Key Vocabulary:

1	The Formal	The formal elements of art are used to make a piece of
	Elements of Art	artwork. The art elements are line, tone, texture, shape, pattern and colour. They are often used together, and how they are organised in a piece of art determines what the finished piece will look like.
2	line	A line is a mark or link between two points.
3	mark	Mark making describes the different lines, dots, marks, patterns and textures to produce a work of art. Artists use gesture to express their feeling and emotions in response to something seen or something felt .
4	tone	Tone refers to the light and dark values of an object when drawing. There are three different types of tone: shadows, mid tones and high lights. Value in art is essentially how light or dark something is on a scale and refers to tone.
5	texture	The texture stimulates two different senses: sight and touch.
6	shape	Shape is a flat, enclosed area such as a square or triangle.
7	form	A form can refer to a three-dimensional composition or object.

10	scale	The scale of something is its size. To scale something is to enlarge it. To scale down is to do a smaller version.
11	Balance	If a picture or piece of artwork has balance then each part of it works well together in a whole piece.
12	space	A space is the gap between objects.
14	tint	Tint is when a colour becomes lighter by adding white.
15	harmonious colours	Colour harmony is achieved using colours that relate to one another in some way.
16	mixed media	Mixed media refers to a visual art form that combines a variety of media in a single artwork.
16	The Golden Ratio	The Golden Ratio is a mathematical ratio. It is commonly found in nature, and when used in a design, it adopts an organic and natural-looking composition. This is aesthetically pleasing to the eye.
17	composition	The arrangement of elements in a piece of art.

Year 8 Computing Autumn Term Knowledge Organiser Logic

Кеу	Key Vocabulary:						
1	Hardware	The parts of a computer that can be physically touched: EXAMPLE: Monitor, keyboard, CPU					
2	Software	The programs and other operating information used by a computer. (Cannot be physically touched.) EXAMPLE: Microsoft Word, Google					
3	Peripheral	A hardware device for a computer but NOT essential for the computer to run. EXAMPLE: printer, speaker					
4	Motherboard	a printed circuit board containing the principal components of a computer or other device, with connectors for other circuit boards to be slotted into.					
5	CPU	CPU is considered as the brain of the computer. It controls the operation of all parts of the computer.					
6	Hard Drive	Where all the data is stored (even when computer turned off)					
7	RAM	Computer's short-term memory					
8	Graphics Card	Converts the binary code into the screen display – what we see!					
9	Boolean Logic	 Logic used by a computer to process information it can only have two results: The result is TRUE, ON, (1) Or the result is FALSE, OFF, (0) 					
10	Binary	Binary is a number system that only uses two digits: 1 and 0. The binary system is known as a 'base 2' system.					
11	Denary	The decimal or "denary" number system uses the Base-of-10 numbering system – the digits 0-9 used by humans.					
12	Logic Gates	A logic gate is a building block of a digital circuit.					

Bit (b)	The smalle	The smallest unit of data. 0 or 1.								
Nibble (N)	4 bits			L	Logic Gate Operators					
Byte (B)	8 bits (not	e the differe	ence betwee	-	<u> </u>	\sim				
Kilobyte (KB)	1000 bytes	s. Note KB is	different fr			DR -	NOT			
Megabyte (MB)	1000 KB			CONVE	CONVERTING FROM BINARY TO					
Gigabyte (GB)	1000 MB				DENAR	DENARY				
Terabyte (TB)	1000 GB				(also kr binary	(also known as denary) multiply each binary digit with its multiplier, then add up the products to work out the decimal number.				
Petabyte (PB)	1000 MB				add up decima					
Multipliers	128	64	32	16	8	4	2	1		
Binary number	0	0	0	0	0	0	0	0		



	KEY VOCABULARY									
1	Bitmap	Bitmap graphics are made up of pixels. Each pixel is stored on the computer as a series of 1s and 0s. When you take a photo with your smart phone it stores the digital image as a bitmap.	2	Vector	Vector graphics do not have any pixels. Instead they are made up of lines and shapes. When a vector is enlarged the lines and shapes are redrawn; making them great for resizing.					

		FILES TYPES	EDITING TOOLS				
3	JPG PNG	A system used to express numbers Bitmap format that does not compress digital images (bigger file size than JPG). Supports	Q	ZOOM IN/OUT Allows you to enlarge an area of the graphic (zoom in) to see it more clearly. Zoom out to see the whole graphic.	· (BRIGHTNESS/CONTRAST Brightness will lighten/darken the image. Contrast makes the lights lighter and darks darker.	
5	GIF	transparent background. Bitmap format that compresses digital images. Supports transparent background, animation and web safe colours	Ø	CROP Allows you to chop off parts of an image you don't want to see. This will also change the dimensions of the image.	\checkmark	ROTATE Allows you to turn your Images clockwise/anticlockwise by a certain degrees.	
6	TIFF	Bitmap format that does not compress digital images (file sizes tend to be bigger). Great for printing good quality images.		LAYERS Allows you to separate parts of a graphic into different layers, making it much easier to edit the graphic.		DESATURATE Desaturation turns colour photos black & white. Try 'colour splash' to enhance a desaturated photo.	
7	SVG	Vector format; not widely supported. SWF files can be viewed using a web browser, such as Internet Explorer.		RESIZE Allows you to change the dimensions of an image. You can also resize parts of the image if layers are used.	-0 -	FILTERS You can apply different filters to your photo, such as Mosaic Tiles, Stained Glass and Chalk &	

Brightness/Contrast

Glass and Ch Charcoal.

