Ofsted Good Provider 2022

Need To Know Book Year 8 Autumn 2023

Name:

Form Group: _____



Be Kind.

Work Hard.





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Helping every person achieve things they never thought they could.



Knowledge Retrieval Sheet

What are knowledge retrieval sheets?

Take Responsibility.

Here at Little Lever School, we think it is really important that you know what the essential knowledge is for each subject that you study. Learning takes place not only in the classroom, but in all areas of the school building, and at home. These knowledge retrieval sheets contain all the essential knowledge you will need to help revise and make progress towards achieving your best in all of your subjects.



By using your knowledge retrieval sheets each week you will be able to transfer your knowledge from your short-term memory, and make it stick. Within all your lessons, you will be asked to retrieve knowledge from your long-term memory. This might be in the form of quizzes or longer responses. These might require you to use lots of information you have already stored from previous lessons and from your own life experiences. These Need to Know Books will help you to check how much you can remember.

We have designed your knowledge retrieval sheets so that they are simple for you to use both in school and at home. You can even get others to help you. Below are some options for how you might use each sheet to make the knowledge stick in your brain so that you will be able to remember it.

Using Knowledge Retrieval Sheets- 5 Top Tips:



'Look, Cover, Say, Write, Check'- Look at a fact on your sheet, cover it up with your hand or a piece of paper. Say it out loud, write the fact down without checking and then uncover and check if you were correct.

'If this is the answer, what is the question?'- Quiz yourself by covering up facts on your sheet. For example, you could cover up the definition of key vocabulary and try to remember what the key vocabulary means.

Independent low-stakes quizzing- Use the questions on the back of each sheet to test yourself. You should write the answers on a separate sheet of paper so that you can use the question sheet again in future.

Paired low-stakes quizzing- Give your book or a sheet to someone else. (Could be a friend, teacher or family). They can ask you the questions on the back of any sheet and use the facts on the front to check if you are correct.

Flashcard Revision- Make flashcards using your knowledge sheets. Can you summarise the essential knowledge into your own words to put onto a pocket-sized revision card?







Helping every person achieve things they never thought they could.



Year 8 Art: Portraiture

The Formal Elements of Art

	Line	A line is an identifiable path created by a point moving in space . It is one-dimensional and can vary in width, direction, and length. Lines can be horizontal, vertical, or diagonal, straight or curved, thick or thin.	
	Tone	T one refers to the relative lightness or darkness of a colour. One colour can have an almost infinite number of different tones .	-
	Colour	Made up of three properties: hue, value, and intensity. Red, yellow and blue are primary colours, which means they can't be mixed using any other colours. Two primary colours mixed make a secondary colour. A primary and a secondary colour mixed make a tertiary colour	-
P	Shape	A shape is an area enclosed by a line. It could be just an outline or it could be shaded in. Shapes can be either geometric, like a circle, square or triangle, or irregular.	
	Texture	Texture refers to the surface quality in a work of art . We associate textures with the way that things look or feel.	
	Pattern	Pattern is created by repeating lines, shapes, tones or colours. The design used to create a pattern is often referred to as a motif. Motifs can be simple shapes or complex arrangements.	
	Form	Form is a three-dimensional shape, such as a cube, sphere or cone. Sculpture and 3D design are about creating forms.	

Portraiture

A visual representation of a person which can be created in any artistic medium. Portraits of people are often in traditional oil paintings, and more recently photographs. However, sculpture and even mixed media artworks can also be portraits.

Proportions of the human face

Eyes: roughly half way between the top of the head and chin

Nose: roughly half way between the eyeline and the chin

Mouth: roughly half way between the bottom of the nose and chin

TIPS:

- Usually, the pupils in the eyes line up roughly with the corners of the mouth
- If you draw five equal sections along the eye line across the width of the face, the eyes sit in sections two and four.
- The tops of the ears usually line up to the eye line

The Facial Features- Step by Step



Year 8 Art: Portraiture

The Formal Elements of Art

What do you know about line?

What do you know about **tone?**

What do you know about **colour?**

What do you know about **shape**?

What do you know about **texture**?

What do you know about **pattern**?

What do you know about **form**?



What is portraiture?

Proportions of the human face

Eyes:

Nose:

Mouth:

TIPS:

- Usually, the pupils in the eyes line up roughly with the corners of the mouth
- If you draw five equal sections along the eye line across the width of the face, the eyes sit in sections two and four.
- The tops of the ears usually line up to the eye line

TASK: Practice drawing out a human face with the guidelines to help you

The Facial Features- Step by Step

TASK: Practice drawing the eyes using the step by step guide	TASK: Practice drawing the nose using the step by step guide	TASK: Practice drawing the mouth using the step by step guide

Year 8 Art: Lettering Project

The Formal Elements of Art

	Line	A line is an identifiable path created by a point moving in space . It is one-dimensional and can vary in width, direction, and length. Lines can be horizontal, vertical, or diagonal, straight or curved, thick or thin.
	Tone	T one refers to the relative lightness or darkness of a colour. One colour can have an almost infinite number of different tones .
	Colour	Made up of three properties: hue, value, and intensity. Red, yellow and blue are primary colours, which means they can't be mixed using any other colours. Two primary colours mixed make a secondary colour. A primary and a secondary colour mixed make a tertiary colour
.	Shape	A shape is an area enclosed by a line. It could be just an outline or it could be shaded in. Shapes can be either geometric, like a circle, square or triangle, or irregular.
	Texture	Texture refers to the surface quality in a work of art . We associate textures with the way that things look or feel.
	Pattern	Pattern is created by repeating lines, shapes, tones or colours. The design used to create a pattern is often referred to as a motif. Motifs can be simple shapes or complex arrangements.
T	Form	Form is a three-dimensional shape, such as a cube, sphere or cone. Sculpture and 3D design are about creating forms.

Composition

The composition of an artwork is defined by how the image is depicted and laid out on the canvas. In other words, **the arrangement of elements within a work** of art. The artist uses composition to arrange the subject and object of the image in a way to engage the viewer or provide a visually compelling scene.

Artists aim to compose the subjects and objects of their works in a visually pleasing manner to engage the viewer. The composition can be considered the design or structure of what is depicted—the scaffolding that props up the subject within the image, directing the viewer's eye across the artwork.

Warm and Cold Colours

The colour wheel can be split into two halves. Yellow, orange and red are warm colours because they remind us of things associated with heat such as the sun, beaches, and fire. Purple, blue and green are called cold colours because they remind us of things with the absence of heat such as water, ice, and grass. Warm colours can be used to evoke stimulating feelings such as energy, while cold colours are more likely to have a calm, relaxing effect.



In art, negative space is the space around and between the subject of the image. The positive space is the subject or object of the image. Negative space is important because it can help us to draw accurately and can help with creating an interesting composition. The negative space is shaded and outlined in red in this drawing of paperclips to the left.

Jasper Johns

Jasper Johns is an American painter, sculptor and printmaker, whose work is associated with Abstract Expressionism and Pop Art. Since the mid-1950s, Johns has focused on everyday icons and emblems, or what the artist famously referred to as "things the mind already knows." A key motif is the alphabet: Johns has repeatedly used letters, either depicted individually or layered atop one another, to address ideas of perception and knowledge.



Violet COLD

Blue-violet

Blue

Blue-green

Green

WARM

Red-orange

Orange

Yellow-orange

Red

Year 8 Art: Le	ttering Project	Composition	
The Formal Elemer	nts of Art	What is composition in art?	
What do you know about line?		THINKING POINT: Which other subject have you heard the word composition in? What does it mean in this case?	
What do you know		Warm and Cold Colours	WARM Red-violet Violet COLD
about tone?		Name three warm colours:	Red-orange
		Name three cold colours:	Pressy
What do you know about colour?		What kind of feelings can warm colours evoke?	Orange Blue-green Betardary Person
		What kind of feelings can cold colours evoke?	Yellow-orange Green Transy Yellow Yellow-Green Secondary Transy
What do you know		Negative Space	
about shape ?		What is negative space?	1905
What do you know about texture ?		Why is it important?	S S S S S S S S S S S S S S S S S S S
		Jasper Johns	
what do you know about pattern ?		Which art movements is the work of Jasper Johns associated wit	:h?
		What has been Jasper Johns' focus since the 1950s?	
What do you know about form ?		Why has he been focused on this? What are the ideas he is tryin	g to address?

Computing

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Little Lever School be kind | work hard | take responsibility

Definition: Digital Footprint

The information about a particular person that exists on the Internet as a result of their online activity.

Ways you can protect your digital footprint:

- 1. Search your name online and see what is already out there about you.
- 2. Consider what you post online before you post it.
- 3. Check the security settings of the websites you use. Don't post on sites you are not sure about.
- 4. Deactivate old accounts such as Facebook.

Definition: Online Groomer/ Online Predator

A groomer is someone who tries to build a relationship with a child or vulnerable person, often online, who really intends to exploit them or hurt them in some way.

Warning signs that you may be getting groomed:

- You may be asked to send personal pictures or you may be sent personal pictures.
- There may be inappropriate sexual chat and they may ask you to keep secrets.
- They may say flattering things to you and may have sudden changes in mood.
- They will often want you to chat on your own and request to privately message you.
- They can see you but you can't see them (often saying their webcam is broken.

What is the name of the branch of the police that deals with protecting children and young people from online sexual abuse? Child Exploitation and Online Protection (CEOP)



Definition: Phishing

The fraudulent practice of sending emails purporting to be from reputable companies in order to induce individuals to reveal personal information, such as passwords and credit card numbers.

Clues that you have been sent a phishing email:

- Spelling, punctuation and grammar mistakes.
- Links take you to random websites.
- Email address from the sender doesn't look right.
- Urgent content wanting you to act right away.
- Often wants you to update your private details.

What is smartphone addiction?

A person's use of a smartphone can be considered an addiction when it starts to cause problems or have negative consequences. Such as preventing you from socialising with your family or inability to concentrate on anything else.

What is an 'addiction compulsion loop'?

Addiction can cause a compulsion loop. It is when a habit is formed by a person to keep repeating something that gives them pleasure. Such as taking drugs or using a smartphone.

Definition: Digital Footprint

The information about a particular person that exists on the Internet as a result of their online activity.

Ways you can protect your digital footprint:



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•			

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What is an 'addiction compulsion loop'?

Computer Systems

Input Devices: send information from the user to the processor.

Examples of Input devices:

- Keyboard
- Webcam
- Scanner
- Graphics tablet
- Microphone

Output Devices: receive messages from the CPU telling them what to do.

