LIGHT HALL KNOWLEDGE MATS
Year 8 Autumn 1

The best from everyone, all of the time.

KEY WORD	DEFINITION	DRAW IMAGE	IN A SENTENCE	LOOK, COVER, WRITE, CHECK	LOOK, COVER, WRITE, CHECK
penitence	Showing sorrow and regret for doing wrong.		There was a public display of **penitence**.		
austere	Severe and strict in manner and attitude.		She was **austere** with her students.		
depose	Remove from office suddenly and forcefully.		The Prime Minister was **deposed**.		
imminent	About to happen.		The bomb was **imminent**.		
odious	Extremely unpleasant and repulsive.		**Odious** and dirty, the bathroom was vile.		
Lethargic	Sluggish, tired and apathetic.		The family were **lethargic** after the flight.		
iniquity	Unfair behaviour.		It was a den of **iniquity**.		
slumbered	Sleep.		Sleeping Beauty was **slumbering**.		
prevail	Prove more powerful and superior.		It was hard for logic to **prevail** over emotion.		
antagonist	A person who actively opposes and is hostile.		The devil is the **antagonist** to the angel.		
negligence	Neglectful and failure to care for another person.		The doctor was sued for **negligence**.		
accosted	Approach and address someone boldly and aggressively.		Reporters **accosted** him on the street.		

Jekyll and Hyde- Autumn A

1. ***There is a list of key vocabulary linked to your studies this half term. Learn the key words and definitions.***
2. ***Below there is a link of key knowledge. Understand what they all are.***

Vocabulary Knowledge:

[08/09/25] – Reading Lesson

[22/09/25] – Reading Lesson

[06/09/25] -- Reading Lesson

Year 8 Knowledge Mats (#1) Written Calculations

w.b. 08/09/25

Key Words

- **Commutative** – changing the order of the operations doesn't change the result.
- **Place holder** – a number that occupies a position to give value.
- **Integer –** any whole number, that can be positive, negative or zero

x	1	2	3	4	5	6	7	8	9	10	11	12
1	1	2	3	4	5	6	7	8	9	10	11	12
2	2	4	6	8	10	12	14	16	18	20	22	24
3	3	6	9	12	15	18	21	24	27	30	33	36
4	4	8	12	16	20	24	28	32	36	40	44	48
5	5	10	15	20	25	30	35	40	45	50	55	60
6	6	12	18	24	30	36	42	48	54	60	66	72
7	7	14	21	28	35	42	49	56	63	70	77	84
8	8	16	24	32	40	48	56	64	72	80	88	96
9	9	18	27	36	45	54	63	72	81	90	99	108
10	10	20	30	40	50	60	70	80	90	100	110	120
11	11	22	33	44	55	66	77	88	99	110	121	132
12	12	24	36	48	60	72	84	96	108	120	132	144

Using factors to simplify calculations

30 x 16

- 10 x 3 x 4 x 4
- 10 x 3 x 2 x 8
- 2 x 5 x 3 x 2 x 2 x 2 x 2
- 16 x 10 x 3

Multiplication is commutative
Factors can be multiplied in any order

Multiplication methods

Long multiplication (column)

Grid method

Repeated addition

Less effective method especially for bigger multiplication

Multiplication with decimals

Perform multiplications as integers
e.g. 0.2 x 0.3 → 2 x 3

Make **adjustments** to your answer to match the question: 0.2 x 10 = 2
0.3 x 10 = 3
Therefore 6 ÷ 100 = **0.06**

Estimations: Using estimations allows a 'check' if your answer is reasonable

Division methods

3584 ÷ 7 = **512**

Short division

$$7\overline{)\,3\,{}^{3}5\,8\,{}^{1}4}\qquad 5\ 1\ 2$$

Complex division

÷ 24 = ÷ **6** ÷ **4**

Break up the divisor using factors

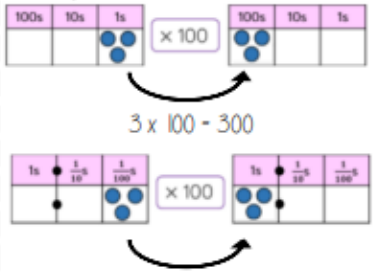
Division with decimals

The placeholder in division methods is essential – the decimal lines up on the dividend and the quotient

24 ÷ 0.02 → 24 ÷ 0.2 → 240 ÷ 2

All give the same solution as represent the same proportion
Multiply the values in proportion until the divisor becomes an integer

Multiply/ Divide by powers of 10



Repeated multiplication and division by powers of 10 is commutative

÷ 10 then ÷ 10 → ÷ 100

Addition/ Subtraction with decimals

4	.	3	8	
7	.	9	0	+

0 can be used to fill empty places with value

The decimal place acts as the placeholder and aligns the other values

If  represents 1 instead of 100

$5.43 + \frac{8}{10}$

Revisit Fraction – Decimal equivalence
5.43 + 0.8

Year 8 Knowledge Mats (#2) Directed Numbers

w.b. 22/09/25

Key Words

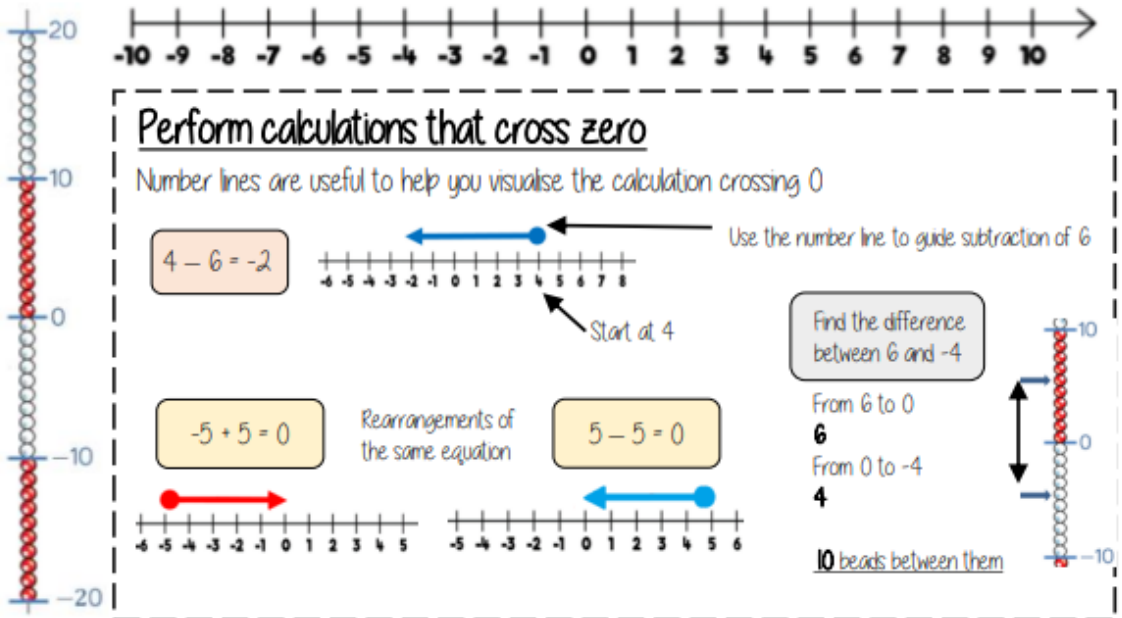
- **Negative –** a value less than zero
- **Commutative** – changing the order of the operations doesn't change the result.
- **Product –** multiply terms

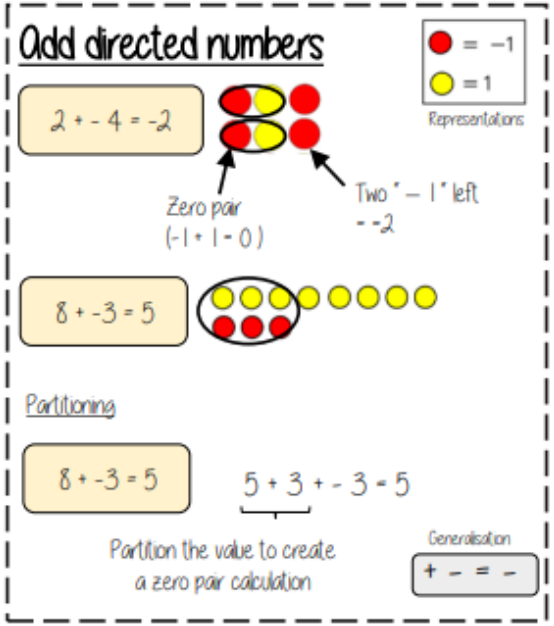
What sum is represented by the following diagrams?