M					Mi vida-Ye	vida-Year 8-A Comer			6. Parallel Text:		
] Pro	sent	Key Vocabulo	ry / g Key v	grammar verbs Past		Future	1	1	Generalmente desayuno <u>cereales</u> o	Generally I eat <u>toast</u> or <u>cereal</u> for breakfast	
Co	mo	leat		Comí	l ate	Voy a	I'm going to	2	<u>tostadas</u>		
D - 1		L aluina Li		Dahí	L alu ava Li	comer	eat	2	y bebo <u>agua</u>	and I drink <u>water</u>	
вег	DO	l drink		Bedi	I arank	beber	drink	3	pero ayer tomé <u>huevos</u> .	but yesterday I had <u>eggs</u> .	
TO	10	mave		Iome	maa	tomar	have	4	¡Qué <u>delicioso</u> !	How delicious !	
De	sayuno	For breakfast I h	ave	Desayuné	For breakfast I had	Voy a desayunar	For breakfast I'm going to have	5	Siempre ceno <u>patatas</u> con <u>carne</u> y verduras	I always eat potatoes with <u>meat</u> and <u>veg</u> for tea	
Ce	no	For tea I have		Cené	For tea I had	Voy a cenar	For tea I'm going to have	6	sin embargo	however I've just been to a	
trai	igo	l bring		Trajé	l brought	Voy a traer	I'm going to bring		acabo de ir a un <u>restaurante chino</u>	Chinese restaurant	
col	mpro	Ibuy		compré	l bought	Voy a comprar	I'm going to buy	7	donde comí <u>fideos</u> con <u>pollo</u> .	where I ate <u>noodles</u> with <u>chicken</u> .	
2	Food and drin	k tostadas – toast	3	¿Qué va a tomar ustec ¿Qué van a tomar uste	In the restaura 1? – What are you g edes? – What are yo	nt oing to have? (sing ou lot going to have	ular) 9? (plural)	8	De postre tomé un <u>helado de</u> <u>chocolate</u>	For dessert, I had <u>chocolate</u> ice cream	
-	pollo – chicken carne – meat avocado leche – milk	pescado – fish un aguacate – an café – coffee		¿Y de segundo? – And ¿Para beber? – To drinl ¿Algo más? – Anything	l for main course? k? y else?		9	porque siempre me ha gustado comer <u>helado</u> .	because I've always liked eating i<u>ce cream</u>.		
	té – tea vegetables galletas – k plátanos – bananas	verduras – – biscuits		Voy a tomar I'll hav De primer plato – as a	Voy a tomar I'll have De primer plato – as a starter De segundo plato – for main course De postre – for dessert				Además, bebí <u>zumo de naranja.</u>	Moreover, I <u>drank orange</u> juice.	
	queso – cheese limones – lemons jamón – ham	pan – bread uvas – grapes lechuga – lettuce		De segundo plato – for De postre – for dessert					En el futuro voy a intentar	In the future I'm going to try	
	carrots agua – water bocadillo – sandwich m	ater manzanas – apples		Tengo sed – I'm thirsty Tengo hambre – I'm hu	ungry			12	comer <u>más fruta y</u> <u>verduras</u>	To eat more fruit and veg	
	arroz – rice yog patatas fritas – chips/crisps cola-cao – chocolate milk	ur – yoghurt	Nada más – nothing else La cuenta, por favor – the bill, please			se			ya que son <u>más</u> <u>sanas</u> .	because they're <u>healthier</u> .	
	zumo de naranja – orange	juice		Let's show off		-		Restaur	ant dialogue		
La ensalada mixta – mixed salad Los huevos fritos – fried eggs Las gambas – prawns El pan – bread Las chuletas de cerdo – pork chops El filete – steak La tortilla española – Spanish omelette El helado de chocolate/vainilla/fresa – chocolate/vanilla/strawberry ice cream La tarta de queso – cheesecake Quesadillas – toasted cheese tortillas Un pimiento rojo/verde – a red/green pepper		4	Lo que más me gusta es thing I like the most is Lo que menos me gusta thing I like the least is Siempre me ha gustado comer/beber – l've alwa eating/drinking Acabo de ir a un restaur chino/indio/italiano I been to a Chinese/India restaurant.	s the es the ays liked rante I have just an/Italian	5 <u>Camarero</u> <u>Cliente</u> : "E <u>Camarero</u> <u>Cliente</u> : "E de vainilla <u>Camarero</u> <u>Cliente</u> : "C <u>Camarero</u> <u>Cliente</u> : "C	Camarero: "Hola. ¿Qué va a tomar usted?" Cliente: "De primer plato quiero ensalada mixta." Camarero: "¿Y de segundo? Cliente: "De segundo plato voy a tomar pollo con pimientos y arroz. De postre quiero helado de vainilla." Camarero: "¿Para beber?" Cliente: "Quiero agua." Camarero: "Muy bien. ¿Algo más?"					
						Cliente: "N	lada más, gracias."				

Year 8 Drama Spring Term Knowledge Organiser

Key Vocabulary:			Johnny and the Dead Rehearsals	Johnny and the Dead
1	Stage Levels	To show power, status or just different locations for the scenes.	8 Key skills Communication – with each other during rehearsals Freeze Frames – to exaggerate a point in the play Teamwork – everyone has a say in what they do and who they are	13 Line Learning When learning a script, it is important for a performer to also learn their cues . For example, a character's first line may follow a lighting change at the start of the play and even if they are on stage prior to the lighting change they must not make the start of the play and even if they are on stage prior to the lighting change they must not
2	Staging	Where actors and set are in the space.	Characterisation – all must be in the shoes of someone else Script writing – planning what the characters say Reading – making sure you are able to access your script Vocal and physical – developing the character using voice and movement	Plot Summary One day, while taking a shortcut through an old cemetery, 12-year-old Johnny Maxwell discovers he can see the spirits of
3	Genre	How the performance makes you feel: Comedy? Thriller? Science Fiction?	9 Key knowledge Dramatic tension is how you keep an audience hooked to the story of your play. It is about creating and maintaining an audience's involvement in the "journey" of your play. One of the main ways of creating tension is by planting questions in the "mind" of the audience.	the dead, who are not happy about having their cemetery levelled to make space for an office building. As Johnny gets to know them, he finds out that there are several remarkable people spending their afterlife there and he decides that it is important to keep the cemetery intact for them. He becomes involved in trying to save it, taking on both the city council and the hig correction which has how the land. At the
4	Monologue	A character speaks directly to the audience about their feelings	10 What we do • Explore vocal acting skills • Experiment with strategies for use of stage voice to show meaning. • Read and interpret characters in scripts.	same time he tries to make the afterlife more pleasant for the spirits. His friends, of course, think he's crazy. Things become complicated when both the big corporation and the spirits take matters into their own hands
5	Theme	The topic of the performance e.g. Supernatural.	Learn to look for the given circumstances. Explore character motivation and develop vocal performance from this. Prepare for and perform scenes from 'The Terrible Eate of Humpty' by David Calcutt	15 Conventions of a Play Text
6	Stylised	How performance is presented non naturalistically.	11 Facial expression and emotions What are the emotions?	Character list – a list of names. Scene title – usually the setting, a theme or even just a number. Stage Directions – descriptions of action placed in brackets during dialogue or in italics elsewhere. Character Names – written in the left hand margin, often in capitals or before a colon
7	Analysing	Realising how a performance is made up of theatrical skills.		Dialogue – speech between characters Scene – a moment of continuous action Act – a grouping of scenes within a play

