is a developing country in Asia and it is frequently affected by flooding. The low-lying land floods easily and It is difficult to protect them. It is important to understand the physical and human causes of flooding in Bangladesh and the social, economic and environmental effects they cause as well as how the country manages them. The Calder Valley flooding enquiry highlights the different options that can increase flood protection in the local area and the factors that must be considered when making these decisions.

Please note:

Homework will be placed on Seneca for you to complete during this half term. Log in as normal into your account

History – Life of a Medieval Peasant

Working the land;

Most work was done by hand except ploughing (ploughs were pulled by Oxen) & breaking up soil with the use of mallets. This was exhausting work.

<u>Harvest time</u>: Everyone worked in the fields- men, women and children. Corn was cut with a <u>scythe</u> and people often worked on their hands and knees. They worked very long hours. This was very hard work, every piece of corn had to be harvested and nothing could be wasted (see life or death).



Women's work: Women worked on a spinning wheel turning wool in to yarn. The yarn, or thread, was then woven into cloth. This was as well as all their other work (cooking etc.) This method of production was slow and exhausting.

<u>Feudal burden;</u> To meet to the cost of the land they lived on, peasants had to work for the local lord for 2 days a week. This was called <u>boon work</u>. They were not paid for this work. The peasants came to resent this feudal burden

Life or Death

Weather was a matter of life and death. Over 90% of people worked on the land for a living and their lives depended on a good harvest each summer. If the weather was poor and the crops failed people went hungry.

However, when the harvest was good, peasants had a good diet. Excavations of medieval graves showed that people in the Middle Ages were slightly taller than people who lived during the Industrial Revolution (500 years later). This proves that medieval peasants did enjoy a good diet compared with people living hundreds of years later.

Treating the sick

Only the rich could afford to see university trained doctors.

Other people used either barber surgeons or wise women.

Barber Surgeons often gained their knowledge of medicine and surgery on the battlefield. They performed minor surgeries like taking teeth out and bloodletting. Wise women lived in villages and had knowledge of how herbs could be used to cure illnesses

Peasants' everyday life

Peasant homes were small, often just made up of one room. A peasant's hut was made of wattle and daub, (mud interwoven with sticks) with a thatch roof but no windows. Inside the hut, a third of the area was penned off for the animals, which lived in the hut with the family. A fire burned in a hearth in the centre of the hut, so the air was permanently eye-wateringly smoky. Furniture was maybe a couple of stools, a trunk for bedding, and a few cooking pots.

Children spent most of their time helping their parents with day-to-day activities. Rather than going to school, they worked on jobs in the house, looked after animals and helped grow food.

Peasants also had to pay a tithe to the Church. A tithe was 10% of what they produced on their land. The Church was central to medieval life. People would attend services there every Sunday, and it would host marriages, christenings and funerals.

Optional activities:

- Look up a traditional peasant home made from wattle and daub. Draw and label it.
- Research Wharram Percy and write a short report on what was found there

Life in medieval towns

There were not many towns in medieval England, and those that existed were small by modern standards. London was the largest with a population of 10,000 and Winchester the second largest with 6,000 people.

There were many skilled craftsmen working in towns, such as carpenters, blacksmiths and tailors. Trade was a key part of town life, with goods such as iron, wool, salt and agricultural products being commonly bought and sold. Coastal towns would trade with other countries.

Some women were able to work as shopkeepers, cloth-sellers or run pubs, but these opportunities were very limited. Similar to villages, women were also expected to work in the home, cleaning and looking after their family.

Towns were often unhygienic because of the larger populations and the lack of proper sanitation. Modern toilets and plumbing were a long way in the future and waste was thrown into the streets. Animals such as pigs and sheep roamed and butchers often threw waste meat into the street or river. These unsanitary conditions contributed to the spread of diseases, such as the Black Death.



King



Nobles



Knights



Merchants



Freemen



Peasants

Feudal System 1100 – 1400

The Feudal System

Peasants were at the bottom of the feudal system and had very little freedom. They had to ask for permission to leave a village or get married. They also had to work for their lords for two days a week without pay.

Wages

The Black Death killed up to 50% of the population in 1349 so there were not enough people to farm the land. Those who survived could demand higher wages, this meant that ordinary people could afford better food, more clothes and send their children to school.