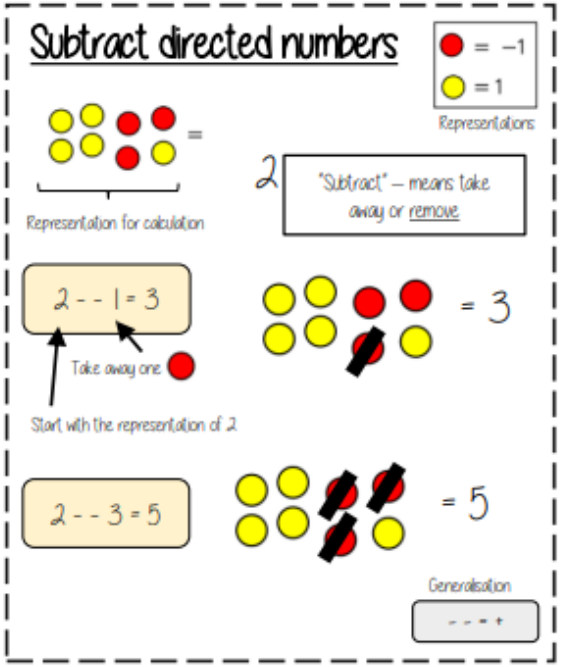
1)

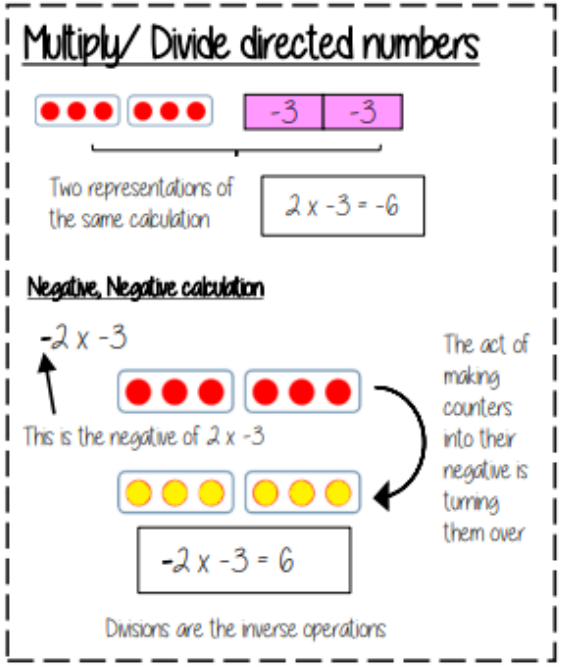
2)

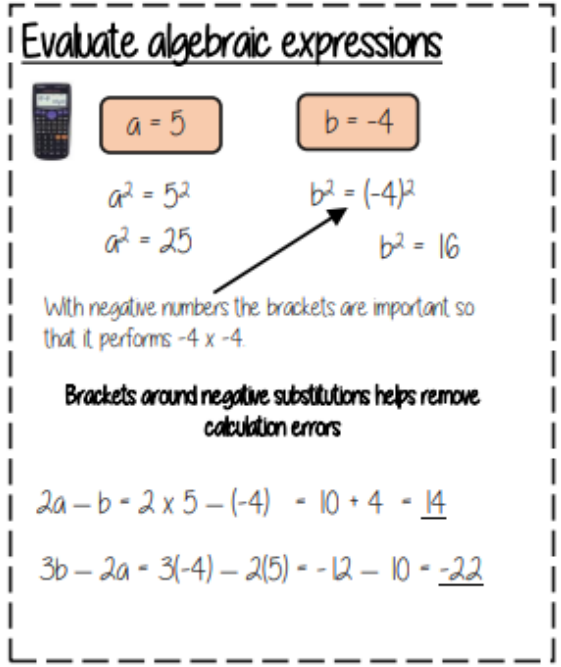
3)











Year 8 Knowledge Mats (#3) Area of 2D Shapes

w.b. 06/10/25

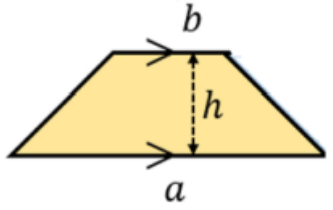
Key Words

- **Congruent –** the same
- **Area –** the space inside a 2D object
- **Perpendicular –** at 90° to a given surface

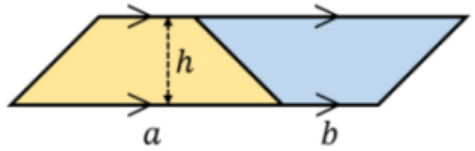
Area of a trapezium

Area of a trapezium

$$\frac{(a+b)\times h}{2}$$



Why?



- Two congruent trapeziums make a parallelogram
- New length (a + b) x height
- Divide by 2 to find area of one

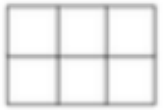
Side	Area
mm	sq. mm or mm^2
cm	sq. cm or cm^2
m	sq. m or m^2
km	sq. km or km^2

	Parallelogram
	Trapezium
	Right-angled triangle
	Isosceles triangle
	Equilateral triangle

Area problems

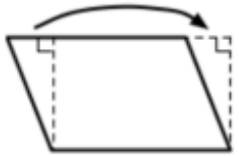
Rectangle

Base x Perpendicular height



Parallelogram/ Rhombus

Base x Perpendicular height



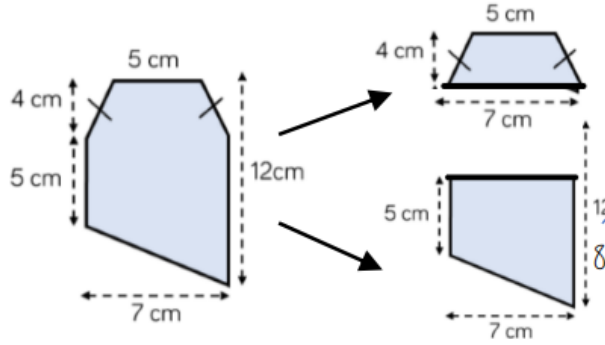
Triangle

½ x Base x Perpendicular height

A triangle is half the size of the rectangle it would fit in

Compound shapes

To find the area compound shapes often need splitting into more manageable shapes first. Identify the shapes and missing sides etc. first.



Shape A - Isosceles trapezium

Shape B- nonstandard trapezium

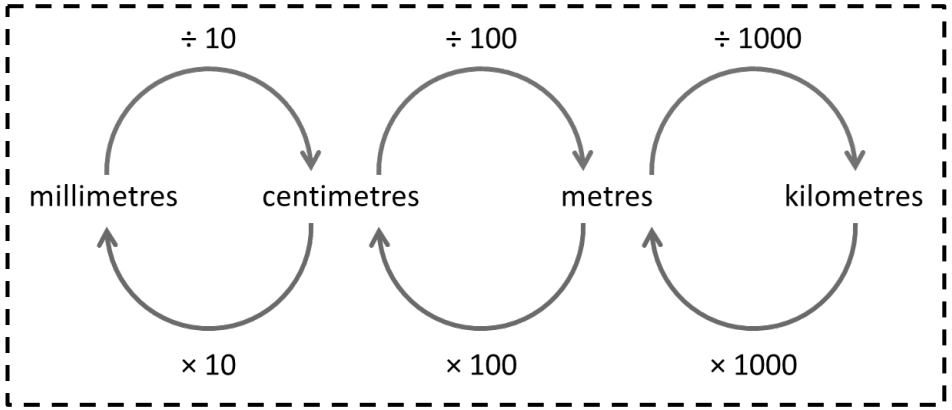
Units

Shape A + Shape B = total area

$$\frac{(5+7)\times 4}{2} + \frac{(5+8)\times 7}{2} = 24 + 45.5 = 69.5cm^2$$

Year 8 Knowledge Mats (#4) Measures

w.b. 20/10/25



Key Words

- **Conversion –** the process of changing on variable to another
- **Metric –** a system of measurement
- **Kilometre –** One thousand meters (Kilo- means thousand)

The tree is 7 metres tall.

How many **centimetres** tall is it?

There are 100 cm in every metre, so we **multiply 7 by 100**.

The pencil is 140 millimetres long.

How many **centimetres** long is it?

There are 10 mm in every centimetre, so we **divide 140 by 10**.

Try these:

3 m = ☐ cm	40 mm = ☐ cm	6 km = ☐ m
600 cm = ☐ m	90 cm = ☐ mm	8000 m = ☐ km
2.4 m = ☐ cm	12 cm = ☐ mm	2400 m = ☐ km
3200 cm = ☐ m	5 mm = ☐ cm	1.7 km = ☐ m

The duck is 0.4 metres tall.

How many **centimetres** tall is it?

There are 100 cm in every metre, so we **multiply 0.4 by 100**.

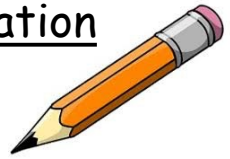
Tim is 180 centimetres tall.

How many **metres** tall is he?

There are 100 cm in every metre, so we **divide 180 by 100**.

