Year 8 Computing Knowledge Organiser – History Of Computing

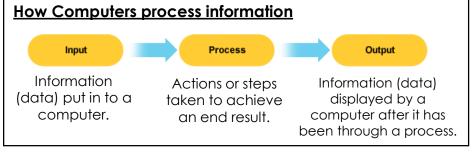
Cryptography

- Cryptography is derived from the Greek word 'kryptos' which means hidden or secret
- Cryptography is thought to date back to the Egyptians and their use of hieroglyphics.
- Julius Caesar developed the first modern cipher.
- It is known as the 'Caesar cipher'
- Each character in the message is replaced by the character three positions ahead of it in the alphabet

How Computers were used during WW2

- The Germans developed a computer called Enigma to send secret messages between troops
- Colossus was the name of a set of computers developed by British code breakers in 1943-1945
- The Colossus computers were used to help decipher intercepted messages that had been encrypted using ENIGMA
- Colossus helped to crack the German coded messages, without this the messages were unreadable

Key Words	Definition					
Cryptography:	The art of writing or solving codes.					
Decipher:	Convert (a text written in code, or a coded signal) into normal language.					
Hardware:	Parts of a computer system you can physically hold and touch.					
Software:	The programs on a computer you cannot physically hold and touch.					
Binary:	A number system that only uses two digits, 0 or 1.					
Input:	Information (data) put in to a computer.					
Process:	Actions or steps taken to achieve an end result.					
Output:	Information (data) displayed by a computer after it has been through a process.					
Computer:	An electronic device that is capable of receiving data (input), carrying out a process and outputting the required result.					



Year 8 Geography Knowledge Organiser – Exploring Environmental Damage

What is Climate Change?

Climate change is a large-scale, long-term shift in the planet's weather patterns or average temperatures. Earth has had tropical climates and ice ages many times in its 4.5 billion years.

Natural Greenhouse Effect

The Earth is kept warm by a natural process called the Greenhouse Effect. As solar radiation hits the Earth, some is reflected back into space. However, greenhouse gases help trap the sun's radiation. Without this process, the Earth would be too cold to support life as temperature would average as -18°C instead of +15°C.

Enhanced Greenhouse Effect

Recently, there has been an increase in humans burning fossil fuels for energy. These fuels (gas, coal and oil) emit extra greenhouse gases. This is making the Earth's atmosphere thicker, therefore trapping more solar radiation but causing less to be reflected. As a result, our Earth is becoming warmer.

Global impacts of climate change

Rising sea

Plants and

Disease and Health

Water Supply

Animals

levels

The impact of rising temperatures is affecting the world socially, economically and environmentally in several potential problematic ways.

Extreme Weather	Climate is causing more unpredictable and severe weather events. This includes more frequent and powerful tropical storms; more extreme heatwaves and lasting droughts. E.g.
	Typhoon Haiyan 2013

Sea levels have risen by 20 cm since 1901. due to thermal expansion, melting glaciers and ice caps. Some coastal countries are now disappearing such as the Maldives in the Indian Ocean.

Warmer temperatures and changing rainfall will make it harder to produce a reliable source of food to sustain a rising global population. E.g. In 2011, Russia banned crop exports after a incline in yield.

About a quarter of animals and plants on Earth could become extinct. With warmer temperatures and changing rainfall environments will no longer be able to provide for the world's fragile ecosystems.

Warmer temperatures will increase the spread of infectious diseases like malaria. In addition,

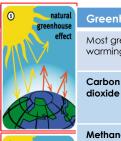
more frequent floods could cause more waterborne disease such as dysentery.

People need freshwater to drink but with 1 billion people predicted to not have excess to enough water by 2025 due to climate change, this might cause several social, economic

climate refugees are people who are forced to leave their home due to the impact of climate change. This can be due to sea level rises or extreme weather conditions such as drought.

Linking CO₂ and Global temperatures

The rate of carbon dioxide and increase in global temperatures is strong. Scientist agree that this increase is cause by human activity.



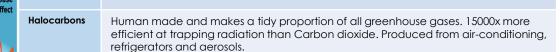
Greenhouse Gases

Nitrous Oxide

Most greenhouse gases occur naturally. Some greenhouse gases have greater potential to increase global warming than occurs as different gases trap and absorb different amounts of radiation.

5	Carbon dioxide	Accounts for 60% of the enhanced greenhouse gases. It is produced by burning fossil fuels through producing electricity, industry, cars and deforestation.
_	Methane	Accounts for 15% of the enhanced greenhouse gases. 25x more efficient than

Carbon dioxide. Produce from landfills, rice and farm animals.



Accounts for 6% of the enhanced greenhouse effect. 250x more efficient than Carbon dioxide. Produced from fertilisers and car exhausts.

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Halocarbons Human made and makes a tidy proportion of all greenhouse gases. 15000x more efficient at trapping radiation than Carbon dioxide. Produced from airconditioning, refrigerators and aerosols.

Nitrous Oxide Accounts for 6% of the enhanced greenhouse effect. 250x more efficient than Carbon dioxide. Produced from fertilisers and car exhausts.



India and the British Empire **Year 8 Knowledge Organiser**

What is the British Empire?

An **empire** is a group of countries ruled over by a single monarch or ruling power. An empire doesn't need an 'emperor'. The British Empire comprised of Britain, the 'mother country', and the colonies, countries ruled to some degree by and from Britain. In the 16th century Britain began to establish overseas colonies. By 1783,

Britain had built a large empire with colonies in America and the West Indies. **Positive** Interpretations of the British Empire interpretations Interpretations of the British Empire have changed

Neger			
Nega interp		ions	

railways. Many modern historians argue that it is unacceptable to say that colonialized peoples did not have or would not have developed their own entirely valid forms of government, laws, and infrastructures without the influence of the British Empire. Furthermore, many historians argue that you cannot examine the British Empire without examining the more shameful aspects of Britain's past. Britain was heavily involved with the Transatlantic slave trade in the 17th, 18th, and 19th centuries. The British Empire also stripped many colonies and indigenous peoples of their land and vibrant cultures, for example, in India, colonialization resulted in the increase in land

taxation and lack of reserve crop, which together

with poor weather conditions, caused many deaths

and developed over time. In the 19th and early 20th

century, some historians argued that the empire was

the deserved result of Britain's technical and moral

superiority. They argued that British rule established

well as the development of infrastructure, like

formal systems of government, law and education as

due to famine, disease and violence. Robert Clive was one of the most famous men of the East India Company and helped to gain control over India. Robert Clive first arrived in India in 1744 and worked for the East India company buying goods to be exported to England. The East India Company had its own military force in India to protect its trade. In 1746 the French army attacked the British in Chennai: Robert Clive was captured but escaped and joined the East India Company's Army. Clive was a skilled soldier and in 1751 was ordered to capture the important town of Arcot. The battle for Arcot (1751) gave him the nickname "Sabut Jung" (the daring in war) and he was praised by the British Prime Minister as a heaven born general. In 1756, 122 English settlers suffocated to death in an 18 foot square cell in Calcutta. Calcutta was ruled by the Nawab Siraj ud Daula. In 1756 Clive arrived in Calcutta for revenge on the Nawab Siraj. He defeated his army of 68,000 French backed soldiers with 3000 men at the Battle of Plassey. In 1760 Clive returned to England and became an MP before being made Baron Clive of Plassey. Clive was criticised when he was an MP because he had become very rich by accepting gifts from Indian leaders.