Holy-Days

People had plenty of days off in the Middle Ages, probably more than people today! They didn't work Sundays or on religious days like Christmas or Easter, or on Saints' days. Wow!



Optional Comprehension questions:

- 1) What type of work did women do?
- 2) How do we know people in Medieval England had reasonably good diets?
- 3) How did the Black Death improve lives for the survivors?
- 4) Why did peasants have so many days off?
- 5) Why were peasants so dependent on the weather?
- 6) Who would treat you if you got sick?

Optional Revision tasks:

- Try and draw a feudal system from memory
- Create a mind map of;
 - Jobs and wages in Medieval England
 - Health and free time in Medieval England

The Black Death: how did it affect England?

In 1348 all the conditions were right for a huge disease to strike and kill millions.

- Doctors were powerless and knew little about what caused diseases and how they spread.
- People were weakened by war and harvest failures.
- The rats which carried the fleas, flourished in the dirty towns.
- 4) Busy trade routes carried the plague from one place to another.

The plague arrived at Melcombe Regis in Dorset in June 1348, and it spread throughout the south of England. In 1349 it reached Wales, Ireland, and the north of England. By 1350, it had made it to Scotland. Estimates suggest as much as half the population died.

Comprehension questions:

- 1. When did the Black Death arrive in England?
- 2. Where did it arrive?
- 3. How many people died?
- 4. How did people suffer as a result of the Black Death?
- 5. What was the biggest positive result of the Black Death?

Short term impact of the Black Death	Long term impact of the Black Death
(How people were affected at the time)	(How people were affected in the future)
 ½ of the Population died from the Black death The death itself was horrid; black buboes grew under your armpits and on your groin, you bled underneath the skin, were sick and then fell into a coma There were not enough peasants left so crops rotted in the fields- some died of starvation Families were destroyed and some villages disappeared for good as all the inhabitants had died 	 Eventually peasants could gain higher wages as the Lords were so desperate for workers Peasants could bargain more for more land and lower rents as there was so much unworked land around Some peasants stopped doing so much "free" work for the lord. The lord didn't complain in case his peasants left. Peasants had more freedom because they could always go and work for someone else

Independent learning:

Website: Seneca KS3 History.

https://app.senecalearning.com/classroom/course/f3012969-6fda-4cb0-8de5-8ff738472ea1/section/67c7260b-6599-4155-9392-d0afb59a8611/session

Recommended sections:

1.6.1 The Black Death
Have a go at the end of section tests too!

Website: BBC Bitesize.

Read the sections on Law and Order in medieval society and Education in medieval society

https://www.bbc.co.uk/bitesize/topics/zbn7jsg/articles/zwyh6g8#zqgfn9q8

Have a go at the end of section quiz too!





French Spring Term Homework

Students use www.pearsonactivelearn.com to complete bespoke tasks to accompany the course. They have their own individual username and the password for everyone is French123.



Students also have access to www.linguascope.com to help with learning general topic-based vocabulary. Everyone has the username **brooksbank** and password **french123**. Click on the beginner or elementary section and the French flag.



FRENCH ACCES MODULES 5-8 CLASSROOM **OPINIONS COLOURS ANIMALS SPORTS** 7 Les goûts et les couleurs 6 J'adore le judo Tu préfères ...ou...? Tu aimes le foot? Quelle est ta couleur préférée? Adjective endings Modules 5-8 Opinions Reasons 8 Tu as un animal? 5 Dans ma salle de classe! Qu'est-ce qu'il y a dans ta salle de classe? Plurals Le, la, les, l' Using a dictionary Instructions

Accès Module 5

Saying what's in your class

Words for "the"

Qu'est-ce qu'il y a dans ta salle de classe?

Dans ma salle de classe il y a...

What's in your classroom?

In my classroom there is / are.....

