



KINGS'
SCHOOL · WINCHESTER

KNOWLEDGE ORGANISER 2024
YEAR 8 | SUMMER





PUPIL DETAILS

Name	
Tutor Group	
Tutor Room	
House	
Library No.	
Locker No.	
At Kings', there are people that I can go to if anything is worrying me.	My Trusted Adults are: 1. _____ 2. _____

What I need for PE:	
---------------------	--

My Passwords	
Platform	Password

TIMETABLE

	Monday	Tuesday	Wednesday	Thursday	Friday
1					
2					
3					
Lunch					
4					
5					
After School					



KINGS'

SCHOOL • WINCHESTER

OUR SCHOOL VALUES

At Kings' our Values are at the heart of our school culture. They underpin our mission that we are **Working Together to Achieve Inspiring Futures, Exceptional Character, and Academic Excellence.**

We are reminded of our mission by our motto, Una Laborantes (Working Together), and our core values – developed and agreed by the Kings' community of pupils, staff, parents, and carers – help to guide every child, employee, and volunteer towards attaining that goal.

These values act as our inspiration and navigation in our learning, our work, and our life at school as we work together so that you achieve personal growth and future academic success.

Our school values are to:

DISCOVER
BRILLIANCE IN
EVERYONE

HAVE
UNLIMITED
AMBITION

EARN SUCCESS

BE KIND,
BE HUMBLE,
AND HAVE
INTEGRITY

MAKE A
DIFFERENCE

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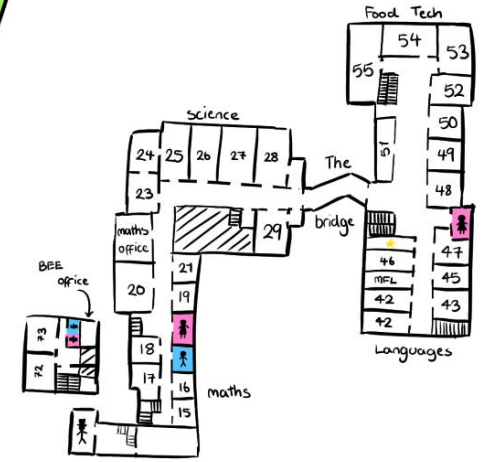


- stairs
- no floor
- path
- grass
- food
- girls toilets
- boys toilets
- changing rooms
- year office



floor 1

floor 2



By Chloe Beard

THE (VERY ACCURATE)
MAP OF
KINGS' SCHOOL



HOURS OF ATTENDANCE

Pupils must arrive at school by **8.45 a.m.** and although some pupils may arrive at school earlier than this, parents are advised that there will be no staff supervising pupils before 8.30 a.m.

Pupils are considered late if they have not registered by 8.45 a.m. (unless they are late with good reason e.g.: school bus was late.) Punctuality to lessons is important. Repeated lateness is sanctioned.

If for any reason pupils are late for school, or need to leave school early, they must bring a note signed by a parent/carer. They should then 'sign in/out' at Reception.

Time	Movement
08.45 - 09.10	Tutor Time
	Movement
09.15 - 10.15	Lesson 1
	Movement
10.20 - 11.20	Lesson 2
	Movement
11.25 - 12.25	Lesson 3
12.25 - 13.05	Lunch
	Movement
13.10 - 14.10	Lesson 4
	Movement
14.15 - 15.15	Lesson 5

BULLYING HAS NO PLACE AT KINGS'

At Kings, we firmly believe in fostering an inclusive and supportive environment for every individual within our community. Bullying in any form is completely unacceptable. Our school must be a safe space where everyone is able to thrive.

Our values of kindness, humility and integrity mean that we tackle negative behaviour proactively:

- Recognise the signs:** It's important to be able to identify bullying behaviours. Bullying can manifest in various forms, such as physical, verbal, social, or online. Look out for signs like repeated teasing, name-calling, exclusion, spreading rumours, physical aggression, or cyberbullying.
- Report:** Don't face bullying alone. Reach out to your trusted adult, trusted friends, family members, or other teachers who can provide guidance and support. This can be done face to face or on the safeguarding tile.

Remember, nobody deserves to be bullied, and you have the right to feel safe and respected. If you witness bullying, ensure that you report it so that we can keep every member of our school community safe.



Safeguarding Concern



HOMework

Homework at Kings' is central to our mission of helping you have an inspiring future and building your exceptional character and achieving academic excellence.

It also embodies our values:

- **Earn Success:** Homework reinforces learning, and a strong work ethic.
- **Discovering Brilliance:** Homework encourages critical thinking and problem-solving, helping students discover their brilliance and unique abilities.
- **Unlimited Ambition:** Engaging in homework fuels intellectual curiosity and a desire for lifelong learning, going beyond the boundaries of formal education.

Homework should enable you to learn, or practise what you have been taught in school. To consolidate your learning, you can also practise learning from your knowledge organiser.

Key Stage 3	For how long?	Set	Type of homework
Core			
Science	30 minutes	Once a week	Educake Knowledge Organiser
Maths	30 minutes	Once a week	Sparx
English	30 minutes	Once a week	Variable
Languages	20 minutes	Once a week	Variable
Innovation Subjects			
Tech	20 minutes	Once a week	Variable
Computing	20 minutes	Once a week	Variable
Humanities			
Geography	20 minutes	Once a week	Variable
History	20 minutes	Once a week	Variable
RE	20 minutes	Once a week	Variable
Creative Arts			
Drama	20 minutes	Once a week	Variable
Music	20 minutes	Once a week	Variable
Art	20 minutes	Once a week	Variable
Reading	20 minutes	Every day	

Have you learned it?

Your Knowledge Organiser contains the core knowledge that you need to know and learn.

Use your Knowledge Organiser to see if you can complete the following activities. If you can do these things, you know something well. How many can you do?

1. Answer a question about it, under a time pressure.
2. Explain it in your own words.
3. Teach it to someone else.
4. Apply what you know in a new context.
5. Remember it a week, a month or a year later?

Some things that may help you remember information:

1. Well-designed flashcards that you have made with key information.
2. Mnemonics, such as *“Richard of York Gave Battle In Vain”* (visible light spectrum – the rainbow)
3. Mind maps (keep the paper landscape)
4. Timelines (dates of key events, in order)
5. A grid of key quotes according to characters and themes.
6. Creating a story that includes all the information.
7. Answering practice questions
8. Re-create a section of your Knowledge Organiser from memory.



Name _____
 Subject _____
 Class/Group _____
 Classroom _____



Pupils must keep all of their equipment in a clear plastic pencil case, suitable for exam use.

The minimum stationery needed is on the back cover of this Knowledge Organiser.

<u>Date</u>	
<u>Presentation Guidelines</u>	
	Neat presentation of your work is important. It shows that you care about your learning.
1.	The lesson title should be written and underlined with a ruler.
2.	The date should be written on the top, right-hand side of the page and underlined.
3.	Pupils should write in blue or black ink. Key words can be highlighted or underlined.
4.	Pencils should be used for drawings, diagrams and graphs.
5.	All underlining must be done using a ruler.
6.	All loose sheets must be stuck into exercise books.
7.	Feedback work should be clearly indicated – green (or another coloured) pen should be used for all improvement tasks.
8.	A line should be used to rule off after every piece of work. <hr style="border: 1px solid black;"/>



KINGS'

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HOW TO USE YOUR KNOWLEDGE ORGANISER

You are given a Knowledge Organiser at the beginning of the term. You are responsible for it and need to take care of it. Please do not lose it, or doodle on it. We will ask you to replace any lost/defaced Knowledge Organisers, as they are a tool that you and your teachers will use in lessons and for homework.

Your teachers have created Knowledge Organisers to support each unit of learning across Key Stage 3. These are then compiled into a booklet for you. Knowledge Organisers are a simple tool that provides the foundational knowledge required for each particular unit across each subject. These are called your **Knowledge Base**. They are not the whole curriculum – you will be taught much more than this, but they do outline the basic knowledge that every pupil should know.

Your teachers will tell you how often you will need to learn from your knowledge organiser when it is set as homework. Working with a knowledge organiser every day helps to establish routines in home learning, developing a confident use of vocabulary and independent study skills. You will be tested on the information that you have learned from the knowledge organisers in your lessons. There are many effective ways of learning from a Knowledge Organiser. One way that your teachers may use is called: Look, Cover, Write, Check. Please do not be tempted to just copy from the Knowledge Organiser – studies have shown that this is not effective.

Subjects have also added other information for you – this is indicated in a section called a **Knowledge Builder**. This may be extension tasks, or further study that may interest you.

Please scan the QR below to watch the video for more information on what Knowledge Organisers are, and how to use them:

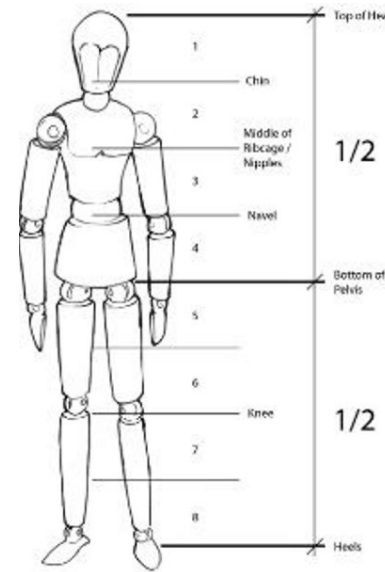




1. Proportion		
1.1	proportion	The relationship of parts of the body to one another.
1.2	ratio	The relationship between two things when it is expressed on numbers or amounts.
1.3	measurement	The action of measuring something to establish its size.
1.4	line drawing	A drawing using only narrow lines, without shading.
1.5	lay Figure	An artist's wooden joined figure.

2. Measurements of the figure		
2.1	How the figure is measured	Figure is measured in heads. Figure is 7 1/2 to 8 heads high.
2.2	shoulder width	Shoulder to shoulder is between 2 1/2 and 3 head widths.
2.3	arms	Shoulder to elbow is the same length as elbow to wrist.
2.4	legs	Hip to knee is the same length as knee to ankle.
2.5	pelvic bone/hips	This is halfway done the figure.
2.6	hands	Fingertips are halfway down the thigh. Hands are as big as face.
2.7	knees	Three quarters of the way down the figure.
2.8	elbows	In line with the bellybutton.

3. Tone		
3.1	highlights	The lightest area of an object or image.
3.2	shadows	A dark area where light is blocked.
3.3	blending	A gradual transition between a colour or tone.
3.4	gradation	A visual technique of gradually transitioning from one shade to another.
3.5	shading	Use of tone to create form and shadow.
3.6	contour shading	The direction of the shading follows the contour of the shape.



Classroom Vocabulary	
smooth	An even texture achieved with drawing or painting.
accuracy	Being correct or exact.
detail	A distinctive feature of an object or image.
precision	The quality of being sharp or accurate.

4. Watercolour painting		
4.1	paint proportions	Ratio of paint to create the correct colour.
4.2	paint application	How the paint is applied.
4.3	paint consistency	How thick or thin the paint is.
4.4	colour strength	Amount of water added to change colour strength.
4.5	wet-on-wet	Wet paint into wet paint to blend.
4.6	blending	A gradual transition between a colour or tone.
4.7	gradation	A gradual transition between a colour or tone.
4.8	accuracy	Painting neatly within the lines. Work brush along the direction of the line.

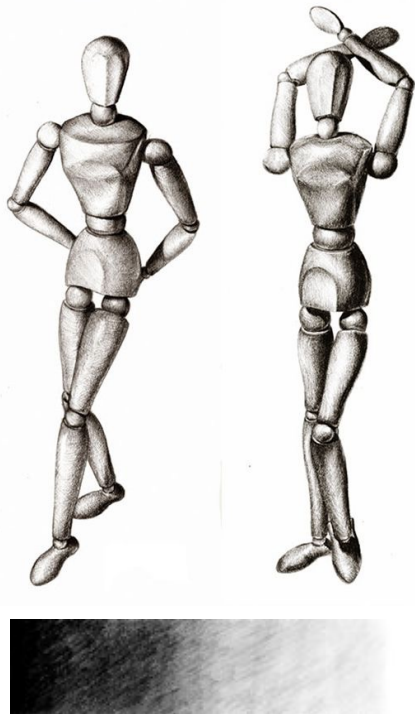




Watch this tutorial on drawing the figure.



Tonal lay figure drawing



Watch the dos and don'ts of watercolour painting



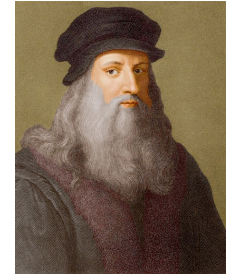
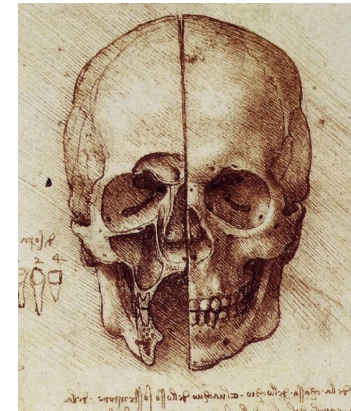
Watch four watercolour blending techniques



Blending tone and colour to create the form of the figure



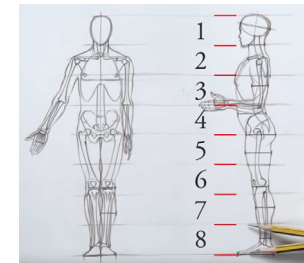
Lenardo Da Vinci



Watch to learn about Da Vinci's amazing talents

Skill extension tasks

Human Figure Proportions - Anatomy Master Class



Create special effects with watercolor techniques




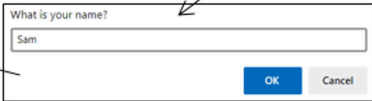


1. Databases		
1.1	data	When we store data in a database, it is in a format that the computer can understand and might not make much sense to us.
1.2	databases	A structured collection of data, on a computer, that allows people to perform complex sorting and searching of the data to find the information they need.
1.3	flat file	A flat file database is a database that comprise a single table. These are often created from a single spreadsheet
1.4	table	A record is a row in a database table that describes a single entity – such as one customer or one student or one patient.
1.5	record	A record is a row in a database table that describes a single entity – such as one customer or one student or one patient.
1.6	field	A field is the same as a column in a databases table. Each field describes one characteristic of a record – such as a student’s name or a customer’s phone number
1.7	primary key	A primary key is a unique identifier in tables that enables a database to find related information across more than one table.
1.8	form	An object in the database that allows you to add, edit and delete the data in one or more databases tables. Forms make it easier to work with data in a database because they hide the data you don’t need to see
1.9	query	When we request data from the database, we do so by creating and running a query. A query can also sort and order data when it is presented to us.
1.10	validation	We can provide rules for the database to check that information being entered by a user is correct. The database can provide a message to say why the data entered cannot be accepted.

1. Binary		
1.1	binary	Numbering system which uses base 2 (0s & 1s) – the only language that computers truly understand. 0 means off, 1 means on.
1.2	denary	Numbering system which uses base 10 (0-9) – these are our normal numbers that we use every day. (Otherwise known as decimal)
1.3	hexadecimal	al Numbering system which uses base 16 (0-9 and A-F). These numbers are used to represent colours and code in assembly
1.4	binary addition	Adding binary numbers together (see rules of binary addition)
1.5	overflow	If you cannot represent a number in the given amount of space (IE more bits are needed to represent a number), then this is an overflow error.
1.6	binary shift	Moving bits within a binary number in a certain direction. Any empty positions are filled with 0.
1.7	check digit	An additional digit at the end of a string of numbers used to check for mistakes in transmission. ISBNs are formed of 12 bits for the item number, then the 13th is a check digit.



1. Key Words		
1.1	algorithm	An algorithm is set of instructions or rules that need to be followed in order to perform calculations or to solve a problem.
1.2	syntax error	A syntax error is a mistake in your Python program that prevents it from running (executing). Syntax errors are like spelling and grammar errors.
1.3	variable	A variable is a name given to an item of data so that the data can be stored in memory while your Python program is running.
1.4	input	Values which get sent from the user into the computer.
1.5	program	Code compiled together to perform a specific function.
1.6	output	The values which get sent from the computer to the user.
1.7	data type	The type of data being used by the program.

2. Variables	
2.1	<p>Variables are simply a place on the computer's memory that is given a name in order for it to remember it.</p> <p>In Python you create a variable by writing the name of the variable followed by an =</p> <div style="display: flex; align-items: center;">  <div> <p>Example Code</p> <pre>name = input("What is your name?")</pre>  <pre>print("You just typed in " + name)</pre> <p>You just typed in Sam</p> </div> </div>

3. Data Types		
3.1	string	A Variable data type that can store a combination of letters, characters and numbers.
3.2	integer	A Variable data type that can store whole numbers.
3.3	float	A Variable data type that can store decimal numbers.
3.4	boolean	A Variable data type that stores either TRUE or FALSE.

4. Selection		
4.1	selection	Is used to allow the program to make a choice and take a different path.
4.2	if	Checks if the condition is true, if so the program runs the indented code below it.
4.3	elif	If the first if fails then this elif condition is checked, there can be multiple of these.
4.4	else	If all if and elif statements are not true the code indented below else will run.
4.5	==	Double equal sign is used to see if the contents of the variables match.
4.6	:	The colon ends the IF statement line and the indentation of code underneath. These are vital, so remember the colon and indentation when you write IF statements.