Year 8 Animal Farm Half Term 2 Knowledge Organiser

Key Vocabulary:			Themes:		Characters:		
1	Allegory	A story, poem, or picture that can be interpreted to reveal a hidden meaning, typically a moral or political one.	9 Power and Corruption The theme of power, control and corruption is explored throughout the novel and is highlighted by the characters' relationships on the farm. Mr Jones uses his power over the animals. It is suggested that Mr Jones uses physical violence to maintain control of the animals. Many of the characters in the novel are eventually corrupted by the power they	13 An age rebellic commu Revolut	Old Major d prize Middle White boar provides the inspiration that fuels the on. He is an allegorical combination of Karl Marx, one of the creators of unism, and Vladimir Lenin, the communist leader of the Russian tion.		
2	Revolution	The usually violent attempt by many people to end the rule of one government and start a new one/a sudden or extreme change.	have as they manipulate their position of leadership to exploit other animals. The pigs take charge and begin to control the other animals. Napoleon uses Squealer and the dogs to stop the animals' questions about the windmill. 10 Class	14 A heave with fa Nichola	Mr. Jones y drinker who is the original owner of Manor Farm, a farm in disrepair rmhands who often act idle on the job. He is an allegory of Russian Tsar as II.		
3	Exploitation	The action or fact of treating someone unfairly in order to benefit from their work.	Animal Farm shows how differences in education and occupation lead to the development of a class hierarchy. Through this, Animal Farm paints a picture of class struggle in which once class divisions are established, it's very difficult to change them or break them down. The animals work relentlessly and are not given the recognition they deserve. Instead, animals like Boxer, are taken advantage of and overworked until the point of exhaustion				
4	Manipulation	The action of influencing or controlling someone or something to your advantage.	and even death. 11 Plot Summary: The novel depicts a traditional farm — Manor Farm — which is owned by a drunk, Mr.	15 An aller takes o the ani	Napoleon gory of Joseph Stalin, Napoleon is the ruthless leader of Animal Farm. He n the persona of the humans and in particular Mr. Jones by exploiting mals for his own selfish gain.		
5	Propaganda	The spreading of ideas, information, or rumour for the purpose of helping or injuring an institution, a cause, or a person.	After the humans go to bed, the animals get together in the barn and have a meeting, where Old Major, a boar, tells them he had a dream of the animals' rebellion against man. They wish for equality and self-determination. The animals are soon given a chance to rebel				
6	Totalitarianism	A government that has complete and utter control over society.	when Jones is away drinking, and the farmworkers forget to feed them. At first, life on the farm is better than it was under Jones. The farm's name is changed to Animal Farm, and the Seven Commandments are established. The animals work more efficiently, and they reap all the rewards of their labour.	16 Napole paralle	Snowball on's rival and original head of the farm after Jones's overthrow. His life Is that of Leon Trotsky.		
7	Dictatorship	A form of government in which one person or a small group possesses absolute power.	Everyone has their role on the farm, and the pigs, who are the most intelligent animals, act as the brains of the operation. However, as time goes on, things begin to change, and the pigs start taking more for themselves, pushing the other animals to work harder. At the same time, they reap the benefits, begin acting like humans, and form business	17 A small ministe	Squealer , white, fat porker who serves as Napoleon's second-in-command and er of propaganda, is a manipulative character and cleverly and subtly uses sion to convince the other animals		
8	Oppression	Prolonged cruel or unjust treatment or exercise of authority.	relationships with the neighbouring farmers. By the end of the story, the animals of the farm are unable to tell the difference between the humans and the pigs.	18 A loyal, horse, a	Boxer , kind, dedicated, extremely strong, hard-working, and respectable cart- although quite naive and gullible. Boxer does a large share of the physical		
9	Capitalism	An economic and political system in which a country's trade and industry are controlled by private owners for profit, rather than by the state.		labour	on the farm and he is taken advantage of by Mr. Jones and the pigs.		

YEAR 8 HALF TERM 3 – EXPLORING BIOMES

Vocab	Definition		2. Biome	Characteristics	3. Threats facing T	ropical Rainforests.		
Biome	A global area that has flora and fauna similarities.		Locations	Climate	Flora and Fauna	Logging Most widely reported 	Agriculture	
Ecosystem	A small scale community of interconnected plants and animals.		Latitudes of 65 degrees noth and south of the equator. E.g.	Rainfall: Low, below 500mm annually. Temperature: Cold winters and cool summers (below 10°C)	Small plants grow close to the	cause of destructions to biodiversity.	 Large scale scale and for ranches and palm oil. Increases carbon emission. River saltation and soil 	
Flora	The different types of plants in an area.	Tundra			ground and only in summer. Low number of	create commercial items such as furniture		
Fauna	The different types of animals in an area.		Alaska/.		most found along the coastline.	 Has lead to violent confrontation between 	to the large areas of exposed land	
Adaptation	The way organisms change to better suits its environment.		The points	Rainfall: Very low less	Low biodiversity	logging companies.	 Increase in paim oil is making the soil infertile. 	
Deforestation	Clearing a large area of trees.	Polar	furthest north and osyth on the planet. Antarctica and the Arctic circle.	Temperature: Very low all year round, can be as low as - 30°C.	fauna. Extreme adaptations are needed to	Mineral Extraction Precious metals are	 Tourism Mass tourism is resulting in the building of hotels in extremely vulnerable areas. Has caused negative relationships between the government and tribes Tourism has affected wildlife (apes) by exposing them to human diseases. 	
Biodiversity	The variety of plant and animal life in a particular habitat.				survive the harsh conditions.	 found in the rainforest. Areas mined can experience soil and 		
Deciduous	A tree or forest that sheds its leaves seasonally.				Highest	 water contamination. Indigenous people are 		
Tundra	The biome just below the polar biome, it is cold and has limited biodiversity.	Tropical	Along the equator.	Rainfall: Very High over 200mm per year. Temperature: Hot all year round.	biodiversity on the planet. Tall trees forming a canopy. Most animals living in the canopy layer.	from their land due to roads being built to transport products.		
Permafrost	A layer of ground in the Tundra biome that is permanently frozen throughout the year.							
Agriculture	The practise of farming.		Between latitudes 40 degrees and 60 degrees north of the equator.	Rainfall: Variable rainfall 500-1500mm annually. Temperature: Warm summers and mild winters, no temperature	Mainly deciduous trees; a variety of species. Animals adapted to the warmer summer and cooler winter. Some species migrate.	4. Threats facing Tundra/Polar Biomes		
Mineral Extraction	Means the removal of minerals, including, sand, gravel, shale, rock, coal, soil for profit.	Tomporato				Oil and Gas Exploration.	 Whaling Hunting of whales is a major industry – this led to a rapid decline in whale populations. Many countries have banned whaling, but 	
Temperate	An area that has no extreme weather and climate.	icinperate				 Arctic holas a large amount of untapped oil and gas. 		
Afforestation	The process of planting trees after deforestation.			extremes.		 Oil spills would threaten ecosystems as clean up operations would be 		
	1. Global Distribution of biomes	90 80 (juing 70		20 15 J) orațe		slow.	some still continue	
		CC Grap Tund	Monthly Precipitation (mm)	Average Monthly Temperature ("C)	Climate Graph for the Tropical Rainforest Biome .	 Fishing Has made area possible to fish large untapped stocks. The polar areas are difficult to police due to harsh conditions. Collapse of the fish stocks might damage ecosystems. 5. Different types 	 Tourism The tourism industry is steadily growing within polar regions. Travel by tourists have increase emissions further. Wildlife may become disturbed by tourists getting up close. 	
Tropical fore	est Polar and high-mountain ice Temperate deciduous 1 Coniferous forest Temperate grassland Tundra (arctic and alpi	forest	January January	bund hard point way une un product and bund hard point and the set	entre color de la	International agreements and selective logging, afforestation	debt for nature swaps,	