W/C 8th September

Writing a scientific investigation



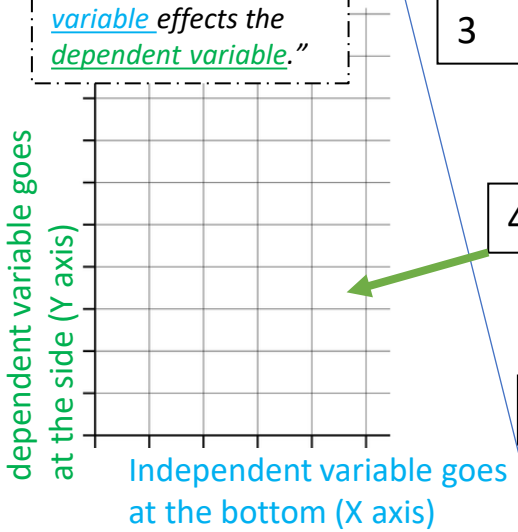
1 Aim
What am I trying to find out?

2 Prediction
Have a guess! What do you expect to see?
" I think that…. Because…."

Top tips for a great method:
- Use the sequencing words
- Use correct scientific terminology for equipment
- Use impersonal writing for example: 'Measure out 100cm^3 of water'
- Use specific quantities with the correct units
- Use bullet points or numbered stages

SEQUENCING
first, second, third...
finally
next
meanwhile
after
then
subsequently

"Graph to show how the independent variable effects the dependent variable."



3 Method
How will you investigate your aim? What equipment will you use? Make sure you refer to all your variables in your method.
What will you change? Measure? Keep the same?

4 Results:
Take a minimum of three readings and calculate an average (mean) to minimize the effects of 'random errors' (mistakes).
Display your results in a table and/ or a graph.

5 Analysis – Point, Evidence
What do your results show you?
"As we increased/ decreased Independent variable the dependent variable increased/ decreased. For example….(include evidence from your results).

Variable	Definition
Independent	What we are changing in our experiment
Dependent	What we are measuring in our experiment
Control	What we need to keep the same in our experiment

6 Conclusion- Explain
Why did that happen?
" I think this happened because….."

7 Evaluation
What would you do to improve your experiment next time?

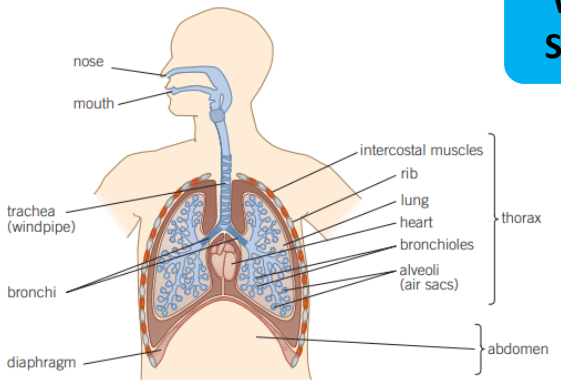
CAUSE and EFFECT
because
so
therefore
thus
consequently
hence

CONTRASTING
whereas
instead of
alternatively
otherwise
unlike
on the other hand..
conversely

Gas exchange and breathing

W/C 22nd September

- **Gas exchange** is the process of taking in oxygen and giving out carbon dioxide
- This occurs in the **respiratory system**
- The proportions of gases in the air we **inhale** and **exhale** changes due to using oxygen in **respiration** and producing carbon dioxide



What happens when you breathe in and out

when you breathe in (inhale)	• muscles between the rubs contract • ribs are pulled up and out • diaphragm contracts and flattens • volume of the chest increases • pressure inside the chest decreases • air rushes into the lungs
when you breathe out (exhale)	• muscles between ribs relax • ribs are pulledin and down • diaphragm relaxes and moves up • volume in the chest decrease • pressure inside the chest increases • air is forced out of the lungs

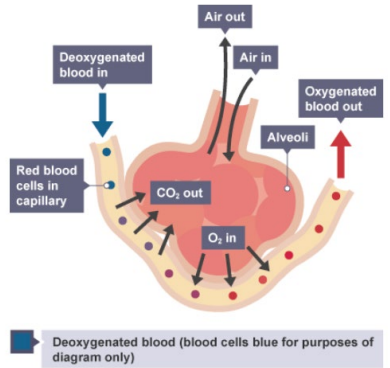
Structure of the gas exchange system

The gas exchange system is made from key parts, each of which has a different function.

Part of the gas exchange system	Function
Trachea	This is also called the windpipe. This tube runs from the mouth, down the throat towards the lungs. It is lined with rings of **cartilage** which keep it open at all times.
Bronchus	The trachea splits into a left and right bronchus (plural: bronchi), each leads to a lung.
Bronchiole	Each bronchus splits again and again into thousands of smaller tubes called bronchioles which take the air deeper into the lungs.
Alveoli	At the ends of bronchioles are tiny air sacs called alveoli. Here oxygen moves into the blood and carbon dioxide moves out.
Intercostal muscles	These muscles run between the ribs and form the chest wall. They contract and relax with the diaphragm when a person breathes.
Diaphragm	The diaphragm is a dome-shaped, flat sheet of muscle under the lungs. It contracts and relaxes with the intercostal muscles during breathing.

Alveoli are tiny air sacs in the lungs where gas is exchanged during breathing.
Within the human lungs the alveoli provide an efficient exchange surface adapted for gas exchange. This involves the 'swapping' of gasses.

For example:
•Absorbing oxygen, which is needed for respiration, into the blood from the air.
•Transferring carbon dioxide, which is produced by respiration, from the blood into the lungs and then the air.



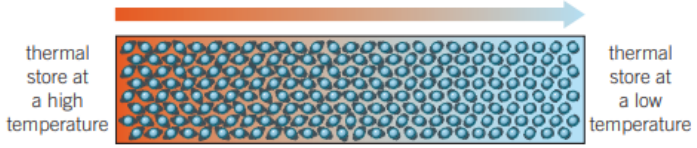
Energy and temperature

- The **temperature** of a substance is a measure of how hot or cold it is
- Temperature is measured with a **thermometer**, it has the units of degrees Celsius (°C)

- The **thermal energy** of a substance depends on the individual energy of all of the particles, it is measures in Joules (J)
- As all particles are taken into account, a bath of water at 30 °C would have more thermal energy than a cup of tea at 90 °C as there are many more particles
- The faster the particles are moving, the more thermal energy they will have
- When particles are heated they begin to move more quickly
- The energy needed to increase the temperature of a substance depends on:
  - the mass of the substance
  - what the substance is made of
  - how much you want to increase the temperature by

Conduction

- **Conduction** is the transfer of thermal energy by the vibration of particles, it cannot happen without particles
- This means that every time particles collide they transfer thermal energy
- Conduction happens effectively in solids as their particles are close together and can collide often as they vibrate around a fixed point
- Metals are also good **thermal conductors** as they contain electrons which are free to move
- In conduction the thermal energy will be transferred from an area which has a high **thermal energy store** (high temperature) to an area where there is a low thermal energy store (low temperature)
- Gases and liquids are poor conductors as their particles are spread out and so do not collide often, we call these **insulators**



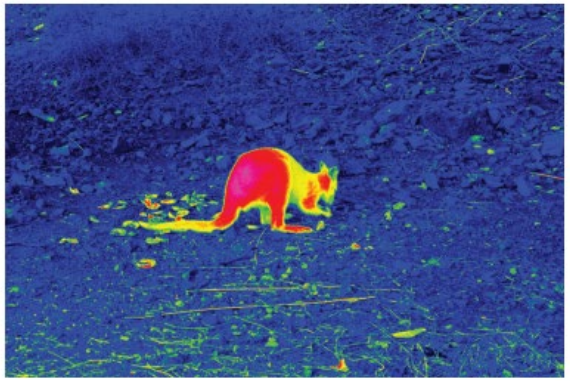
W/C 6th October

Convection

- **Convection** is the transfer of thermal energy in a liquid or a gas, it cannot happen without particles
- As the particles near the heat source are heated they spread out and become less dense, this means that they will rise
- More dense particles will take their place at the bottom nearest the heat source creating a constant flow of particles
- This is known as a **convection current**
- Convection cannot happen in a solid as the particles cannot flow, they can only move around a fixed point

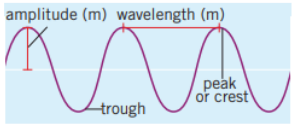
Radiation

- **Radiation** is a method of transferring energy without the need for particles
- An example of radiation is thermal energy being transferred from the Sun to us through space (where there are no particles)
- This type of radiation is known as **infrared radiation**, it is a type of wave just like light
- The hotter an object is the more infrared radiation it will emit (give out)
- The amount of radiation emitted and absorbed depends on the surface of the object:
  - Darker matte surfaces absorb and emit more infrared radiation
  - Shiny and smooth surfaces absorb and emit less infrared radiation, instead reflecting this
  - The amount of infrared radiation being emitted can be viewed on a **thermal imaging camera**