5. Iteration		
5.1	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.
5.2	while	Checks if a condition is true and while it is true will keep repeating it.
5.3	for	Runs for a specific amount of time and stops when it reaches the desired number.



indeed
Careers in
Computer
Programming



**HOUR
OF
CODE**
Code.Org



indeed
Careers using
Binary

Bit	The smallest amount of data (stands for binary digit) (0 or 1)
Byte (B)	8 bits
Kilobyte (KB)	1024 bytes
Megabyte (MB)	1024 kilobytes
Gigabyte (GB)	1024 megabytes
Terrabyte (TB)	1024 gigabytes
Petabyte (PB)	1024 terrabytes

Binary Addition	
0 + 0	= 0
0 + 1	= 1
1 + 0	= 1
1 + 1	= 0, carry a 1
1 + 1 + 1	= 1, carry a 1

Stretch your vocabulary		
a.1	logic	A system designed to perform a task according to string principles and rules.
a.2	logic gate	Checks if a condition is true and while it is true will keep repeating it.
a.3	logic circuit	Runs for a specific amount of time and stops when it reaches the desired number.
a.4	boolean	True or False
a.5	**	Exponent (Power of)
a.6	MOD	Modulus Division Divide one number by another and return the remainder.
a.7	truth tables	A table used to plan the inputs and outputs from a logic circuit.

The Input Script

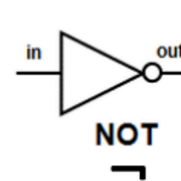
The `input()` script is set up like this:

```

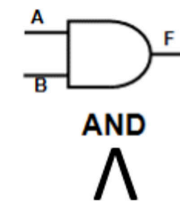
'name' represents a memory location, which will store in the user input
name = input("What is your name?")
text displayed to user
    
```

variable input statement

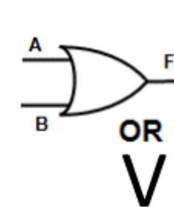
- When it is executed (run), the text inside the brackets will display on the screen and the program will pause for a 'user input'.
- Once the user has entered an input, it will be stored in the variable assigned to the input statement (e.g. name).



Input	Output
I	F
0	1
1	0



Inputs		Output
A	B	F
0	0	0
1	0	0
0	1	0
1	1	1



Inputs		Output
A	B	F
0	0	0
1	0	1
0	1	1
1	1	1

Logic Gates and Truth Tables



1. Perform Very Successfully			
Physical	1.1	posture	the position of a person’s body when standing, leaning or sitting.
	1.2	movement	the way an actor uses weight and space to communicate a character.
	1.3	stance	the way an actor positions their feet and places their weight whilst standing.
Vocal	1.4	intonation	the rise and fall of the voice.
	1.5	emphasis	stress on a particular word or phrase within a sentence to indicate importance or change meaning.
	1.6	pace	the speed at which lines are delivered. Speed of speech conveys how a character is feeling.
Spatial	1.7	facings	the direction an actor faces within a scene.
	1.8	size	the quality and status of a performer and the effect of this on other actors or the overall scene.
	1.9	distance	the amount of space between actors/puppets/set/props in relation to the audience.

2. Unit Key Vocabulary			
1.10	T2	atmosphere	the mood or ambience within a scene or performance.
1.11	T1	shape	how a specific puppet can be defined to be clearly visible to an audience.
1.12	T1	shadow	a dark area or shape, produced by placing a puppet between a light source and a screen.
1.13	T3	synchronisation	creating moments within a performance that can transport an audience into another moment or situation.
1.14	T2	silhouette	an outline of a puppet visible in restricted light against a brighter background.
1.15	T1	screen	the surface area used to project puppetry between a light source.
1.16	T2	puppeteer	the performer who controls and activates a puppet.

3. Drama Key Vocabulary			
1.16	T2	script	the written text of a play or performance, often including lines of dialogue and stage directions.
1.17	T2	set	the scenery and furniture on stage. This is often used by actors or puppeteers to show specific actions or locations.
1.18	T3	soundscape	an accumulation of sounds that creates an atmosphere.
1.19	T2	rehearsal	when a group of actors/puppeteers practice their work to ensure it is refined ready for a performance.

4. Unit Context					
The 3 core rules of puppet manipulation	Breath Weight/Tension Focus	Shadow Puppet Theatre	A shadow puppet is a cut-out figure held between a source of light and a translucent screen. They originated in India, China, Turkey and Java. Shadow puppet theatre is a play presented by casting shadows of puppets or actors onto a screen.	Manipulation Puppetry	The puppet that can be worn directly on the hand, arm, or worn around the waist and is an extension of the puppeteer, not worn as a costume. The puppeteer is seen, and works with the puppet, who has its own dramatic autonomy, independent of the puppeteer.



1. Perform Very Successfully			
Physical	1.1	body language	Communication by movement or position, expressions, gestures and proxemics.
	1.2	gesture	A defined movement which clearly communicates meaning.
	1.3	facial expression	The physical and facial demonstration of a character's emotions.
Vocal	1.4	pitch	How high or low an actor delivers their lines to convey meaning.
	1.5	pause	When a moment is held or stopped for a short time to create dramatic tension.
	1.6	pace	The speed at which lines are delivered. Speed of speech conveys how a character is feeling.
Spatial	1.7	speed	The quality and pace of an actors' movement.
	1.8	eye contact	When two people look directly into one another's eyes, or at a fixed position.
	1.9	stage presence	the energy, or charisma and appeal, that an artist has whilst performing

2. Unit Key Vocabulary			
2.1	T1	suspense	The anticipation of the outcome of a plot
2.2	T1	atmosphere	The emotional feelings and mood inspired by a performance.
2.3	T2	subtle movement	A small movement or gesture hardly noticed or detected by an observer.
2.4	T2	dynamics	The energy, effort, force or weight applied to movement.
2.5	T2	dramatic climax	The point at which the highest level of emotional response is achieved.

3. Drama Key Vocabulary			
3.1	T3	conscience alley	The exploration of multiple sides of a characters choice within a specific dilemma.
3.2	T2	split screen	When two or more scenes are performed at the same time
3.3	T2	role play	To perform a character different from ourselves.
3.4	T2	narration	Providing the audience with background information or commentary on the action of the play.
3.5	T1	slow motion	to reduce the speed at which a drama is enacted.

4. Unit Context					
The Woman in Black	Arthur Kipps is a young lawyer, sent to Eel Marsh House to sort out the belongings of Alice Drablow following her death. He sees a woman dressed in black at her funeral, though apparently no one else does. Arthur is haunted by noises and sightings of the woman. Eventually a local man, Sam Daily, reveals the full story of how Alice Drablow's sister, Jennet, haunts the house. He explains that a child dies each time the woman in black is seen.	Susan Hill English author	Writer of the novel, the Woman in Black as well as many other ghost stories.	Stephen Mallatratt	Playwright, actor and screenwriter. He adapted the novel for the stage.



Types of Puppetry	
Bunraku	Bunraku puppets are about one-half life size and each is operated by three performers: a principal operator and two assistants. Strings are not used, instead, the puppeteers cooperate to manoeuvre the limbs, eyelids, eyeballs, eyebrows and mouths of the puppets, producing life-like actions and facial expressions. The puppeteers are in full view of the audience, but are dressed in black to symbolize that they are to be taken as "invisible".
Rod puppets	Rod puppets require one of the puppeteer's hands inside the puppet glove holding a rod which controls the head, and the puppet's body then hangs over most or all of the forearm of the puppeteer, and possibly extends further. A rod puppet is made out of wood, wire and string and is manipulated with wooden or wire rods.
Manipulation puppets	A puppet that can be any size and can be controlled by its hand/arm, neck or feet, by 2 or more puppeteers. Movement is manoeuvred in a similar way to Bunraku. Puppeteers work as part of a team to bring the puppet to life, through the use of weight/tension, breath and focus- of both the puppet and the puppeteers. The puppet that can be worn directly on the hand, arm, or worn around the waist and is an extension of the puppeteer, not worn as a costume. The puppeteer is seen, and works with the puppet, who has its own dramatic autonomy, independent of the puppeteer.
String – Marionette puppetry	These are full-length figures controlled from above. They are moved by strings or threads, leading from the limbs to a control or crutch held by the manipulator. Movement takes place by tilting or rocking the control, but individual strings are plucked when a decided movement is required. A simple marionette may have nine strings—one to each leg, one to each hand, one to each shoulder, one to each ear (for head movements), and one to the base of the spine (for bowing).
Vietnamese Water puppets	Dating back to the 11 th century, water puppetry is performed in waist deep water with the puppeteers hidden behind a screen. The wooden puppets appear to be moving over the water.



The Woman in Black full plot synopsis on BBC Bitesize.



The Woman in Black theatrical trailer – observe how the sound effects and performance skills create tension.



1. Types of text		
1.1	Broadsheet	Articles from The Times The Telegraph The Guardian
1.2	Tabloid	The Sun The Mirror
1.3	Editorials	Tabloid and broadsheet
1.4	Letters	Response to opinion pieces
1.5	Online articles	Opinion pieces

3. Other forms of media		
3.1	The history of communication	How communication has developed from smoke signals, to the telephone, to media, newspapers, and the internet.
3.2	The history of television	Can be traced to the 1830s and '40s, when Samuel F.B. Morse developed the telegraph, the system of sending messages (translated into beeping sounds) along wires.
3.3	The history of the radio	Italian inventor Guglielmo Marconi first developed the idea of a radio, or wireless telegraph, in the 1890s.
3.4	The advent of the internet	January 1, 1983 is considered the official birthday of the Internet. Prior to this, the various computer networks did not have a standard way to communicate with each other. A new communications protocol was established called Transfer Control Protocol/Internet Protocol (TCP/IP).

4. Techniques		
4.1	power of three	Use three words that work together to convey a single concept.
4.2	emotive language	Emotive language is word choice that is used to evoke emotions/feelings.
4.3	repetition	The recurrence of a word or phrase.
4.4	figurative language	language that's intended to create an image in the mind of the listener or reader that goes beyond the literal meaning.
4.5	statistics	collecting and analysing numerical data.

2. Vocabulary		
2.1	bias	inclination or prejudice for or against one person or group.
2.2	editor	a person who is in charge of and determines the final content of a newspaper, magazine, or multi-author book.
2.3	broadsheet	a newspaper regarded as more serious and less sensationalist than tabloid.
2.4	tabloid	typically popular in style and dominated by sensational stories.
2.5	journalist	a person who writes news stories or articles for a newspaper or magazine or broadcasts them on radio or television.

5. Extra		
5.1	circulation	Circulation is a count of how many copies of a particular publication are distributed.
5.2	objectivity	having a neutral standpoint.
5.3	subjectivity	the quality of being based on or influenced by personal feelings.
5.4	hyperbole	exaggerated statements or claims not meant to be taken literally.



1. Vocabulary		
1.1	dialogue	A conversation between two or more people as a feature of a book, play, or film.
1.2	iambic pentameter	A line of verse with five metrical feet, each consisting of one short (or unstressed) syllable followed by one long (or stressed) syllable, for example Two households, both alike in dignity.
1.3	monologue	A long speech by one actor in a play or film, or as part of a theatrical or broadcast programme.
1.4	rhyme	A word or series of words that has the same last sound as another word.
1.5	rhythm	A strong pattern of sounds, words, or musical notes that is used in music, poetry, and dancing.
1.6	scene	A part of a play or film in which the action stays in one place for a continuous period of time.
1.7	Shakespeare	William Shakespeare, an English playwright who wrote many famous plays in the late 16th and early 17th centuries.
1.8	soliloquy	A speech in a play that the character speaks to himself or herself or to the people watching rather than to the other characters.
1.9	theatre	A building or space used for performances and shows.

4. Plays and their conventions		
3.1	Comedy	Example: The Tempest – A Shakespearean comedy uses jokes and puns (play on words) and often features mistaken identity, confusion, and coincidence. The plays focus a lot on love and romance.
3.2	Tragedy	Example: Macbeth – In Shakespearean Tragedy, the tragic hero sets out on a course of action but because of a flaw in his character, evil enters and is the cause of the catastrophe. Shakespeare believed that his tragedies showed the struggle between good and evil in the world.
3.3	History	Example: Richard III – The plays normally referred to as Shakespeare history plays are the ten plays that cover English history from the twelfth to the sixteenth centuries, and the 1399-1485 period in particular. Each historical play is named after, and focuses on, the reigning monarch of the period.

2. Techniques		
2.1	aside	A remark or passage in a play that is intended to be heard by the audience but unheard by the other characters in the play.
2.2	dramatic irony	A technique wherein the audience know more than the characters on stage.
2.3	pace	The speed of a performer's movement or speech.
2.4	pause	A temporary stop in action or speech.
2.5	pitch	How high or low you set your voice to speak.
2.6	proximity	How near or far actors are from one another.
2.7	soliloquy	a speech in a play that the character speaks to himself or herself or to the people watching rather than to the other characters.
2.8	tone	A way of speaking that expresses the speaker's feelings of thoughts.

4. Context		
4.1	Shakespeare	A playwright from Stratford-upon-Avon, born in 1564. He wrote 39 plays and over 150 sonnets.
4.2	The Globe	The theatre in which Shakespeare put on his plays. Built in 1599 and rebuilt in 1614.
4.3	London in the Shakespearean Era	London in the Elizabethan era was dirty, noisy and crowded. New ideas around literature and science were constantly being discovered.
4.4	Queen Elizabeth	On 7th September 1533, a baby girl was born to parents Anne Boleyn and King Henry VIII. She was named Elizabeth, and would eventually become Queen Elizabeth I - a woman who many believe was one of the greatest monarchs of England. She reigned for 44 years, from 1558 to her death in 1603.
4.5	King James	He was King of Scotland for 36 years (as James VI) and then became King of England in 1603—and the first Stuart monarch in the British royal line. James became the nominal monarch of Scotland in 1567, and in 1583, he took full control of the crown.

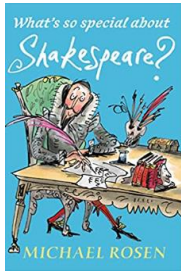
Learn about the globe:



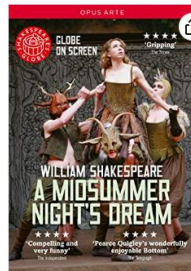
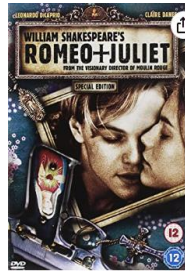
Learn about Shakespeare:



Books to read:



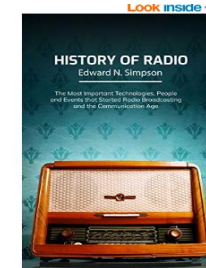
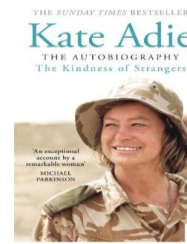
Films to watch:



Stretch your vocabulary – words that Shakespeare invented!		
5.1	critic	(n) one who judges merit or expresses a reasoned opinion
5.2	fashionable	(adj) stylish; characteristic of a particular period
5.3	gossip	(v) to talk casually, usually about others
5.4	hurry	(v) to act or move quickly
5.5	obscene	(adj) repulsive or disgusting; offensive to one's morality
5.6	rant	(v) to speak at length in inflated or extravagant language
5.7	worthless	(adj) having no value or merit; contemptible
5.8	zany	(n) clown's assistant; performer who mimics another's antics



Books to read:



Documentaries to watch:

How the Printing Press Revolutionised the World



How it's made- newspapers





The History of newspapers

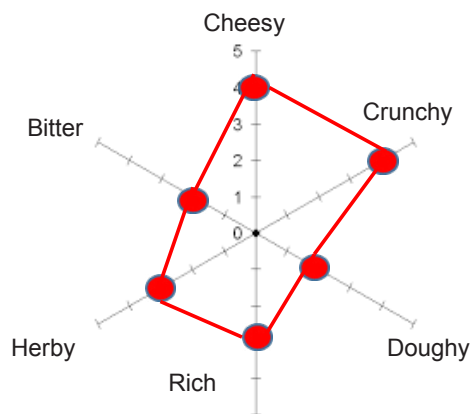


Stretch your vocabulary		
1.1	misrepresentation	the action or offence of giving a false or misleading account of the nature of something
1.2	evolution	the changes in communication
1.3	prejudice	preconceived opinion that is not based on reason or actual experience.
1.4	propaganda	information, especially of a biased or misleading nature, used to promote a political cause or point of view.
1.5	implicit	suggested though not directly expressed.
1.6	subliminal	Messages that affect your mind without you being aware of it.
1.7	phenomenon	a remarkable person or thing.
1.8	manipulated	control or influence (a person or situation) cleverly or unscrupulously.



1. Core Knowledge		
Food Assurance		
1.1	Red Tractor 	The UK's largest food and farm standards scheme. It covers areas such as animal welfare and safety, tractability and environmental protection.
1.2	Lion Eggs 	The UK's most successful food safety mark, introduced to reduce cases of salmonella and food poisoning caused by eggs.
Eat well for less – 8 tips for healthy eating on a budget: 1. Use beans and lentils to make dishes go further. 2. Use dried, canned, frozen and fresh when eating your 5 a day. 3. Eat seasonal fruit and vegetables. 4. Buy dried staple foods like pasta and rice which last a much longer. 5. Try to buy meat on the bone with skin and remove yourself at home. 6. Freeze leftovers rather than throwing food away. 7. Plan meals for the week ahead to avoid waste or food going out of date. 8. Write a shopping list.		
Profiling test (star profile) - a test used to obtain a detailed description of a food product.		