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YEAR 8 HALF TERM 4 – EXPLORING CITIES





Year 8 History Spring Term Knowledge Organiser

Key Vocabulary:			Wh	hat were people rights in 1800 and who tried to improve these rights?	W						
1	Industrial Revolution	a period of rapid change in science and technology. Britain transformed from a rural to an urban society.	9 a. No i b. Onli of pop c. Voti d. Eac	 9 What were people's rights in 1800? a. No man under 21 can vote no women at all. b. Only men who own property worth 40 shillings a year could vote- 5% of population. c. Voting is not in secret you have to announce who you're voting for. d. Each man standing for elections is called a candidate. The candidate 							
2	Reform	to change and make something better.	with the e. As a parties f. The	with the most votes becomes an MP. They are not paid! e. As an MP you will probably belong to one of the two main political parties. f The political party which has the most MPs forms the severement and							
3	Protest	a statement or action to express disapproval or objection to something.	its lead g. Hug h. Wo efforts	its leader becomes Prime Minister. The government make the laws. g. Huge new towns like Manchester and Birmingham had no MPs. h. Workers cannot form unions or groups to support them in their efforts to get better pay and conditions.							
4	Revolution	to cause rapid and sudden change.	10	What was the Peterloo Massacre?	• : • • 1						
5	Martyr	someone who has killed for their religious or other beliefs	16 Aug they w MP an and18	<u>16 August 1819 –</u> up to 60,000 people attended a speech by Henry Hunt they were angry about working conditions and that Manchester had no MP and only the rich could vote. Soldiers called in to stop the protest and 18 people died and 650 injured. Initially the impact was negative as							
6	Democracy	a political system which is rule of the people.	henry Hunt was arrested and radical newspapers were shut down and meetings of over 50 people were made illegal. However in the long run it inspired the 1832 Great Reform Act and led to the establishment of the Manchester Guardian.								
7	election	an organized choice by	11	What was the 1832 Great Reform Act?	a.						
0	Charting	people for MPs to represent them in parliament.	the Reform Act of 1832 increased the electorate from around 366 to 650,000, which was about 18 per cent of the total adult-male population in England and Wales. The vast majority of the workir classes, as well as women, were still excluded from voting and the failed to introduce a correct ballet.		e. f						
8	Chartism	– a reform movement of 1837–48, who called for universal	12.	Who were the Tolpuddle Martyrs?	1.						
		suffrage for men, equal electoral districts, voting by secret ballot, abolition of property qualifications for MPs, and annual general elections.	The To were transp Field then s pardo union	olpuddle Martyrs were workers were agricultural workers who convicted in 1834 of swearing an illegal oath and sentence to portation to Australia. The public protested with the Copenhagen Demonstration where 35,000 to 100,000 people attended and sent a petition to Parliament. This resulted in the government ning the Tolpuddle Martyrs and led to the establishment of trade s	g. h.						

What were people rights in 1800 and who tried to improve these rights?

Who were the Chartists?

The Chartists were a reform movement of 1837–48 who sent petitions to parliament with many signatures demanding six things.

- 1. Vote for all men over 21.
- 2. Secret ballot.
- 3. No property qualification for MPs.
- 4. Payment of MPs.
- 5. Equal constituencies.
- 6. Annual elections.

While none of these changes happened when the Chartists were campaigning, eventually all but one of their aims were achieved.

- **1858-** the property qualification was abolished.
- The vote was extended to more men in 1867 & 1884.
- In **1918** all men over 21 and many women over 30 could vote.
- Secret ballot introduced in **1872**.
- In **1885** electoral districts = equal.
- 1911 MPs received a wage

14	What are people's rights in the 21 st century?
a.	Men and women can vote - be 18 or over on the day of the election
b.	elections every 5 years and usually the first Thursday in May

- c. Voting is in secret ... you will cast your vote in private and then place in the box folded. You can also vote by post.
- d. Each person standing for elections is called a candidate. The candidate with the most votes becomes an MP. They are well paid.
- There are a variety of different parties to choose from and each has very different ideas – Conservatives, Labour, Lib Dems, Independent Parties.
- f. The political party which has the most MPs forms the government and its leader becomes Prime Minister. The government make the laws.
- g. The UK has 650 parliamentary constituencies each providing 1 MP. Every person in the country is represented by an MP
- People have the right to join a trade union and take part in variety of union activities such as striking on order to achieve better pay and conditions.