It is important to remember accents when writing in French. Three accents can appear on the letter 'e':

- é the acute accent egécoutez!
- è the grave accent eg élèves
- ê the circumflex eg la fenêtre



Remember that not all words simply add **-s** to make the plural form. Watch out for:

les tableaux = the boards

les bureaux = the desks

le = the (for masculine nouns)

la = the (for feminine nouns)

les = the (for plural nouns)

l' = the (in front of nouns starting with a vowel)

If the noun starts with a vowel, le or la becomes l'as in l'ordinateur.

a la chaise

b la fenêtre

c le bureau

d la porte

le professeur

f la table

g le tableau

h l'ordinateur

le tableau

interactif

les livres

k la saile de

classe

les élèves



Accès Module 7 Saying what colour things are

Using adjectives

Tu préfères.....ou....?

Je préfère....

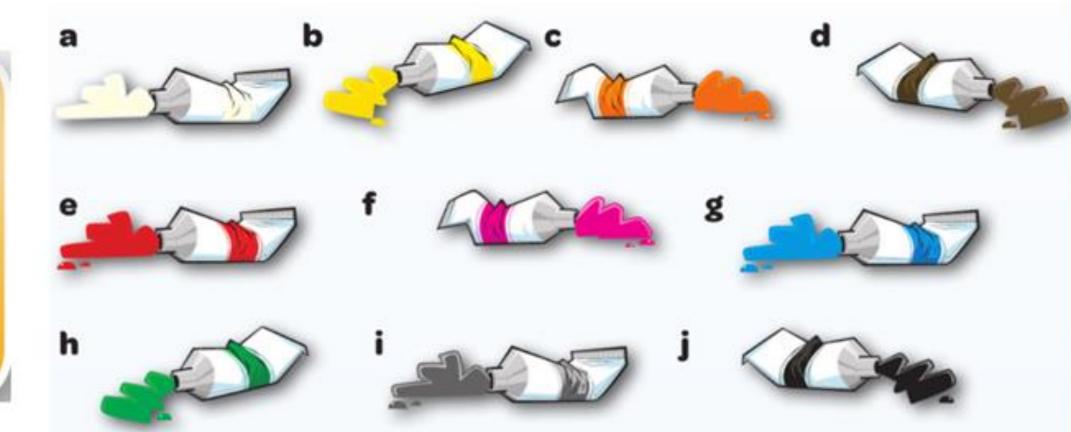
Quelle est ta couleur préférée?

Do you prefer....or...?

I prefer.....

What is your favourite colour?

a blanc
b jaune
c orange
d marron
i gris
e rouge
j noir



In French, the adjective (the describing word) comes after the noun.

le scooter bleu the blue scooter

la voiture rouge the red car

Look! An extra -e is added to some of the colours when the noun is feminine.

Listen! It may make them sound different too!

le scooter/bleu/vert/jaune/rouge

la voiture / bleue / verte / jaune / rouge



Physical Education

- Why do we need to warm up?
- A) To prepare yourself physically and mentally for exercise.
- B) Increase the temperature of muscles, tendons and ligaments to reduce the chance of injury.
- C) Increase the range of movement in joints to improve performance.

Warm ups and Muscle groups



- 2. Stages of a warm up:
- A) Pulse raiser To raise heart rate and speed up oxygen delivery to working muscles.
- B) Stretching Increase elasticity and range of movement of working muscles.
- C) Drills Practices more closely related to the main session.
- Examples of warm up activities:

Pulse raiser: Jogging, side steps, high knees, heel flicks.

Stretching: Calf stretch, hamstring stretch.

Drills: Small passing drills, footwork drills.

Warm ups and Muscle groups

Upper body muscle groups:

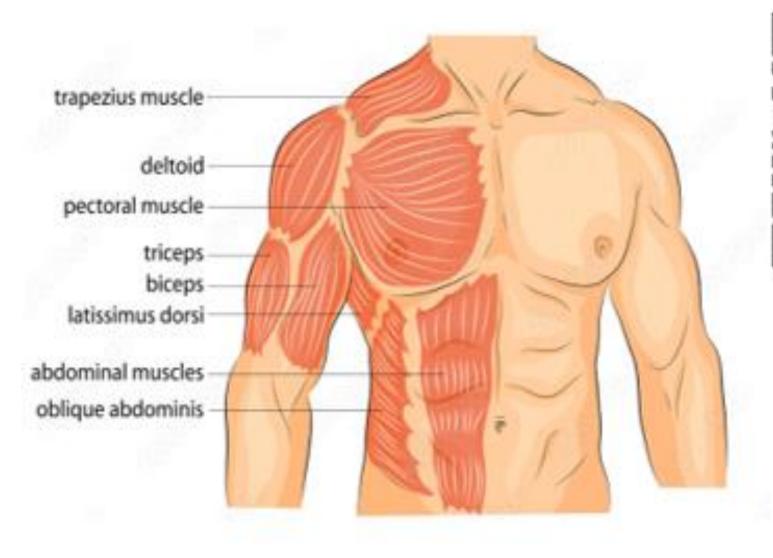
Below are the main upper body muscle groups.