2. Science		
1.1	gelatinisation	The process of gelatinisation occurs when starch granules are heated in a liquid, causing them to swell and burst, which results in the liquid thickening.
1.2	gluten formation	Wheat and other related grains (including barley, and rye) contain a mixture of two proteins glutenin and gliadin . When flour made from grinding these grains is mixed with water the two proteins combine and form gluten.
1.3	denature	The process of destroying the characteristic properties of a protein by heat or acidity, for example, when you fry an egg, the raw egg becomes denatured once it is heated.
1.4	enrichment	The practice of adding micronutrients back to a food product that were lost during processing.
1.5	mechanical raising agent	adding air to a mixture by: whisking creaming sugar and fat sieving
1.6	lamination	The process of folding and rolling butter into dough over and over again to create super-thin layers.
1.7	shortening	A fat, solid at room temperature, which can be used to give foods a crumbly and crisp texture such as pastry. Examples of fat used as "shorteners" include butter, margarine, vegetable oils and lard.
1.8	coagulation	The change in the structure of protein (from a liquid form to solid or a thicker liquid) brought about by heat, mechanical action or acids.



What does this profiling test tell you about the Pizza that was made?



3. Practical Skills		
1.1	bridge	Form a bridge over the ingredient with your hand and put the knife underneath.
1.2	claw	Curl fingers inwards and grip the food with your fingertips, keeping fingers away from the knife.
1.3	creaming	The technique of softening solid fat, like butter, into a smooth mass and then blending it with other ingredients.
1.4	aeration	The process of allowing air to be combined into ingredients to make them lighter and/or create more volume.
1.5	kneading	Movement to stretch the gluten in dough.
1.6	rub in	Coating flour grains in fat using fingertips to make breadcrumbs
1.7	reduction	To simmer a sauce until some of the water in it has evaporated, which intensifies the flavours, thickens the liquid, and causes it to take up less volume
1.8	roux	Flour and fat cooked together and used to thicken sauces

4. Nutrition		
1.1	DRV	Dietary Reference Values
1.2	kilocalorie	a kilocalorie is another word for what is commonly called a calorie. 1,000 calories will be written as 1,000kcal.
1.3	BMR	Basal Metabolic Rate measures the minimum amount of calories that your body needs to perform necessary functions.
1.4	macronutrients	Nutrients that we need in large amounts. Fats, carbohydrates and protein.
1.5	micronutrients	Nutrients that we need in small amounts. Vitamins and minerals.
Nutrition Labels: The traffic light label is colour coded and shows that green is low in a particular nutrient, amber means medium and red is high in a nutrient.		

Where do the foods in your store cupboard at home originate from?



Front-of-pack nutrition information

Nutrition information can also be repeated on the front-of-pack. This nutrition labelling is **voluntary**. If provided, it can display at-a-glance information on the amount of energy only (calories and kilojoules per portion and per 100g/ml), or the amount of energy plus fat, saturates, sugars and salt.

Traffic light labelling
Some manufacturers and most major UK supermarkets use traffic light labelling on pre-packed foods and drinks to show whether a product is **high (red)**, **medium (amber)** or **low (green)** in fat, saturates, sugars and salt.

Nutritional information on labels may also be expressed as a percentage of the **reference intake (RI)**. These are a guide to the maximum amount of **fat, saturates, sugar and salt** that adults should eat each day.

Energy or nutrient	Reference Intake
Energy	8400kJ/2000kcal
Fat	70g
Saturates	20g
Carbohydrate	260g
Sugars	90g
Protein	50g
Salt	6g

Each serving (150g) contains

Energy	3.0g	1.3g	34g	0.9g
1046kJ/250kcal	LOW	LOW	HIGH	MED
	13%	4%	7%	38%

of an adult's reference intake
Typical values (as sold) per 100g: 697kJ/167kcal

Colour coding can be a useful tool to help choose between products - try and go for more greens and ambers, and fewer reds!

RIs are based on requirements for adult females.



For more information about nutrition labels, watch the video using the QR code.



Understand more about food labelling

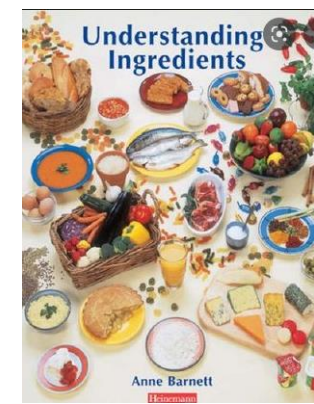
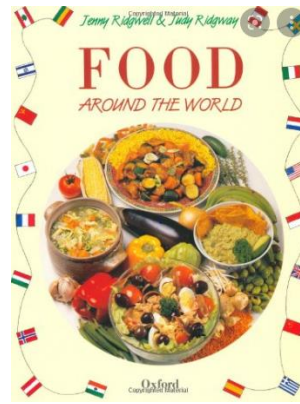
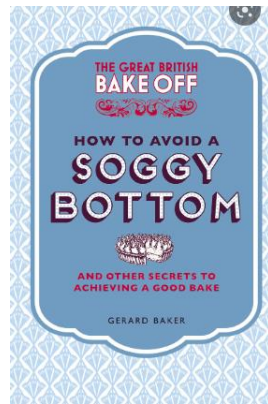


Have a go at creating your own nutrition label for one of the dishes you have cooked this term



BBC documentary about the history of curry

Books to read:



Stretch your vocabulary		
S1	food assurance	In the UK, food assurance schemes help to provide consumers and businesses with guarantees that food has been produced to particular standards.
S2	provenance	Food provenance is the term we use to describe the origins of our food, such as where it has been grown, raised or caught.
S3	fermentation	A process that involves the breakdown of carbohydrates by bacteria and yeast.
S4	conduction	A common example of conduction is the process of heating a pan on a stove. The heat from the burner transfers directly to the surface of the pan.
S5	convection	Convection occurs when particles with a lot of heat energy in a liquid or gas move and take the place of particles with less heat energy. For example the water boiling in a pan.
S6	radiation	The process where heat and light waves strike, and penetrate your food through electromagnetic energy, for example grilling food.



1. Les concours de talents		The talent contest	
Mon/notre talent, c'est..		My/our talent is...	
chanter		singing	
danser		dancing	
faire de la magie		doing magic	
jouer du piano/violon		playing the piano/violin	
jouer de la guitare (électrique)		playing the (electric) guitar	
Je veux être...		I want to be...	
chanteur/chanteuse		a singer	
danseur/danseuse		a dancer	
guitariste		a guitar player	
musicien/musicienne		a musician	
magicien/magicienne		a magician	
Je veux gagner le concours.		I want to win the contest.	
J'ai déjà gagné un concours.		I've already won a contest.	
un candidat/une candidate		a contestant	
célèbre		famous	
une célébrité		a celebrity	
une vedette		a (TV/film/music) star	
participer (au concours)		to take part (in the contest)	

3. Instructions et conseils		Instructions and advice	
Chante plus fort!		Sing louder!	
Enlève ton blouson!		Take off your jacket!	
Éteins ton portable!		Switch off your mobile phone!	
Fais plus d'efforts!		Make more effort!	

2. Se préparer pour le concours		Getting ready for the contest	
Je/Tu dois...		I/You must...	
remplir la fiche d'inscription		fill in the application form	
participer au concours		take part in the contest	
faire un clip vidéo		make a video clip	
répéter tous les jours		rehearse every day	
aller à l'audition		go to the audition	
avoir confiance en moi/toi		be confident	
Je/Tu peux.../On peut...		I/You can.../We can...	
répéter chez moi/toi		rehearse at my/your place	
faire du babysitting		babysit	
Je ne peux pas.		I can't.	
Si, tu peux!		Yes, you can!	
Je vais t'aider.		I'll help you.	
Je dois faire mes devoirs./J'ai trop de devoirs.		I must do my homework./I've got too much homework.	
Je n'ai pas de caméra.		I don't have a camcorder.	

3. Instructions et conseils		Instructions and advice	
Jette ton chewing-gum!		Throw away your chewing gum!	
Regarde la caméra!		Look at the camera!	
Souris!		Smile!	
Réveille-toi!		Wake up!	
Ne fais pas ça!		Don't do that!	
N'oublie pas ta casquette!		Don't forget your cap!	
Change ton attitude!		Change your attitude!	



4. Qui est le meilleur? Who's the best?	
Je pense que/qu'...	I think that...
Il/Elle est...	He/She is...
le/la plus...	the most...
le/la moins...	the least...
ambitieux/ambitieuse	ambitious
arrogant(e)	arrogant
beau/belle	good-looking
modeste	modest
passionné(e)	passionate
professionnel(le)	professional
sûr de lui/sûre d'elle	confident
travailleur/travailleuse	hard-working
le meilleur/la meilleure	the best
Il/Elle a...	He/She has...
le plus de talent	the most talent
la plus belle voix	the nicest voice
Il/Elle a chanté faux/juste.	He/She sang off key/in tune

5. Les rêves et les ambitions Dreams and ambitions	
J'aime gagner.	I like winning.
Je dois gagner.	I must win.
Je peux gagner.	I can win.
Je veux gagner.	I want to win.
Je voudrais gagner.	I'd like to win.
Je vais gagner.	I'm going to win.
le gagnant/la gagnante	the winner
un jour	one day
content(e)	happy

7. vouloir – to want	
je veux	I want
tu veux	you want (singular, informal)
il/elle/on veut	he/she wants/we want
nous voulons	we want
vous voulez	you want (plural, formal)
ils/elles veulent	they want

6. Key words	
déjà	already
si	if
si	yes (when contradicting someone)
Tu as raison.	You're right.
Tu as tort.	You're wrong.
D'accord?	OK?
plus	more
moins	less
À mon avis...	In my opinion...
Pour moi,...	For me,...

8. devoir – to have to/must	
je dois	I must
tu dois	you must (singular, informal)
il/elle/on doit	he/she/we must
nous devons	we must
vous devez	you must (plural, formal)
ils/elles doivent	they must

9. pouvoir – to be able	
je peux	I can/am able
tu peux	you can/are able (singular, informal)
il/elle/on peut	he/she can/is able; we can/are able
nous pouvons	we can/are able
vous pouvez	you can/are able (plural, formal)
ils/elles peuvent	they can/are able

Knowledge Builder: French

Click on the following links to practice grammar



Modal verbs



How to use the infinitive



1. Giving an opinion	
j'adore	I love
j'aime	I like
je n'aime pas	I don't like
j'aime assez	I quite like
j'aime vraiment	I really like
je préfère	I prefer
je déteste	I hate
je crois que	I believe that
je pense que	I think that
je trouve que	I find that
à mon avis	in my opinion
selon moi	in my opinion
d'après moi	in my opinion
je trouve ça	I find it
je suis d'accord	I agree
je ne suis pas d'accord	I don't agree

2. Adjectives	
drôle/marrant	funny
rigolo(te)	funny
amusant(e)	fun
passionant(e)	exciting
ennuyeux/ennuyeuse barbant/barbant(e)	boring
effrayant(e)	scary
pénible	annoying
casse-pieds	annoying
gentil(le)	nice/kind
sympa	nice
intelligent(e)	intelligent
formidable	great
affreux/affreuse	awful

3. Frequency words	
normalement	normally
en général	in general
généralement	generally
d'habitude	usually
toujours	always
tout le temps	all the time
de temps en temps	from time to time
souvent	often
parfois/quelquefois	sometimes
rarement	rarely

4. Intensifiers	
vraiment	really
très	very
assez	quite
trop	too
un peu	a bit
beaucoup	a lot

5. Connectives	
et	and
cependant	however
néanmoins	however
par contre	however
aussi	also
même si	even if
car	because
parce que	because
donc	therefore
mais	but
ou	or



6. Key verbs in the present tense	
ALLER	TO GO
je vais	I am going/I go
tu vas	you are going/you go
il/elle/on va	he/she is going/goes/we are going/go
ÊTRE	TO BE
je suis	I am
tu es	you are
il/elle/on est	he/she is/we are
AVOIR	TO HAVE
j'ai	I have
tu as	you have
il/elle/on a	he/she has/we have
FAIRE	TO DO
je fais	I do
tu fais	you do
il/elle/on fait	he/she does/we do

7. Using the past tense	
hier	yesterday
le weekend dernier	last weekend
la semaine dernière	last week
je suis allé(e)	I went
nous sommes allé(e)s	we went
j' ai visité	I visited
j' ai regardé	I watched
j' ai joué	I played
c' était...	it was...

8. Using the future tense	
ce weekend	this weekend
le weekend prochain	next weekend
la semaine prochaine	next week
cet été	this summer
je vais aller	I'm going to go
je vais visiter	I'm going to visit
je vais regarder	I'm going to watch
ça va être ...	it's going to be...
ce sera...	it will be...

9. Sequencers and time phrases	
d'abord	first of all
avant	before
après	after
puis	then
ensuite	next
finalement	finally
aujourd'hui	today
le matin	in the morning
l'après-midi	in the afternoon
le soir	in the evening



1. Describing Populations		
1.1	population density	The number of people living in an area (usually 1 square kilometre).
1.2	population distribution	The pattern of where people live or how they are spread out within a country.
1.3	sparsely populated	An area that has few people living in it. For example, Scottish Highlands.
1.4	densely populated	An area that is crowded with people. For example, Western Europe.
1.5	birth rate	The number of live births in a year for every 1000 people in the total population.
1.6	death rate	The number of people in every 1000 who die in a year.
1.7	life expectancy	The age to which an average person can be expected to live to.
1.8	natural increase	A population change that occurs when the number of births is larger than the number of deaths.
1.9	infant mortality	The rate of death during the first year of life as the number of deaths per 1,000 live births.

2. People on the move		
2.1	migration	The movement of people from one area to another.
2.2	asylum seeker	People who are applying for refugee status.
2.3	immigrant	A person who moves into a new country to live permanently.
2.4	refugee	People fleeing danger or persecution in their own country.
2.5	push factor	Negative reasons which force a person to move. E.g. drought, famine, lack of jobs, over population and civil war.
2.6	pull factor	Positive reasons which encourage a person to move. E.g., chance of a better job, better education, a better standard of living

3. Settlements		
3.1	urban	Relating to a town or city.
3.2	rural	Relating to the countryside.
3.3	urban sprawl	The spreading of towns into the countryside.
3.4	sustainable settlements	Towns or cities that seek to minimise their impact on the environment.
3.5	greenfield site	A site which has never been built on before.
3.6	CBD	Central Business District. The central area of a city with the highest land values used mainly for retail and commercial purposes.
3.7	inner city	Zone of city between CBD and suburbs. Usually associated with most of the problems and social issues.

4. Countries		
4.1	development	Relating to improvement in the lives of people in different countries.
4.2	LIC	Low Income Country. Less wealthy and less developed countries.
4.3	HIC	High Income Country. More wealthy and more developed countries.
4.4	NEE	Newly Emerging Economy. Countries that have begun to experience high rates of economic development and growth.
4.5	informal settlement	A settlement built on land that is not owned with whatever resources are available. Also known as a shanty town or slum.



Want to see the population changing? Head over to the World-ometer



Almost 8 billion people live on our planet today. The world population is growing every day. More interesting facts here.



Hans Rosling talks about population at Ted-Ex

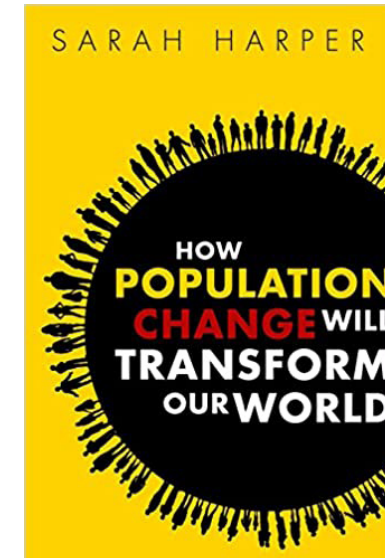
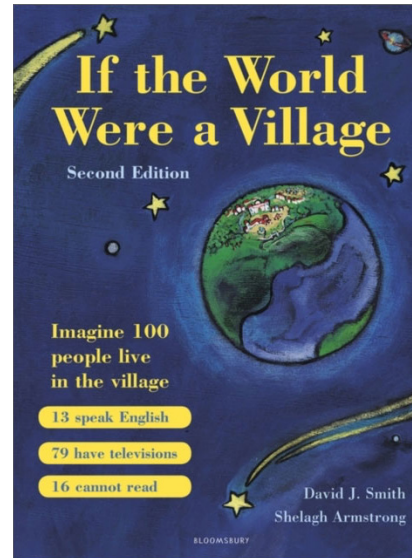


If the world was a village.....



Geography in the news

Books to read:



Stretch your vocabulary		
a.1	demography	The study of populations.
a.2	demographics	Statistics that describe populations and their characteristics.





1.0 Mein letzter Urlaub	My last holiday
<p>Letztes Jahr bin ich nach Griechenland gefahren. Griechenland gefällt mir, denn es ist sonnig. Ich bin geflogen und ich bin zwei Wochen geblieben Ich habe bei einer Gastfamilie gewohnt. Das hat mir gefallen, weil es lustig war. Ich habe Volleyball gespielt und ich bin in die Disco gegangen. Das Wetter war warm aber windig.</p>	<p>Last year I travelled to Greece. I like Greece because it is sunny. I flew and I stayed for two weeks. I stayed with a host family. I liked it because it was fun. I played volleyball and I went to the disco. The weather was warm but windy.</p>

1.1 In der Stadt	In town
der Bahnhof	station
der Flughafen	airport
der Fluss	river
der Park	park
die Bushaltestelle	bus stop
die Imbissbude	snack bar
die Kirche	church
das Geschäft	shop
das Hotel	hotel
das Kino	cinema
das Museum	museum

1.2 Was gibt es in der Stadt?	What is there in your town?
Es gibt einen Busbahnhof (m)	There is a bus station
Es gibt eine Moschee (f)	There is a mosque
Es gibt ein Restaurant (n)	There is a restaurant
Es gibt Geschäfte (pl)	There are shops

1.3 Was kann man dort machen?	What can you do there?
Man kann (dort) ins Kino gehen	You can go to the cinema (there)
Man kann im Fluss schwimmen	You can swim in the river
Man kann das Museum besuchen	You can visit the museum
Man kann den Dom sehen	You can see the cathedral

1.4 Wie komme ich am besten zum/zur...	What's the best way to the...?
Wie komme ich am besten zum Bahnhof? (m)	What's the best way to the station?
Wie komme ich am besten zum Hotel? (n)	What's the best way to the hotel?
Wie komme ich am besten zur Post? (f)	What's the best way to the post office?
Es ist auf der linken Seite	It's on the left-hand side
Es ist auf der rechten Seite	It's on the right-hand side
Fahren Sie mit dem Bus Nummer...	Take bus number...
Gehen Sie geradeaus	Go straight on...
Gehen Sie rechts/links	Go right/left
Nehmen Sie...	Take...
...die erste/zweite/dritte Straße links/rechts	...the first/second/third road on the left/right



Logo provides access to a wide range of listening and reading resources. You can watch the last seven days of news bulletins and read about anything that takes your interest.