Examples of Output devices:

- Printer
- Monitor
- Speaker
- Buzzer
- Headphones
- LED

Some computers have Storage **Devices** to save files and programs on.

Examples of storage devices:

- Hard drive
- CD drive
- DVD drive
- Memory card •
- Memory stick (USB)

Some computers also have **Communication Devices** to communicate with other computers.

Examples of communication devices:

- Modem
- Network card
- Wi-Fi card
- Bluetooth
- Infrared
- Router ٠

Processors/Central Processing Units (CPU) are the brain of the computer that complete tasks when they receive messages from the inputs, they also send messages to the outputs to tell them what to do.

The central processing unit (CPU) contains:

- Arithmetic/Logic Unit
- Control Unit
- Registers

Arithmetic/Logic unit: The ALU allows arithmetic (add, subtract etc) and logic (AND, OR, NOT etc) operations to be carried out.

Registers: Registers are high speed storage areas in the CPU. All data must be stored in a register before it can be processed.

Control unit: The control unit controls the operation of the computer's ALU, memory and input/output devices, telling them how to respond to the program instructions it has just read and interpreted from the memory unit.

Data and Data Representation

What is Binary?

Binary is a number system that only uses two digits: 1 and 0. All information that is processed by a computer is in the form of a sequence of 1s and 0s. Therefore, all data we want a computer to process needs to be converted into binary.

Define: Denary - Number system that uses ten digits: 0 to 9.

- 0 or 1
- 8 Bits
- 1024 Bytes
- 1024 Kibibyte
 - 1024 Mebibytes = 1 Gibibyte (GiB)
- = 1 Bit(Binary Digit)
- = 1 Byte
- = 1 Kibibyte (KiB)
- = 1 Mebibyte (MiB)

How Do We Convert Binary to Denary Numbers?











Computer Systems

Input Devices: send information from the user to the processor.

Examples of Input devices:

- _____
- _____
- •
- _____
- •

Output Devices: receive messages from the CPU telling them what to do.

Examples of Output devices:

- _____
- •
- •
- _____
- _____
- _____
- •

Some computers have **Storage Devices** to save files and programs on.

Examples of storage devices:

Some computers also have Communication Devices to communicate with other computers.

Examples of communication devices:

- Modem
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Processors/Central Processing Units (CPU) are the brain of the computer that complete tasks when they receive messages from the inputs, they also send messages to the outputs to tell them what to do.

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What is Binary?

Define: Denary - Number system that uses ten digits: 0 to 9.

- 0 or 1
- 8 Bits
- 1024 Bytes
- 1024 Kibibyte
- 1024 Mebibytes = _____

How Do We Convert Binary to Denary Numbers?



Design and Technology



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Year 8 Catering

Cuisine:

A style

of cooking characterised by particular ingredients, methods or dishes. It is often associated with a specific culture or geographical area.

Region:

An area or part of a country or the world which has specific characteristics.

Factors that influence cuisines include: Land Religion Cultures and lifestyles Economic factors



What is gluten?

Gluten is a protein found in flour which when water is added and the dough is kneading allows it to stretch. For bread a flour with lots of gluten in it is needed.

The bridge hold is used to cut many foods such as apples:

- Place the apple onto a chopping board
- Make a bridge with your hand. Your fingers should be on one side and your thumb should be on the other
- Pick up the knife with your other hand and check that the blade is facing downwards

The claw grip is used to chop food such as banana or celery onto the chopping board.

- Make a claw with your hand by partly curling your fingers together. Decide how thick you want the slices before you begin.
- Then, pick up the knife with your other hand and check that the blade is facing downwards.

Types of hob:

An induction hob is a flat, glass-topped plate that uses heat created by magnetism to warm pots and pans, rather than direct heat A gas hob is a cooking device that uses gas as the main source in producing heat or energy in the form of flame onto the gas burners. A ceramic hob is a cooker that uses a glasstopped heating element powered by electricity.

A solid plate hob has electric heating coils for each ring (or cooking zone) enclosed in a sealed metal plate.

Rolling: Flattening a piece of dough in order to be able to shape it further and add a filling or topping

Shaping: Dough to make it a contain a filling or hold a topping ,

Sealing dough products means to use a high protein liquid such as beaten egg to "glue" the edges together

Glazing: Means to brush the surface of a pastry or dough product with egg or milk to give it a shiny appearance once cooked

How do you use a probe thermometer?

Insert the stem of a probe thermometer into the thickest part of the food, or in the centre of the food if the food is even in thickness. <u>Wait at least 15 seconds</u> for the reading to steady and then record the reading. Hot food should reach at least 75c

What are high risk foods?

Foods are considered high-risk if they support the growth of harmful bacteria and will not undergo/ need cooking or treatment in order to destroy it.

e.g. raw meat, raw fish, raw eggs, gravies and stocks, cooked rice.

Food provenance means where ingredients and the foods made from them originally come from. Many consumers want to know where their food originated. Many ingredients and foods we eat are grown, reared or caught in the UK. Others are imported from other countries.

Marinade 'v' Marinate

We make a marinade (noun) to marinate (verb) foods in. Marinades usually contain an acid (such as vinegar, wine, or citrus), an oil (such as olive oil or sesame oil), and a flavouring agent (such as herbs and spices).

The purpose of marinating is to **add flavour** and **tenderise** meat, chicken and fish.



Year 8 Catering		What type of hob do we use in school?	What are high risk foods? Give 4 examples:
What is meant by the word cuisine?			
List the factors that influence cuisines:	What is gluten?	What type of hob do you have at home?	Explain the term food provenance.
		Rolling:	
		Shaping:	What is a marinade? Explain the difference between a marinade and
Explain the bridge hold and hov • -	v to use it.	Sealing:	marinating?
• -		Glazing:	
Explain the claw grip and how t	o use it.	How do you use a probe thermometer?	
• -			

Year 8 Design and Technology		Producing Design Ideas		
Safety Rules i 1.Always listen carefully to the teacher and follow	n the Workshop Design Technology Workshop Safety Never touch any machinery or equipment unless instructed by staff. Always store bags and blazers under benches or on	 Consider the examples analysed at the st Think about how were they made, what worked. Drawings should be in pencil. You must add notes (annotate) to explain 	art of the lesson materials were used, and how they n the design and materials you intend to	
 instructions. 2. Do not run in the workshop, you could 'bump' into another pupil and cause an injury 3. Know where the emergency stop buttons are positioned in 	 Always wear an apron. Always wear an apron. Always wear safety glasses when using machinery. Using hair must be tied back and ties tucked safely into shirt. 	CAD / CAM Using computers to draw and drive machines is called CAD / CAM or Computer Aided Design and Computer Aided Manufacture.	CAD Drawing Vectorising an image Doing this to an images changes the way it is drawn so that it is made of lines not pixels. This means the laser cutter can reproduce the image.	
the workshop.	 Do not use any machinery unless you have been instructed how to use it by staff. 	TechSoft I	Design V3	
will protect your clothes and hold loose clothing such as ties in place.	 Tell your teacher if you don't know or don't understand instructions for safely using equipment. Control dust, sweep or vacuum from benches directly into a bin. 	 Contouring an image: Select a simple, stencil-like image from the internet and copy and paste into 2D design. Click the Contour tool from the tool 	 Vectorising an image Select a simple, stencil-like image from the internet and copy and paste into 2D design. Go to 'Bitmaps' and 'Enable Transparency'. 	
Vacuum forming and thermopla	stic	 menu and select your image. In the menu select 'graphical path' and 	 Go to 'Bitmaps' and click 'Vectorise Bitmap', then click on the image. 	
Vacuum forming is where a sheet stretched over a single surface m using a vacuum. It uses a thermoplastic sheet whi temperature and solidifies upon	t of thermoplastic is heated, ould, and forced onto the mould ch becomes or mouldable at a high cooling.	 'outside of image' options then set a distance of 1mm. Select the new line created and press Ctrl+E to explode the image. Delete any unwanted lines 	 Select 'Monochrome at the top and change the colour to black so that the laser cutter can engrave the design Click on the image and then select fill near the top of the screen. Choose no fill and click OK. 	

Year 8 Design and Technology	What is meant by the word "annotatio	n"?
List 4 safety rules for using the workshop		
	What do CAD/CAM stand for?	CAD Drawing- What happens when we vectorise an image?
	TashCaft	
	TechSoft	Design V3
	TechSoft Explain the process of contouring an image in Techsoft 3D Design:	Design V3 Explain the process of vectorising an image in Techsoft 3D Design:
Vacuum forming and thermoplastic	TechSoft Explain the process of contouring an image in Techsoft 3D Design:	Design V3 Explain the process of vectorising an image in Techsoft 3D Design:
Vacuum forming and thermoplastic Explain the process of vacuum forming and given an example of how it can be used.	TechSoft Explain the process of contouring an image in Techsoft 3D Design:	Design V3 Explain the process of vectorising an image in Techsoft 3D Design:



Year 8 Design and Techno	logy	What is a switch used	for?	What does a resistor do?
What does Access FM stand for?	Electronics Equipment			
A C C E		-0-	6	
S	~	What are the	electron	ic components below?
S F M		7 /		
What does a cell do? 	What is a battery?			++++

Drama



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Year 8 Drama:

Year 8 Drama:	
Key Terms	Definitions
Physical Theatre	A style of theatre where the actor uses their body as the primary tool for performance
Body As Prop/Object	The actor creates the shape and form of a prop or object. This replaces the use of set/props and/or physical objects on stage
Soundscape	Using the body to create sounds that establish the environment/atmosphere. This could be vocal delivery (using the mouth to create sounds) or percussive (tapping different parts of the body to create sound eg clapping, clicking fingers, stamping feet)
Mime	A physical performance that uses non-verbal performance skills to communicate meaning to the audience. The actor uses their facial expressions, gestures, body language and movement to communicate meaning – no spoken words are used.
Movement in Unison	All of the actors move in the same way, at the same time.
Ensemble	The term given to a group of actors who work closely together.
Physical Tension	The actor uses their muscles to create physical tension within their body. This gives the performance precision and accuracy for movement and positioning.
Physical Theatre Practitioners:	Physical Skills:
 Stomp! DV8 Frantic Assembly Splendid Theatre Complicit Push 	Facial Expressions: Smile, frown, wincing, furrowed brow Body Language: Closed, open, tall, withdrawn, imposing Gestures: Use of hands to create meaning – wave, point, thumbs up Walk (Gait): Attitude of walk – purposeful, urgent, erratic

Year 8 Drama:		
Key Terms	Definitions	
Physical Theatre		
Body As Prop/Object		
Soundscape		
Mime		
Movement in Unison		
Ensemble		
Physical Tension		
Physical Theatre Practitioners:	Physical Skills:	
• -	Facial Expressions =	
• -	Body Language =	ROLL SCENE TAKE
• -	Gestures =	Director
• -	Walk (Gait) =	Date MOS DAY NITE

English



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Year 8 English: 'Of Mice and Men' and Transactional Writing

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MO

When talking about a writer, we always use their **surname** – not their first name (e.g. Steinbeck, Austen).