Year 8 Design and Technology Spring Term Knowledge Organiser

Кеу	Vocabulary:			Bo	ottle Balance		3D Design
1	Form	Form is the shape, visual appearance, or configuration of an object. In other words – how a product looks.	8	Coping Saw	A coping saw is a type of bow saw used to cut intricate external shapes and interior cut-outs in woodworking or carpentry.	15 A uniq	Bottle Balance - What is it? ue device to display or store a bottle!
2	Function	An activity that is natural to or the purpose of a person or thing. In other words – how a produce works.	9	File	File (tool), a tool used to remove fine amounts of material from a workpiece.		
3	Equilibrium	The condition of a system in which all competing influences are balanced. There are three types of equilibrium: stable, unstable, and neutral.	10	Glasspaper	Glasspaper and sandpaper are names used for a type of coated abrasive that consists of sheets of paper or cloth with abrasive material glued to one face.	16 Use specialist machinery pre	Manufacture - What is it? t tools techniques processes equipment and cisely and use a wider more complex range of
4	Design Brief	A design brief is a document for a design project developed by a person or team in consultation with the client/customer. They outline the deliverables and scope of the project; function and aesthetics, timing, budget, etc.	11	Edge Treatment	The edge treatment can affect functionality and performance. Edging is done for safety, aesthetic, functionality, cleanliness, improved dimensional tolerance, and to prevent chipping. Edging is	materials com	ponents taking into account their properties.
5	Specification	It is a list of criteria that the product needs to meet if it is to be successful.			generally described as a grinding process used to remove the sharp or raw edge of cut wood.	15	
6	Scale Models	A scale model is a physical model which is geometrically similar to an object (known as the prototype).	12	Dimension	a measurable extent of a particular kind, such as length, breadth, depth, or height.	15 It is a simp projection (Isometric Projection ble type of technical drawing of graphical used for producing three-dimensional (3D) images of objects.
		Scale models are generally smaller than large prototypes such as vehicles, buildings. Models built to the same scale as the prototype are called mock- ups.	13	Diameter	A diameter of a circle is any straight line segment that passes through the centre of the circle and whose endpoints lie on the circle.		
7	Man-Made	Manufactured boards are timber	14	Radius	A radius of a circle or sphere is		•
	Boards	sheets which are produced by gluing wood layers or wood fibres together. Manufactured boards often made use of waste wood materials. Manufactured boards have been developed mainly for industrial production			any of the line segments from its centre to its perimeter, and in more modern usage, it is also their length. The name comes from the Latin radius, meaning ray but also the spoke of a chariot wheel.	16 Designers eva they work wel It is importa the pro improveme	Evaluation Iuate their finished products to test whether I and if design can be corrected or improved. Int to evaluate your work constantly during oject to see if it is on track and so that ents can be built-in throughout the design process, not just at the end.

Year 8 Science Spring Term - Magnetism

Key Vocabulary:	
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1	Attract	A pulling force causing objects to move towards each other.
2	Bar magnet	A permanent magnet with a North pole and South pole.
3	Coil	A length of wire wrapped to form a spiral.
4	Core	The centre of an object.
5	Current	The rate of flow of charge.
6	Electromagnet	A solenoid (coil of wire) with a current flowing through it, containing an iron core.
7	Field Lines	Imaginary lines running from the North to South pole of a magnet, showing the direction and strength of the magnetic field.
8	Geographical Pole	Either of the two points on Earth where the axis of rotation meets the surface.
9	Induced	When something is caused or produced as a result of being near something else.
10	Magnet	A material that produces a magnetic field, causing other magnetic materials to be attracted or repelled.
11	Magnetic	Relating to magnetism and magnetic fields.
12	Magnetic Field	The area around a magnet that is affected by the non-contact magnetic force.
13	Permanent	Lasting forever or indefinitely.
14	Repel	A pushing force causing objects to move away from each other.
15	Solenoid	A coil of wire with a current flowing through it.
16	Steel	An alloy made up of iron and other substances.
17	Temporary	Lasting for a limited period of time, not permanent.

	18	Magnetic Force	21	Induced Magnetism
	• (19 • [•]	The magnetic force is a non-contact force. Only some metals are magnetic: iron, cobalt, nickel and their alloys (such as steel). Magnets Magnets have a north and a south pole. The poles of a magnet are where the magnetic force is the strongest. Opposite poles attract and like poles repel (remember, opposites attract!)	 T V it S o w T p n 	The strength of the magnetic field depends on the current hrough the wire and the distance from the wire. When a wire is wrapped around into a coil shape, we call t a solenoid. haping a wire to form a solenoid increases the strength of the magnetic field created by a current through the vire. The magnetic field inside a solenoid is strong. The magnetic field around a solenoid has the same wattern as the magnetic field around a permanent bar nagnet.
			22	Electromagnets
	• • • 1	Permanent magnets are magnetic all the time. Bar magnets are permanent magnets. Magnetic materials, including the Earth, create magnetic fields.	• A n ir	An electromagnet is a solenoid with an iron core. We can nake an electromagnet by wrapping a wire around an ron nail and turning on the current.
	20	Magnetic field lines are used to describe the strength	-	
	• 1	and direction of the magnetic field. The direction of the magnetic field at any point is given	• I ir n	he strength of the magnetic field around a solenoid is ncreased by adding more turns in the coil, adding a nagnetic material as a core or increasing current.
•	ł	by the direction of the force that would act on another	23	Earth's Magnetic Field
	• 1 • 1 • 1	north pole placed at that point The arrows on the magnetic field lines always point from the North pole to the South pole. Magnetic field lines never cross or touch. Field lines flow from the North pole to the South pole.	•т	The Earth has a magnetic field.
	• (Closer field lines demonstrate that the magnetic force is	• A	compass will point to Earth's North "magnetic" pole
	9	stronger.	W.	which is different to Earth's geographic North pole which
	21	Induced Magnetism	19	s also different to the true North pole of the Earth s
	• \ • \ •	Induced magnets are materials that become magnetic when placed in a magnetic field and when removed, lose their magnetism. When a current flows through a conducting wire a magnetic field is produced around the wire.	• T b • N • T p	The Earth behaves like it has a giant bar magnet inside it, because of currents of molten iron and nickel in its core. Molten means melted. The Earth's magnetic field has the same pattern as a bermanent bar magnet.

tic field created by a current through the netic field inside a solenoid is strong. field around a solenoid has the same magnetic field around a permanent bar

Electromagnets



Earth's Magnetic Field



- Il point to Earth's North "magnetic" pole rent to Earth's geographic North pole which nt to the true North pole of the Earth's
- aves like it has a giant bar magnet inside it, rrents of molten iron and nickel in its core.
- s melted.
- agnetic field has the same pattern as a r magnet.



Year 8 Music Spring Term 2 Knowledge Organiser

Key	v Vocabulary:		Music Context		
1	Melody	The main tune or musical theme	10 4 Chords	13	Strophic form
				Pop so blocks	ngs are structured by Strophic form – this is the of music that make up the song
2	Articulation	How the notes are played – smooth (legato) or short (staccato)		Intro – drums lead gu	normally an 8 bar pattern where the chords, and bass play without the singer – possibly a litar melody
3	Genre	When you compose you need to think about the style of the music first – what is the story? What do you want to say to the audience		this, I o	did this etc 5 – the feelings of the singer about the story
				Bridge	– the overall crux of the story and feelings –
4	Bass line	Normally one note from the chord played in a rhythm under the chord in a lower pitch	A C E F A C	often t Outro	he climatic point – either a repeated chorus fading out or an nental ending to bring the song to a close
5	Chords	Chords are 2 or 3 notes played			
		together at the same time.	11 The 4 chord trick	14	Playing chords
			Many songs are composed using the 4 chords – the way they	Chords	s don't have to be just played in groups of 3
6	Lyrics	The story or message of songs and music	all sound different is the lyrics and melody that is sung.	notes	all together.
			The speed and style also help to make each song different. Rap – will use the chords as riffs Ballad – as slow chords	Adele chord	often uses broken chords – the notes of the (CEG) played one after the other
7	Chords patterns	Groups of chords played one after the other as an accompaniment. Example – C = CEG and G = GBD	Pop song – quick changes – every 2 beats perhaps	Other CGEG - order	types of playing chords include: Alberti bass – - notes of the chords played in note 1 – 5 – 3
0	Majarkov	Major kova ara hanny sounding	12 The 4 chords In music the chords are written in Roman numerals like this		
õ	тиајот кеу	for the chords we use C = CEG, F = FAC and G= GBD are all major chords	I-V-vi-IV To the player it looks like this = $C - G - Am - F$	Bass a togeth	nd chords – Bass note and other 2 notes er afterwards
9	Minor key	Minor keys are more sullen (sad) in sound – for the chords we use Am – ACE is the minor chord	a reason. It's been used in just about every genre imaginable, from post-punk to country and western music.		