2.0 Wo wohnst du?	Where do you live?
Ich wohne in einem/einer	I live in a...
das Doppelhaus	(the) semi-detached house
das Einfamilienhaus	detached house
das Reihenhhaus	terraced house
das Hausboot	houseboat
das Schloss	castle
das Wohnmobil	campervan
der Wohnblock	block of flats
die Wohnung	flat
am See	on/by a lake
am Stadtrand	on the outskirts of town
an der Küste	on the coast
auf dem Land	in the countryside
in den Bergen	in the mountains
in der Stadt	in the town
in einem Dorf	in a village

2.1 Die Zimmer	rooms
das Wohnzimmer	living room
das Schlafzimmer	bedroom
das Esszimmer	dining room
das Badezimmer	bathroom
der Keller	cellar
der Garten	garden
die Küche	kitchen
im Erdgeschoß	on the ground floor
im ersten/zweiten Stock	on the first/second floor

3.0 Präpositionen	prepositions
an	on (the wall)/at
auf	on (top of)
hinter	behind
in	in
über	over/above
unter	under
neben	next to
vor	in front of
zwischen	between

2.2 Mein Zimmer	My room
In meinem Zimmer gibt es...	In my room there is
ein Bett	(the) bed
ein Regal	shelf
einen Computer	computer
einen Fernseher	TV
einen Kleiderschrank	wardrobe
einen Schreibtisch	desk
einen Sessel/Stuhl	armchair/chair
einen Teppich	carpet
eine Kommode	chest of drawers
eine Lampe	light/lamp
eine Lichterkette	fairy lights

2.3 Mein zukünftiges Zuhause	My future home
Ich werde in einem/einer...wohnen	I will live in a ...
Meine Wohnung/Mein Haus wird...sein	My flat/house will be...
charmant	charming
schön möbliert	beautifully furnished
Das wird (viel) Spaß machen	It will be (a lot of) fun
Es wird (viele Zimmer) geben	It will have (a lot of rooms)
Es wird (echt) toll sein	It will be (really) great
Ich werde (viele Tiere) haben	I will have (a lot of pets)

Knowledge builder: Watch or read the new on 

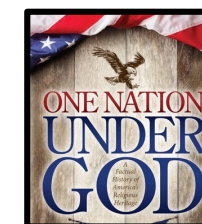
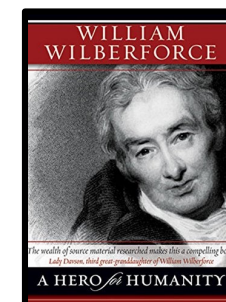
Logo provides access to a wide range of listening and reading resources. You can watch the last seven days of news bulletins and read about anything that takes your interest.



1. Core knowledge: Substantive (what happened in the past)		
1.1	American identity	How the USA sees itself as having religious, economic, and political freedoms.
1.2	colony	Part of an empire, where resources are mined or farmed. Indigenous peoples are often forced to work for the empire. The colony produces something valuable to the empire.
1.3	religious mission	When groups of people from Europe with a strong faith escape to America trying to set up a perfect society for themselves, and to please their God.
1.4	economic mission	When groups of people from Europe with a strong desire to make money transport others to America to work for them.
1.5	political mission	When colonies have a strong belief that they should have more rights, and they choose to fight for them.
1.6	Great Man Theory	An idea from the 1840s that great leaders are born with exceptional character.

2. Core knowledge: Disciplinary (how historians think)		
2.1	Change	When something starts happening, stops happening, happens more, or happens differently.
2.2	Continuity	When something carries on happening. People allow it or encourage it to carry on happening.
2.3	Historiography	How stories about the same event or person in the past have changed over time.

3. This Term's Enquiry Questions	
1607 CE – 1865 CE	How did the USA's identity develop between 1607 and 1865?
1807 CE – 1876 CE	How far do Salt and Wilberforce owe their reputations to Great Man Theory?
1821 CE – 1957 CE	What does the Asante's Golden Stool reveal about British intervention in Africa?



1600 1650 1700 1750 1800 1850 1900 1950



How did the USA's identity develop between 1607 and 1865?

How far do Salt and Wilberforce owe their reputations to Great Man Theory?

What does the Asante's Golden Stool reveal about British intervention in Africa?



BITESIZE

BBC Bitesize KS3 History courses to extend your learning
Precolonial Africa
What was precolonial Africa like?
The abolition of the slave trade in Britain

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iPLAYER



BBC iPlayer programme to extend your learning
Horrible Histories: Mayflower Malarkey



You're Dead to Me (podcast). Series 3 ends with 5 episodes about the USA's history. Check out the 'radio edits' to avoid bad language.



Timelines.tv YouTube videos to extend your learning
Iron and Industry, 1700-1781
Atlantic trade, 1761
Factories and machine, 1785
The vision of Titus Salt, 1853
The Scramble for Africa, 1873-1900



Gli sport/ I passatempi Sports/hobbies	
gioco a calcio	I play football
gioco a tennis	I play tennis
gioco a pallavolo	I play volleyball
gioco a rugby	I play rugby
faccio il ciclismo	I go cycling
faccio la danza	I go dancing
faccio il tiro con l'arco	I do archery
faccio la vela	I go sailing
faccio l'arrampicata	I go climbing
faccio l'atletica	I do athletics

Il fine settimana At the weekend	
guardo un film giallo	I watch a thriller
ascolto la musica	I listen to music
telefono ai nonni	I phone my grandparents
esco con gli amici	I go out with friends
vado al cinema	I go to the cinema
gioco ai videogiochi	I play videogames
faccio i compiti	I do my homework
mangio una pizza	I eat a pizza
cosa fai il fine settimana?	what do you do at the weekend?
a cosa giochi?	what are you playing at?
cosa mangi?	what are you eating?
dove vai?	where are you going?

Photo task	Q1 GCSE Writing
in questa foto/nella foto	in this photograph
c'è	there is
una donna	a woman
un uomo	a man
ci sono	there are
due persone	two people
mangia	s/he is eating
mangiano	they are eating
parla	s/he is talking
parlano	they are talking
gioca	s/he is playing
giocano	they are playing
sembra felice	s/he looks happy
sembrano felici	they look happy
fa bel tempo	It's nice weather
fa brutto tempo	It's bad weather
fa caldo	It's hot
fa freddo	It's cold

Espressioni di tempo passato Past tense time phrases	
ieri	yesterday
ieri l'altro	the day before yesterday
il weekend scorso	last weekend
la settimana scorsa	last week
il mese scorso	last month
l'anno scorso	last year
due settimane fa	two weeks ago
due mesi fa	two months ago

Il weekend scorso Last weekend	
ho guardato un film giallo	I watched a thriller
ho ascoltato la musica	I listened to music
ho telefonato ai nonni	I phoned my grandparents
ho giocato a calcio	I played football
ho mangiato una pizza	I ate a pizza
ho bevuto una coca-cola	I drank a coke
ho fatto i compiti	I did my homework
sono andato/a al cinema	I went to the cinema
sono uscito/a con gli amici	I went out with friends





Jobs YouTube video!

Note down 10 common jobs in Italy.
Write both English and Italian in your vocab book.



Looking for some ...
challenging vocab practice!

Head to Student Resources
Italian yr 8 Quizlet Summer 2

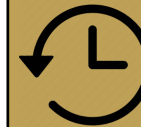
Interactive reading!

Complete this interactive
reading exercise to practise
jobs and family vocabulary.



Past tense practice!

Here is a challenging exercise
to practise your past tense.



WOW connectives!

Looking to sound like a true Italian?
Note down 10 connectives Italians use
all the time.





I lavori	Jobs
sono	I am
mia madre è	my mother is
mio padre è	my father is
postino/a	postman/woman
cuoco/a	chef
cameriere/a	waiter/waitress
parrucchiere/a	hairdresser
dottore/essa	doctor
infermiere/a	nurse
architetto/a	architect
insegnante	teacher
banchiere/a	banker
pompieri	fire fighter
impiegato/a	employee

Opinioni complesse	Complex opinions
mi piace	I like
il mio lavoro	my job
gli piace	he likes
le piace	she likes
il suo lavoro	his/her job
perché è	because it is
entusiasmante	exciting
rilassante	relaxing
tranquillo	calm/ quiet
energizzante	energizing
perché paga bene	because it pays well
noioso	boring
rischioso	risky
stancante	tiring
ripetitivo	repetitive
perché non paga bene	because it doesn't pay well

Connettivi e paragoni	Connectives and comparisons
e	and
ma	but
anche	also
invece	instead
infatti	indeed
allo stesso tempo	at the same time
al contrario	on the contrary
però	however
inoltre	moreover ...
è più	it is more
è meno	it is less
faticoso	tiring
difficile	difficile
impegnativo	challenging

Domande sul lavoro	Workplace questions
che lavoro fai?	what job do you do?
che lavoro fa tua madre/tuo padre?	what job does your mother/father do?
dove lavori?	where do you work?
dove lavora?	where does he/she work?
ti piace il tuo lavoro?	Do you like your job?
gli/le piace il suo lavoro?	does he/she like his/her job?

Il passato prossimo	Past tense
ho lavorato	i worked
ho cominciato alle ...	i started at ...
ho finito alle ...	i finished at ...
era	it was
mi sono piaciuto	i enjoyed it

Posti di lavoro	Workplaces
lavoro in	I work in
lavora in	s/he works in
un ufficio	an office
un ristorante	a restaurant
un salone di bellezza	a beauty salon
un ospedale	a hospital
una scuola	a school
per una compagnia	for a company





Jobs YouTube video!

Note down 10 common jobs in Italy. Write both English and Italian in your vocab book.



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Italian yr 8 Quizlet Summer 2

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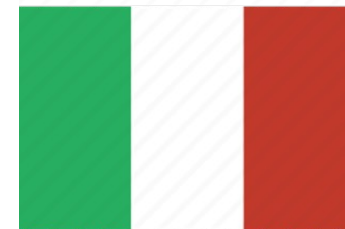
Past tense practice!

Here is a challenging exercise to practise your past tense.



WOW connectives!

Looking to sound like a true Italian? Note down 10 connectives Italians use all the time.





Complete present tense		
1.1	1st person singular (I)	-o
1.2	2nd person singular (you)	-s
1.3	3rd person singular (s/he/it)	-t
1.4	1st person plural (we)	-mus
1.5	2nd person plural (you lot)	-tis
1.6	3rd person plural (they)	-nt

Complete perfect tense		
3.1	1st person singular (I)	-i
3.2	2nd person singular (you)	-isti
3.3	3rd person singular (s/he/it)	-it
3.4	1st person plural (we)	-imus
3.5	2nd person plural (you lot)	-istis
3.6	3rd person plural (they)	-erunt



Stage 11 vocabulary

Complete Imperfect tense		
2.1	1st person singular (I)	-bam
2.2	2nd person singular (you)	-bas
2.3	3rd person singular (s/he/it)	-bat
2.4	1st person plural (we)	-bamus
2.5	2nd person plural (you lot)	-batis
2.6	3rd person plural (they)	-bant



Stage 12 vocabulary

Read about the destruction and evacuation of Pompeii.





Key terms		
1.1	superlative	A form of adjective that expresses something being 'very' or the 'most'. e.g. The gladiator is very famous . gladiator est notissimus .
1.2	comparative	A form of adjective that is used to compare two things or groups, with each other. e.g. We Romans are cleverer than you Greeks. nos Romani sumus callidiores quam vos Graeci.
1.3	dative	A noun case that expresses 'to' or 'for'. e.g. The master gave a sign to the slave . dominus servo signum dedit.

Dative case – expressing 'to' or 'for'			
		singular	plural
3.1	1st declension	-ae	-is
3.2	2nd declension	-o	-is
3.3	3rd declension	-i	-ibus

Verbs that take the dative		
4.1	credo	I believe, I trust
4.2	faveo	I support
4.3	promitto	I promise
4.4	placet	It is pleasing

Superlative and comparative adjectives		
2.1	Superlative adjectives can be identified by 'issi' in the middle of the word. This is then followed by a noun ending that agrees with the noun it is describing.	-issimus -issima
2.2	Comparative adjectives can be identified by 'ior' at the end of the word. This may also be followed by 'es' if describing something plural.	-ior -iores

Accusative plural		
5.1	1st declension	-as
5.2	2nd declension	-os
5.3	3rd declension	-es

Stage 8 vocabulary



Stage 9 vocabulary



Stage 10 vocabulary



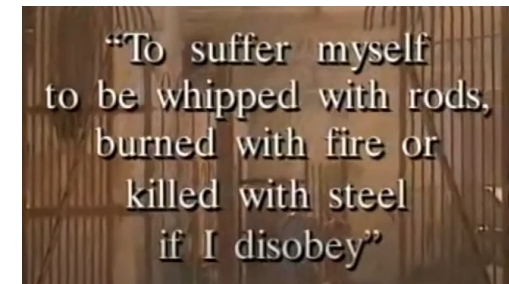


Read about the Baths at Pompeii.

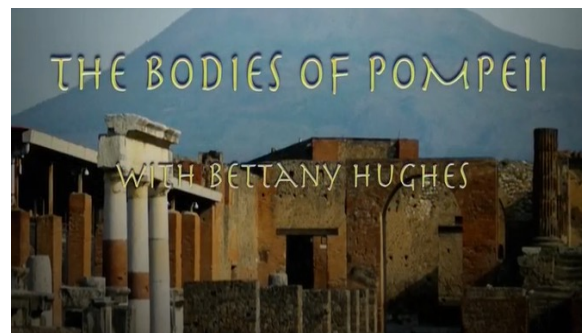


Read about the Roman school system.

Watch the video about Roman gladiators.



Watch the 'Bodies of Pompeii' documentary with Bettany Hughes.



Stage 11 Vocabulary

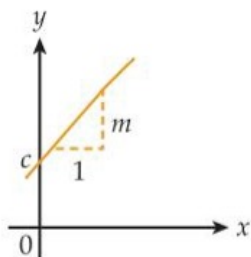


By the end of this module you should be able to:-

- Substitute values into an equation or formula
- Work with and identify the key features of a linear graph in the form $y = mx + c$
- Find the midpoint of 2 coordinates
- Switch between explicit and implicit equations
- Recognize the gradient of parallel and perpendicular lines
- Plot curved graphs

Important things to remember

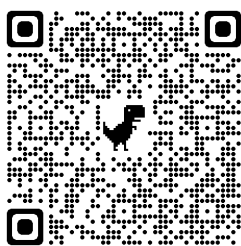
The graph of the equation $y = mx + c$ is a straight line with a gradient of m and a y intercept of c



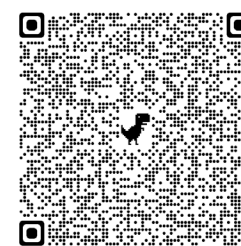
Language	Meaning	Example
Formula	A rule connecting different quantities. You can write a formula in words or symbols	Length = Width plus three $L = W + 3$
Linear function	A function whose graph is always a straight line	$y = mx + c$
Gradient	The slope of a line	If $y = mx + c$ Then m is the gradient
Intercept	Where a line touches the x -axis or y -axis	If $y = mx + c$ Then c is the y -axis intercept
Midpoint	The point that lies half-way between its 2 endpoints	The midpoint of the line joining $(1,4)$ and $(7,8)$ is $(4,6)$
Line segment	A line between 2 set points	The line between $(1,4)$ and $(7,8)$ is a line segment
Parabola	The shape you get if you plot a quadratic function	$y = x^2$
Explicit function	An equation where y is the subject	$y = 2x + 1$ $y = mx + c$ $y = 3x^2$
Implicit function	An equation where y is not the subject	$2y + 3x = 5$ $y - c = mx$ $y = x + y^2$



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Year 8 Mathematics Curriculum Overview and Revision Support



Links, Lessons and Practice Questions for this topic

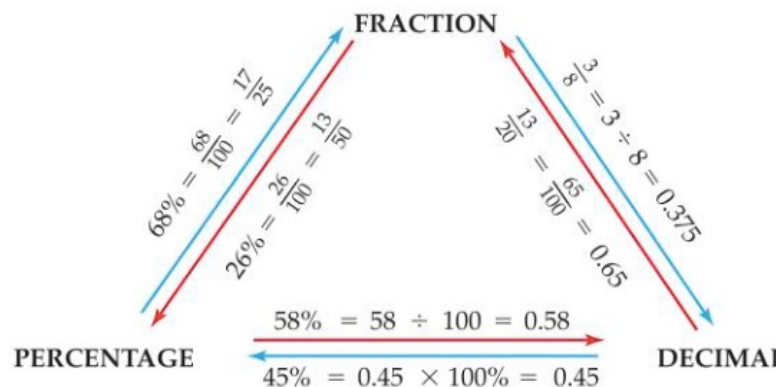


By the end of this module you should be able to:-

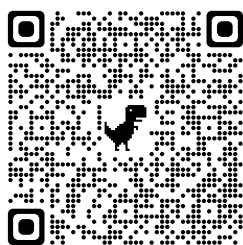
- Change between fractions, decimals and percent
- Find percentage of amounts
- Find percentage increase
- Find percentage decrease
- Use a multiplier and calculator to find percentage increase and decrease