Key Vocabulary Colony - a controlled by another country. Trade - buying and selling goods. Empire- a group of countries

country

controlled by

another country.

Colonisation – the process of gaining control over another country Rebellion resisting a country's control over you Civilised - being very advanced socially and culturally **Revolution-** very rapid and big change-usually in how a country is run Developed more advanced Sepoy - Indian soldier Mughal - the name of the Indian empire Nawab - a ruler Hindu-the religion of some of the people in

the British Empire

Raja - a royal title

religion of some

of the people in

the British Empire

for an Indian

monarch Muslim- the



India and the British Empire Year 8 Knowledge Organiser



1857 Rebellion take place?

What

happened

during the

rebellion?

Why did the

began a rebellion after a rumour spread about a new rifle they would be receiving. To load the rifle soldiers believed they would have to bite off the end of a cartridge which was covered in pigs' and cows' grease. This would have been an insult to both Muslims and Hindus, as it is against the religious beliefs of Muslims to eat pig products and it is against the religious beliefs of Hindus to eat cow products. These events increased the feeling that the British were not respecting Indian values

In March 1857 a sepoy named Mangal Pandey

the rebellion spread as tens of thousands of other

sepoys turned on their officers, in some cases killing

attacked his British officer and was executed. By May,

By 1857, the sepoys in the East India Company's army

Key Vocabulary

them. Although the sepoys initially had some successes and took some territory, the British defeated the rebellion after 18 months of fighting. In August 1858, the Government of India Act was passed and direct British rule of India began. It is estimated that several thousand British were killed during the rebellion, while the estimates for the Indian death toll are in the hundreds of thousands. Many British and Indian civilians were also killed in the violence, and many lives were also lost to a famine that occurred at the same time as the rebellion.

Why was it

significant?

of the reasons some historians say the colony became known as the 'jewel in the crown' There was a strong independence movement in India: •In 1919, British troops were responsible for a massacre that occurred at

A significant consequence of this rebellion was that it

India after a British victory against the sepoys. The East

government was. The huge amount of money made

from colonising India, as well as the fact that some of

the current crown jewels were taken from India, is one

began the direct rule of the British government over

India Company was no longer in control, the British

- a peaceful gathering in Amritsar. •Mohandas Gandhi led a powerful non-violent movement that refused
- to obey British laws. For example the Salt March, 1930. •In 1935, the Government of India Act gave Indians control of
- everything except foreign policy.

Colony - a country controlled by another country.

Trade - buying and selling goods. Empire- a group of countries controlled by another country.

Colonisation – the process of gaining control over another country Rebellion -

resisting a country's control over you

Civilised - being

very advanced

socially and culturally **Revolution-** very rapid and big change-usually in

run Developed more advanced Sepoy - Indian

how a country is

soldier Mughal - the name of the Indian empire

Nawab - a ruler Hindu-the religion of some of the people in the British Empire

for an Indian monarch Muslim- the

religion of some of the people in the British Empire

Raja – a royal title

Organiser Knowledge 2 Spanish <u>Operación</u> 3 Half Term 2 Module 6 Year

ayer

hoy

mañana

el fin de semana pasado

el verano pasado

este fin de semana

el año que viene

el verano que viene

el año pasado

hace dos años

Which house do you prefer? ¿Qué casa prefieres? This house is... Esta casa es... This flat is... Este piso es... amplio, amplia spacious antiguo, antigua old bonito, bonita nice cómodo, cómoda comfortable enorme enormous feo, fea ugly grande big maravilloso, maravillosa marvellous moderno, moderna modern pequeño, pequeña small La casa/El piso está The house/The flat is... cerca de la playa near the beach en el centro in the centre en la montaña in the mountains más... que... more... than... menos... que... less... than... Prefiero... I prefer... porque because Expresiones de tiempo Time expressions

last weekend last summer two years ago this weekend

yesterday

last year

tomorrow

next year

next summer

today

¿Qué se puede hacer en...? What can you do in...? Se puede(n)... You can... hacer senderismo go hiking hacer actividades náuticas do water sports hacer artes marciales do martial arts ir a la bolera go bowling ir al cine go to the cinema ir de compras go shopping ir de paseo en bicicleta go on a bike ride ir a la playa go to the beach ir al restaurante *ao to the restaurant* jugar al golf play golf jugar al voleibol play volleyball jugar al tenis play tennis ver la catedral see the cathedral visitar un castillo visit a castle

La casa The house Tiene... It has... una cocina a kitchen un comedor a dining room un cuarto de baño a bathroom un dormitorio a bedroom un salón a living room una chimenea a fireplace un jacuzzi a hot tub un jardín a garden una piscina a swimming pool a balcony, a terrace una terraza vistas al mar views of the sea

Opiniones Opinions I like... Me gusta...

Me encanta... I love... Me gustaría mucho... I would really like...

I would love... Me encantaría...

¿Dónde está...? Where is...? the cathedral la catedral la estación de tren the railway station el minigolf the minigolf el parque acuático the water park el parque de atracciones the theme park the go-kart track la pista de karting el zoo the zoo Sigue todo recto. Keep straight on. Dobla a la derecha. Turn right. Dobla a la izquierda. Turn left. Toma la primera a la derecha. Take the first on the right. Toma la segunda a la izquierda. Take the second on the left. Cruza la plaza Cross the square.

Está a la izquierda. It's on the left. Palabras muy frecuentes High-frequency words bastante quite donde where esta, este this está it is muy verv

It's on the right.



Está a la derecha.

también



¿Qué cosas te gustan? = What things do you like? ¿Qué cosas te encantan / te chiflan / te flipan / te molan? = What things do you love? Me gusta (n) = I like Me encanta (n) = I love Me chifla (n) = I love Me flipa (n) = I love

Me flipa (n) = I love Me mola (n) = I love

No me gusta (n) nada = I really don't like

El baile = dance Fl cine = cinema

El deporte = sport

El dibujo = drawing / art

El racismo = racism

El teatro = theatre / drama

La moda = fashion

La música = Music

La naturaleza = nature

La pesca = fishing

La violencia = violence

Los cómics = comics

Los insectos = insects

Los lunes = Mondays

Las artes marciales = martial arts

Las injusticias = injustice

Las taréas domésticas = household chores



Scan these codes to practise the present and preterite tenses



En mi tiempo libre = In my Free Time

Hago judo = I do judo

Hago natación = I go swimming

Voy al parque = I go to the park

Voy al polideportivo = I go to the sports centre

Voy de pesca = I go fishing

Soy miembro de un club = I'm a member of a club

Soy miembro de un equipo = I'm a member of a team

Expresiones de frecuencia = Expressions of frequency

a veces = sometimes

de vez en cuando = from time to time

dos veces a la semana = twice a week

a menudo = often

muy a menudo =very often

todos los días = everyday

casi todos los días = almost every day

todo el tiempo = all the time

siempre = always

¿Cómo organizas tu semana?