The muscles seen will be used in sports such as tennis for hitting a serve and cricket for bowling the ball.

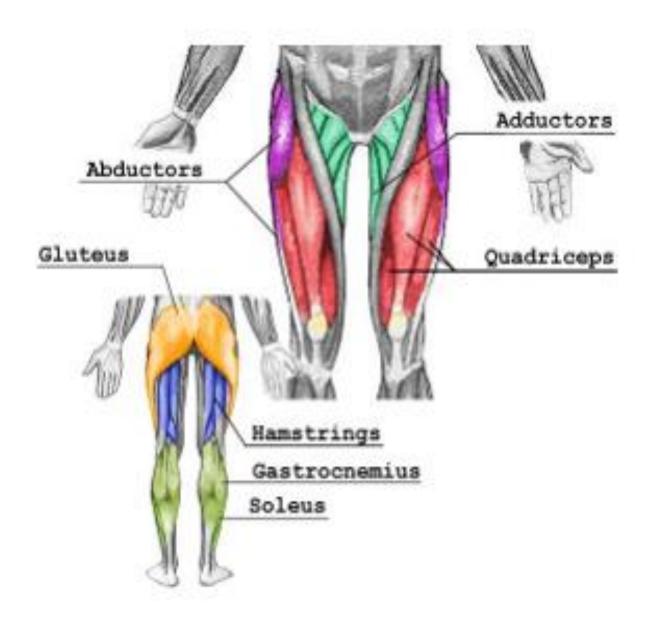
Lower body muscle groups:

Below are the main lower body muscle groups.

These muscles will be used in sports such as football for shooting at goal and rugby for kicking a conversion.







Warm ups and Muscle groups

Importance of stretching:

Stretching is mainly important for two things, avoiding injury and improving flexibility of muscles. By stretching as part of a warm up, the range of movement of the muscles increases which will improve physical performance.

There are two types of stretching, static and dynamic.

Static stretching:

Static stretching is done by gradually stretching a muscle and then holding the position.

You should do static stretches after a workout when your muscles are warm to avoid injury.



Dynamic stretching:

Dynamic stretching means moving a joint through its range of motion.

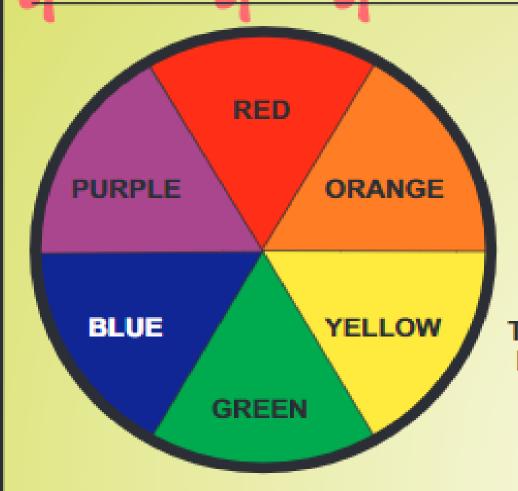
This should be done during a warm up to help loosen the muscles and help to prevent injury.