Language	Meaning	Example
Percentage	A number which means 'out of' 100	85% means $\frac{85}{100}$
Percentage Increase / Decrease	Changes expressed as fractions out of 100	$35\% = \frac{35}{100} = 0.35$
Percentage Change	The percentage increase or decrease that changes an original amount to a new amount	A car that cost £25,000 is now worth £15,000. This is a percentage reduction of 25%
Equivalent decimal	The decimal number that equals a given percentage	The decimal equivalent of 17.5% is 0.175
Decimal Multiplier	The number you multiply by to calculate a percentage change	To increase by 25% you multiply by 1.25 To decrease by 25% you multiply by 0.75

F	D	P
$\frac{1}{2}$	0.5	50%
$\frac{1}{3}$	0.333...	33.333...
$\frac{1}{4}$	0.25	25%
$\frac{1}{5}$	0.2	20%



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Year 8 Mathematics Curriculum Overview and Revision Support



Links, Lessons and Practice Questions for this topic



By the end of this module you should be able to:-

- ❑ Translate a 2D shape and describe the transformation
- ❑ Reflect a 2D shape and describe the reflection
- ❑ Rotate a 2D shape through 90° and 180° and describe the rotation
- ❑ Enlarge a 2D shape using a given centre of enlargement

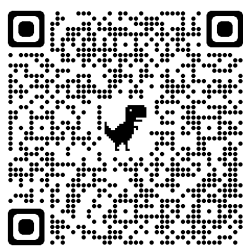
Important things to remember:-

- 1) Don't say 'mirrored' say **reflected**. Provide the equation of the line of reflection
- 2) Don't say 'turned' say **rotated** and provide the angle, direction and centre of rotation
- 3) Don't say 'moved' say **translated** and provide the vector

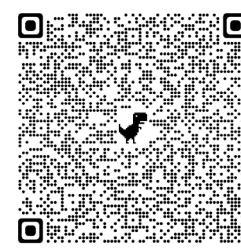
Language	Meaning	Example
Object	The 2D shape to be transformed	
Image	The 2D shape after the transformation	
Vertex	A corner of a 2D shape	A square has 4 vertices
Transformation	A change in the position or size of a shape that follows set rules	Reflections, rotation, translations and enlargements are all transformations
Translation	The object is slid across the plane using a vector	<p>A translation of 2 right 1 down $\begin{pmatrix} 2 \\ -1 \end{pmatrix}$</p> <p>A reflection in the line $x = 2$</p>
Reflection	The object is flipped over a given mirror line	
Rotation	The object is turned through a given angle and direction about a fixed point	<p>An anticlockwise rotation of 90° about (3, 3)</p> <p>Enlargement scale of factor 2</p>
Enlargement	A transformation that can change the size of the image	
Centre of enlargement	Point used to set the position of the image in an enlargement	
Scale (factor)	The number of times lengths are enlarged	



Link to Kings' Maths Resources



Year 8 Mathematics Curriculum Overview and Revision Support



Links, Lessons and Practice Questions for this topic



By the end of this module you should be able to:-

- Simplify expressions
- Solve multi-step equations
- Solve simple inequalities
- Recognise identities
- Work with formulae
- Rearrange formulae
- Change the subject of a formula

Important things to remember

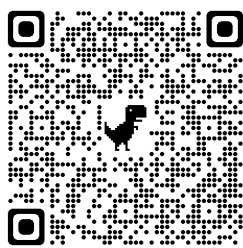
Whatever you do to one side of the equation you do to the other!

The inverse of + is –
 The inverse of × is ÷
 The inverse of ² (square) is √ (square root)

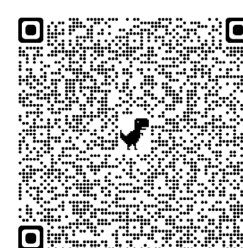
Language	Meaning	Example
Expression	Made from numbers, letters and operations, but not including an equals sign	$2a + 3b$
Term	Part of an expression between plus or minus signs	In the example above, $2a$ and $3b$ are terms
Equation	An algebraic statement which has particular solutions	$4x - 7 = 5$ has only one solution $x = 3$
Inequality	An inequality is where one side is greater than the other	$7 < 8$ is the same as $8 > 7$
Identity	An algebraic statement which is true for all solutions	$2(x+4) = 2x + 8$ For every possible value of x
Formula	An algebraic statement that connects things (plural formulae)	Area of a circle $A = \pi r^2$
Derive	Construct a formula from information given	The cost C pence of n chocolate bars each costing $35p$ is $C = 35n$
Substitute	Replace variables with numerical values	Substitute $a = 4$ in $a^2 - 2a$ gives $16 - 8 = 8$
Solve	To solve an equation means to find the value of the unknown	Solve $2x - 5 = 13$ $2x = 18$ $x = 9$
Change the Subject	Rearrange a formula so that a different 'variable' is on its own	$v = \frac{b^2}{k}c$ rearranged to make b the subject gives $b = \sqrt{vk}$



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Year 8 Mathematics Curriculum Overview and Revision Support



Links, Lessons and Practice Questions for this topic



Year 8 focus on *musical devices*.

1. Elements of Music		
1.1	Pitch	The position of a single sound in the complete range of sound. <i>High / low</i>
1.2	Tempo	The pace of the music. <i>Fast / Slow</i>
1.3	Texture	Describes how layers of sound within a piece of music interact. <i>Thick / thin</i>
1.4	Timbre	The quality of tone distinctive of a particular voice or instrument. <i>Example: bright, mellow</i>
1.5	Dynamics	The variation in loudness between notes or phrases. <i>Loud / Soft (piano, forte, crescendo, diminuendo)</i>
1.6	Duration	The length of a note or series of notes. <i>Long / Short</i>
1.7	Silence	No noise.
1.8	Melody	Melody is a succession of pitches in rhythm.
1.9	Rhythm	A rhythm is a pattern of sounds of different lengths.

3. Note lengths			
ITEM	NOTE	REST	VALUE (number of beats)
Whole note/rest			4
Half note/rest			2
Quarter note/rest			1
Eighth note/rest			1/2
Sixteenth note/rest			1/4

2. Notes on the keyboard

The diagram shows a piano keyboard with white keys labeled C, D, E, F, G, A, B and black keys labeled with their letter names and accidentals: D^b, E^b, C[#], D[#], G^b, A^b, B^b, F[#], G[#], A[#].

4. Notes on the Stave

The diagram shows a treble clef with a red arrow pointing to it labeled "Treble Clef". Below the staff are the notes E, F, G, A, B, C, D, E, F. Below this, two examples are shown: "Line Notes" (E, G, B, D, F) and "Space Notes" (F, A, C, E).



Year 8 focuses on *musical devices & compositional processes*.

5. Folk Music – key vocabulary		
5.1	A capella	Without instrumental accompaniment.
5.2	Oral tradition	Songs are passed down orally between generations, rather than written down onto sheet music.
5.3	Ionian Mode	A scale made up of all the white keys from C to C.
5.4	Aeolian Mode	A scale made up of all the white keys from A to A.
5.5	Phrygian Mode	A scale made up of all the white keys from E to E.
5.6	Cecil Sharp	Once described as the man who rescued English folk song, Cecil James Sharp (1859-1924) was known mainly for his folk song and dance collecting.

7. Film Music – compositional devices & techniques		
7.1	Leitmotif	A short, recurring musical phrase associated with a particular person, place, or idea.
7.2	Theme	A recognizable element of a song that is repeated and developed over time.
7.3	Incidental Music	Music used in a film or play as a background to create or enhance a particular atmosphere.
7.4	Consonance	A pleasant combination of notes
7.5	Dissonance	An unpleasant combination of notes that sound discordant
7.6	Sforzando	Suddenly loud (score marking – <i>sfz</i>)
7,7	Glissando	A slide of notes

6. Folk Music – Instrumentation	
6.1	Concertina
6.2	Northumbrian Pipes
6.3	Acoustic Guitar
6.4	Bodhran Drum
6.5	Fiddle
6.6	Penny Whistle
6.7	Flute
6.8	Voice

8. Famous Film Composers		
8.1	Hans Zimmer	Hans Zimmer is a German film score composer and music producer. He has won two Oscars and four Grammys. Some of the notable films he composed the music for include The Lion King, Gladiator and Pirates of the Caribbean
8.2	John Williams	John Williams is an American composer, conductor and pianist. In a career that has spanned seven decades, he has composed some of the most popular, recognizable and critically acclaimed film scores like E.T., Jaws, Harry Potter, Jurassic Park and Star Wars .
8.3	Danny Elfman	Danny Elfman is an American film composer, singer and songwriter. His most notable compositions include The Simpsons Theme, The Nightmare Before Christmas and Beetlejuice

9. Compositional Processes		
9.1	Compositional Process	Begin with a simple and memorable leitmotif. Compose narratively. Choose your sounds (instruments) based on the emotions the scene is trying to convey.



FOLK MUSIC

Watch



Cecil Sharp documentary



Read



BBC Bitesize – Contemporary British folk music



Listen



Playlist: 500 greatest folk songs



TASK: In Bandlab: Compose a simple modal folk melody and add appropriate harmony.

FILM MUSIC

Watch



Hans Zimmer discusses his approaches to composing for film



Watch



Short documentary about how film music has evolved



Read



BBC Bitesize – Composing music for film



TASK: On a piece of A4 paper: choose two contrasting emotions or feelings and provide a short plan of the musical elements and instruments that could be used to convey these musically



1. Parliament and Government		
1.1	Government	This is formed by the party which wins the most seats in a general election, the government runs the country and is consists of the Prime Minister, the Cabinet and junior ministers, supported by civil servants.
1.2	Parliament	Parliament is made up of the House of Commons, the House of Lords and the Monarch. The Government cannot make new laws or raise taxes without Parliament’s agreement.
1.3	Democracy	Democracy means 'rule by the people'. In the UK this means the Government is elected through voting by the adult population in a General Election.
1.4	House of Commons	This is where the elected Members of Parliament (MP’s) work. They belong to a variety of political parties.
1.5	House of Lords	The members who sit in this chamber are mostly appointed for life rather than elected. Many have been chosen because of their achievements and experience and many do not belong to a political party.
1.6	Prime Minister (PM)	Usually the leader of the party which gained the most votes in the General Election. This person is in charge of the Government and is elected by the Party not the population of the country.
1.7	Cabinet	This is the senior decision-making body of His Majesty's Government. A committee of the Privy Council, it is chaired by the PM and its members include secretaries of state and other senior ministers.
1.8	Minister	A Minister is someone who takes charge of a Government department, for example, the Minister for Education runs the department for Education and is responsible for schools, colleges, teaching staff, pupils and other related educational issues.
1.9	Opposition	This is usually the political party with the second-largest number of seats in the House of Commons. The Leader of the Opposition takes the lead role in questioning the PM in Parliament.
1.10	MP (Member of Parliament)	This person has been elected to represent the population in a specific area of the country called a constituency.
1.11	General Election	A countrywide election held every five years to elect MPs to the House of Commons.

2. Questions about Our Parliament	
2.1	What is the role of an MP?
<p>There are 650 elected Members of Parliament (MPs) They have all been elected to represent a part of the country known as a constituency. People who want to be MPs will have to campaign in their local area to try to gain votes. MPs have two major roles: 1 –Representing constituents in their local constituency by listening to their problems and trying to make the local area better. 2 –Working on UK law and policy in the House of Commons.</p>	
2.2	Where and what is the Palace of Westminster?
<p>The Palace is in London and home of the Houses of Commons and Lords. The Palace lies on the north bank of the River Thames in the City of Westminster, close by other government buildings in Whitehall. The oldest part of the Palace still in existence, Westminster Hall, dates from 1097.</p>	
2.3	Who can vote in elections?
<p>To be able to vote in the United Kingdom, you have to be aged 18 years or older, be registered to vote; be either a British citizen or, qualifying Commonwealth citizen; and not be subject to any legal incapacity to vote.</p>	
2.4	What is an Act of Parliament?
<p>This is a Law which has been passed by both the House of Commons and House of Lords. It begins life as a “White Paper”. White papers are policy documents produced by the Government that set out their proposals for future legislation. White Papers are often published as Command Papers and may include a draft version of a Bill that is being planned. This provides a basis for further consultation and discussion with interested or affected groups and allows final changes to be made before a Bill is formally presented to Parliament.</p>	



UK Parliament



Youth Parliament



Intro video



Voting History UK



1. What are the differences between the Abrahamic and Dharmic Traditions?		
1.1	Abrahamic religions	A group of religions centred around the worshipping of the God of Abraham (Judaism, Christianity and Islam)
1.2	Dharmic traditions	Spiritual philosophies from the India, including Hinduism, Buddhism, Jainism and Sikhism. They share a commitment to dharma and various forms of spiritual liberation.
1.3	dharma	Universal truths - in Buddhism, this includes the teachings of the Buddha.
1.4	samsara	The continual process of life, death and rebirth.
1.5	karma	The moral law of cause and effect and the nature of the universe.
1.5	awakening	(Sometimes called enlightenment) Understanding the truth about life which can lead to liberation and nirvana.
1.6	nirvana	Being free from the cycle of samsara.
1.7	liberation	Being free.

2. What do Buddhists believe about life?		
2.1	The Tibetan Wheel of Life	A representation of the cycle of existence. Can be viewed literally, but more commonly viewed symbolically.
2.2	Three Poisons	• greed • hatred • ignorance
2.3	duhkha	One of the three marks of existence meaning suffering, pain or unsatisfactoriness.
2.4	Sanskrit	The ancient Indian language used by Mahayana Buddhists.
2.5	Mahayana Buddhism	The largest of the two major traditions of Buddhism, now practiced in China, Tibet, Japan, and Korea.
2.6	Theravada Buddhism	The second-largest branch of Buddhism, practiced in Thailand, Myanmar, Sri Lanka, Laos and Cambodia.
2.7	anitya	One of the three marks of existence meaning impermanence.
2.8	anatman	One of the three marks of existence meaning 'non-self'. There is no permanent unchanging substance that could be called a soul.
2.9	The Middle Way	Taking a path of moderation, taking a middle way between extremes. Taking neither the easy or hard way.

3. Buddhist beliefs - samsara		
3.1	samsara	The continual process of life, death and rebirth.
3.2	karma	The law of cause and effect. What happens to a person, happens because they caused it with their actions.
3.3	Three Poisons	<ul style="list-style-type: none"> • greed (the rooster) • hatred (the snake) • ignorance (the pig)
3.4	Five Precepts	Five rules that all Buddhists are supposed to follow: <ul style="list-style-type: none"> • not to take the life of any living being • not to take what is not given • not to take part in sexual misconduct • not to speak falsely • not to take drugs that cloud the mind
3.5	Three Jewels	The three “refuges” of Buddhism, central beliefs: Buddha, the dharma and the Sangha.
3.6	Sangha	The community of Buddhist monks and nuns.

4. Buddhism in the modern world		
4.1	Mahayana	“Great vehicle” – school of Buddhism believing in Bodhisattvas and the Buddhist world community as all sangha.
4.2	Theravada	“Way of the Elders” – school of Buddhism viewing the Sangha as separate but important.
4.3	Bodhisattvas	A person who has found enlightenment but is reborn to help others
4.4	Pali Canon/Tipitaka	Collection of writings with rules for the sangha, teachings and sayings of Buddha and interpretations/explanations.
4.5	Wesak	Festival to commemorate the Buddha’s birth, enlightenment and death.
4.6	Dalai Lama	Spiritual leader of Tibetan Buddhism
4.7	Maha Ghosananda	Cambodian monk who opposed the Khmer Rouge.
4.8	Thich Nhat Hanh	Vietnamese monk who opposed the Vietnam War.

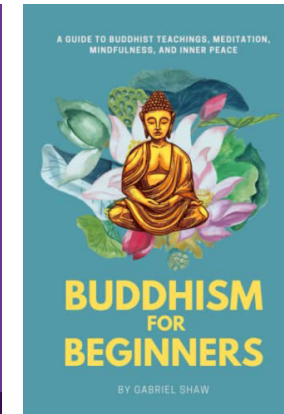
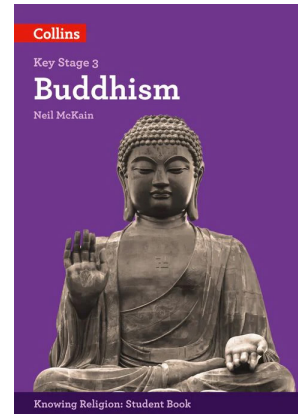


BBC Bitesize: An introduction to Buddhism in day-to-day life



BBC Bitesize: "Kathina" – a Buddhist festival in the community

Books to read:



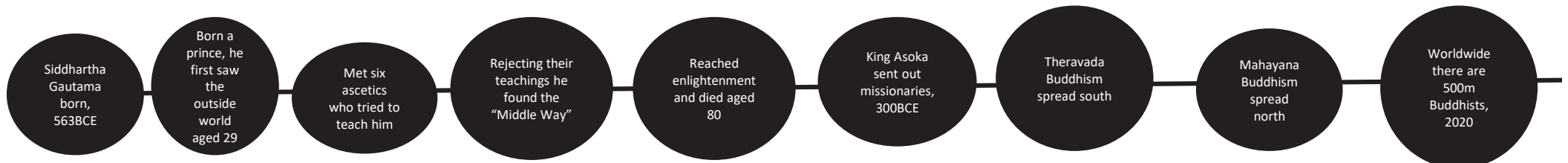
Truetube: Origins of Buddhism and the early life of Siddhartha










Truetube: How would you explain Buddhism to an alien?