Bailo Zumba = I dance Zumba

Cocino para mi familia = I cook for my family

Escribo canciones = I write songs

Juego en mi consola = I play on my games console

Leo revistas / libros = I read magazines / books

Monto en bici = I ride my bike

Navego por internet = I surf the internet

Preparo la cena = I prepare dinner

Saco fotos = I take photos

Toco el teclado = I play the keyboard

Veo un partido de fútbol = I watch a football match

¿Cuándo? = When?

después del insti =after school este fin de semana = this weekend los fines de semana = at the weekends los lunes / martes = on Mondays / Tuesdays los jueves por la tarde = on Thursday afternoons mañana por la mañana = tomorrow morning mañana por la tarde = tomorrow afternoon

En el Cine = At the Cinema Voy a ver... = I'm going to see... Una comedia= a comedy Una película de acción = an action film Una película de animación = an animation Una película de aventuras = an adventure film Una película de ciencia-ficción = a sciencefiction film

Una película de fantasía = a fantasy film Una película de superhéroes = a super-hero film Una película de terror = a horror film ¿Vas a venir? = Are you going to come?

¿Vamos a ver? = Are we going to see?

Reacciones = Reactions

Claro que sí = Of course

De acuerdo = ok

Voy a ir = I'm going to go

No voy a ir = I'm not going to go

No, gracias = No thank you

¿Estás loco/a? = Are you crazy?

iNi en sueños! = Not in your dreams

iQue rollo! = How boring!



Me encantan las comedias = I love comedies No me gustan las películas de terror = I don't like horror films

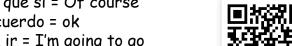
Mi película favorita es... = My favourite film is... ¿Qué tipo de película es? = What type of film is it? Es una comedia = It is a comedy En mi opinión... = In my opinion... Creo / Pienso que = I think that

¿Cómo fue tu cumpleaños? = How was your birthday? Celebré mi cumpleaños = I celebrated my family con mi familia / mis amigos = with my family / friends ¿Qué hiciste? = What did you do? Fui / Fuimos al parque de atracciones = I went / we went to the theme park

Invité a mis amigos a pasar la noche en mi casa = I invited my friends to sleep over at my house Bebí / Bebimos refrescos = I/we drank fizzy drinks Comí / comimos tarta de cumpleaños = I/we ate birthday cake

Recebí muchos regalos = I received lots of presents Fue alucinante / increíble = It was amazing /incredible

High Frequency Words

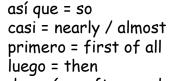


después = afterwards

más tarde = later o = or

por supuesto = of course

quizás = maybe también = also



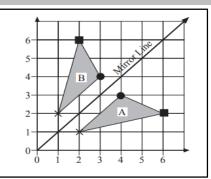
Year 8 Mathematics Summer Term Knowledge Organiser

Transformations

Reflections

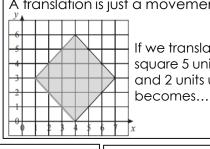
Reflections give shapes which are the same distance to and from a mirror line or line of reflection. In this diagram A and B

are reflections of each



Translations

A translation is just a movement.



If we translate this square 5 units right and 2 units up, it

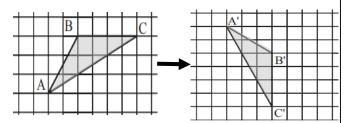
vector for this is...

The **translation**

Rotations

other.

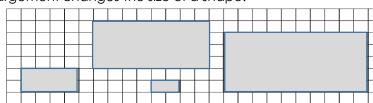
A rotation is a turn. I the diagram on the right, Triangle ABC is rotated clockwise through 90° to give



Enlargements

Triangle AIBICI

An enlargement changes the size of a shape.

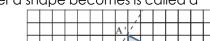


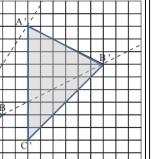
The number of times bigger or smaller a shape becomes is called a scale factor.

Using a centre of enlargement:

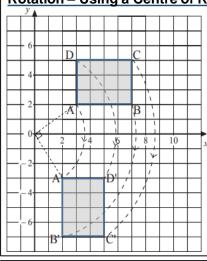
A shape can be englarges using a centre, so that it gives a new enlarged shape in a specific place. We use enlargement lines to do this.

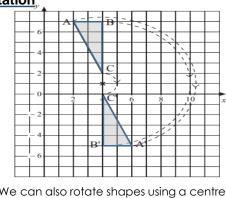
Example: triangle ABC enlarged by a scale factor 3, centre O





Rotation - Using a Centre of Rotation





We can also rotate shapes using a centre of rotation. Tracing paper is very useful for these types of question, as you can turn the tracing paper whilst holding your pencil on the centre of rotation.

Describing transformations

When describing transformations, the information must be specific:

Reflections must include:

reflection and the name of the line of reflection.

Translations must say include: $\binom{5}{2}$ translation and the column vector.

Rotations must include:

rotation, direction of rotation, rotation in degrees and centre of rotation

Enlargements must include:

Enlargement, scale factor and centre of enlargement

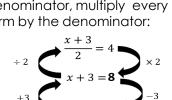
Year 8 Mathematics Summer Term Knowledge Organiser

Graphs and Equations

Solving One Step Equations Solving Two Step Equations Finding the value of an Finding the value of an unknown, by identifying unknown, by identifying operations performed and operations performed doing the inverse operation: and doing the inverse operation: x + 6 = 81

Solving Equations involving fractions Finding the value of an unknown. To eliminate a denominator, multiply every term by the denominator:

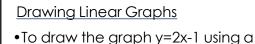
and (-2,-5)



unknowns on both sides Add/subtract the smallest algebraic term from both sides: 🕳 3a - 4 = 7a + 8🗨 - 4 = 4a + 8 -12 = 4a

-3 = a

Solvina Equations with



table

y = (x - 2)(x + 1)

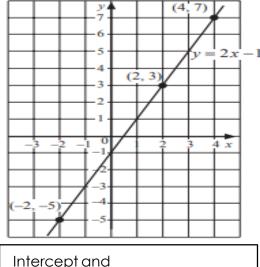
1 2 3 4 5 x

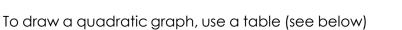
This rule tells us the y-coordinate is the x-coordinate x 2 then -1.

table: This also gives us: (4, 7)(2,3)

х	-2	2	4
У	-5	3	7

The coordinate can also be calculated in a





Write down your steps, as you can see for x=-1 and x=1

Quadratic Graphs – Drawing and Finding Solutions.

$$y = x^2 - x - 2$$

$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	
l v _3 _9 _1 0 1 9 3 4	I
x -5 -2 -1 0 1 2 5 4 _ y = -	1
	- 1
y 10 4 -2 0 4 10 -2 =-2 =	2

1+1-2=01-1-2=-2 The Solutions or Roots are where y=0, at the points (-1,0) and (2,0)

We can see from the graphs of y=2x-1, that the y-intercept is -1, and the gradient (steepness) is 2.