Year 8 Music Spring Term Knowledge Organiser

Ke	y Vocabulary:		Music Context		
1	Melody	The main tune or musical theme	10 4 Chords and tab	13The ukulele	
			Am C F G	GET TO KNOW YOUR UKULE	LE
2	Articulation	How the notes are played – smooth (legato) or short (staccato)		head tuning peg	
3	Ukulele	Small 4 stringed member of the string family – is linked to Hawaii	On the ukulele tab music 0= open	fret markers neck	
4	Plectrum	The disk used to help with playing the guitar or ukulele – often called a "pick"	1101 dot shows which 0	strum zone (where to play to get the best sound) soundhole	
			11 The 4 chord trick	saddle	
5	Strumming	Using your right hand in a down and up motion playing all 4 strings of the ukulele to play chords	The 4 chord trick has been used in Pop songs for many years. It is a formula created after the 1950's, where the 12 Bar Blues 3 chords were still used.	bridge	
6	Finger picking	Using one finger of the right hand	The chords are played C, G, Am, F		
		to pluck the ukulele strings to play one note at a time – like for a melody line	There are over 150 songs that use the exact same pattern – different speeds and genres	14Ukulele factsThe word 'ukulele' is the Hawaiian word for flea'.	'jumping
7	Chords	2 or more notes played together	12 The 4 chords	Likuleles most commonly have four strings h	ut some
		at the same time, example - CEG	In music the chords are written in Roman numerals like this I-V-vi-IV To the player it looks like this = $C - G - Am - F$	are paired and have as many as eight strings	. The
8	Major key	Major keys are happy sounding – for the chords we use C = CEG, F = FAC and G= GBD are all major chords	This progression is called "the most popular progression" for a reason. It's been used in just about every genre imaginable, from post-punk to country and western music.	tuning of a four string ukulele is G, C, E, A	
9	Minor key	Minor keys are more sullen (sad) in sound – for the chords we use Am – ACE is the minor chord			

Year 8 Science Spring Term Knowledge Organiser – Respiration & Photosynthesis

Key	/ Vocabulary:				Respiration		Photosynthesis
1	Aerobic	Requiring oxygen.	15. • P	espiration is a che	Aerobic Respiration	18.	The Leaf
2 3	Anaerobic Biodomes	Without oxygen. A self-contained and self-sufficient environment.	• A • R • T	espiration is a cher exothermic) Il living things resp espiration is carrie he purpose of resp	bire. d out in all cells continuously. biration is to release energy for		upper epidemia palitade
4	Breathing	The movement of air into and out of the lungs through the nose and mouth.	0 • Li a • A • T	rganisms to use. iving things need e nd for other chemi erobic means 'req he word equation	energy for movement, keeping warm ical reactions to build molecules uiring oxygen' for aerobic respiration is:		Here estimate unce
5	Chloroplast	Organelle that contains the green	Cluck		-> carbon dioxido + water		storna~
		light energy for photosynthesis		se + oxygen		19	 Epidermis – thin and transparent to allow more light to pass through leaf to get to chloroplasts
6	Chlorophyll	One among a group of pigments used to convert sunlight energy into chemical energy through the process of photosynthesis.	 An An rel Du 	aerobic means 'wi aerobic respiratior eases less energy f iring intense exerc	thout oxygen' n takes place without oxygen and than aerobic respiration ise, if there is not enough oxygen		 Palisade mesophyll - site of photosynthesis and contains lots of chloroplasts to absorb max sunlight Spongy mesophyll – contains lots of air spaces to increase surface area and allow carbon dioxide
7	Epidermis	Epidermis is the outermost layer of (skin or leaves).	• Ae	en anaerobic respir robic respiration u an anaerobic respi	ration takes place ises oxygen and releases more energy ration		 and oxygen to diffuse easily Stomata – holes in the leaf to allow carbon
8	Fermentation	An anaerobic process in which energy can be released from glucose even if oxygen is not available.	 An lac Th 	aerobic respiration tic acid which resu e word equation for	n in muscle cells causes a build-up of ilts in an oxygen debt or anaerobic respiration in animals is:		 dioxide to diffuse in and oxygen to diffuse out Guard cells – to open and close the stomata to let substances in and out and to close it in order
9	Glucose	One of a group of carbohydrates known as simple sugars		Glucose	\rightarrow lactic acid		to prevent water lossXylem - transport water from roots to leaves and
10	Lactic acid	An acid present in muscle tissue as a product of anaerobic respiration.	 An an Th 	aerobic respiratior d is used to make l e word equation fo	n in yeast cells is called fermentation bread and alcoholic drinks or fermentation is:		 the wall is strengthened with cellulose and lignin Phloem - transport water and glucose in a two way system.
11	Mitochondria	Part of the cell where energy is released	Glu	ucose → etl	hanol + carbon dioxide	20	The Leaf
12	Oxygen Debt	The volume of extra oxygen the body	17 • Pla	ants and algae mak	Photosynthesis the their own food using a process		 Leaves are the primary site of photosynthesis in plants. Water leaves the plant via the stomata on the
		accumulated lactic acid and remove it from the cells.	cal Lig	led photosynthesis tht provides the en	s. Iergy needed for photosynthesis ovide are the reactants required for		Chloroplasts in plant underside of cells contain a green leaves.
13	Transpiration	Movement of water through a plant from where is absorbed at the roots to where it evaporates from stomata.	• Pla	otosynthesis. ants make carbohy	drates in their leaves by		chlorophyll which uses the energy in light for photosynthesis.
14	Stomata	Microscopic pores found on the epidermis of plants.	• Th	e soil via their root e products of phot	is. cosynthesis are oxygen and glucose.		Leaves have a number of adaptations which allow them to composit

carbon dioxide + water \rightarrow glucose + oxygen

photosynthesis

effectively.