Stretch your vocabulary – beliefs and practices

5.a	lotus	A flower and key symbol in Buddhism
5.b	mantra	A sacred phrase chanted through meditation
5.c	bardo	In Tibetan Buddhism, the state of being that exists between death and rebirth
5.d	jhana	A state of absorption – a stage on the path to nirvana through meditation
5.e	parinirvana	A state of complete bliss, entered into by souls not reborn






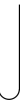
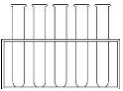

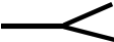



1. Safety in the Lab		
1.1	What is a hazard?	Something that can cause you harm
1.2	What is risk?	How likely a hazard will cause harm
1.3	What is a precaution?	A control measure we can put in place either to reduce the risk or the severity of the hazard
1.4	Give three examples of precautions that can be taken in the lab	Use safety goggles, ensure bags are clear from the floor, tie hair back
1.5	What is the name for a label on a bottle that tells us a substance could cause harm?	Hazard symbol
Give the meaning and typical hazard associated with the following hazard symbols		
1.6		Moderate health hazard – causes skin irritation
1.7		Serious health hazard – causes breathing difficulties
1.8		Toxic – could cause death if swallowed or inhaled
1.9		Corrosive – damages skin and clothing
1.10		Flammable – catches fire easily
1.11		Oxidising – makes flammable substances burn more fiercely
1.12		Harmful to the environment – could cause damage to animal and plant life







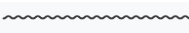


2. Safety in the Lab		
2.1	What are the 10 basic rules of working in a Science lab?	<ol style="list-style-type: none"> 1. Do not enter the lab without permission 2. Dress for practical work (hair tied back and ties tucked in) 3. Follow instructions from the person in charge 4. Make sure your working area is safe (bags and coats tucked under benches) 5. Never run in the lab 6. Don't eat or drink in the lab 7. Do not taste or sniff chemicals 8. Never leave an unattended Bunsen burner on a blue flame 9. Do not touch the electrical sockets without permission 10. In the case of accidents, tell an adult



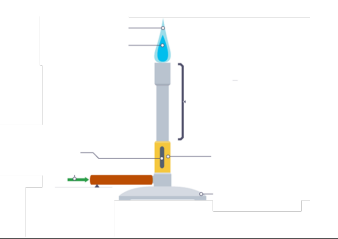
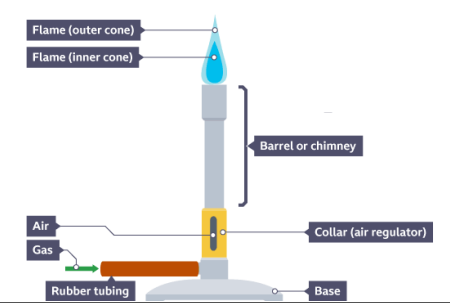
Scientific Equipment

What is the drawing and purpose for the following pieces of scientific equipment?

Equipment	Drawing	Purpose
test tube		Mixing chemicals to observe chemical reactions
boiling tube		Heating chemicals to observe chemical reactions
test tube rack		For safely holding test tubes and boiling tubes
clamp stand		To support other pieces of equipment and glassware
clamp		To support other pieces of equipment and glassware
beaker		For holding larger volumes of liquid
conical flask		To contain or mix liquids
spatula		For transferring small quantities of solid from one container to another

Equipment	Drawing	Purpose
thermometer		Measuring the temperature in °C
stirring rod		Stirring chemicals to speed up dissolving or a chemical reaction
pipette		For transferring very small volumes of liquid from one container to another
tripod		Safely supporting objects above a Bunsen burner
evaporating dish		For the evaporation of solutions
Bunsen burner		To heat up substances or objects
gauze		Safely supporting objects above a Bunsen burner and to spread the heat
measuring cylinder		For accurately measuring volumes of liquid
heatproof mat		Protecting the bench and safely storing hot objects



3. Bunsen Burner		
3.1	What are the missing labels from the Bunsen burner? 	
3.2	What are the five steps for safely lighting a Bunsen burner?	<ol style="list-style-type: none"> 1. Place a Bunsen burner on a heat-resistant mat 2. Turn the collar to ensure the air hole of the Bunsen burner is closed. 3. Hold a lit splint 1-2 cm above the top of the barrel of the burner. 4. Turn on the gas at the gas tap, and the Bunsen burner will burn with a yellow flame. 5. Extinguish the splint by placing it on the heat-resistant mat (do not blow it)
3.3	Name three safety precautions that should be taken when using a Bunsen burner	Tie your hair back, tuck your tie in, wear safety goggles
3.4	What colour will the of the Bunsen burner be when it is first lit?	Yellow
3.5	Why is the yellow flame of the Bunsen burner referred to as the safety flame?	It is easier to see and less hot than the blue flame
3.6	How can you change the colour of the flamer on a Bunsen burner?	By twisting the collar which opens and closes the air hole
3.7	Which flame of the Bunsen burner should be used for heating?	The blue flame as it is much hotter

4. Scientific Experiments		
4.1	What is the aim of a scientific investigation?	To answer a Scientific question
4.2	What is a variable?	Anything that can change during a Scientific investigation
4.3	What is the independent variable in an investigation?	The factor that you change
4.4	What is the dependent variable in an investigation?	The factor that you measure (as a result of marking the change)
4.5	What are the control variables in an investigation?	The factors you keep the same to ensure a fair test
4.6	What is a fair test?	An investigation in which only one factor is changed and all other factors are kept the same
4.7	What is data?	The measurements you make in an investigation
4.8	What is meant by accurate data?	Data that is close to the true value of what you are trying to measure
4.9	What is meant by precise data?	Data which gives similar results if you repeat the measurement, the spread of data is small
4.10	How can data be recorded?	In a table
4.11	When should a mean be calculated?	If repeats of measurements are taken
4.12	How do you calculate the mean?	By adding all the numbers together and dividing by the number of repeats you took



1		2												3	4	5	6	7	0																
		Key																		1 H hydrogen 1		4 He helium 2													
7 Li lithium 3		9 Be beryllium 4		relative atomic mass atomic symbol name atomic (proton) number										11 B boron 5		12 C carbon 6		14 N nitrogen 7		16 O oxygen 8		19 F fluorine 9		20 Ne neon 10											
23 Na sodium 11		24 Mg magnesium 12												27 Al aluminium 13		28 Si silicon 14		31 P phosphorus 15		32 S sulfur 16		35.5 Cl chlorine 17		40 Ar argon 18											
39 K potassium 19		40 Ca calcium 20		45 Sc scandium 21		48 Ti titanium 22		51 V vanadium 23		52 Cr chromium 24		55 Mn manganese 25		56 Fe iron 26		59 Co cobalt 27		59 Ni nickel 28		63.5 Cu copper 29		65 Zn zinc 30		70 Ga gallium 31		73 Ge germanium 32		75 As arsenic 33		79 Se selenium 34		80 Br bromine 35		84 Kr krypton 36	
85 Rb rubidium 37		88 Sr strontium 38		89 Y yttrium 39		91 Zr zirconium 40		93 Nb niobium 41		96 Mo molybdenum 42		[98] Tc technetium 43		101 Ru ruthenium 44		103 Rh rhodium 45		106 Pd palladium 46		108 Ag silver 47		112 Cd cadmium 48		115 In indium 49		119 Sn tin 50		122 Sb antimony 51		128 Te tellurium 52		127 I iodine 53		131 Xe xenon 54	
133 Cs caesium 55		137 Ba barium 56		139 La* lanthanum 57		178 Hf hafnium 72		181 Ta tantalum 73		184 W tungsten 74		186 Re rhenium 75		190 Os osmium 76		192 Ir iridium 77		195 Pt platinum 78		197 Au gold 79		201 Hg mercury 80		204 Tl thallium 81		207 Pb lead 82		209 Bi bismuth 83		[209] Po polonium 84		[210] At astatine 85		[222] Rn radon 86	
[223] Fr francium 87		[226] Ra radium 88		[227] Ac* actinium 89		[261] Rf rutherfordium 104		[262] Db dubnium 105		[266] Sg seaborgium 106		[264] Bh bohrium 107		[277] Hs hassium 108		[268] Mt meitnerium 109		[271] Ds darmstadtium 110		[272] Rg roentgenium 111		Elements with atomic numbers 112 – 116 have been reported but not fully authenticated													

* The Lanthanides (atomic numbers 58 – 71) and the Actinides (atomic numbers 90 – 103) have been omitted.

Relative atomic masses for **Cu** and **Cl** have not been rounded to the nearest whole number.



1. Photosynthesis		
1.1	What are the reactants in photosynthesis?	Carbon dioxide and water.
1.2	What are the products in photosynthesis?	Oxygen and glucose.
1.3	Write the word equation for photosynthesis.	Carbon dioxide + water → glucose + oxygen.
1.4	Where in the plant cell does photosynthesis take place?	In the chloroplasts.
1.5	What is the name of the green pigment found inside chloroplasts?	Chlorophyll.
1.6	What is the function of chlorophyll?	To absorb sunlight.

2. Starch Test		
2.1	What do plants convert glucose into for storage?	Starch.
2.2	What colour does iodine turn if there is starch present?	Turns from brown to blue-black.

3. Investigating Photosynthesis		
3.1	When green plants and algae photosynthesises, is carbon dioxide used up or released?	Used up.
3.2	True/False: Green plants and algae cells carry out aerobic respiration.	True.
3.3	When green plants and algae respire, is carbon dioxide used up or produced?	Produced.
3.4	What chemical is used to detect increases and decreases in carbon dioxide concentration in water?	Hydrogencarbonate indicator

4. Plant Structure		
4.1	Why do plants need water?	For photosynthesis.
4.2	Where does water diffuse into plants?	Root hair cells in the roots.
4.3	What structures transport water around the plant?	Xylem.
4.4	How is water drawn up through the plant?	By water evaporating from the leaves.
4.5	Where do plants get the minerals they need?	From the soil.
4.6	Why do plants need nitrates?	For healthy growth.
4.7	Why do plants need phosphates?	For healthy roots.
4.8	Why do plants need potassium?	For healthy leaves and flowers.
4.9	Why do plants need magnesium?	For making chlorophyll.





5. Leaves

5.1	Label the cross section of a leaf.	
5.2	What are stomata?	Small holes on the lower surface of the leaf.
5.3	Why do leaves have a large surface area?	To absorb as much light as possible for photosynthesis.
5.4	Which layer of the plant contains to most chloroplasts and why?	The palisade layer because the upper surface of the leaf receives the most light.
5.5	Photosynthesis uses up carbon dioxide gas and releases oxygen gas. How do these gasses enter and leave the leaf?	Through the stomata.
5.6	Why is the top of the leaf covered in a waxy layer?	To reduce the amount of water evaporating out of the leaf.

6. Leaves Under the Microscope



7. Gas Exchange in Plants

7.1	What is the function of the stomata?	To allow gases to diffuse in and out of the leaf.
7.2	Which gas diffuses into the leaf?	Carbon dioxide.
7.3	Which gas diffuses out of the leaf?	Oxygen.
7.4	Why are there air spaces inside the leaf?	To allow the gases to move easily between the leaf cells.
7.5	What is the role of guard cells?	To open and close stomata.
7.6	When are stomata open?	During the day.
7.7	When are stomata closed?	At night.

8. Plants are Essential

8.1	Why are plants called producers?	They make their own food by photosynthesis.
8.2	Plants make glucose during photosynthesis. What useful products is glucose converted into by the plant?	Starch as an energy store. Oils as an energy store.
8.3	How are carbohydrates and oils passed on from plants to animals.	When animals eat the plants.



1. Water Waves		
1.1	What do waves do?	Transfer energy from one place to another.
1.2	What type of wave is a water wave?	A transverse wave.
1.3	What is a transverse wave?	A wave where the oscillations (vibrations) are perpendicular (at a 90° angle) to the direction the wave is travelling.
1.4	Draw and label a transverse wave.	<p>The diagram shows a purple sine wave on a light blue background. A vertical red line with arrows at both ends indicates the height from the rest position to a peak, labeled 'amplitude (m)'. A horizontal red line with arrows at both ends indicates the distance between two consecutive peaks, labeled 'wavelength (m)'. One of the highest points is labeled 'peak or crest', and one of the lowest points is labeled 'trough'.</p>
1.5	What is the unit for amplitude?	Metres.
1.6	What is the unit for wavelength?	Metres.
1.7	What is the highest point of the wave called?	Peak or Crest.
1.8	What is the lowest point of the wave called?	Trough.
1.9	What is the amplitude of a wave?	The maximum height of the wave from its resting position.
1.10	What is the wavelength of a wave?	The distance from any point on one wave to the same point on the next wave along.
1.11	What can happens when waves superpose?	The waves can either add up or cancel out.
1.12	What is constructive interference?	When two waves are in step with each other they add together to produce a wave that has double the amplitude.
1.13	What is destructive interference?	when two waves are not in step with each other they subtract from each other to produce no wave.

2. Light		
2.1	How does light travel?	In waves that are straight lines.
2.2	What happens if light hits a solid object?	It will cast a shadow.
2.3	How can light travel through a vacuum?	Because light is a transverse wave and waves do not need particles (a medium) to travel through.
2.4	What is the speed of light?	300,000,000 m/s
2.5	What travels faster: light or sound?	Light.
2.6	What is a light year?	The distance light travels in one year.
2.7	What does it mean if an object is luminous?	It emits its own light.
2.8	Give an example of a source of light.	The Sun or a light bulb.
2.9	What does it mean if an object is non-luminous?	It will not produce its own light, instead it will reflect light.

3. Reflection		
3.1	What is reflection?	When light bounces off an object and into your eyes.
3.2	What is the ray of light called that leaves the light box and hits a mirror?	The incident Ray.
3.3	What is the ray of light called that reflects off the mirror and into your eyes?	The reflected Ray.
3.4	What is the normal?	An imaginary line drawn at 90° to the mirror.



3. Reflection		
3.5	Draw and label a diagram to show light reflecting off a mirror.	
3.6	What is the law of reflection?	The angle of incidence is equal to the angle of reflection.

4. Shiny and Dull Materials		
4.1	What is specular reflection?	When all of the light hitting an object is reflected off a surface at the same angle.
4.2	What is diffuse reflection?	When all of the light hitting an object is reflected off a surface at different angles and is scattered.
4.3	What type of reflection is needed to see an image in the object (e.g a mirror or glass)?	Specular reflection.
4.4	Describe the surface that specular reflection occurs on.	Smooth, Shiny.
4.5	Describe the surface that diffuse reflection occurs on.	Rough, Dull.
4.6	Draw a diagram to show specular reflection.	<p>Specular reflection (smooth surfaces)</p>
4.7	Draw a diagram to show diffuse reflection.	<p>Diffuse reflection (rough surfaces)</p>

5. Colour		
5.1	What is frequency?	The number of waves that pass a point each second.
5.2	What is the unit for frequency?	Hertz (Hz)
5.3	What is a spectrum?	A series of similar waves arranged in order of wavelength or frequency.
5.4	What is the order of colours in the visible light spectrum from the lowest frequency to the highest?	Red, orange, yellow, green, blue, indigo, violet
5.5	What is an opaque object?	An object that does not allow light to travel through it.
5.6	Describe why an object will appear red.	<p>A red object reflects red and absorbs other colors of white light</p>
5.7	Describe why an object will appear white.	<p>A white object reflects all colors of white light equally</p>
5.8	Describe why an object will appear black.	<p>An object is seen as black if it absorbs all colors of white light</p>

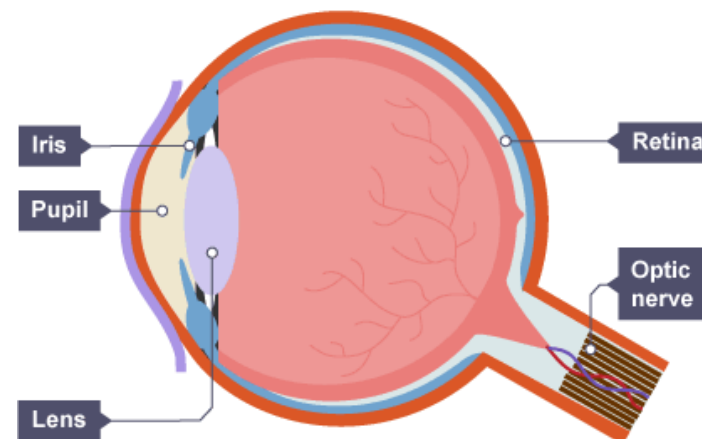
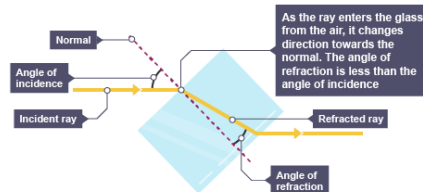


6. Filters		
6.1	What is a transparent object?	An object that transmits light and allows it to pass through.
6.2	How does a coloured filter work?	They will transmit some wavelengths of light and absorb others.
6.3	Describe how a green filter works.	If a white light is shone at a green filter, it will transmit green wavelengths light, but will absorb all red and blue wavelengths of light.



8. Vision		
8.1	What part of the eye refracts the light so that it focuses on the back of your eye?	The lens.
8.2	What part of your eye has lots of specialized cells that convert light into electrical signals?	The retina.
8.3	What is the hole called in the middle of your iris?	The pupil.
8.4	What part of the eye is a muscle that controls the size of your pupil?	The iris.
8.5	How can you describe the image that is formed at the back of your eye?	A real image, upside-down (inverted) and very small (diminished).
8.6	The eye is similar to what type of camera?	A pinhole camera.