Gradient

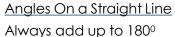
(-2)

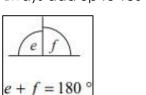
• The 'm' will be the gradient • The 'c' will be the y-intercept.

For a graph of the form y=mx+c

Year 8 Mathematics Summer Term Knowledge Organiser

Angles





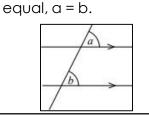
Angles Around a Point
Always add up to 360° $a + b + c = 360^{\circ}$

Angles in a Triangle
Always add up to 360° $w + x + y = 180^{\circ}$

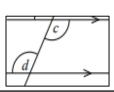
Vertically Opposite
Vertically opposite angles are equal.

SE

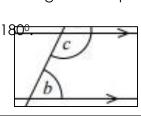
Corresponding Corresponding angles are



Alternate
Alternate angles are
equal, c = d.

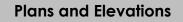


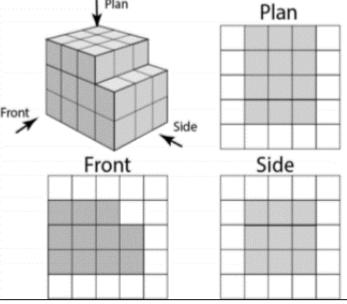
Co-Interior Co-interior angles add up to 180. b + c = 180° .



Bearings

Points of the Compass
Bearings can be given as points of the compass.





Key terms:

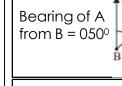
Plan: the view from above the solid.

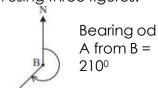
Front Elevation: the view from the front of the solid.

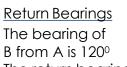
Side Elevation: the view from the side of the solid.

<u>Bearings</u>

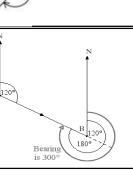
Accurate bearing are measured clockwise from North, and written using three figures.







The return bearing (of A from B) Is 300°



Year 8 Summer Term Knowledge Organiser Music

The Elements of Music

Dynamics: Key Terms

Element	Definition
Melody	The main tune or musical theme
Articulation	How the notes are played
Dynamics	How loud and quiet the volume is
Instruments	The apparatus used to make and play the music
Structure	How the sections of music are organised
Harmony	The supporting chords used with the melody
Rhythm	The patterns of notes used and their durations
Tempo	How fast or slow the speed of the music is
Texture	How the layers of music fit together

Dynamic symbol	Italian Term	Defintion
	Crescendo	Getting Louder
	Decrescendo	Getting Quieter
$f\!f$	Fortissimo	Very loud
f	Forte	Loud
p	Piano	Quiet
pp	Pianissimo	Very Quiet

Key Term	Definition
Ostinato	A repeating rhythm or pattern
Sequence	The repetition of a melody at a different pitch
Countermelody	An extra tune or melody on top of the main melody or musical theme
Retrograde	The melody is played backwards
Theme	The main melodic idea
Rhythmic Diminution	Halving the note values of the main theme doubling the tempo
Rhythmic Augmentation	Doubling the note values of the original theme making them twice as long

Year 8 Summer Term Knowledge Organiser Music

Textures: Key Terms

Key Term Definition

Unison

All instruments playing the same melody at the same time.

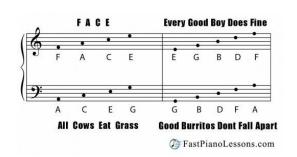
Polyphonic Different melodies played together.

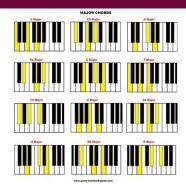
Call and Response A melodic question and answer made by different instruments.

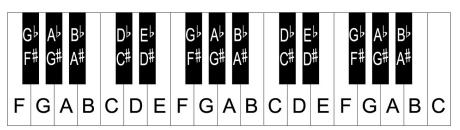
Canon The same melody line is played at different points by different instruments.

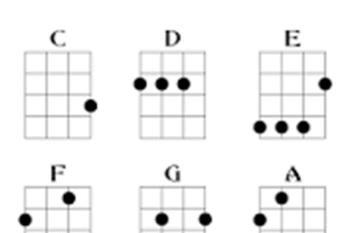


Ukulele chords









Year 8 RS Knowledge Organiser – Moral Decision Making

Glossary

Abortion: Premature ending of a pregnancy. Also known as termination.

Assisted suicide: Deliberately assisting or encouraging another person to take their own life.

Euthanasia: gentle death, the deliberate ending of someone's life for compassionate reasons.

Quality of life: The standard of health, comfort, and happiness experienced by an individual or group.

Sanctity of life: life is sacred and given by God; for atheists it means that life is special, as we are all unique and important.

Voluntary euthanasia: where a person makes a conscious decision to die and asks for help to die

Non-voluntary euthanasia – where a person is unable to give their consent (for example, because they're in a coma) and another person takes the decision on their behalf.

Abortion – the law:

An abortion is a procedure to **end a pregnancy**. The pregnancy is ended either by taking **medicines** or having a **surgical procedure**. **Two doctors** must agree having the baby would pose a greater risk to the physical or mental health of the woman than an abortion.

Most abortions in England, Wales & Scotland are carried out **before 24 weeks** of pregnancy.

Abortions after 24 weeks are allowed only if:

- · the woman's life is in danger
- there is a severe foetal abnormality
- the woman is at risk of grave physical and mental injury

Abortion – case study:

The 2011 Indian census showed a serious decline in the number of girls under the age of seven. Activists feared that eight million female foetuses may have been aborted from 2001-2011.

All this has occurred regardless of the Pre-Natal Determination Test (PNDT) Act of 1994, which outlawed sex-selective abortion, and which was amended in 2004 to include gender selection even at the pre-conception stage.

Euthanasia - the law:

Both **euthanasia** and **assisted suicide** are **illegal** under English law.

In England, Wales and Northern Ireland, assisting a suicide is a crime. Those convicted could face up to 14 years in prison.

Euthanasia – case study:

Tony Nicklinson, a man with a condition called **locked-in syndrome**, who fought for the right to legally end his life, died on 22 August 2012.

The 58-year-old was **paralysed** from the neck down after suffering a stroke in 2005 and described his life as a 'living nightmare'. In the week before his death, Mr Nicklinson lost his High Court case to allow doctors to end his life. From that point he **refused food**.

