

Name and Tutor group:



Year 8 Knowledge Organiser

Term 4

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CORSHAM CHARACTER

INTELLECTUAL VALUES

The pursuit of truth,
knowledge and
understanding.

Be reflective. Be curious. Be
open-minded. Be creative.



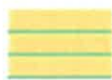
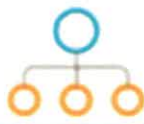
PERFORMANCE VALUES

Maximum effort, maximum
focus.

Be resilient. Always Persevere.
Contribute to Teamwork.
Be ambitious.



DREAM BELIEVE ACHIEVE

	Look, Cover, Write, Check	Definitions to key words	Flashcards	pictures
Stage 1	Look at & study an area of your knowledge <u>organiser</u>. 	Write down the key words & definitions 	Write key words, dates/formulae, equations/quotes on one side & answers on the other 	Draw pictures/diagrams/cartoon strips 
Stage 2	Cover up your knowledge <u>organiser</u> and write everything you remember 	Cover up the definitions. How many can you remember? Repeat. 	Include pictures or diagrams if it helps. Read through them. 	Label your pictures/diagrams/cartoon strips 
Stage 3	Check. Correct mistakes in green and add anything you missed. Repeat 	Check. Correct mistakes in green pen. Which ones do you find hard to remember? 	Test yourself and get someone to test you. 	Explain out loud to yourself or family/friend what your images show 
	<u>Self quizzing</u>	<u>Mindmaps</u>	Paired retrieval	Speak, Cover, Write, Check
Stage 1	Use your knowledge <u>organiser</u> to create quiz questions. 	Create a <u>mindman</u> of everything you can remember from your knowledge <u>organiser</u>. 	Give a family member/friend the knowledge <u>organiser</u> to hold 	Read out loud the information from the knowledge <u>organiser</u> several times. 
Stage 2	Write down the answers to your quiz 	Check your knowledge <u>organiser</u> & use a green pen to make any corrections. 	Get them to test you using the knowledge <u>organiser</u>. 	Cover up your knowledge <u>organiser</u> and write everything you remember 
Stage 3	Keep self-quizzing until you get all the answers correct 	Add additional information to your <u>mindman</u> or make connections to other knowledge 	Write down your answers to their questions 	Check. Correct mistakes in green and add anything you missed. 

Choose any of the following activities to complete your homework



LEARNINGSIENTISTS.ORG

LEARN TO STUDY USING ...

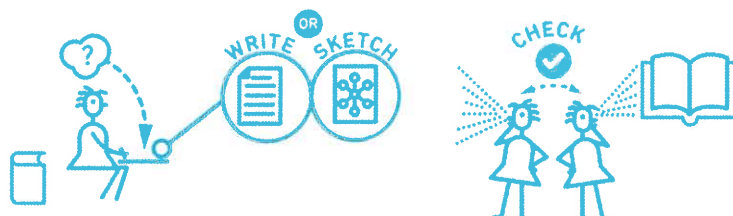
Retrieval Practice

PRACTICE BRINGING INFORMATION TO MIND



HOW TO DO IT

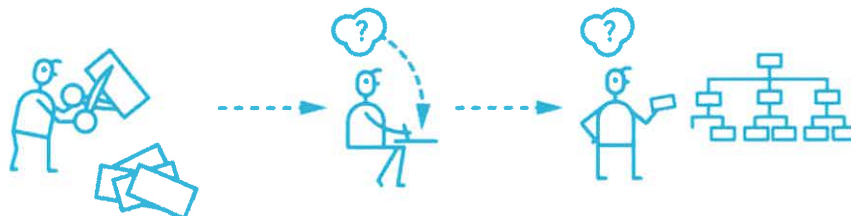
Put away your class materials, and write or sketch everything you know. Be as thorough as possible. Then, check your class materials for accuracy and important points you missed.



Take as many practice tests as you can get your hands on. If you don't have ready-made tests, try making your own and trading with a friend who has done the same.



You can also make flashcards. Just make sure you practice recalling the information on them, and go beyond definitions by thinking of links between ideas.



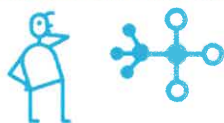
HOLD ON!



Retrieval practice works best when you go back to check your class materials for accuracy afterward.



Retrieval is hard! If you're struggling, identify the things you've missed from your class materials, and work your way up to recalling it on your own with the class materials closed.



Don't only recall words and definitions. Make sure to recall main ideas, how things are related or different from one another, and new examples.

RESEARCH

[Read more about](#) Roediger, H. L., Putnam, A. L., & Smith, M. A. (2011). Ten benefits of testing and their [retrieval practice](#)

applications to educational practice. In J. Mestre & B. Ross (Eds.), *Psychology of learning and motivation: Cognition in education*, (pp. 1-36). Oxford: Elsevier. [as a study strateg](#)

KNOWLEDGE ORGANIZER – YEAR 8 ART

Expressive Portraits

EXAMPLES OF FINAL OUTCOMES:

YOU WILL LEARN:

Skills to produce a series of expressive portraits inspired by contextual sources like Maria Rivens, Frida Kahlo/Mexican Folk Art and Fauvism. You will make use of mono-printing and layering techniques while using decorative qualities to convey your portrait.

WHY AM I LEARNING THIS?

The foundation skills in this project will enable you to tackle the varied concepts, artists, techniques and processes throughout Year 7. You will build on your knowledge and skills with each project as they increase in difficulty, enabling you to express yourself in a confident way.

CONTEXTUAL KNOWLEDGE:

Maria Rivens



Frida Kahlo



Frida Kahlo/Mexican Folk Art

Mexican Folk Art is highly decorative and uses organic patterns linked to nature. The art is typically inspired by ancient cultures like the Mayans and Aztecs.

Fauvism

Fauvism uses bright, bold and strong colours instead of realistic ones.



HOMEWORK TASKS:

Tick when complete

1. Artist research: Maria Rivens
2. Draw a portrait onto a different surface.
3. Draw an animal in a Fauvist style.
4. Create a Mexican Folk Art Papel picado.
5. Draw/add colour to an image of yourself or another person (magazine or printed).

SCAN ME



Short video about Fauvism

Video about Frida Kahlo

HOW WELL AM I DOING?

Collage describes both the technique in which pieces of paper, photographs, fabric and other materials are arranged and stuck down onto a supporting surface.

Depth refers to the perceived distance between the background and the foreground of a composition.

The arrangement of elements within a work of art.

The monoprint is a form of printmaking where the image can only be made once.

Effectively conveying meaning or feeling.

An art movement from 1905 to 1910, which is characterized by strong colours and fierce brushwork.

My Progress

Name:	Project: Year 8 Tropical Landscapes	Target grade:
	Done	Grade
	Targets	
	Develop accuracy with colour mixing and directional marks for texture	
	Explore the Sgraffito and wax resist techniques to develop the background foliage	
	Create a full-page copy of a Rousseau animal in wax resist	
	Annotate to evaluate your work and to explain the Rousseau who used any words	
	Use mixed media in your final artwork showing skills in drawing, painting, collage and paper folding techniques like origami	
	Develop accuracy for foliage and leaf shapes in the foreground	
	Practice mixing your paints to create more accurate colours	
	Create a 3 layered composition using paint and mixed media	
	Develop a clear and successful composition plan	
	Present the information on Rousseau on a full page in your book with a title and images	
	End of project grade	

Teacher comment:

KEY VOCABULARY

Collage

Depth

Composition

Monoprint

Expressive

Fauvism

1: Key Words	2: Printing	3: Variables
Algorithm: A set of instructions or code used to solve a problem. Syntax: The rules of the programming language that need to be followed in order for it to work. Variables: Data that is stored in memory that is likely to change. Program: Code compiled together to perform a specific function.	To print out a statement or a variable we use the code below: Printing a new message: print("Hello World"); Printing the value of a variable: print(x); Printing a message with variables included: print("Hello", name, "your are", age, "years old today");	Variables are simply a place on the computer's memory that is given a name in order for it to remember it. In Python you create a variable by writing the name of the variable followed by an =. Examples: name = "Spongebob"; age = 14;
4: Data Types	KS3 Computer Science	6: Selection
String: A Variable data type that can store a combination of letters, characters and numbers. Integer: A Variable data type that can store whole numbers. Float: A Variable data type that can store decimal numbers. Boolean: A Variable data type that stores either TRUE or FALSE.	 LINK	Selection is used to allow the program to make a choice and take a different path. The keywords used in Python are: if - checks if the condition is true, if so the program runs the indented code below it elif - if the first if fails then this elif condition is checked, there can be multiple of these. else - if all if and elif statements are not true the the code indented below else will run. Example: <pre>colour = input("Enter your favourite colour"); if colour == "Red": print("Reminds me of tomatoes"); elif colour == "Blue": print("Reminds me of the sea"); else: print("If it ain't Red or Blue then I ain't interested");</pre>
7: Iteration	8: Inputs	
Iteration is used to repeat a set of instructions or commands in a program. It saves having to write them all out over and over again. There are two loops in Python programming: While - Checks if a condition is true and while it is true will keep repeating it. For - Runs for a specific amount of times and stops when it reaches the desired number. Examples: while answer != "London": answer = input("What is the capital of London?"); Or for i in range(5): movie = input("What is one of your top 5 favourite movies?")	To allow your Python program to get information from the user you will need to use the input command. Make sure you use the correct command for what you are asking for. String inputs (such as a name): input("Enter your name"); Integer inputs (for whole number responses): int(input("What is your age?")); Float inputs (for decimal number responses): float(input("What is your shoe size?"));	

BLOCKING

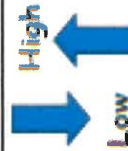
Planning your positioning and movement around the stage, including entrances and exits.

Year 8 Drama Tension & Status Scripts Term 4

SET DESIGN

Deciding on the different elements that will be used to create a visual interpretation of the environment/setting of the scene.

PERFORMANCE SKILLS



Vocals - Pitch: How high or low your voice is.

Vocals - Emphasis: 'Highlighting' a specific word or phrase, by changing at least one aspect of your vocals.



Vocals - Power: The amount of tension in your voice. This is not the same as volume - you can have large vocal power at a low volume.