WORLD ASSOCIATION OF TECHNOLOGY TEACHERS

https://www.facebook.com/groups/254963448192823

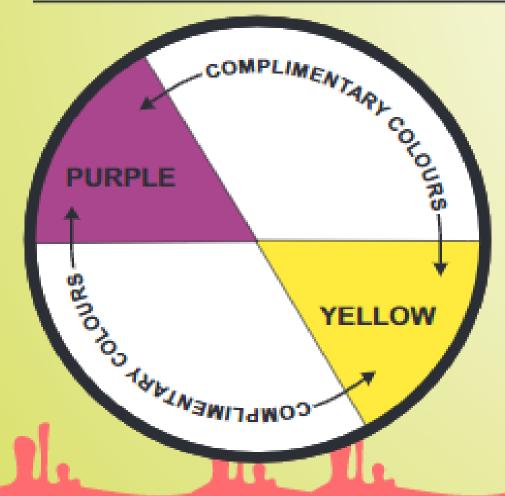
THE COLOUR WHEEL





THE COLOUR WHEEL CAN BE
USED TO HELP REMEMBER
PRIMARY AND SECONDARY
COLOURS. THE SECONDARY
COLOURS ARE BETWEEN THE
PRIMARY COLOURS.
FOR EXAMPLE, BETWEEN RED
AND BLUE IS PURPLE. MIXING
THE PRIMARY COLOURS RED AND
BLUE PAINT, WILL PRODUCE THE
SECONDARY COLOUR PURPLE.

COMPLEMENTARY COLORS



COMPLEMENTARY COLOURS.
ARE COLOURS THAT ARE
OPPOSITE EACH OTHER ON THE
COLOUR WHEEL. THEY
USUALLY WORK WELL
TOGETHER.

www.technologyatudent.com @ 2017 V.Ryan @ 2017

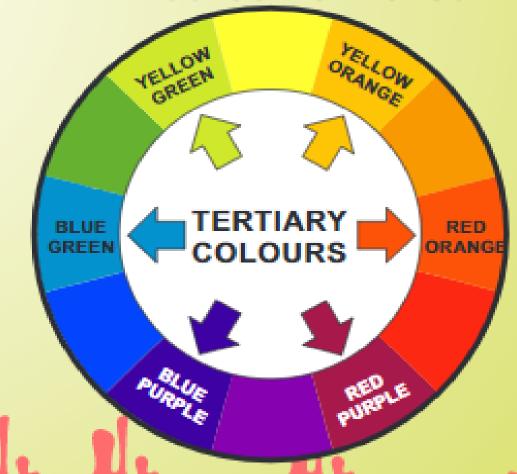
PRIMARY COLOURS REDYELLOW BLUE

SECONDARY COLOURS



TERTIARY COLOURS

WHEN A PRIMARY COLOUR IS MIXED WITH ITS CLOSEST SECONDARY COLOUR, A TERTIARY COLOUR IS PRODUCED.





A SAMPLE PACKAGE



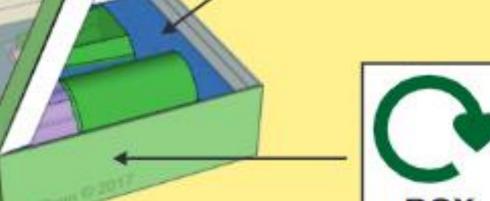
PLASTIC check local recycling

CLEAR POLYPROPYLENE (PP) WINDOW, ALLOWS THE CUSTOMER TO VIEW THE CONTENTS



EXPANDED POLYPROPYLENE (EPP) PROTECTS THE CONTENTS, AGAINST

WORLD ASSOCIATION OF TECHNOLOGY TEACHERS https://www.facebook.com/groups/254963448192823/

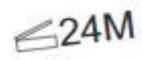


THE MAIN MATERIAL IS QUALITY CARD, EASILY FORMED INTO A NET / DEVELOPMENT AND CAN BE READILY RECYCLED.