Mr Nicklinson had said he was heartbroken by the High Court decision that he could not end his life at a time of his choosing with the help of a new doctor. He had thought that his legal argument would succeed but conceded that he had forgotten about the emotional component to what he was asking.

Year 8 Art and Design Summer Term 3 Knowledge Organiser

The Formal Elements of Art **Keywords** The formal elements of art are used to make a piece of artwork. The art elements 1. Formal Elements of Art are line, shape, form, tone, texture, pattern, colour and composition. They are 2. Line often used together, and how they are organised in a piece of art determines what the finished piece will look like. 3. Shape 4. Tone and Form Mark Making 5. Texture Mark making describes the different lines, dots, marks, patterns and textures we create in an artwork. Artists use gesture to express their feeling and emotions in 6. Colour Theory response to something seen or something felt. 7. The Colour Wheel **Colour Wheel** 8. Pattern A colour wheel is an illustrative organisation A Line is a mark or link between two points. of colour hues around a circle, which shows Line the relationships between primary colours, Shape is a flat, enclosed area such as a Shape secondary colours and tertiary colours. sauare or trianale. Tone refers to the light and dark values of **Tone** Warm colours: **Colour Theory** an object when drawing. There are three red, orange, yellow **Primary:** different types of tone: shadows, mid tones and high lights. Cold colours: red, yellow, blue blue, purple, green A form can refer to a three-dimensional **Form Secondary:** composition or object. orange, green, purple The texture stimulates two different senses: **Texture** Tertiary: sight and touch. Secondary + Primary Colour is the element of art that is Colour produced when light, striking an object, is **Shades:** add black reflected back to the eye. Harmonious colours sit beside each other on the colour Tint: add white

Pattern A repeated decorative design.

wheel.

Year 8 Art and Design Summer Term 3 Knowledge Organiser

Modernism

Modernism_is the name given to an art movement that took place in the late 19th and early 20th centuries.

Modernism rejected the traditional way of doing things. In art, painters replaced the traditions of the past with experimentation and new ways of presenting things.

Modernism allowed artists to present their own individual view of ideas, including unique imagery, and adopting light, colour, form and atmosphere to reach their own vision.

Georgia O'Keeffe

Georgia O'Keeffe was an American artist, who is often considered the mother of modernism.

She painted nature in a way that showed her feelings. She particularly enjoyed painting flowers and desert landscapers.

She was the first female painter to gain respect in New York's art world in the 1920s.

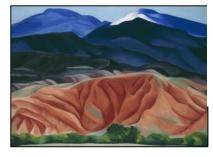
She created a unique way of painting nature, simplifying shapes and forms. This led many to call her a 'pioneer' of modern art.





Key Terms

Natural and Manmade Forms







Year 8 Art and Design Summer Term 3 Knowledge Organiser

Sculpture



Sculpture is a type of visual art that operates in three dimensions (as opposed to 2-D art - paintings).

Sculpting used to always consist of carving into stone, metals, ceramics and wood, but since the Modernism era in the 19th/20th centuries, there is now more freedom in materials used and the process.

Modern sculptures can use almost any material, and can involve assembling, welding, casting and modelling.

Earth Art



Earth art is also known as land art or Earthworks.

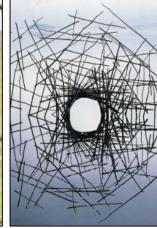
It is an art movement that began in the 1960s and 1970s, mainly taking place in the UK and the USA.

This type of art uses the materials of the earth for building sculptures.

Examples of materials used could be rocks, soils, plants, water, and vegetation.

Due to the rural (and sometimes inaccessible) setting of Earth art, many sculptors choose to take photographs of their work to use in art galleries.







Key Terms

Materials Media

Andy Goldsworthy is a British sculptor, photographer and environmentalist.

He likes to create works in a natural landscape, using natural materials.

The materials used in his art often include brightly coloured flowers, icicles, leaves, mud, pinecones, snow, stone, twigs, and thorns.

Year 8 Design Technology Summer Term 3 Knowledge Organiser

Mechanisms: Mechanisms are the parts that make something work.

Sliders and Levers

Mechanisms are all around us! Most objects that help us in our lives are made up of different mechanisms.

<u>Sliders and Levers</u> are mechanisms that make things move.

<u>Sliders</u> help to move things from <u>side to side</u> and <u>up and down.</u>

Levers are slightly more complex. They use a <u>fulcrum</u> (a fixed point around which the lever can <u>pivot</u>) to make things move in <u>arc</u> (curve).

Designing

Effective sliders and levers should move smoothly and should create a movement that is appropriate to the subject matter.



Sliders ⇒

Consider where you will place the slot, and how long it will be. This will change how far your slider can slide! You also need to consider where to put your guide, so that the slider only moves where you want it to.

Levers

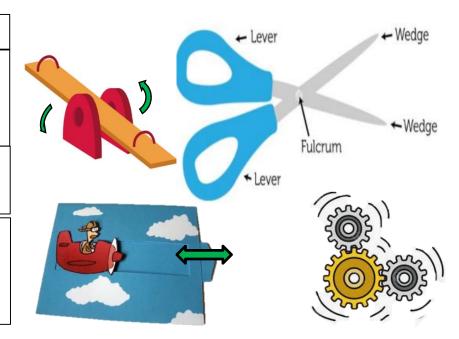
Consider where you will position the fulcrum. The further it is from the object, the more that the subject at the end of your lever can move!

Example Mechanisms

A <u>seesaw</u> is one example of a lever mechanism. Seesaws are a narrow board supported by a <u>fulcrum in the middle point</u> between the two ends. As one end goes up, the other comes down!

<u>Scissors</u> are another example of a lever mechanism. Scissors have <u>two levers fixed</u>. Handles are squeezed at one end of the levers, the blades come together at the other end.

Some <u>children's books</u> contain slider mechanisms. As the slider is <u>pushed/pulled</u>, characters/objects move up and down or side to side in the book. <u>Drawers</u> also work on a slider mechanism. As you <u>pull/push</u> the handle, drawers slide along a slider track inside the cabinet.



Year 8 Design Technology Summer Term 2 Knowledge Organiser

Key Vocabulary

Mechanisms

Motion Slider Slot Pivot Linear Motion

Rotary Motion

Reciprocating Motion Oscillating Motion

Guide/Bridge

Gear

Gear Train

Driver Gear

Rack and Pinion

Linkage

Lever

Fulcrum

Input

Output

Force

Design

Make

back long hair.

Making

Sliders and levers can be made using card, lollipop sticks, or another thin, firm material.

Sliders

Use a hole punch to as the starting point for your slot. Instead of a slot, you could attach a card strip to the back of your product.

Guides can be made using strips of card fixed with masking tape.

Levers

To create the hole for the fulcrum, place the card backdrop over a piece of Blu Tack and pressing a pencil through. The fulcrum can be attached using a paper fastener.