Properties of waves

- A **wave** is an **oscillation** or **vibration** which transfers energy from one place to another
- **Amplitude** – the distance from the middle to the top of bottom of the wave
- **Wavelength** – the distance between a point on the wave to the same point on the next wave
- **Trough** – The bottom of the wave
- **Peak** – The top of the wave
- **Frequency** – How many waves pass a fixed point per second, measured in Hertz (Hz)



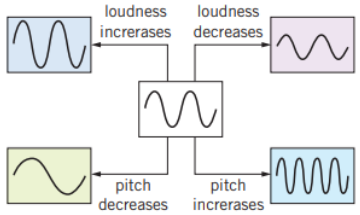
There are two main types of waves:

Transverse waves, e.g. light
- Travel at 90°direction of energy transfer
- Do not need a medium to travel through

Longitudinal waves, e.g. sound
- Travel in the direction of energy transfer
- Need a medium to travel through

Sound waves

- Sound waves are caused by the vibration of particles, sound travels quicker in a solid than a gas as the particles are closer together
- **Oscilloscopes** display sound waves on a screen
- Humans can hear between 20–20 000 **hertz** (Hz), but other animals have different ranges of hearing
- Sound waves above 20 000 Hz are known as **ultrasound**, thesesound waves are too high pitched for humans to hear



Hearing

- The **pinna** directs sound along the **auditory canal** to the **eardrum** which will vibrate
- The vibration from the ear drum moves onto the ossicles which amplifies the sound
- This passes the sound to the cochlea where tiny hairs detect the vibrations and passes this along to the **auditory nerve** as electrical signals for our brain

W/C 20th October

How we hear

We detect sounds because inside our ears we have parts that work together to turn sound waves into a signal that is sent to our brain.

The components of the ear that make this possible are:

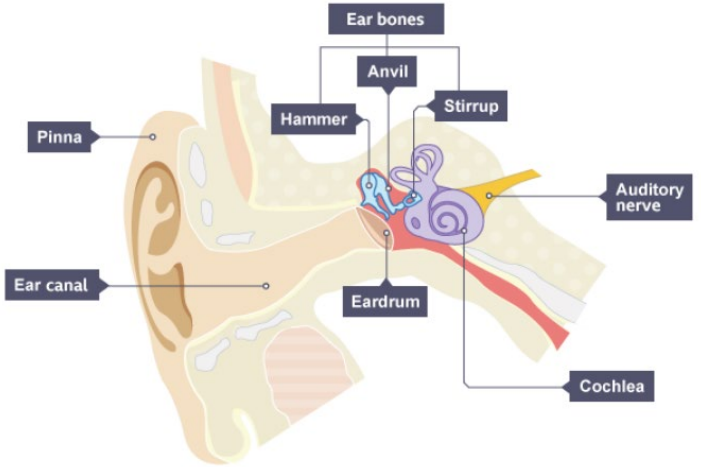
- The **eardrum**: A thin flap of skin that is stretched tight like a drum.
- The **ear bones**: Three small bones called the hammer, anvil and stirrup.
- The **cochlea**: A spiral shaped part of the ear that looks a bit like a snail shell.
- The **auditory nerve**: The nerve that carries signals from the cochlea to the brain.
- The **Pinna**: The visible portion of the outer ear.

When a sound reaches us, the air particles inside our **ear canal** vibrate and hit the eardrum.

The eardrum then starts vibrating and these vibrations are passed to three small ear bones – called the hammer, anvil and stirrup.

The stirrup bone hits the cochlea, which turns the vibrations into an electrical signal that is sent to our brain via the **auditory nerve**.

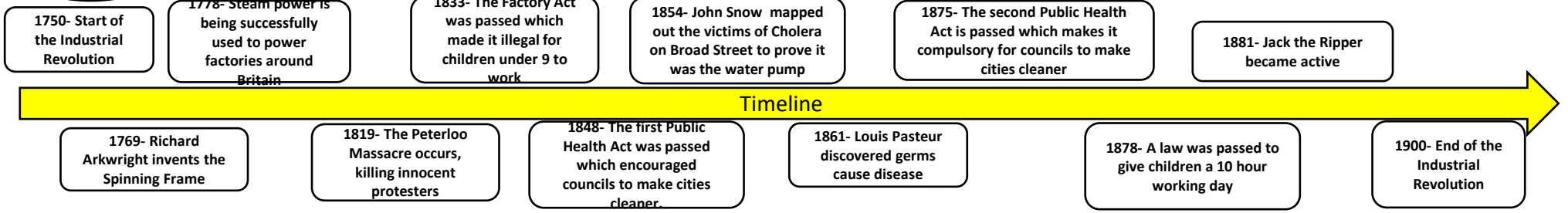
When the signal reaches our brain, our brain translates the signal into the sound we hear.



A diagram of the human ear

How did the Industrial Revolution shape Britain?

WB. 8th Sept



Enquiry 1: What were the main changes to peoples lives throughout the years 1750-1900?

WB. 22nd Sept

Key words:

Industry: Processing of raw materials and manufacture of goods in factories.
Revolution: A sudden and great change
Agricultural: The practise of farming, including growing crops and rearing animals for food and materials such as wool
Urban: Relating to a town or city
Life expectancy: The average age of people when they die
Steam power: The use of water being heated up and turned into steam as a way to power a machine/ factory
Locomotive: A powered railway vehicle used for pulling trains

What I need to know:

- Many people moved from the countryside to towns and cities.
- The towns and cities were very overcrowded, dirty and most people lived in poverty.
- For the first half of the Industrial Revolution people did not know what caused disease which meant health care was limited.
- After germs were discovered, cities became much cleaner and life expectancy rose by about 10 years.
- Throughout the Industrial Revolution there was rapid changes in transport and by the end many people travelled by train, car and boats.

Enquiry 2: How did the birth of factories change England and how did people protest against the changes ?

WB. 6th Oct

Key words:

Domestic system: The system of making cloth at home with other family members. It was quite limited and not much cloth could be made.
Factory system: The system of making cloth and other goods on a large scale using machines and big workforce in a factory.
Loom: An apparatus for making fabric by weaving thread.
Spinning Jenny: A machine that could spin thread 8 times faster.
Overseer/Overlooker: The manager of the factory who would enforce rules of the factory.
what the conditions were like and then write a report.
Luddite: A member a group of English workers who destroyed machinery in cotton and woolen mills, that they believed was threatening their jobs.
Reformers: Someone who wants to change something to improve it.

What I need to know:

- Hundreds of factories then sprung up over Britain and with it came the demand for workers.
- Conditions in the factories were awful with working hours of up to 14 hours a day, basic food such as oatcakes, harsh fines for actions such as whistling and dangerous machinery for the workers.
- Children would work in factories from as young as 4 years old. Their jobs included crawling under machinery to fix problems which could lead to injuries and death.
- Children would be employed because they were cheaper than adults, were small enough to do the dangerous jobs, they could be disciplined easily and families often needed the extra money.
- The 1833 Factory Act aimed to make working conditions. The act said that no child under the age of 9 should work, children should get 2 hours of school a day and only work 9 hours a day.

Enquiry 3: How did medicine and health develop throughout the Industrial Revolution?

WB. 20th Oct

Key words:

Consequence: The result of an action.
Surgery: The process of treating an injury or illness by cutting into the body with instruments.
Amputation: The removal of a limb by a doctor with instruments.
Miasma: Bad/ foul smelling air that people thought caused disease.
Cholera: A deadly disease which is caused by dirty water.
Slum: An area of a city which is in severe poverty, with dirty, over-crowded houses.
Back to back house: 2 houses which share a rear wall.
Public Health: The health of the population with the intervention of government schemes.

What I need to know:

- Surgery was very dangerous at the beginning of the Industrial Revolution with the 3 main problems being pain, blood loss and infection.
- Improvements were made throughout the 1800's with the discovery of ether and chloroform to put patients to sleep and ease their pain.
- Louis Pasteur discovered that germs cause disease in 1861. This led to doctors and surgery becoming more hygienic by washing instruments, hands and cleaning the theatre.
- Joseph Lister invented Carbolic Spray to kill off germs in surgery which led to a higher survival rate.
- The slums in the 1800's were dirty with up to 14 people living in 1 room. The toilets were outside and often over-flowed without being cleaned up.
- Back to back houses in Birmingham were cramped places to live with no gardens and only a small yard. These were banned from being made after 1875 due to the horrible conditions.
- Jack the Ripper was a serial killer who was never identified. He worked in the slums and targeted vulnerable women.