50ml e



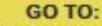




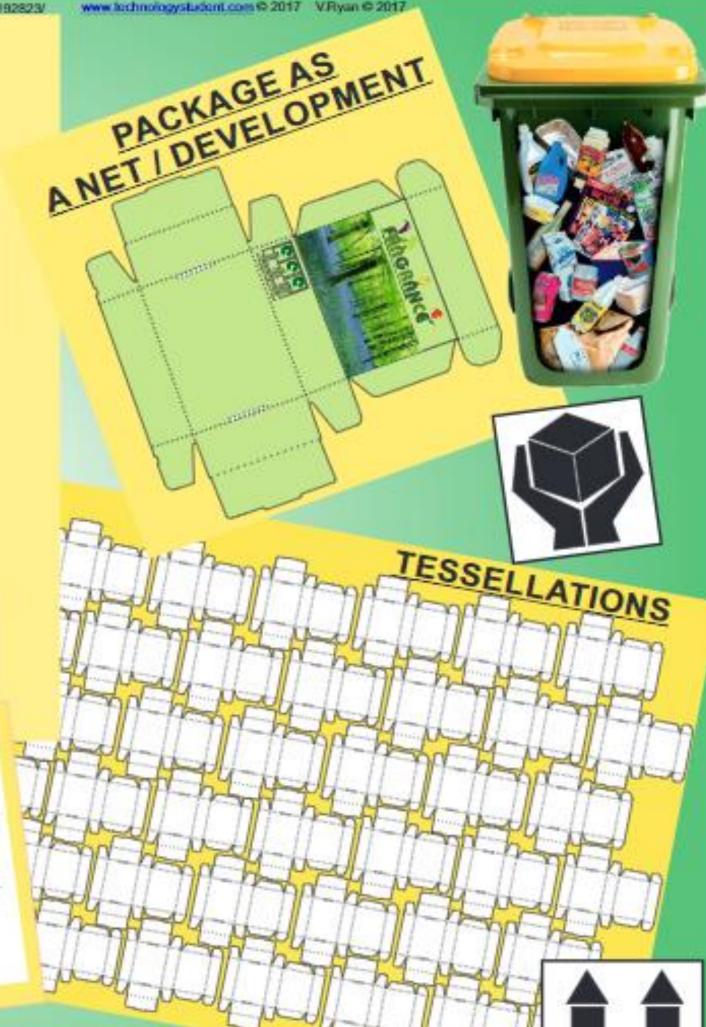








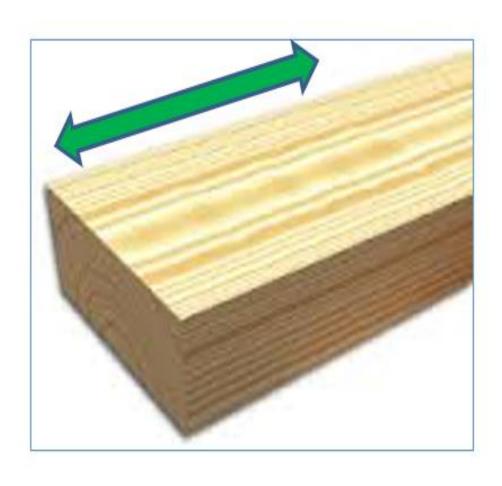
http://www.technologystudent.com/designpro/drawdex.htm FOR DETAILED INFORMATION ON PACKAGING



www.technologystudent.com © 2017 VRyan © 2017

Achieving a good quality finish on timber

<u>poster wood finishes2.cdr</u> (technologystudent.com)



It is very important when sanding that you look at the direction of the grain lines and sand in this direction so that you do not damage the fibres in the wood.



Wire wool is used last to make sure the fibres are completely smooth and to make the wood look shiny.

There are lots of grades of sandpaper.

- Rough sandpaper (60) is used first to take the top surface off to get to the deeper scratches.
- Smoother sandpaper (120-180) is used next to smooth out the fibres on the surface of the wood.
- Finishing paper (240-320) is used <u>to</u> <u>create a smooth, good quality</u> finish on the surface.









After your work has been sanded to an excellent quality of finish, bees wax is applied with a cloth or wire wool to give a glossy, protective finish to the surface of the timber.

RISK ASSESSMENT – The Laser Cutter

<u>Laser Cutting / Etching Machines - 2</u> (technologystudent.com)

Hazards - What parts of the tool are dangerous?

- The laser beam is dangerous
- Toxic fumes can be dangerous
- Electrical wires can be dangerous
- Sparks from the laser beam can be dangerous

Risks - What could go wrong when you use it?

- You could damage your eyes
- You could breathe in toxic fumes
- You could trip over a trailing wire
- The material could catch fire

Control - What do you need to do to stay safe when using this tool?

- The lid must be closed for the laser cutter to work
- Do not look directly at the laser beam
- Make sure the extraction unit is turned on
- Never leave the laser cutter unattended
- Clear waste material from the laser bed after use.







Laser cutting is a technology that uses a laser beam to vaporize materials, resulting in a cut edge.