Evaluating

- How well does your mechanism work?
- Does it move smoothly?
- Does it meet its purpose?
- Who would use your mechanism? What would they like about it?
- Where did you position the fulcrum/bridge?
- How did this affect the mechanism?
- What else could you do to improve your mechanism?



Wheel

Follow the teacher's instructions carefully.

Remove any

Axle

Wear an apron Walk safely and jewellery and tie and roll up your calmly around the and floor area clear. sleeves. classroom/workshop.

Keep your work area Make sure that you are wearing the correct equipment for tasks.

Report all spillages

and clean up properly after yourself.

Year 8 Food and Nutrition Summer Term 3 Knowledge Organiser

In order to stay healthy, it is important that we eat a balanced diet of foods from each of the five food groups.

The Eatwell Guide

Covers 5 main food groups and is suitable for most people over 2 years of age. The guide shows the proportions in which different groups of foods are needed in order to have a well-balanced and healthy diet. The guide shows proportions representative of food eaten over a day or more.

We should aim to eat 5 portions of fruit and veg per day.

To build strong bones and muscles, we should eat enough proteins and dairy.

Try to avoid eating too many fatty or sugary foods. They can make you unhealthy and can damage your teeth.



There are five main food groups:

Fruit and vegetables: For example, apples, tomatoes, lettuce. They contain vitamins and minerals.

Carbohydrates: For example, starchy foods like bread and pasta. They give us lots of energy!

Proteins: For example, beans, fish, eggs, meat. They help us to build muscle.

Dairy: For example, milk, butter, cheese. They contain calcium for our bones.

Fats and Sugars: Add fat storage for energy.



Year 8 Food and Nutrition Summer Term 3 Knowledge Organiser

In order to stay healthy, it is important that we eat a balanced diet of foods from each of the five food groups.

Hydration

- Aim to drink 6-8 glasses of fluid every day
- Water, lower fat milk and sugar-free drinks including tea and coffee all count
- Fruit juice and smoothies also count but should be limited to no more than a combined total of 150ml per day.

Fibre

- Dietary fibre is a type of carbohydrate found in plant foods
- Food examples include wholegrain cereals and cereal products; oats; beans; lentils; fruit; vegetables; nuts; and, seeds
- Dietary fibre helps to: reduce the risk of heart disease, diabetes and some cancers; help weight control; bulk up stools; prevent constipation; improve gut health
- The recommended average intake for dietary fibre is 30g per day for adults.

Farms up and down the country grow fruit and vegetables and raise animals for meat and dairy.

Wild plant and animal food can be found in the countryside.

The foods we eat can come from all over the world.





Food from Around the World

Food Sources

A food source is the place where a food comes from. Food comes from plants and animals. It is important to know exactly where our food comes from!

From Source to Plate

For us to get food, we need to grow it, raise it, or catch it.

- ✓ Grow it
- ✓ Raise it
- ✓ Catch it

Key terms

The Eatwell Guide: A healthy eating model showing the types and proportions of foods needed in the diet.

Hydration: The process of replacing water in the body.

Dietary fibre: A type of carbohydrate found in plant foods.

Composite/combination food: Food made with ingredients from more than one food group.

Year 8 Food and Nutrition Summer Term 3 Knowledge Organiser

Key Vocabulary

Food

Nutrition

Eatwell Guide

Carbohydrates

Proteins

Fat

Hydration

Fibre

Equipment

Ingredients

Recipe

Mixing

Weighing

Baking

Grilling

Health and Safety

Preparing Processes

Preparing processes are the different ways that we get food ready to be eaten.

Mixing: to blend ingredients together, using a spoon, blender, or whisk.

Weighing/measuring: to get the right amount of an ingredient, using scales, tablespoons, or teaspoons.

Knife Skills: Bridge and claw methods.

Cooking Processes

Cooking processes are the different ways that we heat food before it is eaten.

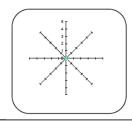
Baking: to cook food in a heated oven. Make sure that you select the right temperature!

Grilling: to cook food by putting it under a hot grill (like a radiator in a cooker).

Washing your hands should be done before, during and after preparing food.

Evaluating

Use a range of sensory words to explain and comment on your product.





Comment on the aroma, appearance, taste and texture of your Food product.

What changes/adaptations could you make to improve your dish?

Follow the teacher's instructions carefully.

Remove any jewellery and tie back long hair.

Wear an apron and roll up your sleeves.

Wash your hands with hot water and antibacterial soap.

Use different chopping boards and knives for raw meat and other foods.

Check that food Make sure that you is cooked right clean up properly the way through.

Rhetoric Knowledge Organiser Year 9

Rhetorical language is how we form our arguments, views and put across our ideas in a convincing way. This unit will explore several great figures in history and consider the different ways rhetoric has influenced our world today.

The Aristoltian Triad		What is rhetoric often used within and for what purpose?				
			Speech	Speaking formally to an audience. A speech will open using a powerful image, anecdote or pose a question to the audience. The most effective speeches end with a powerful message.	Action	The purpose of a piece of writing could be to demand that action be taken to change or stop something happening.
ETHOS Credibility PATHOS Emotion Logic Aristotle outlined that an effective persuasive argument must contain these three elements to be successful.		Poem	Poems are a form of literature that can be used to share ideas or opinions about society. Polemic poetry is poetry used to create a debate or highlight problem.	Injustice	If something feels unjust, it means it is unfair or undeserved. It ay be that a person has chosen to use rhetoric to highlight the poor treatment of a particular group of people.	
		Article	A news article discuss current or recent news. This can be general news that will appeal to most readers, or on a specific topic for a particular audience.	Motivati on	Motivating people is to make them feel enthusiastic or driven to believe an idea, or to take action. It may be that the speaker or writer is trying to give people hope or an optimistic outlook.	
		Letter	A written form of communication, this are usually a formal way of outlining and issue, applying for a job or writing in response to share your opinion.	Change	Sometimes, speakers or writers are highlighting key issues in such a way that they provide ways in which these issues could be resolved. They will provide a range of ways that people can solve the problem within the speech, letter, article or poem.	
	Key Vocabulary:					
Alliteration	Repeating the same sound at the sta	art of Er	notive	Words or phrases that encourage the reader	Pathos	Pathos is the emotional influence of the

iteration	Repeating the same sound at the start of	Emotive	Words or phrases that er
		1	

iiteration	Repeating the same sound at the start of	Lillotive	Words of prinases that e
	consecutive words.	language	or audience to feel a par

Elizabeth I

A short amusing or interesting story about a

Starting each sentence with the same words.

'Don't do this, do that.' Presenting an

Cicero

Use of a proper noun (you) to address the

real incident or person.

Direct opposites.

audience.

Aspasia

alternative argument.

Anecdote

Anaphora

Antithesis

Dialysis

Direct

address

Aristotle: The

original expert of

rhetoric.

01	Emotive	Words or phrases that
	language	or audience to feel a pa

Ethos

Hyperbole

Hypophora

Injustice

Logos

Sojourner Truth

s that encourage the reader
eel a particular emotion.