Characterisation is the way a writer designs a character. It is usually done on purpose to make the reader think or feel something.

Zoomorphism is where an object or person is described to have the characteristics of an animal.

Symbolism is where an object, character or event represents something else, in the text or in real life.

Foreshadowing is where a writer hints at something that will happen later in the text

Texts can be written in a cyclical structure. This is where the text starts and ends in the same way.





The Great Depression was an economic (money related) issue, that began in the USA and spread across the world. Many people were out of work, hungry or homeless.

It started with The Wall Street Crash in 1929, where the stock markets crashed and people's shares in businesses were worth nearly nothing. People lost all of their savings as a result. This was made worse by very dry weather, known as The Dust Bowl, which meant crops didn't grow.



When we are writing to persuade someone to agree

with our view, we can use persuasive techniques to



'Of Mice and Men' is set in the USA, during The Great Depression.

How did The Great Depression affect people in America?

How did The Wall Street Crash cause poverty?

Why did the Dust Bowl make things worse?



Year 8 English:

								C punctuation	
Vo	ocabulary	Definition			Example				
1. Novella A short novel.				Steinbeck wrote his novella about The Great Depress			reat Depression.	- F	
2. Patriarchal Describes a spowerful and			s a society where men are considered to be more I and important.			1930s Californio	a was a patriarchal societ		
3. Poverty Where a person is poor an they need to live.			a person is poor and is s ed to live.	truggling to afford the esse	entials	The Great Depr poverty.	ession caused lots of peo _l	Used to create a dramatic pause	
4. Pı	rejudiced	A way of describing an unfair opinion or dislike you have for someone because of race, gender, religion, disability etc.				Candy, Lennie, Crooks and Curley's Wife all suffer in the novella because people have prejudiced views towards them.			Then he saw it the terrifying shadow.
5. Rivalry A competition between tw			etition between two peo	ople to have the most pow	ver.	Curley and Slim	have a rivalry on the ran		
6. In	nocent	Has two meanings. It can mean that someone is not guilty of a crime. It can also describe a person who has no knowledge of evil or unpleasant things in the world.				The police thou Lennie is innoce	ght the prisoner was inno ent like a child.	^{18.} Brackets ()	
7. Se	egregated	When people are separated or divided from each other.				On the ranch, Crooks is segregated from the other ranchers.			Add parenthesis (extra information)
8. Loyal		Describes someone who can be trusted to be supportive and committed to someone or something else.				George and Lennie are loyal friends.			to a sentence
9. Status		Someone's rank or importance in a group				On the ranch, the boss has the highest status.			
10. Desperate		Describes someone who needs something so much they are suffering.				Curley's Wife is desperate for attention.			19. Comma
Grammar	11. Interroga Questic What time please	ntives ons e is it ?	12. Imperatives Commands Come over here!	13. Declaratives Statements The novel is set in America.	14. Past Tense Refers to events that have already happened Lennie found a mouse		15. Present Tense Refers to events that are happening now Lennie is finding a mouse.	16. Future Tense Refers to events that will happen but haven't yet Lennie will find a mouse.	Separate a main clause and a subordinate clause When they got to the ranch, George and Lennie went to speak to the boss.

Year 8 English:

							Counctruction A		
Vo	ocabulary	Definition							
1. N	ovella						his novella about The Gr		
2. Pa	2. Patriarchal				1930s California was a patriarchal society.				
3. Po	overty	ty				The Great Depression caused lots of people to be living in poverty.			Used to create a dramatic.
4. Pr	4. Prejudiced					Candy, Lennie, Crooks and Curley's Wife all suffer in the novella because people have prejudiced views towards them.			Then he saw it the terrifying shadow.
5. Ri	. Rivalry				Curley and Slim have a rivalry on the ranch.				
6. In	6. Innocent				The police thou Lennie is innoce				
7. Se	7. Segregated			On the ranch, Crooks is segregated from the other ranchers.			Add parenthesis (extra information)		
8. Loyal						George and Lennie are loyal friends.			
9. Status						On the ranch, the boss has the highest status.			
10. Desperate						Curley's Wife is desperate for attention.			
ar	11.		12.	13.		14.	15.	16.	Separate a main clause and a subordinate
amme	Questions What time is it please?		Commands Statements t Come over here!	Refe that h	ers to events have already nappened	Refers to events that are happening now	Refers to events that will happen but haven't yet	When they got to the ranch, George and Lennie went to speak to the boss.	
5				America. Leni		e <u>found</u> a mouse	Lennie is finding a mouse.	Lennie will find a mouse.	
Geography

Helping every person achieve things they never thought they could.

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Year 8 Geography: Ecosystems

Key Vocabulary



1

An ecosystem on a larger or global scale e.g. tropical rainforest Biome 1 Eats herbivores and/or plants 2 Consumer Breaks down dead organic matter and returns nutrients to the soil 3 Decomposer **Ecosystem** A biological community of living and non living organisms. 4 **Food Chain** 5 Connections between different organisms that rely on one another for food Food web A complex hierarchy of plants and animals relying on each other for food. 6 Produces its own energy by absorbing carbon dioxide and solar radiation in the Producer 7 process of photosynthesis. 1 Adaptation How plants and animals change their bodies to survive in different locations. 8 Precipitation Moisture that falls from the sky (rain, hail, sleet or snow) 9 1

Use the map to describe the distribution of tropical rainforests



Tropical Rainforests

Tropical rainforests are found on and near to the equator where the climate is warm and wet.

They can be found in coastal regions and inland.

They are located in...

- Northern South America (Brazil, Peru)
- Central Africa (DRC, Gabon, Equatorial Guinea)
- South East Asia (Indonesia)

Key Vocabulary

1	What are the characteristics of a desert biome?	 -Days are extremely hot. -Precipitation is less than 10 inches per year. -Home to cacti, bunch grasses, and shrubs. -Snakes, lizards, scorpions and insects live here.
2	What are the characteristics of a tropical rainforest biome?	-Mostly located around the equator. -Hot all year round with 80-100 inches of precipitation every year. -High biodiversity -Home to reptiles, monkeys, birds, and in some places even elephants.
3	What are the characteristics of a deciduous forest biome?	-Mild summers and cold winters. -Large variety of trees including oak, beech, maple. -Home to deer, small mammals, and insects.
4	What are the characteristics of a savanna/ grassland biome?	-Largely located in central and southern Africa. -Tall grasses and shrubs but limited trees. -Home to elephants, zebras, ostrich.
5	What are the characteristics of a tundra biome?	-Cold climate, little rainfall. -Permafrost (a layer of frozen soil) -Small short plants with a short growing season. -Animals such as the Arctic fox, mountain goats, and snowy owls.

Year 8 Geography: Ecosystems

Key Vocabulary



Key Vocabulary

What are the 11 characteristics of a desert biome?

12 What are the characteristics of a tropical rainforest biome?

13 What are the characteristics of a deciduous forest biome?

14 What are the characteristics of a savanna/ grassland biome?

What are the

15 characteristics of a tundra biome?

1	What is a biome?	y
2	What is a consumer?	
3	What is a decomposer?	
4	What is an ecosystem?	
5	What is a food chain?	
6	What is a food web?	
7	What is a producer?	
8	What is adaptation?	

9 What is precipitation?



Use the map to label the distribution

Tropical Rainforests

Tropical rainforests are found on and near to the

They can be found in ______.

They are located in...

Year 8 Geography: Ecosystems				Small Ecosystems		
Cold Environments						
16	Name the characteristics of a tundra environment	 There is a layer of permanently frozen soil called permafrost Very cold winters and very brief winters Vegetation includes mosses, grasses, and low shrubs 		19	What is interdependence?	Each part of the ecosystem relies on another part. Living things depend on each other for growth and survival.
Hot	Deserts	 Tundra is found at high altitudes (above 60 degrees north) 			What is the	A food chain outlines
17	How do camels adapt to the hot	<u>Thick eye lashes</u> - Prevents sand from get <u>Hump</u> - Stores fat as a source of energy. <u>Tolerant to high temperatures</u> - Does not water.	revents sand from getting into the eyes. s a source of energy. <u>nperatures</u> - Does not need to sweat to keep cool, so conserving			who eats whom. A food web is all of the food chains in an ecosystem
	desert environment? Thick tough lips - Enables it to eat Large feet - To help prevent sinking Sandy coloured - Camouflage.	<u>Thick tough lips</u> - Enables it to eat a range <u>Large feet</u> - To help prevent sinking into th <u>Sandy coloured</u> - Camouflage.	e of spiky plants. ne sand.			In a pond ecosystem an example of a producer
18	How do cacti adapt to the hot desert environment?	Long, wide roots - To reach out further, m <u>Taproots</u> - These act as anchors and grow <u>Spines (spikes)</u> - They reduce the surface from evaporation. The spines also protect <u>A large, fleshy stem</u> - This is a good store depending on how much water it holds.	ear the surface to collect more water. deep into the soil to reach water. area, reducing the amount of water lost the plant from being eaten by predators. of water. The cactus expands or contracts	21	Who are the producers, primary consumers and secondary consumer in the pond food web?	Is algae. In a pond ecosystem an example of a primary consumer is a mayfly. In a pond ecosystem an example of a secondary consumer is a fish.



Year 8 Geography: Oceans

Key vocabulary:

1	Ocean	The ocean is a body of salt-water that are a continuous space, divided into 5 parts.
2	Threat	The possibility of trouble, danger, or ruin.
3	Greenwashing	Disinformation presented to the public to make a company appear environmentally friendly.
4	Import	Bringing goods or services into a country
5	Export	Sending goods or services out of a country.
6	Seas	Seas are large bodies of mainly salt-water, smaller than an ocean but flows or feeds into the oceans.
7	Pollution	The presence in or introduction into the environment of a substance which is harmful.
8	Overfishing	To catch too many fish so that there are not enough remaining
9	Habitat	A natural environment an animal lives in.

How do we use the ocean?