Homework 1: Key terms

w/c 8th September

- Social – something related to people or society
- Economic – something related to money or finance
- Environmental – something related to nature
- Monsoon – season of very heavy rainfall
- Population – the number of people who live in an area/country/continent etc.
- Globalisation – process where the world has become more connected thanks to trade, transport and the internet
- Urbanisation – increase in the percentage of people living in cities
- Development – process where an area/country/continent improves
- Exploitation – taking advantage of someone
- Slum – area of self built homes with low quality of life and poor services

Homework 2: Describing Maps

Consider
Compass points – N, NE, E, SE, S, SW, W, NW
Equator/tropics/Hemisphere
Neighbouring countries and oceans

w/c 22nd September

Homework 3: One Child Policy

w/c 6th October

China's One Child Policy

Rules: Beginning in 1979, the one-child policy said that each couple could only have one child. If they followed this rules they would receive a 5 to 10% salary rise and would have priority for housing, pensions, benefits and education. They also discouraged marriage until people were in their late 20's to limit how many children people would have and must be sterilised after the first child or abort any further pregnancies.

Penalties: If people did not follow the One Child Policy they would receive a 10% salary cut and the family would have to pay for education, healthcare etc. on their own. They could also face fines and other punishments.

Successes and Failures: The impact was that population growth slowed and there were enough jobs, food, homes etc. for everyone. However there were fewer workers to grow the economy and there is now a lack of women because few people wanted there only child to be a girl. So girls were put up for adoption, aborted or in some cases killed.

Homework 4: One Child Policy

Context	Responses
Population – China's population was growing rapidly Urbanisation – China's cities were growing rapidly and there was a lack of space Development – Transport and industry were growing rapidly in China and space was needed for them to keep growing and improving Globalisation – China's was able to trade more goods and needed room to build factories	One Child Policy – China needed to control their population and make sure they could develop, urbanise and take part in globalisation

w/c 20th October

Light Hall Knowledge Mat Year 8 Autumn 1 Geography Asia

Light Hall Knowledge Mat — French HT1
Y8 Scheme of learning — Mes vacances – Dynamo 2

Où habites-tu? — *Where do you live?*

J'habite ...	*I live ...*
en Angleterre	*in England*
en Écosse	*in Scotland*
en Irlande (du Nord).	*in (Northern) Ireland.*
au pays de Galles.	*in Wales.*
J'ai / On a ...	*I have / We have ...*
une semaine / deux semaines de vacances	*a week / two weeks of holiday*
en janvier / février (etc.).	*in January / February (etc.)*
à Noël / à Pâques.	*at Christmas / Easter.*
Je suis / Nous sommes en vacances ...	*I am / We are on holiday ...*
au bord de la mer.	*at the seaside.*
à la montagne.	*in the mountains.*
à la campagne.	*in the countryside.*
en colo (en colonie de vacances).	*at a holiday camp.*
chez mes grands-parents.	*at my grandparents' home.*

08/09

C'est ...	*It is ...*
assez	*quite*
très	*very*
trop	*too*
un peu	*a bit*
complètement	*completely*
nul / sympa	*rubbish / nice*
ennuyeux / intéressant	*boring / interesting*
triste / marrant	*sad / funny*

Séquenceurs — *Sequencers*

d'abord	*first of all*
ensuite / puis	*then*
après	*after(wards)*
finalement	*finally*

Opinions dans le passé

C'était ...	*It was ...*
fantastique	*fantastic*
génial	*great*
super!	*brilliant*
amusant	*fun*
marrant	*funny*
sympa	*nice.*
intéressant	*interesting*
ennuyeux	*boring*
nul.	*rubbish.*
Ce n'était pas mal.	*It wasn't bad.*

Qu'est-ce que tu as fait pendant les vacances? — *What did you do during your holidays?*

Pendant les vacances ... — *During the holidays ...*

j'ai joué au tennis.	*I played tennis.*
j'ai mangé des glaces.	*I ate ice creams.*
j'ai retrouvé mes amis.	*I met up with my friends.*
j'ai écouté de la musique.	*I listened to music.*
j'ai acheté des baskets.	*I bought some trainers*
j'ai regardé des clips vidéo.	*I watched video clips.*
j'ai nagé dans la mer.	*I swam in the sea.*
j'ai traîné à la maison.	*I hung around the house.*
J'ai visité un parc d'attractions.	*I visited a theme park.*
J'ai bu un coca au café.	*I drank a cola in the café.*
J'ai pris beaucoup de photos.	*I took lots of photos.*
J'ai vu un spectacle.	*I saw a show.*
J'ai fait une balade en bateau.	*I went on a boat ride.*
J'ai vu mes personnages préférés.	*I saw my favourite characters.*
J'ai fait tous les manèges.	*I went on all the rides.*

22/09

Tes vacances passées — *Your past holidays*

Tu es allé(e) où en vacances?	*Where did you go on holiday?*
Tu es allé(e) en vacances avec qui?	*Who did you go on holiday with?*
Je suis allé(e) en vacances avec ...	*I went on holiday with ...*
ma famille	*my family*
mes parents	*my parents*
mes copains.	*my friends.*
On est allé(e)s / Nous sommes allé(e)s...	*We went ...*
en Espagne	*to Spain*
en France	*to France*
en Grèce	*to Greece*
au Maroc	*to Morocco*
aux Etats-Unis	*to the USA*
Tu as voyagé comment?	*How did you travel?*
J'ai voyagé ...	*I travelled ...*
On a / Nous avons voyagé ...	*We travelled ...*
en avion / en bateau.	*by plane / by boat.*
en bus / en car.	*by bus / by coach.*
en train / en voiture.	*by train / by car.*

06/10

Quel désastre!

J'ai oublié mon passeport.	*I forgot my passport.*
J'ai cassé mon portable.	*I broke my phone.*
J'ai perdu mon porte-monnaie.	*I lost my purse.*
J'ai choisi le poisson.	*I chose the fish.*
J'ai beaucoup vomi.	*I vomited a lot.*
Je suis tombé(e) sur la plage.	*I fell over on the beach.*
Je suis resté(e) au lit.	*I stayed in bed.*
On a raté l'avion.	*We missed the plane.*
On est arrivés en retard.	*We arrived late.*
Je n'ai pas acheté de souvenirs.	*I didn't buy any souvenirs.*
Je n'ai pas pris de photos.	*I didn't take any photos.*
Je ne suis pas sorti(e).	*I didn't go out.*
Quel désastre!	*What a disaster!*
Quelle horreur!	*How horrible!*

20/10

Normalement, pendant les vacances ... — *Normally, during the holidays ...*

je vais en colo,	*I go to a holiday camp*
je vais à la campagne.	*I go in the countryside.*
je voyage en car.	*I travel by coach.*
je nage dans la piscine.	*I swim in the pool.*
je fais du sport.	*I do sport.*
je mange des hamburger-frites.	*I eat burgers and chips.*
C'est un peu ennuyeux.	*It's a bit boring.*

Mais l'année dernière, j'ai gagné un concours... — *But last year, I won a competition..*

je suis allé(e) à Vanuatu.	*I went to Vanuatu.*
j'ai voyagé en avion.	*I travelled by plane.*
j'ai nagé dans la mer.	*I swam in the sea.*
j'ai fait de la voile.	*I went sailing.*
j'ai vu des dauphins.	*I saw dolphins.*
j'ai mangé des fruits de mer.	*I ate seafood.*
C'était vraiment génial!	*It was really great!*

Lighthall Knowledge Mat
Y8 Scheme of learning

Faculty MFL Spanish HT1
Viva 2 Unit 1- Past holidays

8th September

De vacaciones	On holiday		
¿Adónde fuiste de vacaciones?	Where did you go on holiday?	Fui con…	I went with…
el año pasado	last year	mis amigos/as	my friends
el verano pasado	last summer	mi clase	my class
Fui a…	I went to…	mi familia	my family
Escocia	Scotland	mis padres	my parents
España	Spain	¿Cómo fuiste?	How did you get there?
Francia	France	Fui/Fuimos en…	I/We went by…
Gales	Wales	autocar	coach
Grecia	Greece	avión	plane
Inglaterra	England	barco	boat/ferry
Irlanda	Ireland	coche	car
Italia	Italy	tren	train
¿Con quién fuiste?	Who did you go with?	No fui de vacaciones.	I didn't go on holiday.

¿Cuándo?	When?		
luego	then	el último día	on the last day
más tarde	later	otro día	another day
después	afterwards	por la mañana	in the morning
el primer día	on the first day	por la tarde	in the afternoon

20th October

¿Cómo te fue?	How was it?
Fue divertido.	It was fun/funny.
Fue estupendo.	It was brilliant.
Fue fenomenal.	It was fantastic.
Fue flipante.	It was awesome.
Fue genial.	It was great.
Fue guay.	It was cool.
Fue regular.	It was OK.
Fue un desastre.	It was a disaster.
Fue horrible.	It was horrible.
Fue horroroso.	It was terrible.
Fue raro.	It was weird.