Polemic

Proof

Purpose

Rhetorical

question

Tricolon

Martin Luther King

Credibility. "You should believe my argument

Exaggeration to emphasise a point or idea.

Using logic and reasoning as your appeal: facts

Gandhi

because you believe me." or perhaps

A question followed by the answer.

"...believe in me. "

If something is unfair.

Key rhetoric speakers throughout history

Winston

Churchill

and figures.

Emmeline Pankhurst

speaker on the audience. Its goal is to make the audience feel something.

Evidence to support your ideas or opinions.

A question that doesn't require an answer,

A written debate or dispute.

The reason the writer is writing.

but is instead used to make a point.

Use of a list of three, or repetition of

point.

Michelle Obama

Malala Yousafzai

something three times, to emphasise a

Barack Obama

Fmma

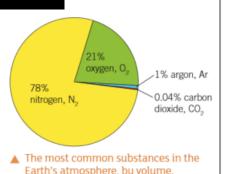
Watson

Earth's atmosphere and resources

Year 8 Science Knowledge Organiser

The Atmosphere

The air around us is called the **atmosphere**. The atmosphere is a mixture of gases that surrounds the Earth. It is mainly two elements, nitrogen and oxygen. There are smaller amounts of other substances, including carbon dioxide and argon.



Fossil Fuels

Coal, oil, and gas are **energy resources** that were formed millions of years ago. That is why they are called **fossil fuels**. Oil and gas are made from the fossilised remains of sea creatures. Coal is the fossilised remains of trees.

Coal, oil, and gas are **non-renewable**. That doesn't mean that you can't use them again. It means that you cannot easily get more of them when we have used them up.

Metal Ores

Metals are found in the Earth's crust. Most metals are combined chemically with other chemical elements, often with oxygen or sulfur. This means that the metal must be chemically separated from its compounds before it can be used.

When there is enough of a metal or metal compound in a rock to make it worth extracting the metal, the rock is called a **metal ore**.

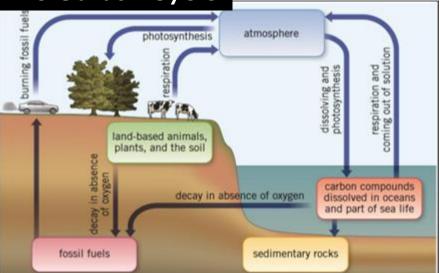
Keywords

Greenhouse effect	a natural process that warms the Earth's surface.
Greenhouse gas	A gas that absorbs long wavelength infrared radiation given off by the Earth but does not absorb the suns radiation.
Global warming	An increase in the temperature of the Earths surface.
	describes a change in the average conditions — such as temperature and rainfall — in a region over a long

period of time

The Greenhouse Effect

The Carbon Cycle



Effects of climate change:

- · Rising sea levels
- · Droughts
- · Extreme weather events
- Changes in wildlife distribution

Why do some people deny humans cause climate change????

Difficult to model.

Models are simplified.

Media can be biased.

MUST check the evidence is PEER
REVIEWED

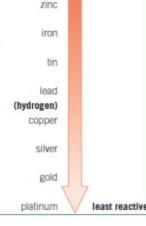
The Reactivity Series

Whether it is worth extracting a particular metal depends on:

- how easy it is to extract it from its ore
- how much metal the ore contains
- the changing demands for a particular metal.

These factors can change over time. For example, a new, cheaper method might be discovered for extracting a metal. You might also discover a new way to extract a metal efficiently from rock which contains only small amounts of a metal ore. An ore that was once thought of as 'low grade' could then become an economic source of a metal.

A few metals, such as gold and silver, are so unreactive that they are found in the Earth as the metals (elements) themselves. They exist in their native state.



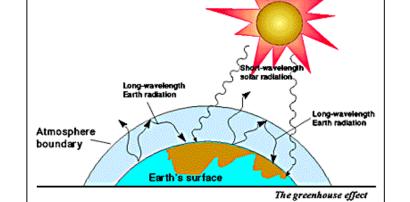
potassium

sodium

calcium

magnesium

aluminium (carbon) most reactive



Year 8 Science Knowledge Organiser

Energy

Work done

Work is the energy transferred when a force moves and object.

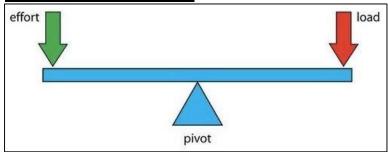
The bigger the force/ distance the greater the work.

Machines make the work easier by reducing the force needed.eg Levers and pivots.

Work done (J) = force (N) x distance (M)

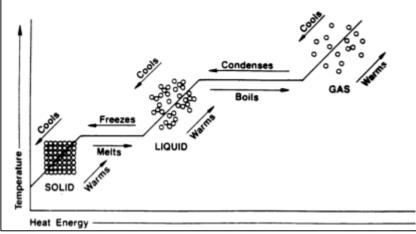
Key Terms	Definitions
Temperature	The measure of the average amount of kinetic energy of all the particles in a substance.
Heat	The energy stored in substances thanks to the energy of their particles. Also called thermal energy.
Conduction	One way that thermal energy can be transferred. Objects that are touching can transfer thermal energy, from the hotter object to the cooler one.
Radiation	Another way that thermal energy can be transferred. All objects give out infra red radiation. Hotter objects give out (emit) infra red radiation that is absorbed by cooler objects.
Infra red radiation	A form of light that we cannot see; infra red radiation transfers thermal energy from one object to other objects or the surroundings.
Emit	To give out.
Absorb	To take in.

Lever diagram

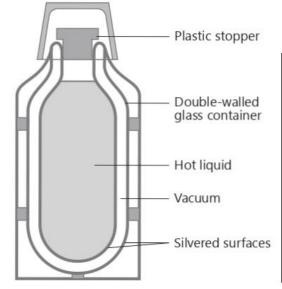


Interpreting the Energy-Temperature Graph

During the change of state, the temperature will stay the same until the change of state has been completed, i.e. all liquid has turned into gas, all liquid has frozen into solid, etc.



Vacuum flask

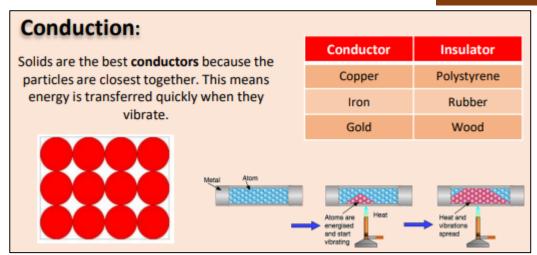


Temperature and Heat

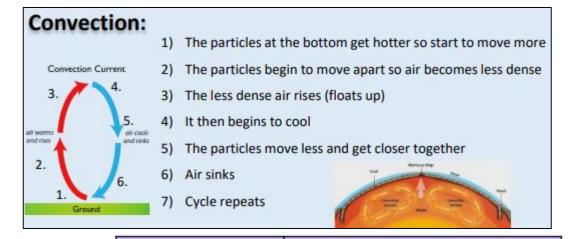
Temperature and heat are linked, but are not the same thing. The heat of a material depends on the **potential energy** of the particles AND the **kinetic energy** of the particles is it made from. What this does mean is that the more heat (thermal energy) a substance stores, the higher its temperature will be. You can increase the heat stored in a substance without increasing its temperature though: just get more of it. This means you have more particles, so there is more thermal energy all together in the substance.