12	How do we use the ocean for fishing?	More than 1 million people rely on fish as their primary source of <i>protein</i> . Between 0.97 and 2.7 trillion fish are caught every year. <i>Tuna</i> is the most popular fish and the Pacific Ocean's greatest asset is its fish.
13	How do we use the ocean for renewable energy?	Offshore <i>wind energy</i> is wind turbines in oceans and seas. They are vital is combating climate change. The vast majority of <i>wind turbines</i> are currently in the Atlantic ocean but more are planned, especially in the Pacific.
14	How do we use the ocean for imports and exports?	80% of the world's goods are transported by sea. In the last 20 years the average size of a container ship has doubled. A container ship can now carry up to 24,000 containers.
15	How is the ocean used as a habitat?	Many plants and animals live in the ocean. The number of species is currently unknown. Scientists believe <i>91% of ocean species have yet to be classified</i> .
16	How do we use the ocean for leisure?	Popular activities in the ocean include <i>swimming, snorkelling, scuba diving, sailing, fishing and surfing</i> .
17	What is carbon storage and how do we use the ocean for it?	Scientists have found oceans a good location to store (sequester) carbon. Oceans currently take up to <i>a third of carbon emitted by human activity</i> . This is roughly 2 billion metric tonnes every year.

Where are the oceans?

10	Where are the 5 oceans of the world?	Arctic Ocean Atlantic Ocean Bouthern Ocean Southern Ocean Southern Ocean	
What are the		Sunlit zone - 0 -200 metres	
five ocean		Twilight zone - 200 - 1000 metres	
zones and		Midnight zone - 1000 - 4000 metres	
how deep are		The abyss - 4000 - 6000 metres	
they?		The trenches6000 metres and lower	

Threats to our oceans

20	What is coral bleaching?	 Stress caused by changes in temperature and pollution can cause coral bleaching. Coral and algae depend on each other to survive. If stressed, algae leaves the coral. Coral is left bleached and vulnerable. 	
21	What is overfishing?	Overfishing is when too many fish are taken out of the oceans. This happens because many people rely on fish as a source of protein. High demand and larger fishing vessels means there are now fewer fish in the oceans than ever before.	
22	What are oil spills?	An oil spill is when oil is leaked into a body of water, like an ocean. Oil spills are very dangerous as they kill plants and animals and destroy habitats.	

Year 8 Geography: Oceans			How do we use the ocean?		
Key	Key vocabulary:			How do we use the ocean for fishing?	
1	What is an ocean?		13	How do we use the ocean for	
2	What is a threat?			renewable energy?	
3	What is greenwashing?		14	How do we use the ocean for imports	
4	What is an import?			and exports?	
5	What is an export?		15	How is the ocean used as a habitat?	
6	What are seas?			How do we use the	
7	What is pollution?		16	ocean for leisure?	
8	What is overfishing?		17	What is carbon storage and how do we use the ocean	
9	What is a habitat?			for it?	

Where are the oceans?

10	Where are the 5 oceans of the world?	20
11	What are the five ocean zones and	21
	how deep are they?	22

Threats to our oceans

20	What is coral bleaching?	
21	What is overfishing?	
22	What are oil spills?	

History



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Little Lever School be kind | work hard | take responsibility

Year	Year 8 History:				
Торіс	Ques	stion 🗉	Answer		
	1	What is an empire?	Group of countries ruled by a single monarch or ruling power		
ud or I?	2	What was the second British Empire based upon?	British sea power, India and huge conquests in Africa		
: - pro lamec	3	What did the Maori tribesmen exchange with the British?	The whole of New Zealand for guns and alcohol		
npire ash	4	By 1865, how many British people were living in Canada?	3 million		
E	5	In 1920, what percentage of the worlds population was part of the British Empire?	23%		
any	6	What did the East India Company hope to achieve?	To become rich through the trade of silk, spices and jewels		
Comp	7	How did the Mughal emperors react to the East India Company?	Protected them at first as they were impressed with their trade		
ndia (8	Why did the East India Company hire soldiers?	To keep the peace and protect trade from local disputes		
East I	9	Why has there been arguments about the Koh-i-Noor diamond?	Some say it was a gift to the East India Company but some say it was stolen		
ve	10	Why was it dangerous to travel to India in the 18th century?	50% would die of disease		
bert Cli	11	How did Robert Clive become well known in India?	He captured an important city despite being attacked by elephants in armour		
dia - Ro	12	In 1756, what became known as the Black Hole of Calcutta?	122 English settlers suffocated to death in an 18 foot square prison cell		
Ē	13	Why was the Battle of Plassey so important?	It was the East India Company's first victory in India		

Year &	8 Hist	ory:	
Торіс	Ques	stion	Answer
	1	What is an empire?	
ud or I?	2	What was the second British Empire based upon?	
- pro amed	3	What did the Maori tribesmen exchange with the British?	
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Ľ	13	Why was the Battle of Plassey so important?	

Year 8 History:	Торіс	Que	stion	Answer
		14	What is the 'British Raj?'	Period of British rule in India between 1858 and 1947
	rule	15	How did the British improve transportation in India?	Canals, roads and railways were quickly built
	- British I	16	What caused the Indian Mutiny of 1857?	Indian troops did not want to use ammunition that was greased in pig and cow fat
	India	17	Who was made Empress of India in 1876?	Queen Victoria
		18	Why did Indians not benefit from the taxes that were introduced by the British?	Most of the money went back to Britain and was not invested in India
	India - Gandhi and Independence	19	What power did the Rowlatt Act give the British?	Could arrest and imprison any Indian they suspected of plotting against them
		20	What happened at Jallianwala Bagh park in 1919?	British opened fire on a crowd killing over 1000 in 10 minutes
		21	Why did Gandhi encourage passive resistance?	Believed that acts of violence against the British only provoked a negative reaction
		22	What was Gandhi's Salt March?	A protest against the British who would not let the Indians produce their own salt

Year 8 History:	Торіс	Ques	stion	Answer
		14	What is the 'British Raj?'	
	ule u	15	How did the British improve transportation in India?	
	- British ı	16	What caused the Indian Mutiny of 1857?	
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		21	Why did Gandhi encourage passive resistance?	
		22	What was Gandhi's Salt March?	

Year	8 Hist	ory:		119 Your Piece of	
Торіс	Ques	stion	Answer	Mistory	
	23	What was transportation?	Criminals were taken to another country labour	and forced to do hard	
ortation	24	Why did the British introduce transportation?	Growing population meant more petty c overcrowded	rime and prisons were	
- Transp	25	What was meant by hard labour?	Digging ditches, building roads and hous	es and planting crops	
ustralia	26	How were convicts punished?	By flogging - sometimes up to 100 lashes		
4	27	Why did many convicts stay in Australia after they had completed their sentence?	It was too expensive to return back to G	reat Britain	
	28	Who lived in Australia before the Europeans arrived?	The Aboriginal people		
ation	29	What did Captain James Cook do in 1770?	Explored the east coast of Australia and	claimed it for Britain	
Colonis	30	What impact did the arrival of the British have on the Aboriginal people?	Many died because they had no immuni	ty to European diseases	
stralia -	31	Why did the British clash with the Aboriginal people?	They cut down forests and put up wire for	ences	
Au	32	How did the British claim the land for themselves?	The British said the Aborigines had no rig had no permanent housing	ght to the land as they	

Year	8 Hist	ory:		119 Your Piece of
Торіс	Ques	tion	Answer	TINOTY
	23	What was transportation?		
ortation	24	Why did the British introduce transportation?		
- Transpo	25	What was meant by hard labour?		
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tralia - C	31	Why did the British clash with the Aborigines?		
Aus	32	How did the British claim the land for themselves?		

Year 8 History:	Торіс	Quest	ion	Answer	
5 m	_	33	What was the main activity of the British on the West African coast?	The slave trade	
GAR	r Africa	34	How did the ownership of Africa change between 1870 and 1900?	European countries increased their ownership from 10% to 90%	
	nble fo	35	Who was the famous missionary explorer that spoke out against the slave trade?	David Livingstone	
	Scran	36	What were the 3 'C's that were supposed to be needed to liberate Africa?	Commerce, Christianity and Civilisation	
	1	37	What was discovered in Africa in 1869?	Diamonds	
		38	Who were the Zulus?	Tribal nation from the southern part of Africa	
	Wars	39	Why were the Zulus a threat to the British?	They were a fierce army of 50,000 warriors that destroyed other tribes and took land	
	ı - Zulu	40	What happened at the Battle of Isandlwana in 1879?	The Zulu army massacred the British and their African helpers	
8	Africa	41	Why did the British newspapers focus on the later battle at Rorke's Drift?	The British soldiers were heroically able to defend their position despite being outnumbered	
		42	How did the war come to an end?	The Zulus were defeated and their king was captured	
	r War	43	Who were the Boers?	Descendants of Dutch settlers who had emigrated to South Africa in the 1600's	
	a - Boel	44	What were the two new colonies set up by the Boers in South Africa?	The Transvaal and the Orange Free State	
	Africa	45	Who was the Commander of the British Army in South Africa?	Lord Horatio Kitchener	

Year 8 History:	Торіс	Quest	ion	Answer
		33	What was the main activity of the British on the West African coast?	
CAR	r Africa	34	How did the ownership of Africa change between 1870 and 1900?	
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	- Zulu	40	What happened at the Battle of Isandlwana in 1879?	
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		42	How did the war come to an end?	
	War	43	Who were the Boers?	
V/V	a - Boei	44	What were the two new colonies set up by the Boers in South Africa?	
	Africa	45	Who was the Commander of the British Army in South Africa?	