Spatial Awareness: The ability to see yourself, (in relation to other actors/set), in the stage space to create a specific effect.



Vocals - Pace: The speed that you speak at.



Vocals - Articulation: The way that you pronounce each letter in a word. If using a high level of articulation, you would pronounce every letter in every word.



Eye Contact: Choosing to look at a specific performer, object, audience member or direction.



Direction: The position you face or move in.



DRAMA TERMS

Script: The entire play written down. Scripts include all the dialogue that the characters speak, stage directions and a brief overview of the setting.



Proxemics: The use of space/distance to communicate relationship.



Given Circumstances: Everything that the script tells you. The 'world' of the play - the things that make the play that play and not a different play.

- **Environmental** - Geographic location (inc. climate), date, year, season, time of day. Also includes the economic environment: the character's relationship to wealth or poverty, and the class of the character in relationship to the society in which they live.



- **Previous Action** - Any action mentioned in the play's dialogue that reveals any incident or action that took place before the current action of the play/scene began. Often called, 'exposition'.



- **Polar Opposition/Attitude** - Beliefs held by a character that are in direct opposition to the world in which the character lives. This opposition creates conflict. Conflict creates dramatic action.

DIG DEEPER QUESTIONS

How could you use vocal skills to communicate subtle changes to a character's emotions?

How might environmental given circumstances influence a set designer?

How might you as an actor use given circumstances to craft your character?

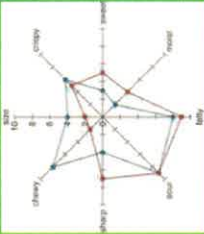
Why is blocking an important part of the 'page to stage' process?
Why are proxemics so important when creating meaning?

How can eye contact change the meaning of a line of dialogue?

Year 8 Food Knowledge Organiser.

Sensory Analysis

Using technical descriptive words to evaluate food products. Using our senses - taste, texture, aroma and appearance. We often record this information onto a star (sensory) profile.



Discrimination testing These are used to detect differences between two or more products.

Hedonic testing

These are used to see how much we like the products

Health and Safety Rules in our Kitchen

- Wash hands thoroughly with soap and hot water
- Tie hair back
- Put on a clean apron
- Blazer and jumper off and roll up sleeves
- Bags under the table and chairs pushed under
- Sensible behaviour
- Listen to instructions
- No running in the kitchen
- Do not cough or sneeze onto food
- Use the correct colour chopping board
- Clear up spills immediately
- Do not mix raw and cooked food on the same board
- Follow the washing up routine

Food Hygiene

- **Food Poisoning:** illness caused from eating contaminated food.
- **Bacteria:** Microscopic living organisms – some are good and some are bad!
- **High risk foods:** Foods that are high in protein and high in moisture. These foods need to be cooked and stored correctly to avoid harm



Healthy eating

What happens if we eat too much fat:

- Weight gain, Obesity
- Heart disease
- Type 2 diabetes

What happens if we eat too much sugar:

- Tooth decay
- Weight gain – obesity

What happens if we eat too much salt:

- Raised blood pressure
- Increased risk of heart disease and stroke

What happens if we don't eat enough fibre:

- Helps digestion and prevents constipation
- lower risk of heart disease, stroke, Type 2 diabetes and bowel cancer

Keywords

- Raising agent
- Obesity
- Type 2 diabetes
- Nutrients
- Balanced diet
- Provenance
- Coronary heart disease
- Conduction
- convection
- Hedonic testing

Practical

- Pasta bake
- Turkey burgers
- Chocolate brownies
- Pasta/rice salad
- Pineapple upside down cake
- Pizza
- croissants

Conduction

Energy is transferred by direct contact



Convection

Energy is transferred by the mass motion of molecules



Radiation

Energy is transferred by electromagnetic radiation



Washing Up Routine



RINSE

STACK

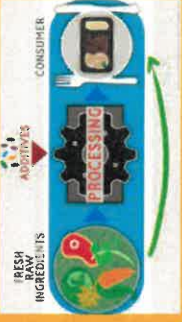
WASH

DRAIN

DRY

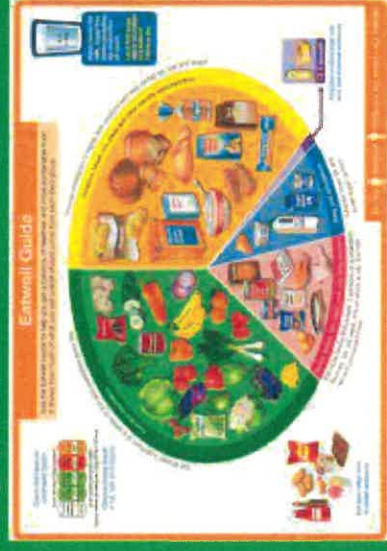
Food provenance

Food that is grown, food that is caught, food that is reared.



EatWell Guide

The eatwell guide shows us how much of what we eat should come from each food group. What other information can you see that will help us make healthy choices?



KS3 YEAR 8 D&T RESISTANT MATERIALS

Tools and Equipment

Measuring and marking

Steel rule		An accurate tool for measuring and marking out
Try square		A tool used to check right angles on wood or plastic
Template		A template is a tool used to mark out shapes repeatedly
Jig		A tool used to control the location and/or motion of another tool

Shaping and finishing

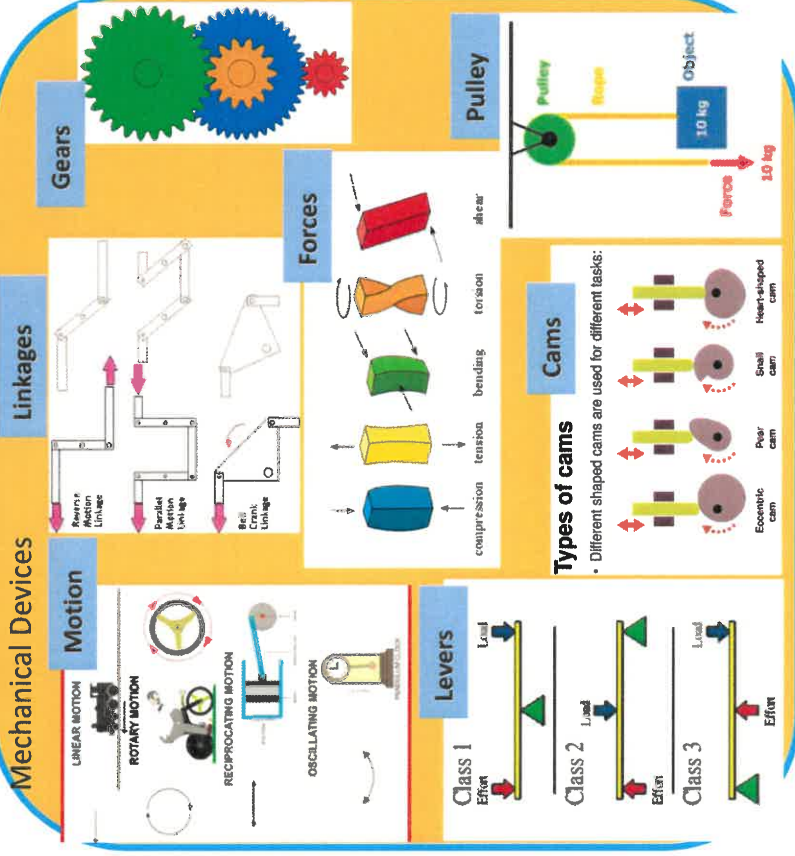
Metal file		Used to shape or smooth wood, metal or plastic
Glass paper		An abrasive paper used to smooth the surface or edges of wood
Disc sander		A machine used to smooth the edges of materials

Traditional wood joints:

Butt Joint
Lap / Rebate Joint
Finger Joint
Dovetail Joint
Mitre Joint

Maths in DT:

Multiplication
Divide
Add / Subtract
Measurement conversion
Ratios
Percentages
Surface area



2 point perspective

Cutting

Tenon saw		A hand saw with a stiff back used to cut straight lines in wood – back saw action
Coping saw		A hand saw used to cut complex shapes in wood and plastic
Scroll saw		A machine saw used to cut complex shapes in wood and plastic
Bench hook		Held against the front edge of a bench or table to support work
Pillar drill		A machine used to make holes in materials
Chisel		Used for carving or cutting a hard material such as wood, stone, or metal by hand
Laser cutter		CAM: Laser cutting is the use of a high-powered laser to cut, etch and engrave your material

Health and Safety in DT:

- Listen to your teacher's instructions
- Always wear an apron
- Long hair should be tied back
- Don't use equipment you are not trained on
- Always stand up during practical lessons
- When using machines, always wear safety glasses
- Only use the stop button in an emergency
- Work quietly and be sensible and careful at all times

Keywords

Research
Design
Evaluation
Wood joint
Mechanical
Pulley
Linkage
Lever
Motion
Force

What is good design?

Clear ideas
Annotations
Measurements
Content
Presentation
Balance

KS3 YEAR 8

Tools and Equipment	
Measuring and marking	
Measuring Tape	Fabric tape measure used to measure
Tailor's chalk	A temporary mark on fabric
Template / Pattern	A template / pattern is a tool used to mark out shapes repeatedly

Constructing	
Sewing needle	Helps to sew fabric together
Embroidery needle	A needle with a larger eye to accommodate embroidery thread
Sewing machine	Machine sews fabric together
Pins	A temporary method to hold fabric in place
Tacking stitch	A temporary stitch to hold fabric together

Types of Seams:

- Plain
- French
- Flat felled
- Bound
- Lapped

Maths in DT:

- Multiplication
- Divide
- Add / Subtract
- Measurement conversion
- Ratios
- Percentages
- Surface area

Textiles Dyes:

- Natural Dyes**
- Plants
 - Food / spices
 - Grass / tree bark / leaves
 - Onions / beetroot
 - Cochineal

Chemical Dyes

Dyes which are man-made using chemicals: consistent and vibrant.