Year 8 Religious Studies Spring Term Knowledge Organiser – Jewish Beliefs and Practice

Key	/ Vocabulary:			What do Jews believe?	How do Jews practice their religion?
			8	Nature of G-d	
1	Omnipotent	The belief that G-d is 'all- powerful'.	Jew n 9 Thre	vs believe that G-d is perfect, and so do not write His ame in full as that is a sign of disrespect. G-d is all- powerful, all-knowing, everywhere and eternal. Covenants pughout history G-d has made several covenants	13 Synagogue The Jewish holy building is called the synagogue. Orthodox synagogues have separate areas for men and women to worship, whilst Reform synagogues allow men and women to sit together. Usually worship is led by a Rabbi.
2	Omniscient	The belief that G-d is 'all- knowing'.	with cho Pro	n His people. G-d has promised that the Jews are His sen people and that they will be delivered to a mised Land, Israel.	The Torah teaches that G-d created the world in 6 days and rested on the 7 th . The 7 th day is known as Shabbat as is a day of rest for Jewish people. Shabbat is celebrated every week from sundown on Friday
			10	Abraham and Moses	evening to sundown on Saturday evening. Jewish
3	Covenant	A two sided agreement made between man and G-d.	Abr mac Abr his	aham and Moses are two important patriarchs who de covenants with G-d. aham was willing to sacrifice his son, Isaac, to prove loyalty to G-d. G-d stopped the sacrifice, and	families get together as a family and focus on G-d.15Bar and Bat MitzvahsThese rites of passage mark a change from a child to an adult in Judaism. Bar Mitzvahs take place for Jewish boys at the age of 13, and Bat Mitzvahs happen for girls
4	Patriarch	A male leader of the Jewish community. They have a special relationship with G-d.	Mo: Egy Mo:	mised to make Abraham a great leader. ses worked with G-d to free the Jews from slavery in pt. G-d sent 10 plagues to Egypt before giving ses the 10 Commandments on Mount Sinai.	at age 12. Following a Bar/Bat Mitzvah, the Jewish person is seen as being responsible for themselves and having to follow the mitzvot.
5	Messiah	A prophesied savior. The Torah teaches that the Messiah will bring an end to all war and conflict, and will deliver the Jewish people to the Promised Land.	11 Ortl figu Jew Refe	Messiah hodox Jews believe that the Messiah is a promised re who will bring an end to all war and lead the s to the Promised Land. orm Jews believe that the Messiah that was mised might actually be a period of time that we all	There are many Jewish festivals throughout the year. We will focus on three: Pesach, Rosh Hashanah and Yom Kippur. Pesach: Passover, which remembers the story of Moses freeing the slaves from Egypt and the angel of Death 'passing over' the Jewish houses.
6	Mitzvot	Rules or commandments.	nee 12 Jew com	d to work towards. Jewish Law s believe that G-d has issued 613 mitzvot or mandments for people to follow. These are	Rosh Hashanah: Jewish New Year. On Rosh Hashanah we remember the creation of the world, and focus on judgement and forgiveness. This is a time for apologies.
7	Rite of Passage	An event that marks a stage in someone's life, and typically a change.	con rule life. The	tained in the Torah, given to Moses, and feature is around food, clothing, religious life and day to day se also include the famous 10 Commandments.	Yom Kippur: Day of atonement. This is a festival that even non-religious Jews might take part in. The day is spent in prayer, often in the synagogue and people focus on G-d, getting rid of other distractions like perfume, make up and food.

Year 8 Physical Education Spring Term Knowledge Organiser

Кеу	Vocabulary:	
1	Physical	Physical fitness refers to the ability of your body systems to work together efficiently to allow you to be healthy and perform activities of daily living
2	Skill	The abilities that are necessary for successful sports performance.
3	Components of fitness	The PHYSICAL and SKILL parts that keep the body healthy
4	Muscle	a band or bundle of fibrous tissue in a human or animal body that has the ability to contract, producing movement in or maintaining the position of parts of the body:
5	Agonist Antagonist	Agonist works when the muscles relax and antagonist works when muscles contract. Agonists can be called as 'prime movers' as these very much responsible for producing specific movements.
6	Training	the regular use of exercises to promote bodily fitness and strength.
7	Ligaments Tendons	A tendon is a fibrous connective tissue which attaches muscle to bone. A ligament is a fibrous connective tissue which attaches bone to bone.



Deltoid	outwards and away from the body)	jumping jack
Pectoralis major	Adduction of the shoulder (moving the arm towards the body); Shoulder horizontal flexion (moving the arms forwards in front of the body)	Upwards phase of a press up
Triceps	Extend the elbow (straightening the arm)	Shooting in netball
Biceps	Flex the elbow (bending the arm)	Drawing a bow in archery
External obliques	Trunk rotation (turning the body sideways)	Turning the body to breathe to the side when performing front crawl in swimming
Latissimus dorsi	Shoulder adduction (moving the arm towards the body); Shoulder horizontal extension	Butterfly stroke in swimming
Hip flexors	Hip flexion (moving knee up towards the chest)	Performing a rugby conversion kick
Gluteus maximus	Hip extension (moving the leg backwards)	Pulling back leg before kicking a ball
Quadriceps	Extend the knee (straightening the leg)	Kicking a ball
Hamstrings	Flex the knee (bending the leg)	Performing a hamstring curl on a weights machine
Gastrocnemius	Plantar flexion of the ankle (pointing the toes downwards)	Standing on tiptoe to mark a goal shoot in netball
Tibialis anterior	Dorsiflexion of the ankle (bringing the toes up towards the shin)	Foot making contact with a football

Gas

Body con	nponents
9 Compon	ents of fitness
Physical	Skill
Aerobic Endurance	Agility
Muscular Endurance	Balance
Flexibility	Coordination
Strength	Power
Speed	Reaction time
Body Composition	
10 Metho	ds of training

Continuous - a steady pace, moderate intensity training method used for developing aerobic endurance. Can be running, swimming or cycling

Circuit Training- circuit training involves a series of different activities. Lots of people ca take part in a range of activities with little equipment needed

Interval training - is where periods of exercising are followed by a rest of recovery period at slower speeds. Useful for games players

	11 School focus
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RESPECT – BE polite and considerate Shaking hands after the game