Learning Facts About Plastic

<u>poster_plastics1</u> (technologystudent.com)

Most plastics are made using oil, coal, gas, water and salt.

Plastic is split into 2 main categories – THERMOPLASTICS and THERMOSETS.







THERMOPLASTICS

Thermoplastics can be recycled and can be easily formed into different shapes.

They do not resist heat well, so they can be ground down, melted and re-used. A moulded shape can be reheated and re-formed.

THERMOSETS

Thermosets are not recyclable. They are resistant to heat and fire so are often used for electric fittings and pan handles.

These types of plastics undergo a chemical change when heated to become hard and rigid.



The Principles of Design

(how to use the tools to make art)

Pattern ***		A regular arrangement of alternated or repeated elements (shapes, lines, colours) or motifs.	
Contrast	*	The juxtaposition of different elements of design (for example; rough and smooth textures, dark and light values) in order to highlight their differences and/or create visual interest, or a focal point.	
Emphasis	*****	Special attention/importance given to one part of a work of art (for example, a dark shape in a light composition). Emphasis can be acheived through placement, contrast, colour, size, repetition Relates to focal point.	
Balance ****		A feeling of balance results when the elements of design are arranged symmetrically or asymmetrically to create the impression of equality in weight or importance.	

Technology

Scale	*	The relationship between objects with respect to size, number, and so on, including the relation between parts of a whole.	
Harmony		The arrangement of elements to give the viewer the feeling that all the parts of the piece form a coherent whole.	
Rhythm/ Movement		The use of recurring elements to direct the eye through the image; the way the elements are organized to lead the eye to the focal area. The eye can be directed, for example, along edges and by means of shape and colour.	
Unity	**	All parts of an image work together to be seen as a whole.	
Variety		Using different elements in an image to create visual interest.	

Year 7 Food Technology - SEASONAL FOODS

TASK 1 - You are to research and produce an A4 mood board of seasonal foods grown in the UK in the current

season.

Your mood board must be:-

- Full of different images.
- Be full of colour. (Even if printed in black and write, add pencil crayon)
- Include the month in which the food is grown in the UK.

TASK 2 - Using the Eatwell guide and the QR code create a series of balanced, healthy meal plans for your own family; try a breakfast, lunch and dinner, or a week of different breakfasts etc.









Year 7 Food Technology - WEIGHING AND MEASURING/NUMERACY

TASK 1: Using the scone recipe given, and the measuring spoon picture:

- Double the quantities of all ingredients.
- If this recipe makes 8 scones work out how much you would need to make 2 scones.
- Work out how many teaspoons of milk would you need?

TASK 2: Using a supermarket website – find out how much each of the ingredients cost – can you work out how much they would cost to make the scones?

TASK 3: Make a list of 5 different dried fruits you could use in a scone?



SCONE RECIPE
250g self-raising flour
40g margarine/butter
125ml milk
25g sugar
60g dried fruit

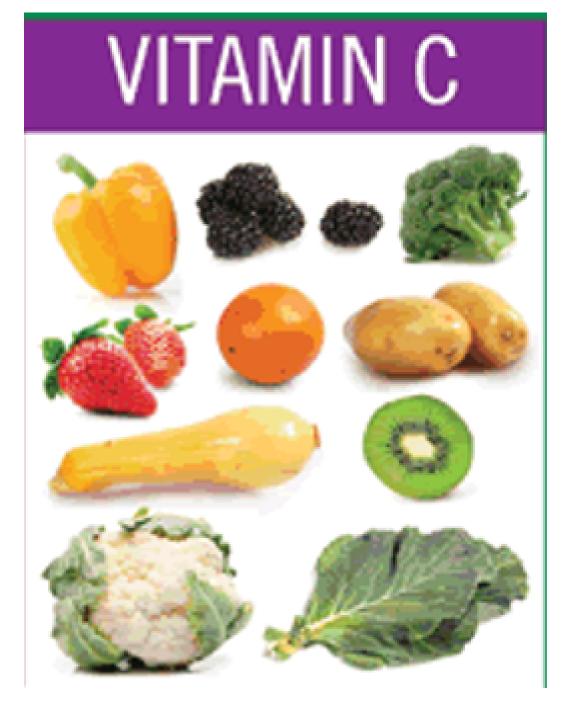


Year 7 Food Technology – MICRONUTRIENTS

TASK 1: find a definition of 'micronutrients'. Make a list of the essential micronutrients we need to stay healthy.