Fibre Categories:

Natural Fibres

Plant based natural fibres:

- Cotton
- Linen
- Flax
- Coir (coconut)

Animal based natural fibres:

- Wool
- Angora
- Silk

Man-made Fibres

- Polyester
- Acrylic
- Nylon

Fabric Construction:

- Woven
- Knitted
- Bonded

Keywords

- Islamic
- Religion
- Design
- Product analysis
- Research
- Evaluation
- Stitch
- Scissors
- Sewing machine
- Customer
- Environment
- Function
- Material
- Seam allowance
- Hem
- Tie-Dye
- Printing
- Tessellate
- UCD
- Mordant

DT TEXTILES

Cutting	
Fabric shears	Scissors used for cutting fabric
Thread scissors	Scissors used for cutting thread
Stitch ripper	Used for removing sewn stitches from fabric
Pinking shears	Creates a zig zag cut edge for decoration to prevent fraying
Adding Colour	
Tie-dye	A type of resist dye
Batik	A type of resist dye which uses wax
Block Printing	Engraved wooden blocks to produce repeat patterns
Fabric paint / pens	Paint / pens which can be applied to fabrics

A	is for	Aesthetics
C	is for	Cost
C	is for	Customer
E	is for	Environment
S	is for	Size
S	is for	Safety
F	is for	Function
M	is for	Material



Health and Safety in DT:

- Listen to your teacher's instructions
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- Work quietly and be sensible and careful at all times

What is good design?

- Clear ideas
- Annotations
- Measurements
- Content
- Presentation
- Balance

Vocabulary	Definition
Revolution	Forcible overthrow of a government or social order
Animalism	System designed by Old Major for a happy life free of human interference
Commandments	Seven rules by which the animals will live
Unalterable	Cannot be changed or adapted
Equality	Being equal
Untrustworthy	Not being able to trust someone, deceitful
Capitalism	an economic & political system where a country's trade & industry are controlled privately for profit, rather than by the state.
Socialism	An economic & political system where trade & industry are controlled centrally for the good of all
Patriotic	Being devoted to your country
Corruption	Dishonesty or fraudulent behaviour by rulers
Republic	A state where power is held by the people & their elected officials (America is a republic) (Britain is a Monarchy)
Exploitation	Treating someone unfairly to benefit from their work

Context

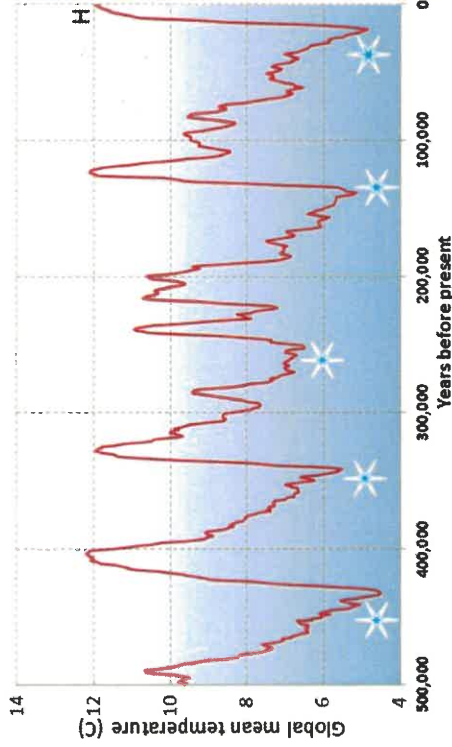
- Orwell was a Socialist.
- He despised the cruelties in the Soviet Union model of socialism.
- The novel is an anti-totalitarian novel.
- Each character represents different historical figures.
- Pig represent educated Russians who took power.
- Moses represents the exploitation of religion in communism.
- The Sheep represent the Russian Masses. The Hens – collective farmers ordered by Stalin to surrender their livelihoods.

An allegorical tale with direct links to the history of the Soviet Union in the early 20th century. The book charts the corruptions of **Communist** ideals of equality, where workers are promised equality and freedom and are eventually repressed and treated as bad, if not worse, as under the previous rule of the **capitalist 'Tsar'**. **Snowball** represents **Trotsky**, a passionate component of **Animalism (Communism)** who is expelled by **Napoleon (Stalin)**. **Napoleon** follows a similar rise to power as **Stalin**, using fear and propaganda to control the masses, including show trials and executions. By the end of the novel, the **ideals of communism** have been so far abused and forgotten, that Napoleon meets and forms agreements with former oppressors. Orwell was a British journalist and author, who wrote two of the most famous political novels of the 20th century 'Animal Farm' and 'Nineteen Eighty-Four'. When Orwell saw a kid whipping a horse, he had an idea: "It struck me that if only such animals became aware of their strength we should have no power over them, and that men exploit animals in much the same way as the rich exploit the working class". This inspired him to write the novel.

Terminology	Definition
Symbolism	Use of symbols to represent ideas or qualities
Imagery	Visually descriptive language
Motif	A recurring set of words/phrases or imagery for effect
Allegory	Extended metaphor in which a symbolic story is told
Omniscient third person narrative	All knowing narrator who is not involved in the action but sees it all happening



CHAPTER	Guide to events
CH1	The animals hold a meeting to discuss overthrowing the humans. They decide on rules if they are successful.
CH2	The animals run the men off the farm & the Jones' and rename it Animal Farm, destroying signs of slavery
CH3	The animals work hard to collect the harvest, a committee is established & the pigs take more than their share of the rations.
CH4	Jones tries to retake the farm. News of it has spread & neighbouring farmers are worried. The animals win The Battle of the Cowshed.
CH5	Mollie leaves the farm. Napoleon takes over all the decisions.
CH6	The pigs move into the farmhouse, they trade and the animals work hard to farm and build the windmill, overcoming setbacks. A storm destroys the windmill.
CH7	Napoleon starves the hens when they refuse to lay more eggs, he convinces them off a different version of The Battle of the Cowshed.
CH8	The pigs re-read the commandments, change them and get drunk. Frederick buys timber with forged money & blows up the windmill.
CH9	The piglets go to school, the farm becomes a republic with Napoleon as the President. Boxer looks forward to retiring, his strength fails and he is sent to the slaughterer. Most animals don't realise & whiskey arrives from the money confusing them.
CH10	Time passes, animals die, the conditions are poor for most and the pigs act like humans. The other animals can't tell the animals from the humans.



Past climate change

The climate of the Earth has always fluctuated. Within the last 500,000 years the Earth's average temperature has changed from 12 degrees to 4 degrees. When it is colder the Earth has more glaciers.

Are we in an ice age.

We are technically in an ice age as a period of time when we have permanent ice on the planet. When dinosaurs roamed the Earth, there was no ice.



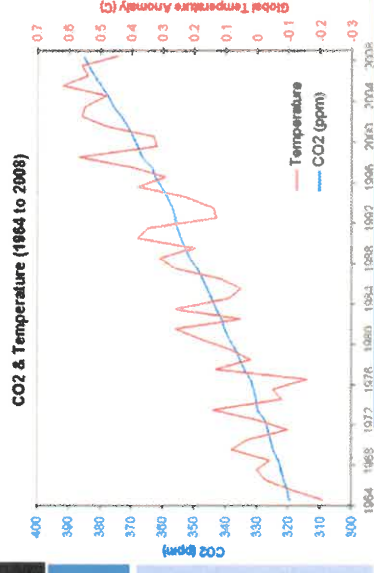
Why is global temperature important?

Global temperatures affect the way we live. In the past in London, the Thames froze over regularly and consequently there were "Frost Fairs" on the ice of the river Thames.



How are humans causing climate change?

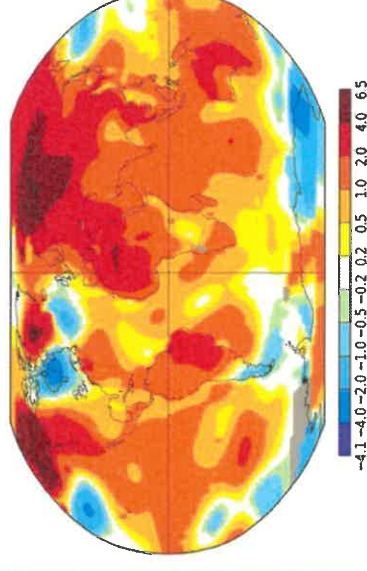
- Deforestation reduces the trees ability to absorb carbon dioxide so more is in the atmosphere.
- Burning fossil fuels for energy increases the amount of carbon in the atmosphere.



How do we know the global temperatures today?

Around the globe scientists are able to record the average temperature for that area and have been doing so for over 100 years. This gives scientists an accurate account of current climate change.

April 2016 L-OTI(C) Anomaly vs 1951-1980

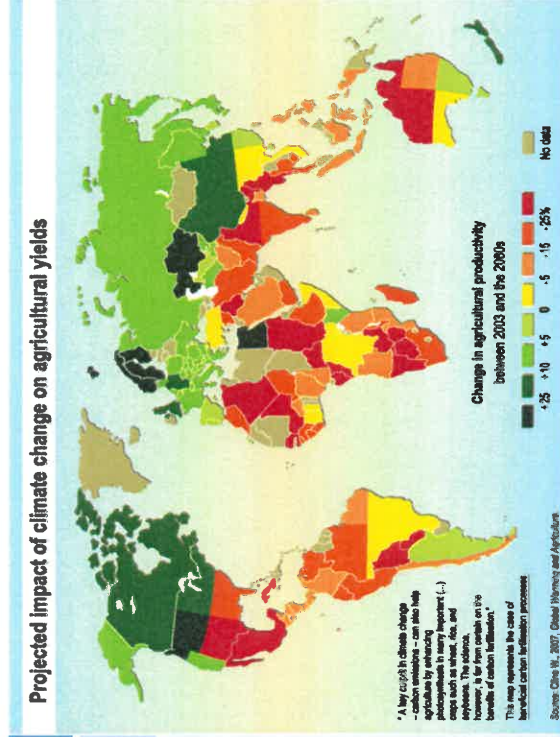


Geography Y8: Climate change

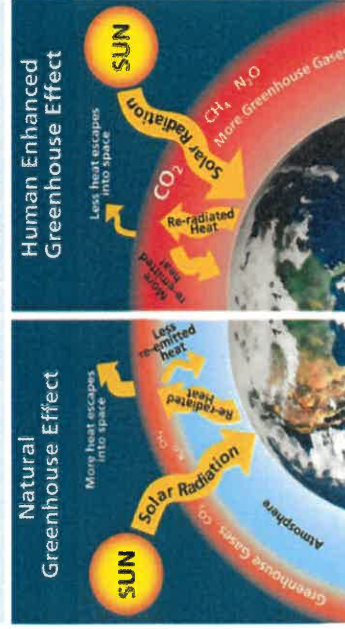
How do we know past climate change?