Life Chances



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Year 8 Life Chances: CEIAG (careers)			(careers)	Employment Skills	5			
Soft skills are general skills that most employers look for when recruiting and are needed for most jobs. They are sometimes called transferable skills or employability skills by employers.			look for when re sometimes by employers.	Transferable skills can make you really stand you don't have specific experience i These can include:	out to empl n their indu	oyers, even if stry.		
Hard skills are skills needed to do a specific job, generally gained through work, learning or training.			o, generally ing.	Team workFlexibility				
What is a job sector?				Problem solving	_			
A job sector is a term used to classify a broad group of jobs that are		Time management						
	rela	ated by what they do			Positivity CAREÉ			
Media and Creative	Educa	tion	Retai	il	Science	Creativity		NORK
Healthcare	Engine	ering	IT Snort		Construction	• Flexibility		PPORTUNITY
Law	Agricu	iture	500		Thance			
				Yo	ur Journ	ey Through Education		
Institutio	on		Age	Ye	ar Group	Qualification	Level	Status
Primary Scl	hool	4-12	1 years	Recep	otion – Year 6	SATs (In year 6)	N/A	Compulsory
Secondary S	chool	11-1	11-16 years Year 7 – Year 11		7 – Year 11	GCSEs (taken in year 11)	Level 2	Compulsory
Further Educ (College/Sixth F	cation form)		16+	Year	12 – Year 13	A Levels / T Levels / BTECs / Apprenticeships	Level 3	Compulsory
Higher Educ (University/Col	ation lege)		18+	Und	ergraduate	Degree / Foundation degree / Degree apprenticeships	Level 4 - 6	Optional

Year 8 Li	fe Ch	ances: CE	IAG (careers)	What are transferable skills- pro	vide exam	ples:
What are soft s	skills?					
What are hard	skills?					
What is	a job s	ector? (Provi	de examples			
• -	• -	• -	• -			NORT
• -	• -	• -	• _			PPORTUNIT
		Co	mplete Your J	lourney Through Education		
Institutio	on	Age	Year Group	Qualification	Level	Status
		4-11 years	Reception – Year 6		N/A	
		11-16 years	Year 7 – Year 11		Level 2	
		16+	Year 12 – Year 13		Level 3	
		18+	Undergraduate		Level 4 - 6	

Year 8 Life Chances: CEIAG

Your GCSEs will have an impact on a lot of the decisions you make after you leave school – for example the sixth form/college you attend, the subjects you can study at Level 3, the subjects you can study at higher education and university, and the career you can go into

RightsResponsibilitiesA RIGHT is a privilege
granted by a governing
body that is written
into law. A right is
protected, such as the
right to education,
religion and freedom
of speech.RESPONSIBILITIES are
duties or something an
individual should do
such as following the
law and rules.



But what options are available to you after you leave school?

A Levels	T Levels	Apprenticeships
Description: Carry on studying subjects you took for GCSE to a higher level, or pick new ones you may not have done before like economics, law or psychology.	Description: Designed in partnership with employers to give you the skills and knowledge to get on in the workplace. You'll combine classroom learning with real work placements. 1 T Level is the equivalent of 3 A levels.	Description: Apprenticeships combine practical on-the-job skills training with off-the-job learning. You'll get training that is relevant to your job and be paid a salary.
Duration: 2 years	Duration: 2 years	Duration: A minimum of 1 year
Assessment: Mostly exams at the end of the course	Assessment: Exams, projects and practical assignments	Location: You'll spend 80% of your time in the workplace and 20% off- the-job with some study in a college, training centre or Institute of Technology (IoT)
Entry Requirements: Typically 5 GCSEs Grade 9-4 (usually including English and maths) and at least grade 6 in the specific subject(s) you want to study.	Entry Requirements: Course dependent Work experience: At least 45 days on industry placement	Entry Requirements: Will be dependent on the industry, job role and apprenticeship level

Year 8 Life Chan	ces: CEIAG	But what options are available to you after you leave school? Complete below.				
Why are your GCSEs importa	int?	A Levels	T Levels	Apprenticeships		
		Description:	Description:	Description:		
What are rights?	What are responsibilities?					
		Duration:	Duration:	Duration:		
		Assessment:	Assessment:	Location:		
		Entry Requirements:	Entry Requirements: Work experience:	Entry Requirements:		

Maths

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Ye	ear 8 Ma	ths:				Key F	acts
1	Algebra	 Uses letters (like x, y, a, or b) or other symbols in place of values 	3x + 4y a + 4 = 2 3r(r - 4)	4	10	Simplify $2y^2 - 9y + 3y^2 + 2y$	$2y^{2} - 9y + 3y^{2} + 2y$ $2y^{2} + 3y^{2} = 5y^{2}$ $-9y + 2y = -7y$
2	Term	• A number, variable or combination of both	5 <i>x ab</i> 8				Answer: $5y^2 - 7y$
3	Algebraic Expression	 Terms that may be separated by operations 	$5x + 3y$ 8a $y^2 - 9y$		11	Solve $3x - 4 = 11$	3x - 4 = 11 +4 + 4 3x = 15 ÷ 3 ÷ 3
4	Simplify	 To make expressions look simpler by collecting like terms. 	$2 \times 5x = 10x$ $8a + 3a = 11a$	•			x = 5 The probability a biased coin
5	Coefficient	• The number in front of the letter	5x means 5 is multiplied by x. 5 is the coefficient.		12	Probability has a sum of 1	lands on tails is 0.3. The probability it lands on heads is $1 - 0.3 = 0.7$
6	Equation	 A mathematical statement that says that two things are equal 	5x = 108a + 3 = 118(2a + 3) = 11a - 6		13	A survey of 60 cars in a car park is taken, 27 of them are white. What is the	$\frac{27}{60}$
7	Inverse	Means the opposite of another operation	Operation Inverse +//+			the car park?	
		 The likelihood that something will happen, measured on a scale from 0 to 1 	×/÷ ÷/× The probability it will rain today is 50% (or 0.5 or $\frac{1}{2}$).	*	14	Find the probability of throwing an even number on a fair sided die	There are 6 numbers on a die, so the denominator is 6 and there are 3 even numbers (2, 4 & 6) so the numerator is 3. $=\frac{3}{6}$
8	Probability	 Probability can be written as a percentages, decimal or fraction. 	Usually written as P(Rain) =50%			ax (b+c)	(axb) + (axc)
9	Fair	 All outcomes are equally likely 	Rolling a fair die: $P(2) = \frac{1}{6}$			Eise .	

Ye	ear 8 Maths:			Key F	acts
1	What is algebra ?	+	10	Simplify $4y^2 - 2y - 2y^2 + 7y$	
2	Write down some examples of mathematical terms :		11	Solve	
3	What is an algebraic expression?	-		2x + 5 = 11	
4	How do you simplify an algebraic expression?		12	What is the sum of the probabilities of all possible outcomes of an event occurring?	
5	What is a coefficient ?			A survey of 80 cars in a car	
6	What is an equation ?		13	are white. What is the probability of a white car in the car park?	
7	What is the definition of inverse ?	*	14	Find the probability of throwing an odd number on a fair sided die.	
8	What is meant by probability ?			$a \times (b + c)$	(axb)+(axc)
9	What is the meaning of the term fair ?			And	

Year 8 Maths:

	Key Vocabulary					
1	Approximation	 Anything that is similar but exactly equal to something else We use ≈ to mean "is approximately equal to" 	$\begin{array}{l} 33 \approx 30 \\ 1.8 \approx 2 \end{array}$			
2	Rounding	 Making a number simpler, but close to what it was 	Rounding to the nearest: Ten: $27 \approx 30$ Hundred $163 \approx 200$			
3	Decimal Place	• When rounding, the result will have that number of digits after the decimal point.	$1.375 \approx 1.38 (2 dp)$ $21.14 \approx 21.1 (1 dp)$			
4	Significant Figures	 The greater the number of significant figures, the more accurate the result. Zeros at the start of a number are not counted as significant 	e.g. 273.658 To 1 sf is 300, 2 sf is 270, 3sf is 274, 4 sf is 273.7 e.g. 0.462 To 1 sf is 0.5, 2 sf 0.46			
5	Estimation	 To approximate calculations Rounding the number to one significant figure before calculating. 	$303 \approx 300$ $18 \approx 20$ $303 \times 18 \approx 300 \times 20$ = 6000			
6	Fraction	 Has a numerator (top number, the number of parts we have) and a denominator (bottom number, the equal number of parts something has been split into) 	$\frac{1}{7}$			
7	Improper Fraction	• Where the numerator is greater than the denominator e.g. $\frac{7}{5}$				



Year 8 Maths:			1	
Key Vocabulary			5	
1	When would you use approximation ?	43		4
2	When would you use rounding ?			
3	What is the definition for decimal place ?			
4	When would you use rounding to a significant figure ?			
5	Define the meaning of the word estimation			
6	What do we call the top number and bottom number of a fraction respectively?			
7	What makes a fraction an improper fraction ?			

Year 8 Maths:

Key Vocabulary				
1	Mixed Number	• When whole numbers and fractions are written together e.g. $1\frac{2}{5}$		11
2	Fquivalent	 Equal in value Fractions that are written	Equivalent fractions:	12
-		differently but represent the same amount	$\frac{1}{2} = \frac{2}{4} = \frac{25}{50}$	13
a (b x a) axb=c				
$\begin{array}{c} a \\ a \\ a \\ c \\$				

Key Facts

To find **equivalent fractions** multiply the numerator and denominator by the same number.

Simplifying a fraction means to reduce a fraction to its lowest term by dividing the numerator and the denominator by a common factor.

To convert mixed numbers to improper fractions multiply the whole part by the denominator then add this to the numerator.

 $3\frac{3}{4} = \frac{15}{4}$

To convert improper fractions to mixed numbers divide the numerator by the denominator. Write down the whole part. The remainder becomes the new numerator.

 $\frac{11}{2} = 5\frac{1}{2}$

To multiply fractions multiply the numerators and then multiply the denominators.

3	1	3	1
$\overline{5}^{\times}$	3	$=\frac{15}{15}$	= <u>5</u>

To divide fractions, multiply the first fraction by reciprocal of the second fraction.

Year 8 Maths:		Key Facts		
Key Vocabulary		10	Describe how to find equivalent fractions :	
1	What is a mixed number?	11	Describe how to simplify fractions:	
		12	How do you convert mixed numbers to improper fractions ?	
2	What is the definition of equivalent numbers ?		How do you convert improper fractions to mixed numbers?	
a(bxc) $a(bxc)$ a			Explain how to multiply fractions .	
		14		
		15	Describe how to divide fractions .	

Modern Foreign Languages

Helping every person achieve things they never thought they could.



Year 8 French:

Grammar Explanation

Using 'there is'

In French you use the article after *il y a* (there is) when describing what there is in your house or town.

However when you say that there is **not** something, you remove the article (i.e. you remove the un or une). For example:

II y a un parc - there is a park

Il n'y a pas de parc - there is not a park

Grammar Explanation

To say that you are going to do something, You can use '*je vais*' (I am going) plus an infinitive verb. For example:

je vais+habiter = *je vais habiter* = I am going to live.



Saying you are going to OR would like to do something

To say you would like to do something, you can use *'je voudrais'* (I would like) or *'on voudrait'* (we would like) plus an infinitive verb. For example:

Je voudrais+habiter = *je voudrais habiter* = I would like to live.

On voudrait+habiter = on voudrait habiter = we would like to live

High-Frequency Infinitives		
Aller	To go	
Visiter	To visit	
Jouer	To play	
Regarder	To watch	
Faire	To do	
Monter	To ride	
Être	To be	
Avoir	To have	

Infinitive Verbs

Infinitive verbs in French are the most basic form of verbs.

You can recognize them because they end in

-er, -ir, or -re.