22nd September

Exclamaciones	Exclamations		
¡Qué bien!	How great!	¡Qué aburrido!	How boring!
¡Qué bonito!	How nice!	¡Qué horror!	How dreadful!
¡Qué divertido!	What fun!/How funny!	¡Qué lástima!	What a shame!
¡Qué guay!	How cool!	¡Qué mal!	How bad!
¡Qué rico!	How delicious!/How tasty!	¡Qué rollo!	How annoying!
¡Qué suerte!	What luck!/How lucky!		

Me gustó.	I liked (it).
Me encantó.	I loved (it).
¿Por qué?	Why?
porque	because
Hizo buen tiempo.	The weather was good.
Comí algo malo y vomité.	I ate something bad and vomited.
Llovió.	It rained.
Perdí mi pasaporte/ mi móvil.	I lost my passport/ my mobile.

6th October

¿Qué hiciste?	What did you do?		
¿Qué hiciste en tus vacaciones de verano?	What did you do on your summer holiday?	No nadé en el mar.	I didn't swim in the sea.
Bailé.	I danced.	El último día de tus vacaciones, ¿qué hiciste?	What did you do on the last day of your holiday?
Compré una camiseta.	I bought a T-shirt.	Bebí una limonada.	I drank a lemonade.
Descansé en la playa.	I relaxed on the beach.	Comí paella.	I ate paella.
Mandé SMS.	I sent texts.	Conocí a un chico/a guapo/a.	I met a cute boy/girl.
Monté en bicicleta.	I rode my bike.	Escribí SMS.	I wrote texts.
Nadé en el mar.	I swam in the sea.	Salí con mi hermano/a.	I went out with my brother/sister.
Saqué fotos.	I took photos.		
Tomé el sol.	I sunbathed.		
Visité monumentos.	I visited monuments.	Vi un castillo interesante.	I saw an interesting castle.

Common instructions phrases

Lee- read	escucha – listen
Explica – explain	pon- put
Escribe – write	apunta – fil in
Empareja – pair up	traduce – translate

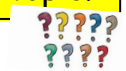
Religion and Nature- Year 8

Keywords-

1. Sacred
2. Awe
3. Stewardship
4. Dominion
5. Destruction
6. Environment
7. Pollution
8. Animal experiment
9. Vegetarian
10. Vegan
11. Reincarnation
12. Kosher

8th Sept

What are the 'big questions' in this topic?



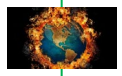
The issues are:

- Is the Earth Sacred?
- The environment – Awe and Wonder- does it mean God created the world?
- Should religious people take full responsibility for taking care of the earth?
- Should we experiment on animals?
- Is eating animas right?
- Is human life more sacred than animal life?

1 - Is the earth sacred?

Sacred, connected to God or dedicated to a religious purpose| The value of life, sometimes, always or never should be destroyed| Stewardship, that we have duty to care for something made by God| Dominion, power or control over something| Ways to care for the planet, drive less, plant more trees, join protests | All have a duty to protect the earth, not just religious people

2 - Awe and Wonder of the World-creation of the universe



Awe, a feeling of respect or amazement brought on by something beautiful or sacred| Christians and Jews share Origin Story, both religions believe God created the world in 6 days and rested on the 7th day| Jews have Shabbat (Sabbath), Day of rest| Islam and the Qur'an say that in the beginning, there was Allah and he said 'Be and the universe was created in stages/periods of time'| Jewish, Islam and Christianity say earth only a few thousand years old'| Sikhism similar but says millions of years ago, the God wanted to express himself, so he created one vibration which created everything '|Hinduism has many accounts and says who knows when it was created? They believe many have been. '|Science says big bang and evolution

22nd Sept

3 - Destruction of the Environment

Awe, Dominion, Stewardship, Wonder

The religious duty of stewardship | How is the earth being destroyed? | The causes and problems of the earth are: Destruction of natural habitat, pollution, Modern Living, Use and Abuse of Natural Resources | Solutions to the destruction of the environment – recycling, reforestation, use of renewable resources, less transport, less plastic use

6th Oct

4- Religious Views of Caring for the Earth

Christians believe they have a duty to take care of the world since God created it| Muslims believe they are Khalifah (Steward) of the earth and God has loaned the earth to the, and they must take care of it |Buddhists believe the earth is the ultimate source of life, people will live many lifetimes and so it should be respected for future generations | Hindus believe all life depends on the environment so is linked and needs each other, the earth was created by Brahman | Jews believe they should heal the world and take care of the environment by solving environmental issues | Sikhs believe God is reflected in nature and they should take care of the earth out of respect for life and God

6 - Animal Rights

Are animals as important as humans| Animals are less important as humans are on top of the food chain | Humans can make more of a difference to the earth compared to animals | Animals should have rights as they have families |Animals can't speak for themselves and so are taken advantage of | without animals the food chain would not exist.

20th Oct

7 - Animal Experimentation

Animals are tested on for medical reasons to find cures for human illnesses | Vaccinations have only worked because of testing on animals| Animal testing is also done for household products/cosmetics/cigarettes | Animal testing is unacceptable because many experiments have the opposite effect on humans | Animals feel a lot of pain during experiments as no anaesthetic is used |Most religions only support animal testing if it's for medical research and can save human lives but are against animal testing if its for luxurious reasons.

WC 8th September

Key Scratch Programming Terms

Term	Definition
Sprite	A character or object in Scratch that you can program to move, speak, or react.
Backdrop	The background image of your Scratch stage; sets the scene for your project.
Block	A puzzle-like command that tells your sprite what to do (e.g., move, play sound).
Script	A stack of connected blocks that work together to make something happen.
Costume	Different appearances or outfits a sprite can wear—great for animation.

WC 22nd September

Programming Data Types

Data Type	Definition	Example
Integer	A whole number, positive or negative, with no decimal point.	`age = 17`
Float	A number that has a decimal point; used for more precise values.	`temperature = 21.5`
String	A sequence of characters (letters, numbers, or symbols) inside quotation marks.	`name = "Mark"`
Boolean	A data type that only has two values: `True` or `False`.	`isRaining = False`
List	A collection of multiple items stored in one variable, like a container.	`colors = ["red", "blue", "green"]`

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WC 6th October

```
name = input("What is your name? ")
age = input("How old are you? ")
favourite_colour = input("What is your favourite colour? ")
```

Input allows data to enter the program and print is an output

```
print("Hello, world!")
print("Your age in 5 years will be", int(age) + 5)
print("Welcome", name + "! Your favourite colour is", favourite_colour)
```

If allows a question to be asked

```
if int(age) >= 18:
    print("You are an adult.")
```

WC 20th October

Core CPU Registers

Register Name	Definition
Accumulator (ACC)	Stores the result of arithmetic or logic operations. Most processing happens here.
Program Counter (PC)	Holds the memory address of the next instruction to execute—guides program flow.
Memory Address Register (MAR)	Stores the address in memory of the data or instruction to be fetched.
Memory Data Register (MDR)	Temporarily holds data that's being transferred to or from memory.
Current Instruction Register (CIR)	Holds the current instruction being decoded and executed.

Light Hall Knowledge Mat – FOOD

W/C 8th September - The 8 Tips for Healthy Eating + Key Food Hygiene Terminology

Key terms

Allergens: Substances that can cause an adverse reaction to food. Cross-contamination must be prevented to reduce the risk of harm.

Bacteria: Small living organisms that can reproduce to form colonies. Some bacteria can be harmful (pathogenic) and others are necessary for food production, e.g. to make cheese and yogurt.

Cross-contamination: The transfer of bacteria from one source to another. Usually raw food to ready to eat food but can also be the transfer of bacteria from unclean hands, equipment, cloths or pests. Can also relate to allergens.

Food poisoning: Illness resulting from eating food which contains food poisoning micro-organisms or toxins produced by micro-organisms.

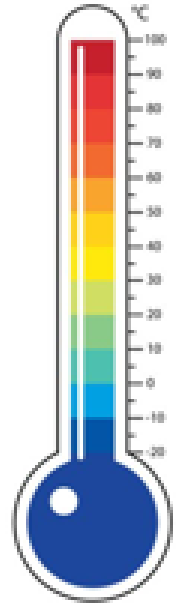
High risk ingredients: Food which is ready to eat, e.g. cooked meat and fish, cooked eggs, dairy products, sandwiches and ready meals.

W/C 22nd September – Key Temperatures

Temperatures to remember

To reduce the risk of food poisoning, good temperature control is vital:

- 5-63°C – the danger zone where bacteria grow most readily.
- 37°C – body temperature, optimum temperature for bacterial growth.
- 8°C – maximum legal temperature for cold food, i.e. your fridge.
- 5°C (or below) – the ideal temperature your fridge should be.
- 75°C – if cooking food, the core temperature, middle or thickest part should reach at least this temperature.
- 75°C – if reheating food, it should reach at least this temperature. In Scotland food should reach at least 82°C.