In Antarctica, scientists can drill down 5km into the ice. The deeper down scientists drill the further back in time the ice was formed. Scientists can therefore date the ice and look at the bubbles in the ice. The bubbles can tell us what the atmosphere was like when that ice was formed.

Social impacts of climate change	
Extreme weather patterns - More heat waves in the summer means that elderly will struggle and cause a strain on health services. - More heat waves will mean more wildfires. These can destroy houses.	Rising sea levels - Sea level rise will cause people who live in low level coastal areas to become climate refugees as their home areas will become uninhabitable. - Storm surges from tropical storms will become more dangerous and more significant.



Environmental impacts of climate change	
Melting sea ice Arctic animals who rely on ice to rest and feed no longer have that option. This impacts on these species and the overall ecosystem.	Change in climate - Ecosystems are interlinked to the climate so if the climate changes then the ecosystems may not survive. Some species cannot cope with the increase in temperatures. Others migrate to colder climates changing the overall ecosystem. - Increased heat causes more wildfires which impacts on habitats and ecosystems.



How can we mitigate climate change	
International - Governments can agree to limit their carbon emissions by using renewable energy and encouraging people to use electric cars. - Governments can protect forests by created conservation zones	Local - Buy more local goods as they use less transport. - Buy electric cars to reduce carbon emissions. - Eat less beef to stop cattle farmers from cutting down trees.

How can we adapt to climate change	
- Increase the amount of and improve the current coastal defences to help people living in low lying coastal areas. - Use technology to produce drought resistant crops so more crops can be grown especially in low income countries. - Ensure that people living in wildfire risk areas know where to evacuate to and what they need to pack quickly.	

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 increasing the density in the atmosphere, therefore trapping more solar radiation but causing less to be reflected. As a result, our Earth is becoming warmer.

Geography Y8: Climate change

What is a natural resource?

Something that occurs naturally (without any human help) which we can make use of. These include soil, water, crops, sunlight.

Renewable resources

A resource that we can keep using and it will not run out.
e.g. wind, sunlight

Non renewable resources

If we continue to use the resource it will run out. This is also called a finite resource.
e.g. copper, oil, gas

The Ogallala

The Ogallala is an aquifer in the USA..

An aquifer is an underground rock that stores water This can happen if the rock is permeable.

What an aquifer can do

The Ogallala provides enough water to grow the crops needed to feed America. It is huge and covers 8 US states.

What is the problem

The USA has been using the aquifer for a century as a result the water levels in the aquifer are dangerously low. When this water runs out USA will not be able to grow all the crops it grows today.

Tackling water stress

Stop wasting it

In 2020 in the UK, 3 billion litres of water was wasted. Fixing leaks can reduce this. Farming wastes a lot of water but by using "drip irrigation", farmers can be efficient with the water they use.

Recycle it

In the UK, the waste water is cleaned then returned to rivers. In some countries the waste water is cleaned then used for crops. In some cities the waste water is super cleaned and used for drinking. 90% of water in Israel is recycled.

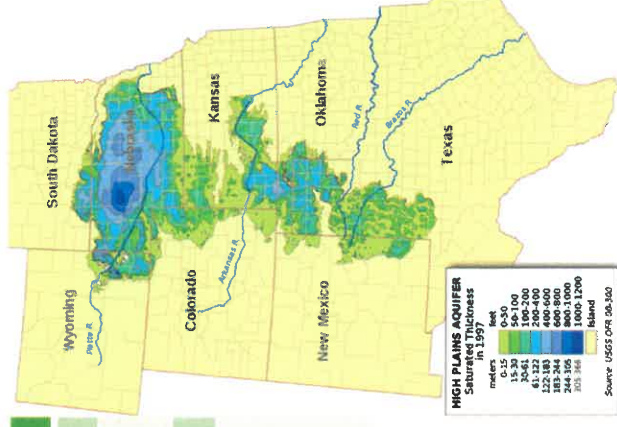
Move it

We can transfer water from areas that have a lot to areas that don't. In China they have built canals that move water from the wet south to the dry north. This reduces water insecurity.

Take it from the sea

Desalination is the process of turning salt water into drinking water. This in theory is great as there is an infinite supply of water however this is very expensive and uses a lot of electricity.

Yr8 Geog: Can we provide resources for 9 billion people?



What is food insecurity?

Food security is where a country provides enough food to healthily feed their entire population. Currently 2 billion people are not food secure, these countries are mostly found in Africa.

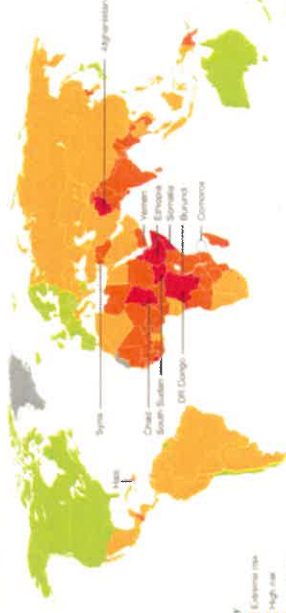
Physical causes of food insecurity

- Pests and disease destroys crops
- Not enough rainfall to grow crops
- Climate change reduces rainfall

Human causes of food insecurity

- Conflict in the country means food can't be transported.
- Poverty means food can't be transported.
- Poverty means they can't buy enough food.

Food Security Risk Index 2013



IS the UK food secure?

The UK has a high level of food security. However, many families struggle with food insecurity.

Reasons why the UK does not have full food security

Population growth
Our population is growing and we are becoming more developed so we want a wider range of food. Plus we create a lot of food waste.

Politics
Government make trade deals for trading food..A lot of trade is taxed (tariffs)
If countries increase their tariffs, food becomes more expensive and so families may not be able to afford the food they want.
Currently we import 30% of our food from the EU

Climate change
Other countries are going to have less food to sell us.
British farmers will struggle with heatwaves and floods.

Reducing food waste

Food miles explain how far food has travelled to get to your plate. The more developed a country is the greater the food miles and the more impact on the planet. More food miles means that you carbon footprint has been increased.

Eating produce in season IF we can eat produce that is grown locally in season it will reduce the amount of food miles. This will reduce your own carbon footprint.

Eating up left over. Eating left overs means that less food gets sent to landfill sites will in turn reduce the amount of methane being

Yr8 Geog: Can we provide resources for 9 billion people?

Drought Resistant Crops



Tackling food insecurity

Aid and charity work

By providing help to local farmers in LIDCs, (seeds and fertiliser). More crops can be grown and local families can become food secure.

Technology

Mobile phones are now all over the world. Local people in LIDCs can apply for food vouchers on their mobile phones.

Drought resistant crops

Technology has meant that we can now develop crops which can be grown with minimal water – perfect for countries that get a lot of drought.

Hallo! • Meeting and greeting

Wie heißt du?	What's your name?
Ich heiße ...	My name is ...
Hallo!	Hello! / Hi!
Guten Tag!	Hello!
Wie geht's?	How are you?
Gut, danke. Und dir?	Fine, thanks. And you?
Nicht schlecht.	Not bad.
Tschüs!	Bye!
Auf Wiedersehen!	Goodbye!

Die Zahlen 1–19 • Numbers 1–19

eins	1
zwei	2
drei	3
vier	4
fünf	5
sechs	6
sieben	7
acht	8
neun	9
zehn	10
elf	11
zwölf	12
dreizehn	13
vierzehn	14
fünfzehn	15
sechzehn	16
siebzehn	17
achtzehn	18
neunzehn	19
Wie alt bist du?	How old are you?
Ich bin ... Jahre alt.	I am ... years old.
Wie alt ist (Julia)?	How old is (Julia)?
(Julia) ist ... Jahre alt.	(Julia) is ... years old.

Year 8 German

Wie bist du? • What are you like?

Ich bin ...	I am ...
Er/Sie ist ...	He/She is ...
faul	lazy
freundlich	friendly
intelligent	intelligent
kreativ	creative
launisch	moody
laut	loud
lustig	funny
musikalisch	musical
sportlich	sporty

Wo wohnst du? • Where do you live?

Ich wohne in ...	I live in ...
Er/Sie/Es wohnt in ...	He/She/It lives in ...
... England	England
... Irland	Ireland
... Nordirland	Northern Ireland
... Schottland	Scotland
... Wales	Wales
... Deutschland	Germany
... Österreich	Austria
... der Schweiz	Switzerland

Oft benutzte Wörter

• High-frequency words

und	and
(und) auch	(and) also
aber	but
sehr	very
ziemlich	quite
nicht	not
Was denkst du?	What do you think?
Ich denke, ...	I think ...
Ich auch!	Me too!
Ich nicht!	Not me! / That's not what I think!
Was? Du spinnst!	What? You're joking!

Was machst du in deiner Freizeit?

• What do you do in your free time?

Ich chillen.
Ich esse Pizza oder Hamburger.
Ich gehe einkaufen.
Ich gehe ins Kino.
Ich gehe in den Park.
Ich gehe in die Stadt.
Ich höre Musik.
Ich mache Sport.
Ich spiele Xbox oder Wii.
Ich spiele Xbox or on the Wii.

Ich bin online • I'm online

Was machst du am Computer?
Was machst du auf deinem Handy?
Ich chatte mit Freunden auf Facebook.
Ich lade Musik herunter.
Ich mache Fotos oder Filme.
Ich sehe Videos.
Ich simse.
Ich spiele Computerspiele.
Ich suche und lese Infos für die Hausaufgaben.
Ich surfe im Internet.
Ich telefoniere mit Freunden.
Ich mache ziemlich viel auf meinem Handy.