But do not get confused, a cup of tea at 80°C has a higher temperature than a swimming pool at 30°C but because there are many more water particles in the swimming pool so the energy is higher.

Year 8 Science Knowledge Organiser



Energy

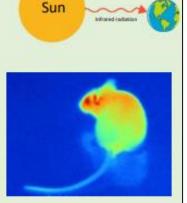


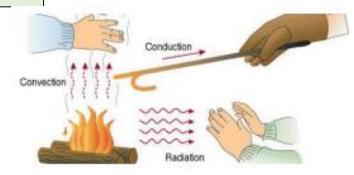
Radiation:

- You don't need particles to transfer energy by radiation.
- Infrared radiation is also know as 'heat waves'
- · All objects emit radiation

The hotter the object the more infrared radiation it emits.

A thermal imaging camera absorbs radiation and turns it into an image!





Key word	Definition
Conduction	How energy is transferred when particles collide with each other (Most often in solids)
Conductor	A material which transfers energy or electrical charge well
Insulator	A material which does not transfer energy or electrical charge well
Convection	The transfer of energy by the movement of liquids or gases
Convection current	The movement of heated liquids or gases
Radiation	The transfer of energy as a wave
Emit	To give out
Absorb	To take in
Reflect	Bounce off
Thermal Equilibrium	When 2 substances in contact with each other exchange no heat energy i.e. They are at the same temperature

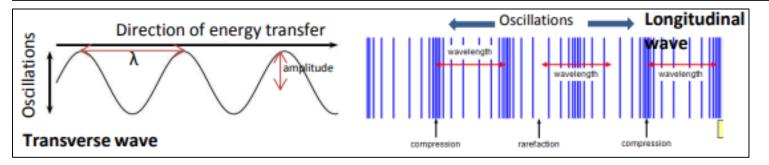
Year 8 Science Knowledge Organiser

Types of wave

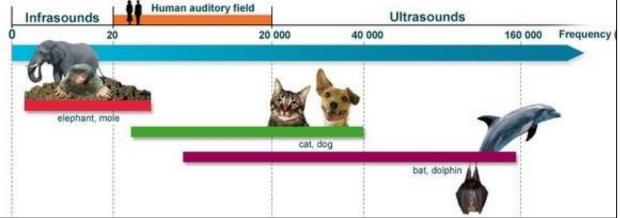
Waves

The other way of defining types of wave is whether they are **longitudinal** or **transverse**. Which one they are depends on the direction of the oscillations compared to the direction of energy transfer by the wave.

- · In transverse waves, the oscillations are perpendicular to the direction of energy transfer.
- In longitudinal waves, the oscillations are parallel to the direction of energy transfer. They show areas
 of compression and rarefaction see diagram.



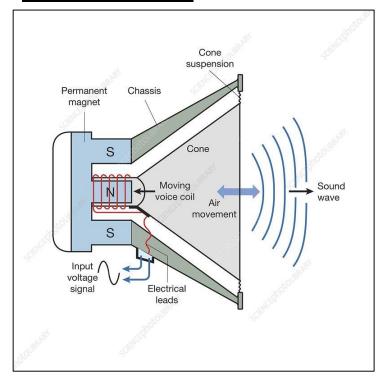
Wave speed (m/s) = frequency (Hz) x wavelength (m)

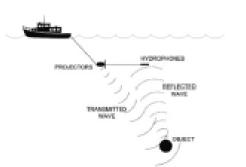


Uses of ultra sound

- Medical ultrasounds use the same technique as SONAR.
- Ultrasonic pulses (high pressure, high frequency sound waves) are projected through your body. More than 1000 pulses per second penetrate your skin.
- As they encounter different tissues with different densities, they echo in different ways.
- The computer builds these up as areas of different brightness.
- Because of the speed of the imaging, you can build up a real time image.







Year 8 Drama Summer Term Knowledge Organiser

Professional Performance Review

Key Vocabulary	Definitions & Explanations	Examples
Creative Intentions	What was the director/ writer/ creator thinking about? Themes / issues / response to stimulus / style/genre / contextual influences / collaboration with other practitioners / influences by other practitioners.	FUP – look at your creative intentions sheet – have you been able to complete all the boxes?
Purpose	Why was it made? to educate / to inform / to entertain to provoke/ to challenge viewpoints / to raise awareness / to celebrate	This is not a complete list – what other purposes can you think of?
Practitioners' roles, responsibiliti es and skills	Performance roles e.g. actor / dancer / singer/ puppeteer, etc & Non-performance roles e.g: choreographer /set designer / director / writer etc. Responsibilities: rehearsing /performing /contributing to the creation and development of performance material, e.g. devising, designing, choreographing, directing, writing / refining performance material / managing self and others. Skills: physical, vocal and music skills, managing and directing skills, communication skills used to liaise, direct and perform, creative skills, such as designing set, costume, lighting or sound, writing scripts and composing songs, organisational skills used to put on a performance by a director or choreographer.	You will be expected to research a number of roles within the Performing Arts business, and explore how they work with each other to create a piece, e.g. How does the musical director of Kneehigh work with the director/writer/actors when creating a piece like FUP? Music is integral to the piece – look at how their creative process unfolds – it's all on the website. How do roles differ, depending on the company and the performance piece itself?

Year 8 Drama Summer Term Knowledge Organiser

Professional Performance Review

Key Vocabulary	Definitions & Explanations	Examples
Processes used in development, rehearsal and performance	Responding to stimulus to generate ideas for performance material / exploring and developing ideas to develop material / discussion with performers / setting tasks for performers / sharing ideas and intentions / teaching material to performers / developing performance material / organising and running rehearsals / refining and adjusting material to make improvements / providing notes and/or feedback on improvements.	What does a good rehearsal look like? Can you use your rehearsal time productively? How do you do this? Do you assign roles? Do you keep track of decisions made? Are you asking other people to feedback their opinions?
Techniques and approaches used in performance	Rehearsal / production / technical rehearsal / dress rehearsal / performance / post-performance evaluation/review.	You need to track your progress from first ideas right through to post-performance evaluation. How have you made progress?
Evidence	As your qualification is based on continual assessment, rather than a terminal exam, you will be able to present your information in a number of ways: extended writing, a blog, a PowerPoint® presentation, teacher observations, recordings of workshops, recordings of performances.	You can be creative in the way in which you present your information. You will be given a template, but as long as you include all the relevant points, you can use any kind of presentation you want – posters, video interviews, etc.