TASK 2: Understanding the functions vitamins perform in the body is important-using the Vitamin C information create a collage/picture to show its benefits for the body and examples of food it is found in.

TASK 3: Visit the website www.foodafactoflife.org.uk using the QR code below to find out information about the other essential vitamins and minerals. Talk to someone about what you have learnt.



Vitamin C	helps to protect cells from	Vitamin C is found in
	damage;	fruit (especially citrus
	helps with the formation of	fruits, blackcurrants,
	collagen, which is important	strawberries, papaya
	for normal bones, gums,	and kiwi), green
	teeth and skin;	vegetables, peppers and
	helps the immune system	tomatoes.
	work as it should;	
	helps the nervous system to	
	function normally.	

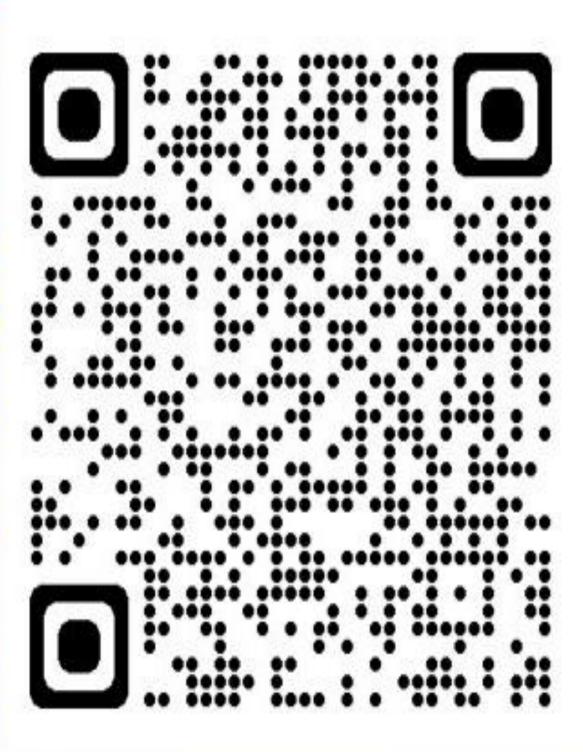


Year 7 Knowledge organiser-

Textiles

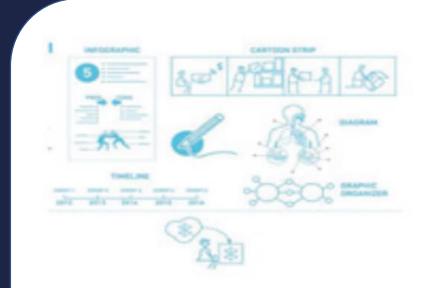
•Who is Yayoi Kusama? | Tate Kids





HOW TO SELF TEST

WITH KNOWLEDGE ORGANISERS



Graphic Organisers

Try to come up with different ways to represent the information visually, from your knowledge organiser for example: an infographic, a timeline, a cartoon strip, a Venn diagram, or a diagram of parts that work together.

Work your way up from drawing what you know from memory. By presenting your work in a different format the information is more likely to transfer to your long-term memory.

HOW TO USE GRAPHIC ORGANISERS





Look, Cover, Write, Check

This strategy is commonly used by primary schools, it is a proven effective method of practising the spelling of key terminology found in your knowledge organiser.

Start by carefully looking at the keyword you need to spell, cover it up, write it down, check it against your knowledge organiser and correct it if necessary. Make sure to practise the words you get incorrect several times as practice makes perfect!

USING 'LOOK, COVER, WRITE, CHECK'







Keyword Mnemonics

Make up a sentence where each word begins with the same letter as the word you need to remember.

E.g.: Colours of the rainbow: 'Richard Of York Gave Battle In Vain' (Red, Orange, Yellow, Green, Blue, Indigo, Violet)

E.g.: The order of the planets: 'My Very Enthusiastic Mother Just Served Us Noodles' (Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune)





The Brooksbank School Together Learning Trust