*What do you do on the computer?
What do you do on your mobile?
I chat with friends on Facebook.
I download music.
I take photos or make films.
I watch videos.
I text.
I play computer games.
I look for and read information for my homework.
I surf the internet.
I call my friends.
I do quite a lot of things on my mobile.*

Oft benutzte Wörter

• High-frequency words

Wie oft?
(sehr/ziemlich/nicht so) oft
einmal/zweimal/dreimal
pro Woche/pro Monat
jeden Tag
jeden Morgen
manchmal
immer
nie
Wann?
am Wochenende
am Abend
heute
morgen
am Montag
nächste Woche
in zwei Wochen

*How often?
(very/quite/not so) often
once/twice/three times
a week/a month
every day
every morning
sometimes
always
never
When?
at the weekend
in the evening
today
tomorrow
on Monday
next week
in two weeks*

Year 8 German

Fragewörter • Question words

Wie? How?
Was? What?
Wo? Where?
Woher? Where... from?
Wer? Who?



deutsch

The present tense – regular verbs

The verb **wohnen** (to live) is a regular verb. Take **-en** off the infinitive to form the stem, then add these endings.

(These are the same for nearly every verb in German.)

ich wohne	I live / am living	wir wohnen	we live / are living
du wohnst	you live / are living (familiar singular)	ihr wohnt	you live / are living (familiar plural)
er/sie/es wohnt	he/she/it lives / is living	Sie wohnen	you live / are living (polite singular or plural)
		sie wohnen	they live / are living

The present tense – haben

The verb **haben** (to have) is slightly irregular. the du and er/sie/es forms – the 'b' is left out.

ich habe	wir haben
du hast	ihr habt
er/sie/es hat	Sie haben
	sie haben

sein (to be)

The verb **sein** (to be) is very common,

ich bin	wir sind
du bist	ihr seid
er/sie/es ist	Sie sind
	sie sind

	a → ä	e → ie
	fahren	sehen
ich	fahre	sehe
du	fährst	siehst
er/sie/es	fährt	sieht
wir	fahren	sehen
ihr	fahrt	seht
Sie	fahren	sehen
sie	fahren	sehen

Word order

In German, sentences often start with the subject but can also start with a different piece of information, such as a time phrase. The verb in German is **always** the second idea. Look at how this changes the word order; when you start with a time phrase the verb and subject swap around so that the verb remains in second place.

Ich spiele Gitarre. → Am Abend spiele ich Gitarre.

Ich fahre Skateboard. → Einmal pro Woche fahre ich Skateboard.

	the	a	my	your
masculine	der	ein	mein	dein
feminine	die	eine	meine	deine
neuter	das	ein	mein	dein

Year 8
German

Enquiry: Why does democracy matter?

Outline: During the 19th century, many people began to realise that they were not listened to by the government because they didn't have the right to vote. This led to many pressure groups being set up to try and gain equality for all though everyone having the vote. However, this was not easily achieved.



Date	Event	Description
1819	Peterloo massacre	18 people were killed and 400-700 were injured during a demonstration of 60,000 in Manchester. Protesters had been asking for the right to vote.
1832	Great Reform Act	More people given the right to vote, including more from the middle class, but still now working class people
1882	Women's Property Act	Women were now allowed to keep their property when they married. Their husband was no longer allowed to take or control this.
1903	WSPU set up	The Pankhurst family set up a pressure group to campaign for the right to vote for women as they believed that progress was too slow.
1913	Death of Emily Davison	Davison was killed by the king's horse during a race called the Epsom Derby. She was carrying a suffragette flag when she was hit.
1918	Representation of the People Act.	All men over 21 and women over the age of 30 who owned property were given the vote. It wasn't until 1928 that all women over 21 obtained the vote.



Furthering learning
Want to find out more about the fight for democracy in the UK?

Historical skill focus: interpretations

- How do interpretations differ?
- What makes an interpretation convincing?

History – Year 8 Knowledge Organiser Topic 4

The Six Points PEOPLE'S CHARTER.

1. The People's Charter was a document that set out the demands for universal male suffrage, annual parliamentary elections, and other reforms. It was signed by 125,000 people in 1839.

2. The Charter was a response to the fact that only a small number of men had the right to vote in the 1830s.

3. The Charter was a key document in the history of the movement for universal suffrage in the UK.

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6. The Charter was a response to the fact that only a small number of men had the right to vote in the 1830s.

Key individuals



Samuel Bamford. He was an eye witness to the Peterloo Massacre. His written account gained sympathy for those who were killed or injured.



William Cuffay. Born in the West Indies, Cuffay worked as a leading Chartist, campaigning for the right to vote. He became President of the London Chartists.



Millicent Fawcett. Led a pressure group called the NUWSS who campaigned peacefully for the vote for women. Her famous quote was "Courage calls to courage everywhere"



Emmeline Pankhurst. Set up the WSPU which was a more militant pressure group aiming at gaining the vote for women. Her famous quote was "Deeds, not words."



Key vocabulary:

Act: a law passed by parliament.

Chartists: a pressure group who fought for the right to vote for working class men. They were famous for their People's Charter.

Constituency: an area of a country which is represented in parliament by a MP who has been chosen by people living there.

Democracy: a system where people have the right to choose the government through elections.

Direct action: acts which a pressure group uses to gain attention for a cause, like boycotts or marches.

Disenfranchised: when you are unable to vote because you are banned from doing so.

Franchise: the right to vote.

Massacre: the killing of several people at once, whether deliberately or by accident.

Militant: using confrontational or violent methods to achieve your aims for a cause.

Parliament: where laws are made in the UK. MPs in the House of Commons and peers in the House of Lords vote to pass these laws.

Pressure group: an organisation which aims to improve lives for the people they represent, like the Chartists, the WSPU or the NUWSS.

Reform: a change that intends to improve something.

Suffrage: the right to vote.

Suffragette: nickname given to those in the WSPU. They tended to use more militant tactics to achieve their goals.

Suffragist: nickname given to those in the NUWSS. They tended to use more peaceful methods to achieve their goals.

Terrorism: violent actions which hurt and scare people; often the aim is to achieve political goals.

Prior learning?

Democracy
Patriarchy
Revolution



@whisto_maths

By the end of this unit you should be able to:

- ### Keywords

Percent: parts per 100 — written using the % symbol.

Decimal: a number in our base 10 number system. Numbers to the right of the decimal place are called decimals.

Fraction: a fraction represents how many parts of a whole value you have.

Equivalent: of equal value.

Reduce: to make smaller in value.

Growth: to increase/ to grow.

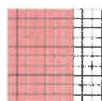
Integer: whole number, can be positive, negative or zero.

Invest: use money with the goal of it increasing in value over time (usually in a bank).

This also means
 $70 \div 100$

This also means $70 - 100$ 

→ 70 out of 100 squares -
70 "hundredths"
- 7 "tenths"
0.7



70 hundredths
→ - 70%

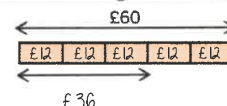
Be careful of recurring decimals:
eg $\frac{1}{3} = 0.3333333$
 $\frac{1}{3} = 0.\dot{3}$
The dot above the 3

This will give you the answer in the simplest form

Convert to a decimal
 $\times 100$ converts to a percentage

R

Find $\frac{3}{5}$ of £60



Remember
 $\frac{3}{5} = 60\%$

$$\begin{array}{r} 10\% \text{ of } £60 = £6 \\ 50\% \text{ of } £60 = £30 \\ \hline 60\% \text{ of } £60 = £36 \end{array}$$

Remember

$$\frac{3}{5} = 60\% = 0.6$$

60% of £60

$$= 0.6 \times 60$$
$$= \text{£}36$$

100 hundredths
10 tenths
100%

40 hundredths
4 tenths
40%

140 hundredths
14 tenths
140%

100% + 40%

$$\begin{aligned} 100\% + 40\% \\ 1 + 0.40 \\ = 1.40 \end{aligned}$$

$$100\% - 58\% = 42\%$$

$100 - 0.58 = 0.42$ ← Less than

Diagram illustrating a 100% bar divided into a 100% section and a 12% section, with the text "Increase by 12%" below it.

$$100\% + 12\% = 112\%$$

$100 + 0.12 = 112$ ← More than 1

7 per every 10 are orange. This means that 70 per every 100 are orange. $\frac{7}{10}$ $\frac{70}{100}$ 70%

27 per every 100 shaded. 54 per every 100 shaded. $\frac{27}{100}$ $\frac{54}{100}$ 54%

Denominator 100 Equivalent fractions

Rosie

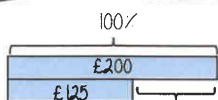
$\frac{13}{30}$ $\rightarrow$ $\frac{\square}{\square}$ $\rightarrow$ $\frac{13}{30}$ $\rightarrow$ $\times 100$ $\rightarrow$ $43.3333\ldots\%$
 43%

This the same as $13 - 30$

Can't use equivalence easily to find 'per hundred'

Decimal percentages are still a percentage

I bought a phone for £200
A year later sold it for £125

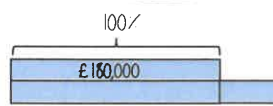


All values of change compare to the ORIGINAL value

Percentage loss
 $\frac{75}{200} \times 100 = 37.5\%$

$$\frac{\text{Difference in value}}{\text{Original value}} \times 100$$

I bought a house for £180,000, I later sold it for £216,000



Percentage profit

Money made (profit value) $\frac{36000}{180000} \times 100 = 20\%$

The language and wording of the question is the key

Have you represented the question in a bar model?

Can you use a calculator?

YEAR 8 - DEVELOPING NUMBER...

Standard Form

@whisto_maths

What do I need to be able to do?

By the end of this unit you should be able to:

- Write numbers in standard form and as ordinary numbers
- Order numbers in standard form
- Add/ Subtract with standard form
- Multiply/ Divide with standard form
- Use a calculator with standard form

Keywords

Standard (index) Form: A system of writing very big or very small numbers

Commutative: an operation is commutative if changing the order does not change the result

Base: The number that gets multiplied by a power

Power: The exponent — or the number that tells you how many times to use the number in multiplication

Exponent: The power — or the number that tells you how many times to use the number in multiplication

Indices: The power or the exponent

Negative: A value below zero.