When we use an infinitive verb, we're referring to the action in general.

For example, when we say "*parler*" (to speak), we're not talking about a specific person speaking, but simply mentioning the action of 'to speak'.

Year 8 French:

Grammar Explanation

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However when you say that there is **not** something, you remove the article (i.e. you remove the un or une). For example:

- there is a park

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Grammar Explanation

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_____+___ = _____ = I am going to live.



Grammar Explanation

Saying you are going to OR would like to do something

To say you would like to do something, you can use *'je voudrais'* (I would like) or *'on voudrait'* (we would like) plus an infinitive verb. For example:



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When we use an infinitive verb, we're referring to the action in general.

For example, when we say "*parler*" (to speak), we're not talking about a specific person speaking, but simply mentioning the action of 'to speak'.
Year 8 French:

		Monter mon vél				Divertissant		To live (Verb)	
			Monter mon vélo			Entertaining	5	Habiter	To live
			To ride my bike			Fascinant Fascinating		J'habite	l live
		Je voudrais I would like	Aller au restaurant To go to the restaurant			Cool		Tu habites	You live
Dans ma villa	A l'avenir In the future	On voudrait	Aller à la plage			Cool		Il habite	He lives
In my city/town	Ce weekend	We would like	To go to the beach	Car Parce que		Passionnant Exciting	Passionnant Exciting	Elle habite	She lives
Dans mon quartier In my neighbourhood Uuand je serai plus âgé When I am older	Je ne voudrais pas	Visiter le château To visit the castle	Puisque Because / as	Ce serait it will be s	Ennuyeux		On habite	One lives (We live)	
	serai plus âgé When I am older	rai plus âgé nen I amI wouldn't likeJouer au go To play golflerOn ne voudrait pasVoir la cath To see the company	Jouer au golf To play golf	/ since		Boring Fatigant		Nous habitons	We live
	We wou		To see the cathedral			Mal Bad Difficile		Vous habitez	You live (formal/plural)
			To do hiking					Ils habitent	They live (mixed/masculine)
						Dimcuit		Elles habitent	They live (feminine)
	Clothes/Shoes								
Hat = Un ChapeauTA suit = Un costumeAA top = Un hautSJeans = Un jeanAA coat = Un manteauxA		rousers = Un pantalo jumper = Un pull horts = Un short uniform = Un unifor T-shirt = Un tee-shir	n A cap = Une cas A shirt = Une ch A tie = Une crav A scarf = Une éc	quette Iemise vate charpe	A skirt = Une jug A watch = Une r A dress = Une ro A jacket = Une v	oe T montre S obe S veste S	raine ocks hoes	ers = Des baskets = Des chaussettes = Des chaussures	Boots = Des bottes Flip flips = Des tongs



Year 8 Spanish:

Grammar Explanation

How to form the immediate future tense:

To say what you are going to do, you can use the near immediate future tense. This is formed by using the correct part of the verb **ir** (to go), plus the **infinitive** of another verb.

> Voy (I am going) Vas (you are going) Va (he/she is going)

Vamos a (we are going)

Van a (we are going)

Voy a ir al cine I am going to go to the cinema

Va a jugar al fútbol He is going to play football



Grammar Explanation

How to form the conditional tense:

The easiest way to form the conditional tense is to use the conditional form of 'gustarse' + an infinitive verb

> Me gustaría (I would like) Le gustaría (He/she would like) Nos gustaría (We would like)

	High-Frequer	cy Infinitives
	Ir	To go
	Visitar	To visit
Statistics -	Jugar	To play
	Ver	To see
	Hacer	To do
	Montar	To ride
	Ser	To be
	Tener	To have

Infinitive Verbs

Infinitive verbs in Spanish are the most basic form of verbs.

You can recognize them because they end in

-ar, -er, or -ir

When we use an infinitive verb, we're referring to the action in general. For example, when we say "hablar" (to speak), we're not talking about a specific person speaking, but simply mentioning the action of 'to speak'

Year 8 Spanish:

Grammar Explanation

How do you form the immediate future tense?

- _____ (I am going)
- _____ (you are going)
- ____ (he/she is going)
- _____ (we are going)
- _____ (we are going)

I am going to go to the cinema

He is going to play football



Grammar Explanation

How do you form the conditional tense?

Me gustaría (I would like) Le gustaría (He/she would like) Nos gustaría (We would like)

	High-Frequer	cy Infinitives
		To go
		To visit
STOP ST		To play
		To see
		To do
		To ride
		To be
		To have

Infinitive Verbs

Infinitive verbs in Spanish are the most basic form of verbs.

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When we use an infinitive verb, we're referring to the action in general. For example, when we say "hablar" (to speak), we're not talking about a specific person speaking, but simply mentioning the action of 'to speak'

Year 8 Span	ish:				
		 Cloth A coat = Un abrigo A swimsuit = Un bañador A tracksuit = Un chándal A jumper = Un jersey 	es/Shoes A hat = Un sombrero A suit = Un traje A uniform = Un uniforme A dress = Un vestido 	Col Rojo (red) Azul (blue) Amarillo (yellow) Rosa (pink) Negro (black)	OUITS Verde (green) Naranja (orange) Morado (purple) Marrón (brown)
El fin de semana (On the weekend)Voy a llevar (I am going to wear)	 A scarf = Una bufanda A shirt = Una camisa A T-shirt = Una camiseta 	 A tie = Una corbata A skirt = Una falda A cap = Una gorra 	Gris (grey) Roja (red) Azul (blue) Amarilla (yellow) Rosa (pink) Negra (black) Gris (grey)	Verde (green) Naranja (orange) Morada (purple) Marrón (brown) Blanca (white)	
El fin de semana que viene (Next weekend)		 Socks = Calcetines Gloves = Guantes Trousers = Pantalones 	 Shorts = Pantalones cortos Jeans = Vaqueros Shoes = Zapatos 	Rojos (red) Azules (blue) Amarillos (yellow) Rosas (pink) Negros (black) Grises (grey)	Verdes (green) Naranjas (orange) Morados (purple) Marrónes (brown) Blancos (white)
		 Boots = Botas Flip flops = Chanclas Slippers = Pantuflas 	 Sandals = Sandalias Trainers = Zapatillas de deporte 	Rojas (red) Azules (blue) Amarillas (yellow) Rosas (pink) Negras (black) Grises (grey)	Verdes (green) Naranjas (orange) Moradas (purple) Marrónes (brown) Blancas (white)

Year 8 Span	nish:				**
		Clothe	es/Shoes	Col	ours
		 A coat = A swimsuit = A tracksuit = A jumper = 	 A hat = A suit = A uniform = A dress = 	Rojo (red) Azul (blue) Amarillo (yellow) (pink) Negro (black) Gris (grey)	(green) Naranja (orange) Morado (purple) Marrón (brown) Blanco (white)
(On the weekend) (This weekend)	(I am going to wear)	 A scarf = A shirt = A T-shirt = 	 A tie = A skirt = A cap = 	(red) Azul (blue) (yellow) Rosa (pink) (black) Gris (grey)	Verde (green) Naranja (orange) (purple) Marrón (brown) Blanca (white)
(Next weekend)		 Socks = Gloves = Trousers = 	 Shorts = Jeans = Shoes = 	(red) Azules (blue) (yellow) Rosas (pink) (black) Grises (grey)	Verdes (green) Naranjas (orange) (purple) Marrónes (brown) Blancos (white)
		 Boots = Flip flops = Slippers = 	 Sandals = Trainers = 	(red) Azules (blue) (yellow) Rosas (pink) (black) Grises (grey)	Verdes (green) Naranjas (orange) (purple) Marrónes (brown) Blancas (white)

Music



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Year 8 Music:

Orchestral Instruments

esse contrained	re D	Percussion (Untuned)	Percussion (Tuned)	Brass	Woodwind	Strings
tes trong	arp rist Viol:	Bass Drum	Piano	Trumpet	Piccolo	Violin
		Snare Drum	Xylophone	French Horn	Flute	Viola
Time Na	Tim	Triangle	Glockenspiel	Trombone	Oboe	Cello
P		Gong	Timpani	Tuba	Clarinet	Double Bass
0 - 1750 Ba	1600 - 3					
0 - 1830 Cla	1750 - 3	Cymbals			Cor Anglais	
0 - 1900 Ror	1830 - 1				Bassoon	
.900 - M	1900				D0330011	



Conductor: Stands at the front of the orchestra and *directs* it. They will indicate the main beats in the music using a 'baton'. All musicians look at the conductor whilst playing as they are ultimately in control of the whole piece.

Strings: Made from wood and have strings. They are usually played with a bow but can also be *plucked (called pizzicato)*

Woodwind: A selection of instruments divided into 2 subfamilies: *flutes* and *reeds*. *Flutes* create sound by air passing over a small hole. It creates a light breathy tone. *Reed* instruments use a piece of bamboo reed to create a vibration.

Brass: Made out of metal. The sound vibrations are created by the player's lips.

Percussion: Instruments which are hit. These fall into 2 subfamilies: tuned (able to play different pitch) and untuned (e.g. drums)

Trombones Tuba

Trumpets

Bassoons

Section of

orchestra

developed

Strings

Woodwind

Brass

Percussion

Composer

J.S Bach

Mozart

Tchaikovsky

Stravinsky

Oboes

Violas

Conductor

French Horns

Clarinets

Year 8 Music:						French Horns	Trumpets Trombones	
Orchestral Instruments						Clarinets	Bassoons	80 ×
Strings	Woodwind	Brass	Percussion (Tuned)	Percussion (Untuned)	of the second we	Ins Flutes Vi	Oboes olas	C C C C C C C C C C C C C C C C C C C
					Harp First Violins			
						Conc	luctor	
					Time	Name of period	Section of orchestra developed	Composer
					1600 - 1750			
					1750 - 1830			
					1830 - 1900			
					1900 -			
The Families				-				
Conductor:								
Strings:								
Woodwind:								
Brass:								
Percussion:								

PE



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Year 8 PE: Football

Motor Competence

Passing	Accuracy, weight of pass
Receiving	Get in line, cushion
Dribbling	Little touches
Possession	Back foot
Outwitting an opponent	1v1, one - two
Defending	Jockeying, touch tight
Shooting	Placement
Game play	Basic rules