7. Refraction		
7.1	What happens to light if it travels from a less dense to a more dense medium?	It will slow down and change direction towards the normal.
7.2	What happens to light if it travels from a more dense to a less dense medium?	It will speed up and change direction away from the normal.
7.3	What is dispersion?	When light is split, allowing you to see the separate colours.
7.4	Draw and label a diagram to show refraction through a glass block.	<p>As the ray enters the glass from the air, it changes direction towards the normal. The angle of refraction is less than the angle of incidence.</p>





9. Electromagnetic Waves		
9.1	Light is a form of what type of wave?	An electromagnetic wave
9.2	What is the order of the electromagnetic spectrum from the wave with the longest wavelength to the shortest?	<p>Short wavelength → Long wavelength High frequency ← Low frequency</p>
9.3	What properties do all electromagnetic waves have in common?	All of the electromagnetic waves can be reflected and refracted, they all travel at the speed of light and they can all travel through a vacuum.

10. Using Waves	
10.1	Describe the use and hazards of the electromagnetic waves.

EM Wave	Use	Hazards
Radio waves	Broadcasting and Communications	Very small rise in temperature. Usually not harmful to humans.
Microwaves	Cooking food	Can cause internal heating of body tissues.
Infrared waves	Heaters and night-vision equipment	Burns due to heating
Visible Light	Vision, photography, optical fibres.	Intense visible light (laser) can damage the retina at the back of the eye.
Ultraviolet	Fluorescent lamps to check bank notes.	Can damage skin cells and lead to skin cancer, premature aging and damage to your eyes.
X-rays	Medical equipment to see bones.	Damage to cells in the body. DNA can be damaged and can lead to cancer.
Gamma waves	Sterilise food/ medical equipment and treating cancer.	Damage cells inside the body. DNA can be damaged and can lead to cell death and cancer.



1. Metals, Ores, Mining and Quarrying		
1.1	How do most metals in the Earth's crust exist?	As metal compounds found in rocks
1.2	In the Earth's crust, which element are metals most commonly bonded to?	Oxygen
1.3	What is an ore?	A naturally occurring rock that contains enough metal to make it worthwhile extracting
1.4	Why is gold found as a pure metal in the ground?	It is not very reactive
1.5	Name two ways of extracting ores from the Earth's crust	<ol style="list-style-type: none"> 1. Mining - extracting ores from deep underground 2. Quarrying - extracting ores from the surface
1.6	Give two advantages of mining and quarrying (aside from obtaining metals)	Creates jobs, supports local economy
1.7	Give two disadvantages of mining and quarrying	<ol style="list-style-type: none"> 1. Blasting can cause noise 2. Pollution of local habitat and waterways with toxic chemicals 3. Air pollution from lorries and dust 4. Destruction of habitats

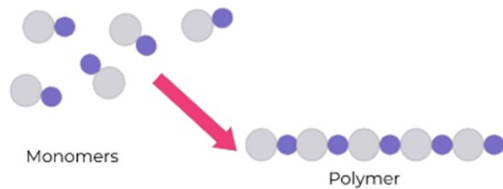
2. Extraction of metals		
2.1	What is the purpose of extracting metals from their ores?	Metals are very useful materials and have many uses e.g. construction, building planes and cars, electrical wires
2.2	What are the two main stages in extraction of metals from their ores?	<ol style="list-style-type: none"> 1. Separate the metal oxide from the compounds it is mixed with 2. Use a chemical reaction to extract the metal from the metal oxide

2.3	Which element do we heat the metal oxide with when extracting the metal?	Carbon
2.4	Complete the sentence: any metal that is _____ than carbon in the reactivity series can be extracted from their ores by reacting with carbon	Lower
2.5	Why can you not use carbon to extract aluminium from its ore?	Aluminium is more reactive than carbon
2.6	Complete the equation to show the extraction of copper from its ore copper oxide: Copper oxide + carbon →	Copper oxide + carbon → copper + carbon dioxide

3. Alloys, Ceramics and Polymers		
3.1	What is an alloy?	A metal with other elements in small quantities mixed in
3.2	Name four examples of alloys	Steel, bronze, brass, stainless steel
3.3	In what way is steel better than iron?	It is stronger
3.4	Why is stainless steel useful and where is it used?	It does not tarnish (rust); used in cutlery.
3.5	What are ceramics made from?	Clay (found in the ground)
3.6	State six properties of ceramics	<ol style="list-style-type: none"> 1. Hard 2. Waterproof 3. Unreactive 4. High melting points 5. Electrical/thermal insulators 6. Brittle



3.7	What are polymers?	Chains of repeating units
3.8	What is the name of the repeating units found in polymers?	Monomers
3.9	What is polymerisation?	The process of joining monomer units together is a chemical reaction
3.10	State four examples of naturally occurring polymers	Wool, cotton, rubber, silk
3.11	Naturally occurring polymers are biodegradable. What does this mean?	The ability for a material to be broken down naturally by the organisms in an ecosystem, therefore avoiding pollution



4. Synthetic Polymers and Composites		
4.1	What is a synthetic polymer?	A polymer that is developed and made in a laboratory
4.2	Name an example of a synthetic polymer	Plastics
4.3	Name three uses of plastic polymers	Plastic bags, packaging, waterproof clothing
4.4	What is a composite?	A mixture of materials which combines the properties of the materials it is made up of
4.5	Are composites synthetic or natural?	Synthetic
4.6	State three examples of composites	Concrete, raincoats, carbon fibre

5. Recycling resources		
5.1	If a resource is finite, what does this mean?	There is a limited supply and it could eventually run out
5.2	How can we make finite resources last longer?	Reuse or recycle them
5.3	What does recycling mean?	Processing materials so that they can be used again
5.4	Give three examples of materials that can be recycled	Paper, some plastics, aluminium
5.5	Give two examples of reusing materials	Reusing plastic bags (bags for life), buying second hand items
5.6	Which is preferable and why: recycling or reusing?	Reusing as it uses less energy
5.7	Give two advantages of recycling	<ol style="list-style-type: none"> 1. Uses less energy than making new items 2. Less polluting than extracting raw materials from the earth to make new items
5.8	Give two disadvantages of recycling	<ol style="list-style-type: none"> 1. Can be expensive and energy intensive 2. Not all items can be recycled
5.8	What is the most effective way to save resources?	Reduce the number of new things we buy (reduce consumption)





1. Biodiversity and Classification		
1.1	What is a species?	A group of organisms that can interbreed to have fertile offspring
1.2	What is biodiversity?	A measure of the range of living organisms within a habitat
1.3	Why do scientists classify organisms?	To understand the characteristics organisms have in common and the relationship between different organisms.
1.4	What are the five kingdoms?	Animals, plants, fungi, protists, prokaryotes
1.5	Give an example of an organism in each of the five kingdoms	Animals (cat) Plants (all green plants) Fungi (moulds, mushrooms, yeast) Protists (amoeba, chlorella and plasmodium) Prokaryotes (Bacteria, Blue-green algae)
1.6	What are the five classes of vertebrates	Mammals, birds, reptiles, amphibians, fish
1.7	State which class of vertebrate have fur and young that feed on milk	Mammals
1.8	State which class of vertebrate have feathers and lay eggs	Bird
1.9	State which class of vertebrate have dry scales and lay eggs	Reptiles
1.10	State which class of vertebrate have smooth moist skin and lay eggs without shells in water	Amphibians
1.11	State which class of vertebrate have wet scales, gills and lay eggs without shells	Fish

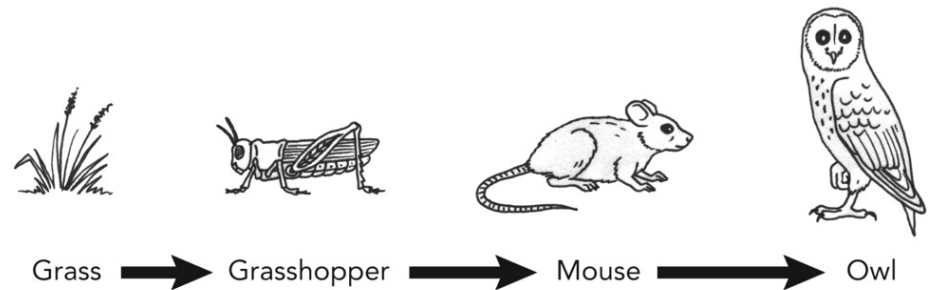
1.13	What 2 groups can be plants be divided into?	Those with seeds and those without seeds
1.14	What 3 characteristics can be used to identify plants	Seeds, Flowers, Leaves
2. Biodiversity Survey: Collecting data		
2.1	What is a key?	A set of questions about the characteristics of living things/
2.2	What is a dichotomous key?	A set of questions to which there are only two answers. They can be presented in a table or as a branching tree.
2.3	What is sampling?	A type of scientific surveying that looks at a section of the population of an organism to make an estimate.
2.4	What is a quadrat?	A square frame used for sampling
2.5	Give three uses of a quadrat	<ol style="list-style-type: none"> 1. Count the number of a single species 2. Count the number of different species 3. Count the percentage of a quadrat taken up by one species
2.6	What type of sampling is a quadrat normally used for?	Random or systematic sampling of plants.
2.7	What other equipment can be used for sampling?	Sweep nets, pitfall traps and pooters



3. Biodiversity Survey: Analysing data		
3.1	What is a frequency chart?	A method of recording total populations using a tally
3.2	What is a bar chart?	A bar chart is a type of graph used to represent a non-numerical or discontinuous set of data.
3.3	What is primary data?	Data that you have collected yourself
3.4	What is secondary data?	Data that has been collected by someone else and made available to you
3.5	How do you calculate the mean of a set of values?	Add the total of the values and divide by the number of values

4. Food Chains		
4.1	Where does the energy in a food chain come from	The sun
4.2	What do arrows in a food chain represent?	The transfer of energy
4.3	What is each stage in a food chain called?	A trophic level
4.4	What does a food chain show?	The feeding relationships between living organisms
4.5	What do food chains begin with?	A producer
4.6	Define the term producer.	Organisms that make glucose by photosynthesis (e.g. Plants)

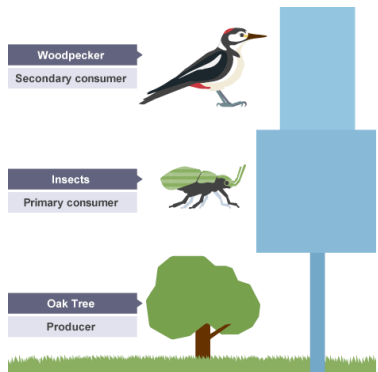
4.7	Define the term primary consumer.	The first consumer in the food chain. They only eat producers.
4.8	Define the term secondary consumer.	The second consumer in the food chain.
4.9	Define the term tertiary consumer	The third consumer in the food chain
4.10	Define the term herbivore	Organisms that eat only plants
4.11	Define the term omnivore	Organisms that eat plants and meat
4.12	Define the term carnivore	Organisms that eat only meat
4.13	Identify the producer in the food chain	Grass
4.14	Identify the primary consumer in the food chain	Grasshopper
4.15	Identify the secondary consumer in the food chain	Shrew



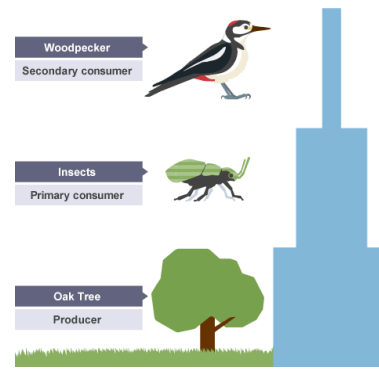
Example of food chain



4.16	What does a pyramid of numbers show?	The number of organisms at each stage of a food chain
4.17	What does a pyramid of biomass show?	The mass of organisms at each stage in a food chain
4.18	Explain why the bar for the tree is larger in a pyramid of a biomass than a pyramid of numbers	Lots of organisms feed on one tree in a pyramid of numbers. One tree has a large mass in a pyramid of biomass.



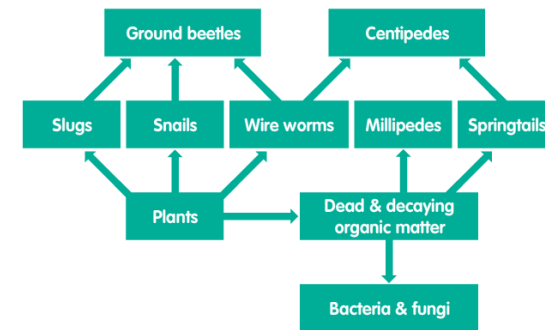
Example of a pyramid of numbers



Example of a pyramid of biomass

5.5	Name the producers in the food web below	Plants
5.6	Name the carnivores in the food web below.	Ground beetles and Centipedes
5.7	Explain why the slug population might decrease if a disease wiped out snails	Because Ground Beetles would not have as many snails to eat and would eat more slugs.
5.7	Explain why the slug population might increase if a disease wiped out snails	Because Snails would not be eating the plants so Slugs would have more food.

Example of a food web



5. Food webs and interdependence		
5.1	Define the term ecosystems	An ecosystem is all the living organisms interacting with their physical environment
5.2	Define the term interdependence	When organisms in an ecosystem depend on each other for resources
5.3	What is a food web?	It shows how all organisms in an ecosystem interact
5.4	Explain why a food web is made up of many food chains	Most consumers eat more than one organism in an ecosystem

6. Bioaccumulation		
6.1	State 4 changes that might affect the organisms in an environment	A new predator, habitat destruction, use of pesticides, pollution.
6.2	What is pollution?	The release of harmful or poisonous chemicals called toxins into the environment.
6.3	State 3 types of pollution	Land, water, air
6.4	What is bioaccumulation?	The increasing concentration of toxin from one trophic level to the next trophic level up.
6.5	Give 3 examples of harmful toxins	Insecticides, mercury, microplastics



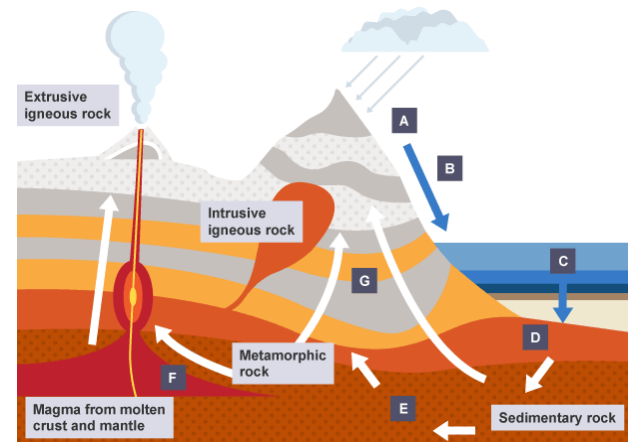
1. Structure of the earth		
1.1	Label the four layers of the earth	
1.2	Which layer of the earth is made up of huge plates which move very slowly?	Crust
1.3	How thick is the crust?	Approx. 8-40m thick
1.4	Which layer makes up around 85% of the earth's volume?	Mantle
1.5	What state is the rock in the mantle?	Semi-liquid
1.6	Which layer of the earth is made mainly of iron with some nickel?	Inner and Outer Core
1.7	What is the name of the semi-molten rock that forms the mantle?	Magma
1.8	What kind of currents in the mantle cause the tectonic plates to move?	Convection currents
1.9	Which part of the earth is the hottest?	Inner core
1.10	Which part of the earth is liquid?	Outer core
1.11	From which layer do we mine useful compounds and elements?	Crust
1.12	How do scientists know about the structure of the mantle, outer core and inner core?	Studying shock waves from earthquakes; examining materials brought to the surface by volcanos

2. Types of Rock – Part 1		
2.1	Name the three types of rock?	Sedimentary, Igneous and Metamorphic
2.2	Give the 4 stages of the formation of sedimentary rocks	<ol style="list-style-type: none"> 1. Weathering 2. Erosion and Transport 3. Deposition 4. Compaction & Cementation
2.3	Weathering breaks rocks into smaller pieces called _____	Sediments
2.4	Describe the three types of weathering of rocks.	<ol style="list-style-type: none"> 1. Physical – rocks being broken by freezing and thawing of trapped water or the action of water. 2. Chemical – rocks being broken up because substances in rainwater, rivers and seawater or the air, react with the minerals in the rocks 3. Biological – rocks being broken up by plants or animals
2.5	What is erosion and transport of rocks?	Movement of sediments away from their rock by water, ice, wind and gravity
2.6	What is the name of the process in which small pieces of rocks sink to the bottom of seas and oceans?	Deposition
2.7	What type of rock is made from layers of ocean sediment cemented together?	Sedimentary
2.8	What would you observe when looking at sedimentary rock?	Made up of different grains arranged in layers
2.9	Name a common sedimentary rock.	Limestone, Sandstone
2.10	Why are sedimentary rocks used for building materials?	They are soft and easy to shape into blocks.