Positive powers of 10

1 billion — 1 000 000 000

$$10 \times 10 \times 10 \times 10 \times 10 \times 10 \times 10 \times 10 \times 10 = 10^9$$

Addition rule for indices $10^a \times 10^b = 10^{a+b}$

Subtraction rule for indices $10^a \div 10^b = 10^{a-b}$

Numbers between 0 and 1

$$0.054 = 5.4 \times 10^{-2}$$

1	$\frac{1}{10}$	$\frac{1}{100}$	$\frac{1}{1000}$
10^0	10^{-1}	10^{-2}	10^{-3}
0	0	5	4

A negative power does not mean a negative answer — it means a number closer to 0

Standard form with numbers > 1

Any number between 1 and less than 10 $\rightarrow A \times 10^n$ ← Any integer

Example

$$3.2 \times 10^4 \\ = 3.2 \times 10 \times 10 \times 10 \times 10 \\ = 32000$$

Non-example

$$0.8 \times 10^4 \\ 5.3 \times 10^{07}$$

Negative powers of 10

0.001	10^0	1	$\frac{1}{10}$	$\frac{1}{100}$	$\frac{1}{1000}$
$1 \times \frac{1}{1000}$	10^1	10^0	10^{-1}	10^{-2}	10^{-3}
1×10^{-3}	0	0	0	0	1

Any value to the power 0 always = 1

Negative powers do not indicate negative solutions

Order numbers in standard form

6.4×10^{-2}	2.4×10^2	3.3×10^0	1.3×10^{-1}
0.064	240	1	0.13

Look at the power first will the number be $>$ or $<$ than 1

Use a place value grid to compare the numbers for ordering

Mental calculations

$$6.4 \times 10^2 \times 1000 \text{ Not in Standard Form}$$

$$= 6.4 \times 10^2 \times 10^3$$

$$= 6.4 \times 10^5$$

Use addition for indices rule

$$(2 \times 10^3) \div 4$$

$$= (2 \div 4) \times 10^3$$

$$= 0.5 \times 10^3$$

Divide the values

Remember the layout for standard form

Any number between 1 and less than 10 $\rightarrow A \times 10^n$ ← Any integer

Addition and Subtraction

Tip: Convert into ordinary numbers first and back to standard form at the end

$$6 \times 10^5 + 8 \times 10^5$$

Method 1

$$= 600000 + 800000$$

$$= 1400000$$

$$= 1.4 \times 10^6$$

Method 2

$$= (6 + 8) \times 10^5$$

$$= 14 \times 10^5$$

$$= 1.4 \times 10^1 \times 10^5$$

$$= 1.4 \times 10^6$$

This is not the final answer

More robust method
Less room for misconceptions
Easier to do calculations with negative indices
Can use for different powers

Only works if the powers are the same

Multiplication and division

$$\frac{1.5 \times 10^5}{0.3 \times 10^3}$$

$$= \frac{1.5}{0.3} \times \frac{10^5}{10^3}$$

Division questions can look like this

$$(1.5 \times 10^5) \div (0.3 \times 10^3)$$

$$= 15 \div 0.3 \times 10^5 \div 10^3$$

$$= 5 \times 10^2$$

For multiplication and division you can look at the values for A and the powers of 10 as two separate calculations

Revisit addition and subtraction laws for indices — they are needed for the calculations

Addition law for indices

$$a^m \times a^n = a^{m+n}$$

Subtraction law for indices

$$a^m \div a^n = a^{m-n}$$

Using a calculator

$$1.4 \times 10^5 \times 3.9 \times 10^3$$

Use a calculator to work out this question to a suitable degree of accuracy

Input 1.4 and press $\times 10^5$ Then press 5 (for the power)

Press $\times$

Input 3.9 and press $\times 10^3$ Then press 3 (for the power)

Press $=$

This gives you the solution



Click calculator for video tutorial

To put into standard form and a suitable degree of accuracy

Press **SHIFT** **SETUP** and then press 7 for sci mode

Choose a degree of accuracy so in most cases press 2

$$\text{Answer: } 5.5 \times 10^8$$

YEAR 8 - DEVELOPING NUMBER...

Number Sense

@whisto_maths

What do I need to be able to do?

By the end of this unit you should be able to:

- Round numbers to powers of 10 and 1 sf
- Round numbers to any dp
- Estimate solutions
- Calculate using order of operations
- Calculate with money, units of measurement and time

Keywords

Significant: Place value of importance

Round: Making a number simpler but keeping its value close to what it was.

Decimal: Place holders after the decimal point.

Overestimate: Rounding up — gives a solution higher than the actual value

Underestimate: Rounding down — gives a solution lower than the actual value.

Metric: A system of measurement.

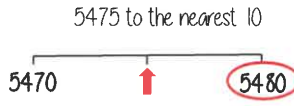
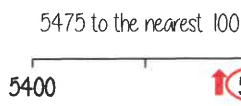
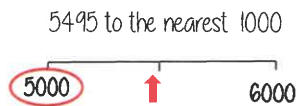
Balance: The amount of money in a bank account

Deposit: Putting money into a bank account.

Round to powers of 10 and 1 sig figure



If the number is halfway between we "round up"



370 to 1 significant figure is 400

37 to 1 significant figure is 40

3.7 to 1 significant figure is 4

0.37 to 1 significant figure is 0.4

0.00037 to 1 significant figure is 0.0004

Round to the first non-zero number

Round to decimal places

2.46192

Focus on the numbers after the decimal point

To 1dp — to one number after the decimal
To 2dp — to two numbers after the decimal

2.46192 (to 1dp) - Is this closer to 2.4 or 2.5



2.46192 (to 2dp) - Is this closer to 2.46 or 2.47



2.46192 This shows the number is closer to 2.5

2.46192 This shows the number is closer to 2.46

Estimate the calculation

Round to 1 significant figure to estimate

$$4.2 + 6.7 \approx 4 + 7 \approx 11$$

This is an **overestimate** because the 6.7 was rounded up more

The equal sign changes to show it is an estimation

$$21.4 \times 3.1 \approx 20 \times 3 \approx 60$$

This is an **underestimate** because both values were rounded down

It is good to check all calculations with an estimate in all aspects of maths — it helps you identify calculation errors

Order of operations



Brackets Operations in brackets are calculated first

Other operations e.g. powers, roots,

Multiplication/ Division

They are carried out in the order from left to right in the question

Addition/ Subtraction

They are carried out in the order from left to right in the question

Calculations with money

Debit - You have £0 or more in an account

Credit - You have less than £0 in an account

Money calculations are to 2dp



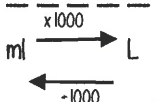
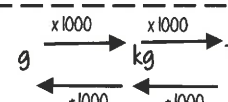
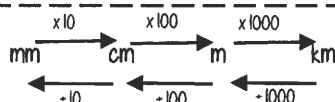
Using a calculator — ensure you are working in the correct units

$$\begin{aligned} \text{£ } 130 + 50\text{p} &= 130 + 50 \quad (\text{in pence}) \\ &= 130 + 0.50 \quad (\text{in pounds}) \end{aligned}$$

$$\text{£ } 1 = 100\text{p}$$



Units are important: Useful Conversions



Metric measures of length

Kilo = 1000 x meter

Centi = $\frac{1}{100}$ x meter

Milli = $\frac{1}{1000}$ x meter

Time and the calendar



1 Year — the amount of time it takes Earth to go around the sun **365** (and a quarter) days

Leap Year — 366 days (every 4 years)



12 Months — one year = 52 weeks

31 days — Jan, March, May, July

Aug, Oct, Dec

30 days — April, June, Sept, Nov

28 days — Feb (29 leap year)

1 week — 7 days

Monday, Tuesday, Wednesday,

Thursday, Friday, Saturday, Sunday

1 day — 24 hours

1 hour — 60 minutes

1 minute — 60 seconds

Use a number line for time calculations!

Units of weight/ capacity

Weight = g, kg, t

Capacity (volume of liquid) = ml, L

Analogue Clock



12-hour clock

- Use am (morning) and pm (afternoon)
- Only use hour times up to 12

Digital Clock (24-hour times)



24-hour clock

- 0-11 (morning hours)
- 12-23 (afternoon hours)

Chord – two or more notes played at the same time

C chord
C, E, G

C D E F G A B C

F chord
F, A, C,

C D E F G A B C

G chord
G, B, D

A B C D E F G A

Blues Scale – a scale used for improvising

C Eb F G Ab Bb C

A Mmmm, standin' at the crossroad, I tried to flag a ride
A Standin' at the crossroad, I tried to flag a ride
B Didn't nobody seem to know me, everybody pass me by

Swing rhythm

Improvising – making up music on the spot

Blues Lyrics follow AAB structure

12-bar blues chords in C

C ///	C ///	C ///	C ///
F ///	F ///	C ///	C ///
G ///	F ///	C ///	C ///

12-Bar Blues Progression

I ///	I ///	I ///	I ///
IV ///	IV ///	I ///	I ///
V ///	IV ///	I ///	I ///

Tonic – 1st **I** (C chord)
 Subdominant – 4th **IV** (F chord)
 Dominant – 5th **V** (G chord)

Walking Bass Line – uses the most important notes from the chords





JUDAISM



KNOWLEDGE ORGANISER

Overview

Judaism is one of the world's major religions. It is the **world's 10th largest religion**, with about 14.6 million followers. It is around 4,000 years old.

Jews are the people who follow Judaism. Like Christians and Muslims, Jews believe that there is only one God, who created the world and everything in it.

Abraham is seen as the father of the Jewish religion. Jews believe that Judaism began when he started worshipping one God instead of many.

Judaism began in the **Middle East** – but there are now Jewish people all across the world.

The main holy book of Judaism is the **Torah**, written in **Hebrew**. **Synagogues** are Jewish worship buildings.

Image of the Great Synagogue of Florence, in Italy, Europe.



Jewish Beliefs

The Four Stages of Life

-Jews believe in four important stages of life, and mark each with a religious ceremony.
-The four are: birth, becoming an adult, marriage and death.

-When Jewish boys (aged 13) and Jewish girls (aged 12) become Jewish adults, they have a bar mitzvah (for boys) or bat mitzvah (for girls) ceremony. At these ages, Jewish religion, law and social life judges that the boys and girls become responsible for their own actions. The ceremony is usually held on the first Shabbat (Jewish day of rest) after their birthday. In a bar mitzvah ceremony, a boy must read passages from the Torah.

The Story of Abraham

-Abraham is an important figure in Judaism, Christianity and Islam. His story is told in the Genesis section of the Bible.