	R	ules, Strategies and Tactics
A goa	ll kick	Occurs when the attacking team has the last touch before the ball goes behind the goal line. Any player can then pass the ball from the six yard box.
A corn	er kick	Occurs when the defending team has the last touch before the ball goes behind the goal line. Any player can then pass the ball from the corner of the goal and side line. The corner ball must be placed in the quadrant.
Resta	arting	The game after a goal is scored from the halfway line.
Free	kick	When a player makes contact or handles the ball a foul is committed and the ball will be restarted with a free kick. A goalkeeper can only handle the ball in their penalty area.
Thro	ow in	If the ball goes over the side lines of the pitch, the team who touches the ball last will give away a throw in to the other team. The throw in must be taken from the point it goes out of play.
	Healt	hy Participation
Muscles	Gluteal, har	nstrings, quadriceps, gastrocnemius
Fitness components	Foot eye co	ordination, pace, speed, stamina.
	l i	Key Terms:
1.Spatial awareness2.T 6.Sportsmanship 7.	eam work Etiquette	3.Cooperation 4.Communication 5.Fair play 8.Leadership 9.Gamesmanship 11.Values 12.Teamwork



Year 8 PE: Netball

Year 8 PE:		Rules, Strategies and Tactics			
Motor Competence			Held	l ball	Once gaining possession of a ball a player must release the ball within 3 seconds.
Passing	As soon as a player receives the ball they pass the ball straight away. Pass without looking for a player who is free to pass to.		San	ction	Free pass to the opposing team where the player caught the ball.
Chest Pass	Ball held in front of the chest, elbows tucked in. Push the ball from your chest aiming at the chest of the person you are passing the ball to.		Shor	t pass	A pass of the ball between teammates too close together to allow an opponent to get between them.
Bounce Pass	Ball held in front of the chest, elbows tucked in. Push the ball from your chest down to the floor, aiming your body towards the person you are passing the ball to.		Posse	ession	A player may gain possession of the ball by catching the ball either from another player or rebounding off the goalpost or rolling the ball to oneself. Occurs when a players actions interfere with an opponents
Overhead Pass	Place the ball above your head. Step forwards with your dominant foot and push the ball through transferring your weight to push the ball forwards.		Free	pass	A player with or without the ball cannot move into an area of the court that isn't designated for their position and if this happens opposite team will receive a free pass
	Hands positioned behind the ball with fingers spread. Step forwards with the opposite leg to your throwing arm and transfer	Heal Muscles Glutes, hamst Fitness components Hand eye coo		Не	althy Participation
Shoulder Pass	your body weight forwards. Ensure the pass is flat and direct to the player you are passing to.			Glutes, ha	mstrings, quadriceps, gastrocnemius.
GILBERT	Fully extended the arm and fingers to where you want the ball to finish.			Hand eye o	coordination, power, speed, balance.



Year 8 PE: Racket Sports

Motor Competence

Serve	Holding the shuttle, High Serve, Low Serve, disguising your serve		
Outwitting an opponent	Attacking Shots - Smash, Drop Shot, Jump Smash, Net Shot		
Defensive shots	Net Lift		
Gameplay in singles	Select the correct shot to play		
Gameplay in doubles	Choosing the correct shot to play, understanding positioning when attacking and defending		
54441111	Healthy Participation		
	Muscles commonly used:		

Gluteal, hamstrings, quadriceps, gastrocnemius, biceps, triceps, deltoids.

Fitness components: Hand-eye coordination, agility, speed, reaction time, balance.

Rules, Strategies and Tactics

Points

Service

- A point is scored if the shuttlecock lands in the opponent's court.
- If you touch the net, it is a foul and your opponent wins the point
- A player cannot hit the shuttlecock twice
- A match is consists of the best of 3 games of 21 points.
- At 20-all, the player/pair which reaches 2 clear points wins the game
- The shuttlecocks have to fall within the corresponding service areas and this is different in singles (long and narrow) and doubles (short and fat).
 - At the start of the rally, the server and receiver stand in diagonally opposite service courts.
 - Serves must be hit diagonally
 - Serves must be underarm
 - No second serves

Year 8 PE: Racket Sports

Motor Competence

Rules, Strategies and Tactics

Points

Service

• _

	•	
Serve		
Outwitting an opponent		
Defensive shots		
Gameplay in singles		
Gameplay in doubles		



Healthy Participation

Muscles commonly used:

Fitness components:

- -
- -
- -
- -
- -
- -
- -

real of FE. Filless		
	Motor Competence	
Muscular strength	The amount of force you can put out or the amount of weight you can lift.	
Muscular Endurance	Perform exercises to failure so that you improve your muscular endurance.	Healthy Participation
Speed	Moving your body fast as possible	Muscles commonly used in the lesson:
Agility	Changing direction rapidly, whilst maintaining speed and precision.	• Gluteal
Flexibility	A joint or series of joints to move through an unrestricted, pain free range of motion.	Hamstrings
Balance	Even distribution of weight enabling someone or something to remain upright and steady.	Quadriceps
Coordination	Throw with one hand, catch with the other.	Gastrocnemius
Reaction time	How fast an athlete is able to respond to a stimulus.	
Cardiovascular Fitness	To exercise the whole body for long periods	• Abdominais

Rules, Strategies and Tactics

All of the movements completed to improve agility and speed must use the correct technique as this would stop any injuries or muscular injuries occurring.

All participants must have warmed up their muscles before completing flexibility and balance skills as if not muscles can easily be torn or damaged.

Year 8 PE: Fitness		
	Motor Competence	
Muscular strength	The amount of force you can put out or the amount of weight you can lift.	
Muscular Endurance	Perform exercises to failure so that you improve your muscular endurance.	Healthy Participation
Speed	Moving your body fast as possible	Muscles commonly used
Agility	Changing direction rapidly, whilst maintaining speed and precision.	•
Flexibility	A joint or series of joints to move through an unrestricted, pain free range of motion.	•
Balance	Even distribution of weight enabling someone or something to remain upright and steady.	•
Coordination	Throw with one hand, catch with the other.	•
Reaction time	How fast an athlete is able to respond to a stimulus.	
Cardiovascular Fitness	To exercise the whole body for long periods	
Rules, Strategies and Tactics		
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Religious Education



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Little Lever School be kind | work hard | take responsibility

Year 8 RE: : Hinduism

Hinduism is the religion and way of life of Hindus. The religion originally started in North-West India, but the exact date of origin is unknown. Today, it is a major world religion and has about 700 million believers and is one of the oldest religions in the world.

Hinduism has more than one holy book and has no specific founder.

During worship, Hindus use many items, which are kept on a puja tray.					Key word meanings
Item	What it	ltem	What is	Brahman	God
	To wake the God		represents	Pluralism	The idea that we can think of God in different ways.
A bell	or Goddess	Spoon	water to the God	Ahimsa	Non - violence
A pot of water	To wash the statue		Cleans the air and	Trimurti`The three gods`Brahma, Vishnu, Shiva	
		Incense	Incense brings a nice smell	Mantra	Short sacred text or prayer
			Shrine	Holy place	
Diva lamp	A symbol of God's presence	Kum kum powder	To put a red mark on the forehead of the God as a sign of respect and devotion to the God.		During puja , worshippers will offer food to the deities (gods) and chant mantras.

Key learning / concepts

Atman

The soul in

everything

Puja

Worship of a

God or

Goddess



Reincarnation

Belief that a

soul is

reborn

Year 8 RE: : Hinduism

Where did Hinduism originally begin?

How many believers of Hinduism currently exist?

Write down 1 more fact about Hinduism:

Reincarnation

During worship, Hindus use many items, which are kept on a puja tray.

			what do	each of the key words means	
ltem	What does it	ltem	What does it represents?	Brahman	
	representi		represents.	Pluralism	
A bell		Spoon		Ahimsa	
				Trimurti	
A pot of water	Incense		Mantra		
				Shrine	
Diva lamp		Kum kum powder			During puja , worshippers will

Key learning / concepts- define below:

Atman

Puja

What do	each of the key words mean?
Brahman	
Pluralism	
Ahimsa	
Trimurti	
Mantra	
Shrino	

Science



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Year 8 Science: Food and Diet						
Food groups	Water	An unbalanced • Sta	An unbalanced diet can lead to: • Starvation			Salivary glands
Carbohydrates	Vitamins	 Obesity Mineral deficiency Vitamin deficiency 			Liver	Stomach
Proteins	Minerals	As well as:			Pancreas Small intestine Appendix	
Fats	Fibre	• D • Too	 Heart disease Diabetes Tooth decay 		1	Rectum
What are you testing for?	What indicator do you use?	What does a positive result look like?	Th 1 c	in walls - just cell thick /	Food Group	Role in the body
Carbohydrates	lodine	lodine turns blue/black			Carbohydrate	To provide energy
Proteins	Biuret solution	Biuret turns purple			Protein	Growth and repair
Fats	Sudan III/ Ethanol	Sudan III forms a fat layer/ Forms a cloudy precipitate	adatas - Barrow		Lipids	Provide energy and energy store. Insulates the body against the cold
Sugar	Benedict's solution	Benedict's turns green/orange/red	Blood vessels	etwork of pillaries	Fibre	Helps food move through the intestines

Year 8 Science: Food and Diet

What are the food groups?		An unbalanced	diet can lead to:		
What are you testing for?	What indicator do you use?	What does a positive result look like?		Food Group	Role in the body
Carbohydrates				Carbohydrate	
Proteins				Protein	
Fats			and and the same of the same	Lipids	
Sugar				Fibre	

Year 8 Science: Food and Diet

Part o excha	f the gas nge system	Function
1	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.
2	Bronchus	The trachea splits into a left and right bronchus (plural: bronchi), each leads to a lung.
3	Bronchiole	Each bronchus splits again and again into thousands of smaller tubes called bronchioles which take the air deeper into the lungs.
4	Alveoli	At the ends of bronchioles are tiny air sacs called alveoli. Here oxygen moves into the blood and carbon dioxide moves out, both by diffusion.
5	Intercostal muscles	These muscles run between the ribs and form the chest wall. They contract and relax with the diaphragm when a person breathes.
6	Diaphragm	The diaphragm is a dome-shaped, flat sheet of muscle under the lungs. It contracts and relaxes with the intercostal muscles during breathing

Muscles

Your muscles are made of bundles of muscle cells forming muscle tissue. There are three different types of muscle:

- Cardiac muscle cells contract and relax to pump blood around our bodies.
- Smooth muscle cells make up thin sheets of muscle, such as the stomach lining.
- Skeletal muscle is joined to bones. Its cells contract to make bones move and joints bend.

Antagonistic Muscles

Muscles can only contract. This means for skeletal muscles, they can only pull on bones. They cannot push them back. This would mean that if your joints were moved by one muscle, then you would be able to move them once and not return them to their original position. We can move our joints backwards and forwards because our skeletal muscles come in pairs, called antagonistic pairs

Cranium



When a person exercises more, the body grows more new capillaries a process called capillarisation.