3. Types of Rock – Part 2		
1.1	Describe how igneous rock is formed.	When molten rock cools and crystallises on or near the surface.
1.2	What is the difference between intrusive and extrusive igneous rock	Intrusive igneous - magma that has cooled slowly, deep underground Extrusive igneous – magma that has erupted onto the surface as lava and then cooled quickly
1.3	If magma had cooled quickly to form igneous rock, would you expect to see small crystals or large crystals?	Small
1.4	Name two examples of igneous rock.	Granite, pumice, obsidian
1.5	Which properties of igneous rock make it good for kitchen countertops and carvings?	Hard and not porous (does not let water through)
1.6	Describe how metamorphic rock is formed.	From existing rocks which have been changed by heat or pressure
1.7	Describe the 3 stages involved in the formation of metamorphic rocks.	1. Earth movements cause rocks to be deeply buried or compressed. 2. This causes the rocks to be heated and puts them under great pressure . 3. They do not melt, but the minerals they contain are changed chemically , and form metamorphic rocks.
1.8	Name two examples of metamorphic rock.	Marble and Slate

4. Rock Cycle		
4.1	Why is the process of rocks constantly changing called the rock cycle?	The rocks are constantly being changed into different types in a recycling process
4.2	Name the process that changes metamorphic rock into magma	Melting
4.3	Name the processes that change magma into igneous rock	Cooling and freezing
4.4	What is uplift?	When continents collide, forces from inside the earth push rocks upwards and mountains can form
4.5	What is the evidence for the rock cycle?	Fossils provide evidence of uplift
4.6	Identify the stages in the rock cycle below	A. Weathering and erosion B. Transportation and Deposition C. Sedimentation D. Compaction and Cementation E. Burial, high temperature and pressure F. Melting G. Slow uplift





5. The Carbon Cycle		
5.1	Which gases is the atmosphere mostly made up of?	Nitrogen (78%) and Oxygen (21%). Other gases are found in smaller proportions, such as carbon dioxide and water vapour.
5.2	Which two gases in the atmosphere are essential for life?	Carbon Dioxide and Oxygen
5.3	Why is oxygen needed?	Respiration of plants and animals
5.4	Why is carbon dioxide needed?	Photosynthesis in plants and to keep the earth warm.
5.5	What happens to the level of carbon dioxide in the atmosphere?	It is constantly changing
5.6	What are two processes that add carbon dioxide to the atmosphere?	Respiration and Combustion
5.7	What are two processes that remove carbon dioxide from the atmosphere?	Photosynthesis and Dissolving in the Oceans
5.8	What is the carbon cycle?	Shows how carbon dioxide enters and leaves the atmosphere and how carbon and its compounds enter and leave carbon stores.
5.9	What are the six carbon stores?	Atmosphere, oceans, sedimentary rocks, fossil fuels, plants and animals, soil.
5.10	What is decomposition?	The process of breaking down material to release nutrients back into the soil.
5.11	How do dead organisms return carbon to the atmosphere?	Dead organisms are decomposed by bacteria and fungi, and the carbon in their bodies is returned to the atmosphere as carbon dioxide.

6. Climate Change		
6.1	What is climate change?	A long-term change in weather patterns
6.2	Give two ways the humans add more carbon dioxide to the atmosphere than is removed.	Burning fossil fuels and deforestation
6.3	Why do humans burn fossil fuels?	To generate electricity, heat homes and fuel vehicles
6.4	What is deforestation?	Cutting down forests or burning them
6.5	Why does deforestation mean an increase in carbon dioxide?	There are less trees to absorb carbon dioxide
6.6	What would happen if there was no carbon dioxide in the atmosphere?	The earth would be too cold for life
6.7	What is the greenhouse effect?	The trapping of the sun's energy due to gases in the Earth's atmosphere.
6.8	What are greenhouse gases?	Gases such as water vapour, carbon dioxide, and methane in the Earth's atmosphere that trap heat.
6.9	What term do we give to increasing global temperatures	Global Warming
6.10	Give 5 effects of global warming	Sea levels rising, oceans warming up, more extreme weather events, changes to habitats, more tropical diseases.



1. Gravity		
1.1	What is mass?	The mass of an object is how much matter that it contains.
1.2	What are the units of mass?	Kilograms (Kg)
1.3	What is weight?	The weight of an object is how the mass is affected by gravity
1.4	What are the units of weight?	Newtons (N)
1.5	What is gravity?	Is a non-contact force
1.6	What is a gravitational field?	An area surrounding an object where the force of gravity is felt.
1.7	What happens to the gravitational field as an object gets larger?	It gets stronger
1.8	How does the weight change on different planets? How does this compare to mass?	Weight is not constant; it will change depending on the strength of the gravitational field that the object is in. But Mass is constant. It does not change.
1.9	How do you calculate weight?	weight (N) = mass (kg) x gravitational field strength (N/kg).
1.10	Calculate the weight of an object on Earth. The gravitational field strength on Earth is 10N/kg. The mass is 2.5kg	<i>weight (N) = mass (kg) x gravitational field strength (N/kg)</i> Weight = 10N/kg x 2.5kg Weight = 25N
1.11	Calculate the mass of an object on Earth. The gravitational field strength on Earth is 10N/kg. The weight of the object is 40N	<i>weight (N) = mass (kg) x gravitational field strength (N/kg)</i> 40N = mass x 10N/kg Mass = 40N ÷ 10N/kg Mass = 4kg

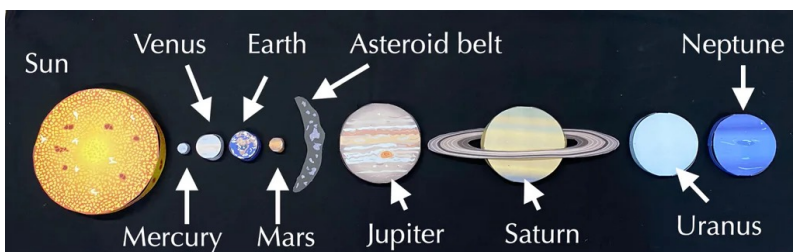
2. Universe		
2.1	What is the Big bang theory?	The most agreed theory of how our universe was created. It suggests that 13.7 billion years ago, everything in our universe was squashed into a single tiny point. This expanded rapidly (and is still expanding).
2.2	What is the universe?	The universe is everything. It includes all of space, matter and energy.
2.3	How do we look at objects in our universe?	Telescopes – these are instruments that lets us see distance objects
2.4	What are optical telescopes?	Telescopes that we use on Earth. These come in various different sizes.
2.5	What are some advantages of using optical telescopes?	They are cheap and easy to use.
2.6	What are some disadvantages of using optical telescopes?	Can only be used at night and cannot be used if the weather is poor/ cloudy.
2.7	What are space telescopes?	Telescopes that are sent into space to observe objects.
2.8	What are some advantages of using space telescopes?	They can observe the whole sky and can operate at night and during the day. They can also be used to detect different frequencies of waves on the electromagnetic spectrum other than light.
2.8	What are some disadvantages of using space telescopes?	They are expensive to launch and maintain and if anything goes wrong they may not be able to be fixed.



3. The Milky Way & the Sun		
3.1	What is a galaxy?	a collection of stars.
3.2	What galaxy is Earth in?	Milky Way galaxy.
3.3	How are the stars in our galaxy held together?	All of the stars are held together by the force of gravity.
3.4	What is the sun?	The star at the centre of the solar system
3.5	What is a star?	A large object that produces its own light (and heat).
3.6	Are all stars the same size?	Our sun looks big because it is closest to us. Other stars further away are much bigger than our Sun. For example, Betelgeuse is about 900 times bigger than our Sun
3.7	Can planets produce their own light like stars?	Planets cannot produce their own light. Light is reflected off the surface of a planet so that we can see it.
3.8	What will happen to the sun when it comes to the end of its life?	Our Sun will eventually form a white dwarf: A dense, dim smaller star.
3.9	Do all stars have the same life cycle?	Other stars that are much bigger than ours, will have a different life-cycle. They may form black holes or supernovas.

4. Our solar system		
4.1	What makes up our solar system?	the Sun, 8 planets and the asteroids belt.
4.2	What are the 4 inner planets?	The inner planets (rocky planets) are: Mercury, Venus, Earth and Mars.
4.3	What are the 4 outer planets?	The outer planets (gas giants) are: Jupiter, Saturn, Uranus, Neptune
4.4	What is the asteroid belt? Where is the asteroid belt?	Between Mars and Jupiter is the Asteroid Belt, which is made up of pieces of rock and dust.
4.5	What do the planets in our solar system orbit around?	All of the planets orbit around the sun and are held in place by gravity.
4.6	Is Pluto a planet?	No, it is now classified as a dwarf planet.

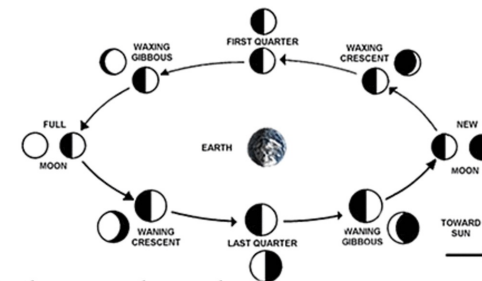
5. Days & Years		
5.1	What is the Earth's axis?	An imaginary line through the centre of the Earth, which the Earth spins around. The Earth's axis is tilted at 23.5°.
5.2	What is a day?	How long it takes for the Earth to complete one full rotation on it's axis – 24 hours
5.3	When is there day-time on Earth?	The side of the Earth that is facing the Sun will be in daytime because the light rays hit the surface of the Earth.
5.4	When is there night-time on Earth?	The side of the Earth that is facing away from the Sun will be in night time because it is in the shadow of the Earth. None of the light rays can reach the surface on this side.
5.5	What is a year?	One year on Earth is 365.25 days. This is how long it takes to complete one whole orbit around the Sun.
5.6	Do all planets have the same time for orbiting the Sun?	Different planets have different time periods to orbit the sun, depending on how far away they are from the Sun. The further away, the longer it takes





6. Seasons		
6.1	What are the 2 hemispheres?	Northern & southern
6.2	What separates the 2 hemispheres?	The equator
6.3	What is the equator?	an imaginary line that goes around the middle of a planet.
6.4	What are the 4 seasons?	spring, summer, autumn, winter.
6.5	Why do we have seasons?	because the Earth is tilted on an axis and it is orbiting around the Sun.
6.6	If the northern hemisphere was tilted towards the Sun, what season would it be?	Summer
6.7	If the northern hemisphere was in Summer, what season would the southern hemisphere be in?	Winter
6.8	If the southern hemisphere was tilted away from the Sun, what season would it be?	Winter
6.9	Why is it hotter in the summer?	Because the Sun's rays are spread over a much smaller area
6.10	Why are the days longer in the summer?	Because the Sun's rays can reach the surface of that hemisphere for longer
6.11	Why is it colder in the winter?	Because the Sun's rays are spread over a much larger area.
6.12	Why are the days shorter in the winter?	Because the Sun's rays reach the surface of that hemisphere for less time
6.13	Why do the poles of the Earth have extreme day lengths during the different seasons?	Because of the tilt of the Earth

7. Moon		
7.1	What is a moon?	A large round object that orbits around a planet, it is held in place by gravity.
7.2	Do all planets have the same numbers of moons?	On Earth we have 1 moon. Other planets have more moons. Jupiter has 60 moons.
7.3	How long does it take for our moon to orbit around the Earth?	It takes 27 days and 7 hours to orbit the Earth once.
7.4	The moon doesn't produce its own light – how can we see it?	Half of the Moon is always lit up by the Sun
7.5	What are the phases of the moon?	As the Moon orbits the Earth, it has different shapes from the Earth
7.6	What is a new moon?	When the side of the Moon facing the Earth is in shadow, you see a New Moon (black)
7.7	What is a full moon?	When the side of the Moon facing the Earth is fully lit by the Sun, you see a Full Moon.
7.8	What are the order of the phases of the moon?	New Moon, Waxing Crescent, First Quarter, Waning Gibbous, Full Moon, Waning Crescent, Last Quarter, Waxing Gibbous.
7.9	What is a solar eclipse?	When the Moon comes between the Sun and the Earth it makes a shadow in the Earth's surface.
7.10	What is a lunar eclipse?	When the Earth comes between the Sun and the Moon we experience a lunar eclipse.





1. ¿Qué casa prefieres? (Which house do you prefer?)	
Esta casa es...	This house is...
Este piso es...	This flat is...
amplio/a	spacious
antiguo/a	old
bonito/a	nice/pretty
cómodo/a	comfortable
enorme	enormous
feo/a	ugly
grande	big
maravilloso/a	marvellous
moderno/a	modern
pequeño/a	small
La casa/ El piso está...	The house/ The flat is...
cerca de la playa	near the beach
en el centro	in the centre
en la montaña	in the mountains
más... que	more... than
menos... que	less... than
Prefiero...	I prefer...
porque	because

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

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

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

5. Expresiones de tiempo (Time expressions)			
ayer	yesterday	hoy	today
el fin de semana	last weekend	mañana	tomorrow
el verano pasado	last summer	este fin de semana	this weekend
el año pasado	last year	el verano que viene	next summer
hace dos años	two years ago	el año que viene	next year

6. Opiniones (Opinions)	
Me gusta...	I like...
Me encanta...	I love...
Me gustaría mucho...	I would really like...
Me encantaría...	I would love...



Youtube is a great source of learning for Spanish. Watch the documentary below and design a poster for San Fermín running of the bulls.

Use Quizlet to practice learned and new more challenging vocabulary.



San Fermín documentary.



Shopping vocabulary.



At the train station.



Research information about “La Tomatina” a festival which happens in August in Spain. Write a fictional account in English as if you had attended it last year.



1. Polymers		
1.1	polymer	The D&T terminology for all plastics.
1.2	thermoplastic	Polymers that can be recycled by reheating and reforming.
1.3	thermoset	Designed to withstand high temperatures but cannot be recycled.
1.4	vacuum forming	A deforming process, whereby a sheet of HIPS is heated and then pulled around a single mould using suction.
1.5	(HIPS) High Impact Polystyrene Sheet	A thermoplastic that is flexible and resistant. It can be food safe and is used for vacuum forming.
1.6	polypropylene	A thermoplastic that is flexible, tough and light weight. It is used in many kitchen, medical and stationery products.
1.7	epoxy resin (ER) araldite	A thermoset plastic supplied as two liquids; a resin and a hardener. It is used as glue to bond different materials together.
1.8	urea formaldehyde (UF)	A thermoset plastic that is heat resistant and commonly used in electrical fittings.

4. Electronics Fabrication		
4.1	printed circuit board (PCB)	A ceramic board used to connect electrical components together.
4.2	resistor	Reduces electrical current flow.
4.3	light emitting diode (L.E.D)	A semiconductor diode which glows when a voltage is applied.
4.4	capacitor	Stores electrical energy.
4.5	integrated circuit	Processes information.
4.6	digital signal	A Digital Signal that is either on or off (one or naught) e.g. a switch.
4.7	analogue signal	A continuous signal with an infinite range of values between minimum and maximum points.

2. CAD CAM - Editing and Contouring a Bitmap image		
2.1	contour tool	Use this command to draw a contour (i.e. a parallel path) or multiple contours around a shape with a continuous (open or closed) boundary.
2.2	radial lock	This command locks the drawing cursor to given angle steps e.g. 45 degrees.
2.3	dimension tool	Use this command to dimension an object.
2.4	delete part tool	Delete part of an object between two intersections
2.5	boundary fill	Use this command to fill a closed boundary with colour.
2.6	ABC tool	Use this command to draw linear text.
2.7	edit mode toolbox	Use this command to start Edit Mode.
2.8	attach tool	Tool to attach the drawing cursor to a range of possible points, e.g. end point.



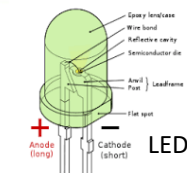
Tools and Equipment



solder wire



soldering iron



printed circuit board



vacuum former



Polymers- Thermosets and Thermoplastics: *YouTube video- Eggs and Ice Cubes*



Structures- Roman Catapult: *YouTube video-*

Books to read:



TV programs to watch:



KS3 D&T BBC Teach: *Short film clip exploring the process of laser cutting.*



BBC Bitesize AQA D&T: *This helpful revision programme links to our D&T AQA books.*

Places to visit:



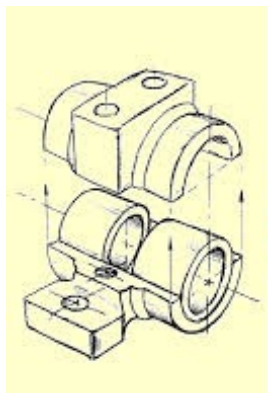
Thorpe Park



Portsmouth Historic Dockyard



Titanic Museum



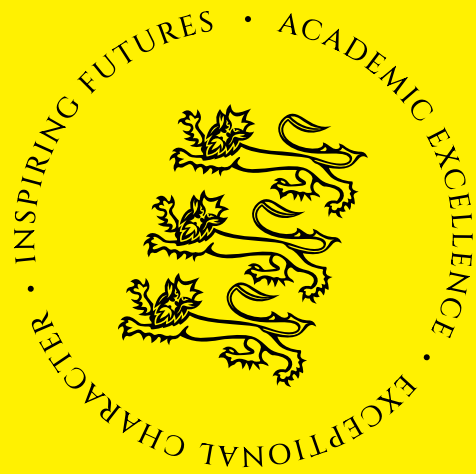
Freehand Sketching



KS3 D&T BBC Teach: *Short tutorial exploring the process of freehand sketching.*

Stretch your vocabulary - STEM Challenge		
1	trebuchet	A trebuchet (French: trébuchet) is a type of catapult that uses a long arm to throw a projectile.
2	catapult	A catapult is a ballistic device used to launch a projectile a great distance without the aid of gunpowder or other propellants.
3	structural elements	Tie, Strut, Compression, Tension, Potential Energy, A-Frame.
4	Specification	A design specification is a list of criteria your product needs to address.
5	3D printing	Enables physical objects to be formed from reels of Thermoplastics.
6	product analysis	Product analysis allows designers to understand how products work and how they could be improved. This then helps them to produce better designs of their own.
7	biodegradable	The term used to describe materials or substances that will naturally break down over time.







Minimum Stationery Requirements



Ruler

**3 Blue/
Black Pens**

**2 Green
Pens**

Pencil

**Whiteboard
Pen**

Eraser

Highlighter Pen

Calculator

Protractor