-According to the story, Abraham made an agreement with God, in which he promised to be faithful and to teach his laws to the world. In return God gave Abraham and his descendants the land of Israel. Even though Abraham was 99, and his wife Sarah 90, God enabled them to have a son, Isaac, forming the first Jewish family.

Ceremonies and Festivals

-Jews enjoy many ceremonies and festivals as a part of their religion.

-Passover takes place in March or April, and is when Jewish people remember how God brought them out of Egypt (the Exodus). A special meal is created to remind the Jews of the good and bad times in the past. It includes hard boiled egg, parsley, boiled potato, lettuce, horseradish, chopped apples and walnuts.

-Hanukkah takes place in December and is known as 'the Jewish festival of lights'. People light candles, exchange presents, and eat foods such as latkes (potato pancakes) and sufganiot (jam doughnuts).

Answers to Important Questions and Key Vocabulary

Where and how do Jews worship? Why?	Key Vocabulary
 -Synagogues are where Jewish people go to worship. -In Orthodox synagogues, men and women sit separately. In progressive synagogues, men and women can sit together and worship. -Synagogues have large rooms for prayers, and normally smaller rooms for studying. -The front of a synagogue faces towards Jerusalem. -There is always a raised platform called a Bimah.	Judaism Jew Torah
 What is the Torah?	Synagogue Abraham
 Where do most Jews live in the world?	Passover Hanukkah Bar Mitzvah Bat Mitzvah Middle East
 How many different types of Jews are there?	Exodus Jerusalem Yad

Top 10 Facts!

- Jews believe in one God, that is a spirit and has no physical form.
- A kippah is the clothing item that many Jewish men wear on their head.
- Praying is very important in Judaism – there are prayers for every occasion.
- Jesus was born into the Jewish religion, but began preaching his own ideas.
- Many Jewish homes have a family box, and give to those in need.
- Strict Jews are not allowed to travel or watch TV on the day of Shabbat!
- Jewish New Year takes place in September/October time, and is called Rosh Hashanah.
- Jews fast for 25 hours and pray during Yom Kippur.
- Anne Frank was a famous Jewish girl, who was killed in the Holocaust.
- The Anne Frank House and Secret Annex, in Amsterdam, Netherlands, remains one of Europe's busiest tourist attractions.

Judaism Timeline

1713 BCE: Abraham forms the first covenant with God.	1250 BCE: The Exodus – people of Israel freed from Egypt.	993 BCE: King David establishes a capital city in Jerusalem.	970 BCE: King Solomon constructs the First Temple.	66 CE: The Jews revolt against Roman rulers.	70 CE: The Second Temple in Rome is destroyed, and many Jews are forced to leave Israel.	1930s-1945: 6 million Jews are killed by the Nazi German regime in the Holocaust in Europe.	1948: The modern state of Israel is established. Its capital is Jerusalem.
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Respiration

- Respiration is the process in which energy is released from the molecules of food which you eat
- Respiration happens in the mitochondria of the cell
- **Aerobic respiration** involves oxygen, it is more efficient as all of the food is broken down to release energy
glucose + oxygen → carbon dioxide + water
- The glucose is transported to the cells in the blood **plasma**
- The oxygen is transported to the cells in **red blood cells**, by binding with **haemoglobin**
- Carbon dioxide is a waste product and is transported from the cells to the lungs to be exhaled
- **Anaerobic respiration** is a type of respiration which does not use oxygen, it is used when the body cannot supply the cells with enough oxygen for aerobic respiration
- Anaerobic respiration releases less energy than aerobic respiration
glucose → lactic acid
- The **lactic acid** produced through anaerobic respiration can cause muscle cramps
- Lactic acid will build up if there is not enough oxygen present in the blood supply to break it down. This is known as an **oxygen debt**

Fermentation

- **Fermentation** is a type of anaerobic respiration which occurs in yeast
- Instead of producing lactic acid, yeast produces ethanol, which is a type of alcohol
glucose → ethanol + carbon dioxide
- This process can be used to form alcohol to drink or to allow bread and cakes to rise

Plant minerals

Plants need minerals for healthy growth, if they do not have enough of these minerals this is known as a **mineral deficiency**

Mineral	What is it used for?	What happens if there is not enough?
nitrates (contain nitrogen)	healthy growth	poor growth and older leaves yellow
phosphates (contain phosphorus)	healthy roots	poor growth, younger leaves look purple
potassium	healthy leaves and flowers	yellow leaves with dead patches
magnesium	making chlorophyll	leaves will turn yellow

Fertilisers can be used to stop plants from suffering with mineral deficiencies

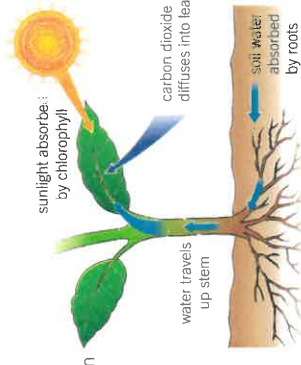
Key terms

Make sure you can write definitions for these key terms.

aerobic respiration algae anaerobic respiration chlorophyll mineral deficiency fermentation fertiliser haemoglobin lactic acid magnesium
nitrites oxygen debt phosphates photosynthesis plasma potassium producer red blood cells

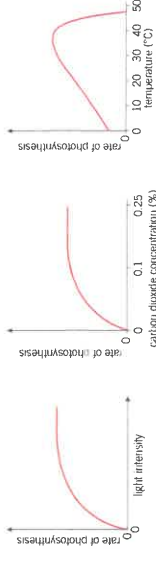
Photosynthesis

- **Photosynthesis** is the process which occurs in the chloroplasts to produce glucose using sunlight
- water + carbon dioxide + sunlight → glucose + oxygen
- Any organism that can use photosynthesis to produce its own food is known as a **producer**, these are not just limited to plants but can include other organisms such as **algae**



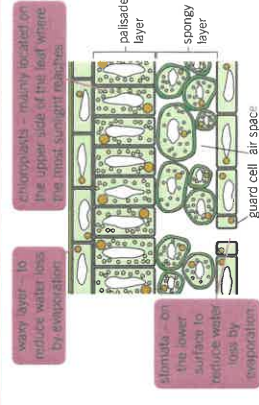
The rate of photosynthesis can be affected by:

- Light intensity – the higher the light intensity the higher the rate of photosynthesis up to a point
- Carbon dioxide concentration – the higher the carbon dioxide concentration the higher the rate of photosynthesis up to a point
- Temperature – the optimum temperature is the temperature at which photosynthesis occurs at the highest rate, before and after this the rate will be less



Leaves

- To best adapt for photosynthesis leaves have a number of adaptations
- They are thin to allow the most light through
- There is a lot of **chlorophyll** to absorb light
- They have a large surface area to absorb as much light as possible



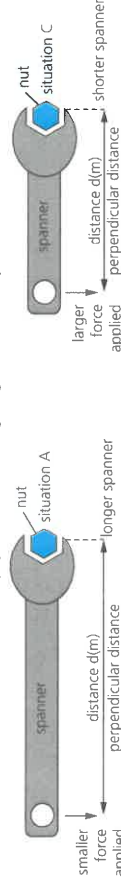
Work

- In physics, **work done** is the energy transferred when a force is used to move an object a certain distance
- Like energy, work is measured in **Joules (J)**
- Work can be done in a range of situations e.g. lifting a book work is done against gravity, when you slide a book along a table work is done against friction
- We calculate work with the equation:

$$\text{work done (J)} = \text{force (N)} \times \text{distance moved (m)}$$

- A **simple machine** makes it easier to lift things, they reduce the force needed
- A **force multiplier** uses a smaller **input force** (what you apply) to generate a larger **output force** (what is created)
- If you increase the distance from the pivot, less input force is needed to be used for the same output force as before
- A **lever** is an example of a force multiplier, a longer lever will require a less input force than a shorter lever to produce the same output force

The physics of unscrewing a tight nut with a spanner



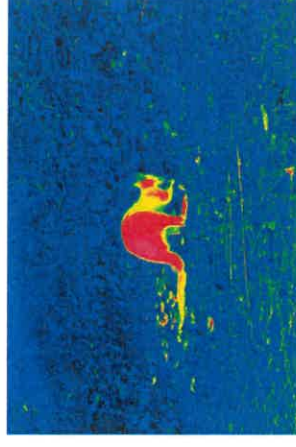
Energy and temperature

- 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 ($^{\circ}\text{C}$)
- The **thermal energy** of a substance depends on the individual energy of all of the particles, it is measured 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

Radiation

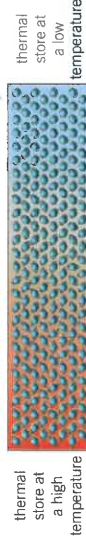
- Radiation** is a method of transferring energy without the need for particles
- An example of radiation is thermal energy being transferred from the Sun to us through space (where there are no particles)
- This type of radiation is known as **infrared radiation**, it is a type of wave just like light
- 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**



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**



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

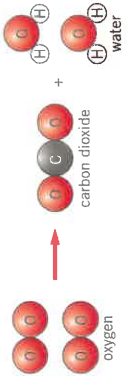


Key terms

Make sure you can write definitions for these key terms.