W/C 6th October – Food Poisoning Bacteria

Food poisoning

Food poisoning can be caused by:

- bacteria, e.g. through cross-contamination from pests, unclean hands and dirty equipment, or bacteria already present in the food, such as salmonella;
- physical contaminants, e.g. hair, plasters, egg shells, packaging;
- chemicals, e.g. cleaning chemicals.

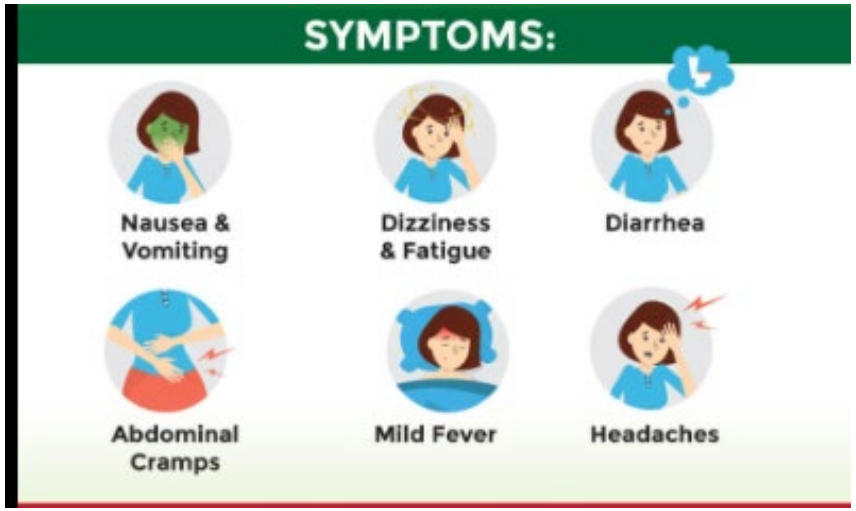
Bacterial contamination is the most common cause.

Micro-organisms occur naturally in the environment, on cereals, vegetables, fruit, animals, people, water, soil and in the air. Most bacteria are harmless but a small number can cause illness. Harmful bacteria are called pathogenic bacteria.

The process of food becoming unfit to eat through oxidation, contamination or growth of micro-organisms is known as food spoilage.

High risk food

Bacteria easily multiply on foods known as 'high-risk food'. These are often high in protein or fat, such as cooked meat and fish, dairy foods and eggs. Cooked pasta and rice are also regarded as high risk foods if they are not cooled quickly after cooking and stored below 5°C.



What is Food Provenance

20th October Food Provenance & Key Terms

Key Words	Meaning
Culture & Religion	Ideas, customs and rules affect ingredients, preparation, presentation and the way is consumed
Convenience Foods	Ready meals: part or fully prepared. Often microwavable. Saves time, skill.
Ethical issues	Food that are farm assured examples Red Tractor, Fair trade, RSPCA checked, Genetically modified and Sustainable
Organic Food	Food that is grown or made without the use of chemicals eg: fertilisers, pesticides
Primary processing	Changing foods into a suitable state to be eaten safely or used in the production of others
Food Provenance	Where food come from

The food supply chain looks like this:

Food provenance
Food provenance means:
•knowing where food was grown, caught or raised
•knowing how food was produced
•knowing how food was transported

Primary and secondary processing of wheat

Primary Processing
is the conversion of raw materials into food commodities – for example, milling wheat into flour.

Secondary Processing
is when the primary product is changed to another product – for example, turning wheat flour into bread.

Y8 Knowledge Mat

Light Hall School

Design Technology

DAY OF THE DEAD TEXTILES PROJECT

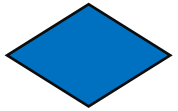
Key Terminology

KEY WORDS IN YELLOW

1. **Textiles -** fabrics, fibers, cloth or materials used to make fabrics.
2. **Applique -** A decorative technique where pieces of fabric are sewn onto a larger fabric surface
3. **Tension -** The degree of tightness or looseness of thread when sewing.
4. **Embroidery -** decorating fabric using needle and thread to create patterns or images.
5. **Running Stitch -** hand stitch where the needle is passed in and out of the fabric at regular intervals
6. **Culture –** the collection of shared beliefs, values, behaviours, and customs that define a group of people
7. **Back Stitch –** hand stitch where each stitch overlaps the previous one, creating a solid line of stitching.
8. **Flow chart -** a diagram of the sequence of actions of people or things involved in an activity
9. **Template -** a shaped piece of rigid material used as a pattern for processes such as cutting out.

Flowchart Symbols

Oval:
Start/Stop Symbol – Used at the **beginning** and **end** of a flowchart.



Diamond:
Decision Symbol – Used when a **Yes/No** question is being asked.

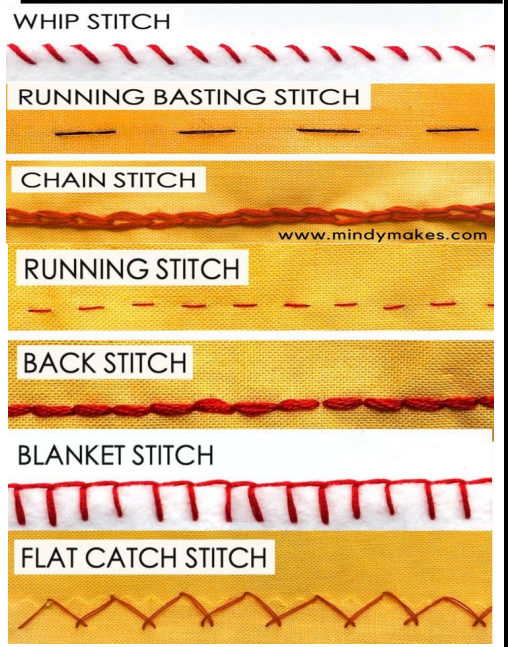
Rectangle:
Process Symbol – Use whenever **waiting** is needed. Or processing such as adding numbers.

Parallelogram:
Input / Output Symbol – Used when we want data to be entered into the computer or for data to come out.

Hand Stitching VS Sewing Machine

Advantages of hand stitching:
1.It offers greater precision and control, especially for intricate details or delicate fabrics.
2.It's more portable and doesn't require electricity, making it useful in any setting.

Disadvantages of hand stitching:
1.It is much slower than using a sewing machine, which can be inefficient for large projects.
2.Stitches may be less consistent in length and strength compared to machine stitching



Health and safety requirements

when working with needles, fabric scissors, and pins:

1.Keep sharp tools stored safely – Always store needles, pins, and scissors in designated containers to prevent accidental injury.

2.Handle scissors properly – Cut away from your body and never run while holding scissors to avoid accidents.

3.Use a pincushion or magnet – Secure pins when not in use to prevent them from being lost and causing injury.

4.Maintain good posture and lighting – Sit properly and ensure good lighting to reduce strain and avoid mistakes while handling sharp tools

LHSD&T

A template
Is a pre-made pattern or guide used to cut fabric pieces accurately and consistently. It saves time, ensures uniform shapes and sizes, and helps maintain quality in repeated designs or garment production.

Materials and Equipment

Fabric Scissors
Specially designed scissors used to cut fabric smoothly and precisely without fraying or damaging the material.

Stitch/Seam Ripper
A tool used to remove stitches or open seams without damaging the fabric.

Embroidery needles
Needles with a larger eye and sharp point, used for stitching decorative designs on fabric with embroidery thread

Pins
Used to temporarily hold fabric pieces together in place before sewing

Stuffing
Man made polyester stuffing, used to fill the product and make it soft / squishy

Felt
Man made (synthetic) sheet material used as the main construction

Tailors' Chalk
A marking tool used to draw temporary lines or patterns on fabric for cutting or sewing guidance.