Capillarisation takes place at the alveoli in the lungs and in the skeletal muscles. This has the effect of increasing the amount of oxygen that can be transferred to the working muscles as well as increasing the amount of carbon dioxide that can be removed.

Regular exercise also has some additional effects, including an increase in the:

- •Strength of the diaphragm and intercostal muscles
- •Vital lung capacity; the volume of air that can be forcibly exhaled after inhaling fully.



Vertebra

Tibia

Fibula

Ribs

Sternum

Radius

Ulna

Year 8 Science: Food and Diet

Part o excha	f the gas nge system	Function
1	Trachea	
2	Bronchus	
3	Bronchiole	
4	Alveoli	
5	Intercostal muscles	
6	Diaphragm	

How does exercise affect the gas exchange system?

When a person exercises more, the body grows more new capillaries a process called _____.

Regular exercise also has some additional effects, including an increase in the:

Muscles

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- muscle cells contract and relax to pump blood around our bodies.
- Smooth muscle cells make up thin sheets of muscle, such as the ______ lining.
- Skeletal muscle is joined to bones. Its cells contract to make bones move and joints _____.

Antagonistic Muscles

Muscles can only _____. This means for skeletal muscles, they can only pull on bones. They cannot push them back. This would mean that if your joints were moved by one muscle, then you would be able to move them once and not return them to their original position. We can move our joints backwards and forwards because our _____ muscles come in pairs, called antagonistic pairs



Year 8 Science: Chemical Reactions

Reactions can be physical or chemical:			
Physical Reactions	These do not involve new chemicals being produced and are usually easy to reverse – for example ice melting		
Chemical Reactions These involve new chemicals being produced. They normally require a chemical reaction to reverse or change them – for example iron rust			
What happens when chemicals react?			

Chemical reactions usually show at least one of the following:

- A temperature change ٠
- A colour change ٠
- A solid being formed

• A gas given off

Water SOUD

There are three states of water:



Endothermic and exothermic reactions

When chemicals react they take in energy to break bonds and give out energy when new bonds are formed

If more energy is given out than taken in then the reaction is exothermic If more energy is taken in than given out then the reaction is endothermic

Exothermic reactions cause the temperature of the surroundings to increase Endothermic reactions cause the temperature of the surroundings to decrease

Most reactions are exothermic, for example burning. A few reactions are endothermic for example photosynthesis Ice packs use endothermic reactions. When the ice pack is used it makes 2 chemicals react to take in energy



Pikakylmäpakkaus • Snabb kylkon Instant cold compress • Einweg Kältebeutel

Catalysts

Catalysts change the rate of a chemical reaction without being used in the reaction

They do this by lowering the amount of energy that needs to be taken in in order for the chemicals to react

Modern cars that use petrol or diesel have a catalytic converter. This makes nitrogen oxides formed in the engine turn back into nitrogen and oxygen. They never have to be replaced as the catalyst is never used up.

Combustion is any reaction involving something burning. It is a quick chemical reaction with oxygen for example wood burning

Oxidation is a chemical reaction where a substance reacts with oxygen to form an oxide. Oxidation can happen quickly or slowly for example rusting is a slow oxidation process

Thermal decomposition is a chemical reaction where thermal energy causes a chemical to break down into 2 or more chemicals

Writing word equations for chemical reactions

When chemical reactions happen we can show this as a word equation. We write it as:



Year 8 Science: Chemical Re	eactions	Endothermic and exothermic reactions		
Reactions can be physical or chen	nical:	When chemicals react	they take in energy to break bonds and give out energy when new bonds are formed	
These do not involve new chemicals being produced and are usually easy to reverse – for example ice melting		If more energy is given out than taken in then the reaction is		
These involve new chemica They normally require a che reverse or change them – f	als being produced. emical reaction to for example iron rusting	Exothermic reactions cause the temperature of the surroundings to incr Endothermic reactions cause the temperature of the surroundings to dec Most reactions are exothermic, for example burning. A few reactions are endothermic for example photosynthesis Ice packs use endothermic reactions. When the ice pack is used it makes 2 chemicals react to take in energy		
What happens when chemicals re	eact?	Exothermi	c Reaction	
Chemical reactions usually show at least one of the following: There are three states of water: • A change • A change • A being formed • A given off		Burning $C_xH_y + (y/2 + 2x)O_2 \rightarrow x$ Wood Oxygen C	of wood Heat coming out Heat coming out CO ₂ + (y/2) H ₂ O + Heat arbon Water vapor	
Catalysts is any reaction Catalysts change the rate of a chemical reaction without being used in the reaction is a quick che oxygen for example wood They do this by the amount of energy that needs to be taken in in order for the chemicals to react is a chem substance reacts with ox Oxidation can happen que example rusting is a slow Modern cars that use petrol or diesel have a catalytic converter. This makes formed in the engine turn back into nitrogen and oxygen. They never have to be replaced as the catalyst is never used up. where thermal energy catalyst is never used up.		tion involving something mical reaction with od burning nical reaction where a kygen to form an oxide. uickly or slowly for v oxidation process is a chemical reaction auses a chemical to ore chemicals	Writing word equations for chemical reactions When chemical reactions happen we can show this as a word equation. We write it as: For example Iron + oxygen Methane + Oxygen Calcium carbonate	

Vegr & Science: PH and Neu	рН	Examples of solutions		
Teal o Science. In and Neu	0	Battery acid, strong hydrofluoric acid		
Acids and alkalis	We can tell how strong an acid or an alkali is	1	Hydrochloric acid secreted by stomach lining	
Acids are a chamical group that are commonly found	using the PH scale	2	Lemon juice, gastric acid, vinegar	
in foods, everyday items and also in scientific	The DU seels we are from 1 to 14 (although the	з	Grapefruit juice, orange juice, soda	
laboratories .	PH scale actually starts at 0 we do not use acids	4	Tomato juice, acid rain	
Alkalis are the chemical opposite of acids.	in school below 1)	5	Soft drinking water, black coffee	
	The closer on acid gets to DU7 the weaker it is	6	Urine, saliva	
Examples of acids are citric acid found in some fruits,	PH 7 is neutral, neither an acid or an alkali	7	"Pure" water	
ethanole acid which is vinegal.		8	Sea water	
In the laboratory we use hydrochloric acid, sulfuric	The closer an alkali gets to PH7 the weaker it is.	9	Baking soda	
acid and nitric acid.	Neutralisation	10	Great Salt Lake, milk of magnesia	
Examples of alkalis are toothpaste, bleach, indigestion		11	Ammonia solution	
tablets.	When an acid and alkali react together they form a neutral solution	12	Soapy water	
In the laboratory we use sodium hydroxide and	The general formula for this is:	13	Bleach, oven cleaner	
ammonium hydroxide	Acid + Alkali Salt + water	14	Liquid drain cleaner	
Are acids and alkalis dangerous?	An example of this is:	Reactions of metals and acids Some metals will react with acids. They react at different rates. We can place them in order and this forms the reactivity series.		
Many acids and alkalis are not dangerous Some are irritants and strong acids and alkalis can be corrosive	Hydrochloric acid + Sodium hydroxide Sodium chloride + water			
Can we tell whether something is an acid or an alkali by using indicators?	we tell whether something is an acid or alkali by using indicators?		Potassium is the most reactive metal that we use in the school laboratory (it is too reactive to mix with acid) Platinum is the least reactive.	
Yes. Indicators change colour when they are added to an	Hydrochloric acid forms chlorides Sulfuric acid forms sulphates Nitric acid forms nitrates		al formula for a metal reacting with an acid is: Metal + acid — salt + water	
ació or an alkall.	Making an indicator: We can make an indicator from		For example	
Universal indicator is the most common one that we	some plants. Simply crush up the plant add a neutral		Magnesium + hydrochloric acid	

use in the school laboratory. It changes from green to red in a strong acid and from green to purple in a strong alkali

substance to make it liquid and it should change colour when added to an acid or an alkali. Red cabbage is a good vegetable to use. Magnesium chloride + hydrogen

Year 8 Science: PH and Neutralisation

Acids and alkalis

Acids are a chemical group that are commonly found in foods, everyday items and also in scientific laboratories.

Alkalis are the _____ of acids.

Examples of acids are citric acid found in some fruits, ethanoic acid which is vinegar.

In the laboratory we use ______, sulfuric acid and nitric acid.

Examples of alkalis are toothpaste, bleach, indigestion tablets.

In the laboratory we use	and
ammonium hydroxide	

Are acids and alkalis dangerous?

Many acids and alkalis are not dangerous Some are irritants and strong acids and alkalis can be

Can we tell whether something is an acid or an alkali by using indicators?

Yes.

Indicators ______ when they are added to an acid or an alkali.

Universal indicator is the most common one that we use in the school laboratory. It changes from green to red in a strong acid and from green to purple in a strong alkali We can tell how strong an acid or an alkali is using the ______.

The PH scale ranges from 1 to 14 (although the PH scale actually starts at 0 we do not use acids in school below 1)

The closer an acid gets to _____ the weaker it is. PH 7 is neutral, neither an acid or an alkali

The closer an alkali gets to PH7 the weaker it is.

Neutralisation

When an acid and alkali react together they form a neutral solution
The general formula for this is:
Acid + Alkali Salt + water

An example of this is: Hydrochloric acid + Sodium hydroxide Sodium chloride + water

When acids react to form salts they always form the same ones

Hydrochloric acid forms ______ Sulfuric acid forms ______ Nitric acid forms ______

Making an indicator: We can make an indicator from some plants. Simply crush up the plant add a neutral substance to make it liquid and it should change colour when added to an acid or an alkali. Red cabbage is a good vegetable to use.

рН	Examples of solutions
о	Battery acid, strong hydrofluoric acid
1	Hydrochloric acid secreted by stomach lining
2	Lemon juice, gastric acid, vinegar
з	Grapefruit juice, orange juice, soda
4	Tomato juice, acid rain
5	Soft drinking water, black coffee
6	Urine, saliva
7	"Pure" water
8	Sea water
9	Baking soda
10	Great Salt Lake, milk of magnesia
11	Ammonia solution
12	Soapy water
13	Bleach, oven cleaner
14	Liquid drain cleaner

Reactions of metals and acids

Some metals will react with acids. They react at different rates. We can place them in order and this forms the reactivity series.

Potassium is the most reactive metal that we use in the school laboratory (it is too reactive to mix with acid) Platinum is the least reactive.

The general formula for a metal reacting with an acid is: Metal + acid — salt + water

For example