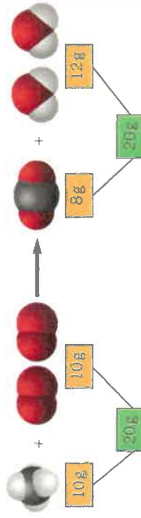
conduction	convection	convection current	force multiplier	input force	insulator	infrared radiation	lever	output force	simple machine	temperature
		thermometer	thermal conductor	thermal energy store	thermal energy store	thermal imaging camera		work done		

Chemical reactions

- Word equations can represent a **chemical reaction**:

- The **reactants** are on the left side of the arrow and the **products** are on the right side of the arrow
- We use an arrow instead of an equals sign as it represents that the reactants are changing into a new substance
- In a reaction, the amount of each type of atom stays the same, however they are rearranged to form a new product

Conservation of mass

- In a reaction the mass will be **conserved**, this means that the total mass of the reactants will be equal to the total mass of the products
- If it appears that some of the mass has been lost, this means that a gas has been produced and escaped, accounting for the lost mass



Balanced symbol equations show the amounts of all of the individual atoms in a reaction

- The symbols used are from the Periodic Table
- They also show:
 - Formulae of reactants and products
 - How the atoms are rearranged
 - Relative amounts of reactants and products

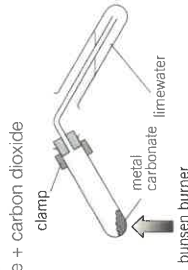


Combustion

- Combustion** is the burning of a **fuel** in oxygen
- A **fuel** is a substance which stores energy in a chemical store
- Examples of fuels include petrol, diesel, coal and hydrogen
- When a carbon based fuel undergoes combustion, it will produce water and carbon dioxide
 $\text{methane} + \text{oxygen} \rightarrow \text{carbon dioxide} + \text{water}$
- Hydrogen can also be used as a fuel, this is much better than traditional fossil fuels as it does not produce carbon dioxide:
 $\text{hydrogen} + \text{oxygen} \rightarrow \text{water}$

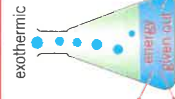
Thermal decomposition

- A **thermal decomposition** reaction is one where the reactants are broken down (decomposition) using heat (thermal energy)
- An example of this is with metal carbonates:
- We can test for this carbon dioxide by bubbling the gas through limewater, if the limewater turns cloudy, the gas is carbon dioxide

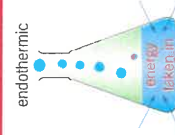


Exothermic and endothermic reactions

- Exothermic** reactions involve a transfer of energy from the reactants to the surroundings
- As energy is transferred to the surroundings this will show an increase in temperature
 - Examples of exothermic reactions include combustion, freezing, and condensing



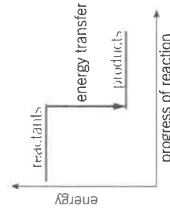
- Endothermic** reactions involve a transfer of energy from the surroundings to the reactants
- As energy is taken into the reactants a decrease in temperature will be shown
 - Examples of endothermic reactions include thermal decomposition, melting, and boiling



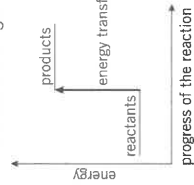
Energy level diagrams

Energy level diagrams show the values of energy between the reactants and the products in a reaction

- If the energy is greater in the reactants than the products then the reaction is exothermic as energy has been given out to the surroundings
- If the energy is lower in the reactants than the products then the reaction is endothermic as energy has been taken in from the surroundings



Exothermic



Endothermic

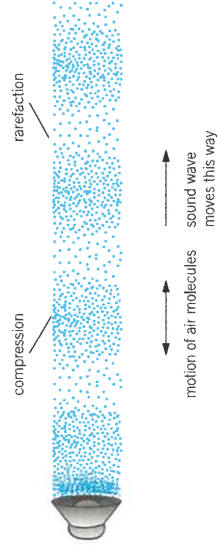
Key terms

Make sure you can write definitions for these key terms.

balanced symbol equation chemical bond chemical reaction combustion conserved reactants products thermal decomposition decomposition fuel endothermic

Sound waves

- Any **wave** transfers energy from one place to another
- Sound waves cause particles to vibrate backwards and forwards in the direction of the wave, this produces areas of high pressure (**compression**) and low pressure (**rarefaction**)
- As there are areas where the air pressure is different in a sound wave, we can call sound waves a type of **pressure wave**
- Sound can be detected with a **microphone**, the microphone will change air pressure into a changing potential difference
- Sound can be produced with a **loudspeaker**, the changing potential difference causes changes in air pressure
- Changes in air pressure will be caused by the diaphragm of the loudspeaker vibrating and causing the movement of the air particles

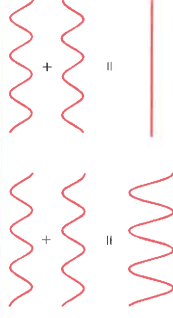


Types of waves

- Transverse waves** vibrate at 90° to the direction at which they are travelling, they move up and down as well as forward
- Longitudinal waves** vibrate in the direction in which they are travelling



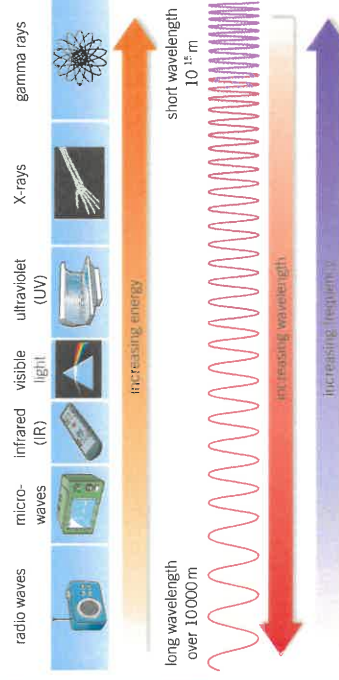
- When waves are put together they **superpose**, this means they will either add together or cancel each other out
- When the waves are in line with one another they add together, increasing the amplitude of the wave
- When the waves are not in line, they will cancel each other out, decreasing the amplitude of the wave



Ultrasound

- Humans can hear sounds with a frequency between 20–20000Hz.
- ultrasound** is any sound with a frequency of higher than 20000Hz
- As ultrasound has a high frequency it causes the particles it interacts with to vibrate more quickly, this means that it can be used in:
 - Ultrasonic cleaning – dirt particles are 'shaken' off of objects
 - Physiotherapy – the ultrasound waves causes liquid particles in the body to move more quickly and hence get warmer

Electromagnetic spectrum

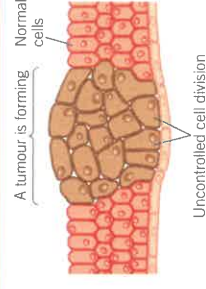


Uses of the electromagnetic spectrum

Radio waves	TV signals
Microwaves	Mobile phones
Infrared	Heating and cooking
Visible light	Photography
Ultraviolet waves	Detecting forgeries, sunbeds
X-rays	Imaging broken bones
Gamma rays	Killing cancer cells

Ionisation

- The higher the frequency of the wave, the higher the energy
- High energy waves can lead to **ionisation**, where electrons are knocked off of atoms in cells
- This can cause mutations in cells if the DNA is affected and this can lead to cancerous tumours forming
- The ionising waves in the electromagnetic spectrum are gamma, X-rays and ultraviolet rays



Key terms

Make sure you can write definitions for these key terms.

compression electromagnetic spectrum gamma rays infrared ionisation
pressure wave radio waves rarefaction superpose transverse wave
longitudinal wave loudspeaker microphone waves microwaves X-rays
ultrasound ultraviolet visible light

Saludos Greetings

¡Hola!	Hello!	¿Cómo te llamas?	What are you called?
¿Qué tal?	How are you?	Me llamo...	I am called...
Bien, gracias.	Fine, thanks.	¿Dónde vives?	Where do you live?
fenomenal	great	Vivo en...	I live in...
regular	not bad	¡Hasta luego!	See you later!
fatal	awful	¡Adiós!	Goodbye!

¿Qué tipo de persona eres? What sort of person are you?

Soy...	I am...	listo/a	clever
divertido/a	amusing, funny, fun	serio/a	serious
estupendo/a	brilliant	simpático/a	nice, kind
fenomenal	fantastic	sincero/a	sincere
generoso/a	generous	tímido/a	shy
genial	great	tonto/a	silly
guay	cool	tranquilo/a	quiet, calm

Mi pasión My passion

Mi pasión es...	My passion is...	el fútbol	football
Mi héroe es...	My hero is...	la música	music
el deporte	sport	el tenis	tennis

¿Tienes hermanos? Do you have any brothers or sisters?

Tengo...	I have...	No tengo hermanos.	I don't have any brothers or sisters.
una hermana	a sister	Soy hijo único/hija única.	I am an only child. (male/female)
un hermano	a brother		
una hermanastra	a half-sister/step-sister		
un hermanastro	a half-brother/stepbrother		

Los números 1 - 31 Numbers 1 - 31

uno	1	diecisiete	17
dos	2	dieciocho	18
tres	3	diecinueve	19
cuatro	4	veinte	20
cinco	5	veintiuno	21
seis	6	veintidós	22
siete	7	veintitrés	23
ocho	8	veinticuatro	24
nueve	9	veinticinco	25
diez	10	veintiséis	26
once	11	veintisiete	27
doce	12	veintiocho	28
trece	13	veintinueve	29
catorce	14	treinta	30
quince	15	treinta y uno	31
dieciséis	16		

¿Cuántos años tienes? How old are you?

Tengo... años.	I am... years old.
¿Cuándo es tu cumpleaños?	When is your birthday?
Mi cumpleaños es el... de...	My birthday is the... of...
enero	January
febrero	February
marzo	March
abril	April

¿Tienes mascotas? Do you have pets?

Tengo...	I have...
una cobaya	a guinea pig
un conejo	a rabbit
un gato	a cat
un perro	a dog
un pez	a fish

Los colores Colours

blanco/a	white
amarillo/a	yellow
negro/a	black
rojo/a	red
verde	green

mayo	May
junio	June
julio	July
agosto	August
septiembre	September
octubre	October
noviembre	November
diciembre	December

un ratón	a mouse
una serpiente	a snake
No tengo mascotas.	I don't have any pets.
¿Cómo es?	What is it like?
¿Cómo son?	What are they like?

gris	grey
marrón	brown
azul	blue
rosa	pink
naranja	orange

Palabras muy frecuentes High-frequency words

bastante	quite	y	and
no	no/not	a la derecha	on the right
mi/mis	my	a la izquierda	on the left
muy	very	en el centro	in the centre/middle
pero	but	hay	there is/there are
también	also, too	un chico	a boy
tu/tus	your	una chica	a girl
un poco	a bit	creo que	I think that

Estrategia 1

Look, say, cover, write, check

Use the five steps below to learn how to spell any word.

- LOOK** Look carefully at the word for at least 10 seconds.
- SAY** Say the word to yourself or out loud to practise pronunciation.
- COVER** Cover up the word when you feel you have learned it.
- WRITE** Write the word from memory.
- CHECK** Check your word against the original. Did you get it right? If not, what did you get wrong? Spend time learning that bit of the word. Go through the steps again until you get it right.