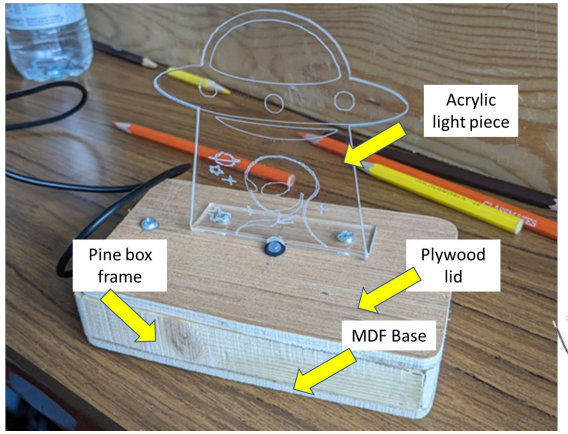
Y8 USB Light Project

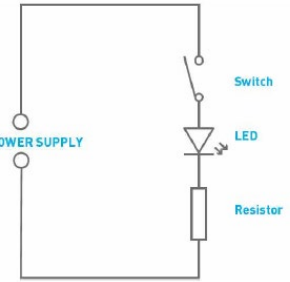
Light Hall School

Design Technology

KEY WORDS IN YELLOW

Materials that you can use to make your USB light project will be:

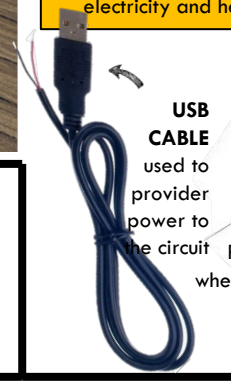




The circuit diagram for the USB lamp is shown above. It is a very simple circuit. The 5V that powers the circuit is supplied from the USB connector. LEDs can be damaged if the current through them is not limited. An 0Ω resistor is used with the Colour Changing LED. This is because the required current limit resistor is built into the LED itself, therefore, we simply want to connect this LED directly to the 5V supply. Finally, the on / off switch allows the circuit to be opened and closed: open the switch to turn the LED off and close the switch to turn the LED on.

We use solder to connect the electrical components because it is CONDUCTIVE.

A conductive material allows the transfer of electricity and heat.



USB CABLE used to provider power to the circuit

Resistor used to protect the bulb from too much voltage

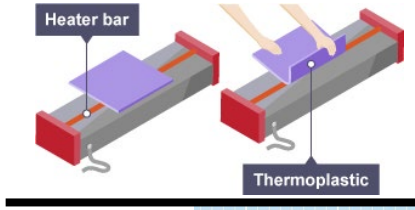
Switch used to open and close the circuit (ON/OFF)

LED Bulb Provides light when circuit is closed

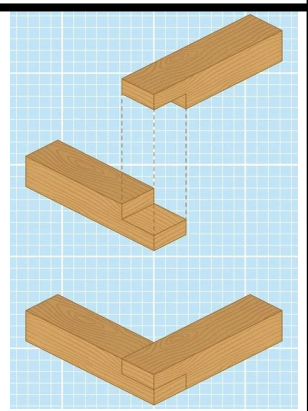
Printed Circuit Board (PCB) A plastic board with internal conductive lines. This is what you attach the other components to

ACRYLIC is a thermo plastic. It can be heated and manipulated into the desired shape. A *line bender* or *Strip Heater* is use to apply heated to only the area to be manipulated.

A THERMOSETTING PLASTIC CAN BE HEATED AND RESHAPED MULTIPLE TIMES



LAP JOINTS are used in the construction of the boxes as they increase the surface area for the P.V.A glue – making it stronger.



Tools and equipment

Tenon saw used for cutting material in straight lines

Screwdriver used to turn the head of a screw

Soldering Iron used to melt the solder to join electronic components

Pillar Drill used for drilling holes in material at 90°

Laser Cutter used in this project for cutting acrylic because it is more accurate than cutting shapes by hand

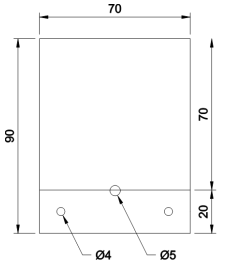
Sand paper used for final sanding of wood. The higher the girt number, the smoother the finish

Steel rule used for marking out and measuring

Wood file used for cutting shaping, refining and smoothing surfaces

Pine is a **soft wood** that comes from Coniferous trees. These trees keep their leaves all year round.

TECHSOFT Design is a **CAD software** that we use to design the file to be laser cut



The fold line and the engraving must be red

Fold line

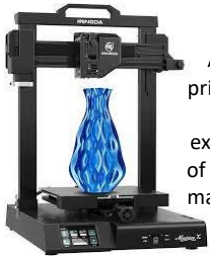
GRID LOCK

MAKE SURE IS SELECTED WHEN DRAWING THE MAIN SHAPE!

Black lines= Cut

Red lines= Engrave

A laser cutter is an example of a CAM machine.



A 3D printer is an example of a CAM machine.

CAD stands for Computer Aided Design. It is useful because;

Because its accurate, it can be used with CAM and designs can be saved and edited if needed

CAM stands for Computer Aided Manufacture. CAM machines are popular because they are very accurate, can work 24/7 and they can be repeated many times

Year 8

Autumn 1

A= W/C 8th Sept

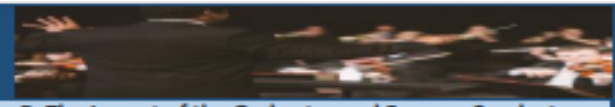
B+C= W/C 22nd Sept

D+E= W/C 6th Oct

F= W/C 20th Oct

Sonority City

Exploring Instruments of the Orchestra



A. Key Words, Terms and Facts about the Orchestra

ORCHESTRA – A large **ENSEMBLE** (group of musicians) of performers on various musical instruments who play music together. No set numbers of performers although a **SYMPHONY ORCHESTRA** (a large orchestra) can have between **80-100+** performers. Famous orchestras include: **THE LONDON SYMPHONY ORCHESTRA, THE BBC SYMPHONY ORCHESTRA** and the **HALLÉ ORCHESTRA** (Manchester).

CONDUCTOR – Leads the orchestra with a **BATON** (white 'stick') and hand signals. Stands at the front so they can be seen my all performers. Sets the **TEMPO** and **BEATS TIME**. Brings different instruments 'in and out' when it is their turn to play. Keeps the performers together. Takes charge in rehearsals. In ultimate control of the performance of the music, adjusting **DYNAMICS, TEMPO,** and mood.

FAMILIES/SECTIONS – Instruments of the orchestra can be divided into 4 families or sections: **STRINGS**, **WOODWIND**, **BRASS** and **PERCUSSION**.

TUNING UP – Before the orchestra rehearses or plays, all instruments need to be **IN TUNE** with each other. The **OBOE** always sounds the note '**A**' which all other instruments **TUNE** to.

SONORITY (also called **TIMBRE**) – Describes the **UNIQUE SOUND OR TONE QUALITY** of different instruments and the way we can identify orchestral instruments as being distinct from each other –Sonority can be described by many different words including – ***velvety, screechy, throaty, rattling, mellow, chirpy, brassy, sharp, heavy, buzzing, crisp, metallic, wooden etc.***

PITCH - The **HIGHNESS** or **LOWNESS** of a sound, a musical instrument or musical note (***high/low, getting higher/lower, step/leap***).

B. The Layout of the Orchestra and Famous Conductors

C. Strings Section/Family

Largest section of the orchestra who sit at the front, directly in front of the conductor. Usually played with a **BOW** (**ARCO**), (not the **HARP**) but can be **PLUCKED (PIZZICATO)**. **VIOLINS** split into two groups: **1st VIOLINS** (often have the main **MELODY** of the piece of music) and **2nd VIOLINS**.

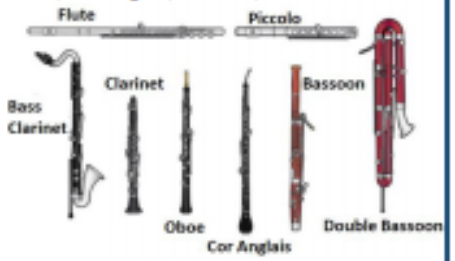
D. Woodwind Section/Family

Originally (and some still are) made from wood (some now metal and plastic). All are **BLOWN**.

FLUTES: Flute and Piccolo – air blown over hole.

SINGLE REED (small piece of bamboo in the mouthpiece): Clarinet, Bass Clarinet & Saxophone (not traditionally in the orchestra, but some modern composers have used it)

DOUBLE REED (two reeds in the mouthpiece): Oboe, Cor Anglais, Bassoon, Double Bassoon.



E. Brass Section/Family

Four types of brass instruments in an orchestra, all made from metal – usually brass and **BLOWN** by the player 'buzzing their lips' into a **MOUTHPIECE** *(shown right)*.

The Trumpet, French Horn and Tuba all have three **VALVES** which, along with altering the players mouth positions, adjust the length of the tubing allowing for different notes to be played. The Trombone has a **SLIDE** which adjusts the length of the tubing. Brass instruments (along with Percussion) have often been used to play **FANFARES**: a short, lively, loud piece of music usually warlike or victorious in character used to mark the arrival of someone important, give a signal *e.g., in battles,* of the opening of something *e.g., a sporting event or ceremony.*

Fanfares often use notes of the **HARMONIC SERIES** – a limited range of notes played by **BUGLES** (smaller trumpets with no valves) and valveless trumpets.

F. Percussion Section/Family

Always located at the very back of the orchestra (due to their very loud sounds!). Large number of instruments which produce their sound then ***hit, struck, scraped, or shaken.***

TUNED PERCUSSION (able to play different pitches/notes)

UNTUNED PERCUSSION (only able to produce 'sounds').