RESILIENCE – Positivity Trying that skill again even though its difficult

ASPIRATION – belief in our self What can I do to improve my performance

		Year 8 Fo	od Te	echnology Spring	; Term Knowledge Organiser			
Ke	ey Vocabulary: The Eatwell (Guide	Кеу	y Vocabulary: Nutriti	on	Key	y Vocabulary: Cookir	ng
1	The Eatwell Guide		1	Energy	The power the body requires to stay alive and function.	1	cut, slice and chop	
2	Fruit and vegetables.		2	Digestion	The process by which food is broken down in the digestive tract to release nutrients for absorption.	2	grate	
3	Potatoes, bread, rice, pasta or other starchy carbohydrates.		3	Macronutrients	Nutrients needed to provide energy and as the building blocks for growth and maintenance of the body.	3	peel	
4	Dairy and alternatives.		4	Micronutrients	Nutrients which are needed in the diet in very small amounts.	4	mix and combine	<u>එ</u> .
	,		5	Sedentary activity	Requires little energy expenditure and includes sitting or lying down to watch			\bigcirc
5	Beans, pulses, fish, eggs, meat and other protein.				read, work or study, and sitting when travelling to school or work.	5	use the grill	J.
			6	Moderate activity	Food made with ingredients from more than one food group.	6	use the hob	88 C
6	Oil and spreads.		7	Vigorous activity	Makes you breathe hard and fast.	7	use the oven	000
7	Foods high fat, salt and sugar.		8	Stages of digestion	IngestionDigestionAbsorptionElimination			

Year 8 Maths Autumn Term Knowledge Organiser - Addition & subtraction of fractions

Key	Vocabulary:			
1	Denominator	The number below the line on a fraction. The number represent the total number of parts	11 Representing Fractions 11 Representing Fractions 11 represented in	14Adding or Subtracting FractionsFind the LCM of the denominators to find a common denominator. Use equivalent fractions to change each fraction t the common denominator. Then just add or subtract the
2	Numerator	The number above the line on a fraction. The top number. Represents how many parts are taken.	all the images	numerators and keep the denominator the same $\frac{2}{3} + \frac{4}{5}$ Multiples of 3: 3, 6, 9, 12, 15 Multiples of 5: 5, 10, 15 LCM of 3 and 5 = 15
3	Divide	To separate into parts	12 Add/Subtract unit fractions With the same denominator ONLY the numerator is added or subtracted	$\frac{\frac{2}{3}}{\frac{4}{5}} = \frac{\frac{10}{15}}{\frac{12}{15}}$ 10 12 22 7
4	Greater than	To be more than or have more value than another number	$\frac{1}{12} + \frac{1}{12} - \frac{1}{12} \qquad \qquad = \frac{2}{12}$ $\frac{1}{4} + \frac{1}{4} \qquad \qquad \qquad = \frac{2}{12}$	$\frac{15}{15} + \frac{1}{15} = \frac{1}{15} = 1\frac{1}{15}$ 15 Understand and use equivalent fractions. Equivalent fractions have different numerators
5	Less than	To be smaller than or have a smaller value than another number.	13 Mixed numbers and fractions An improper fraction has a numerator which is greater than the denominator. For example: Improper fraction Improper fraction	and denominators but share the same value. $\boxed{1} = \boxed{2} = 4$
6	Mixed number:	A number with an integer and a proper fraction	A mixed number is made up of an integer and a proper fraction. For example:	2 = 4 = 8 16 Add and subtract proper fractions and mixed numbers.
7	Improper fractions	A fraction where the numerator is greater than the denominator.	To convert between improper fractions and mixed numbers, we need to look at how many parts make up the whole. The bar models show $\frac{13}{2}$.	Use the bar models to help you work out the calculation. $1\frac{1}{4} + \frac{3}{8} = 1\frac{2}{8} + \frac{3}{8} = 1 + \frac{5}{8} = 1\frac{5}{8}$ $1\frac{1}{4} + \frac{3}{8} = \frac{5}{4} + \frac{3}{8} = \frac{10}{8} + \frac{3}{8} = \frac{13}{8} = 1\frac{5}{8}$
8	Unit fraction	A fraction where the numerator is one	There are 6 parts in the whole. $13 \div 6 = 2$ remainder 1	17 Use equivalence to add and subtract decimals and fractions
9	Whole	An integer or when the numerator is the same value as the denominator.	$\frac{13}{6} = 2 \frac{1}{6}$ The bar models show $3 \frac{2}{5}$.	Example: Convert decimal to equivalent fraction 0.7 to 7/10 then add these fraction together. $\frac{3}{10} + 0.7$
10	Equivalent	Something that is essentially the same or equal to something else, but might have a difference in how it is represented.	$3 \times 5 = 15$ $\frac{15}{5} + \frac{2}{5} = \frac{17}{5}$	$\begin{array}{c c} 0.3 + 0.7 = 1 \\ \hline 10 + 7 \\ \hline 10 + 10 \\ \hline 1$

Key Vocabulary:

1	Ratio	Used to compare values; says	10 Representing Ratios	14 Expressing Ratios in Simplest Form
		compared to another thing.	Ratios can be represented in many different ways:	ratio.
2	Proportion	When two ratios or fractions are		Example Simplify the ratio 12:18
		equal to each other.		We know the highest factor of both 12 and 18 is 6, so we can
			4 40 44 ×0.75	divide both numbers by 6.
3	8 Multiplier	The number that we are	Blue 4 : 3 *	$12 \div 6 = 2$
		multiplying by.	3 30 33	So, the simplified ratio is 2:3.
				(Remember, the order is important, this shouldn't change!)
			+0.75	15 Comparing Ratios and Fractions
2	Placeholder	Something that holds a place in a	11 Ratio Notation	We can use representations (like those in section 8) to help us compare ratios and fractions
		number, e.g. zero.	for example 3:1.	
			The order of the numbers in the ratio is always important;	Example
			this tells us what the information is about.	Ratio Fraction
5	5 Factors	Numbers that we can multiply	Most ratios have two parts, but ratios can have more than two parts for example 2:2:1	Red : Yellow $\frac{2}{7}$ are red
		together to get another number.		$2:5$ $\frac{5}{7}$ are yellow
		Numbers that go into another	12 Solving Problems in the Ratio 1:n	16 Understanding π as a Ratio
		number.	The ratio 1:n means any ratio beginning with 1, followed by	π is a number that represents the ratio of the circumference
			n can be any number, including decimals, but for this topic, n	of a circle to the diameter of a circle, so $\pi = \frac{1}{d}$.
F	5 Equivalent	Having the same value	will always be an integer (a whole number).	This can be rearranged to find the formula for the circumference of a circle: $C = \pi \times d$
Ľ	Equivalent	having the same value.	13 Dividing Values into Given Ratios	We can substitute values of the diameter into this formula to
			We can use a bar model to help us understand how to divide	calculate the circumference of any circle.
7	/ Scale	The relationship/ratio between	values into a given ratio.	Evenue
		two sets of measurements.	Frample	The radius of a circle is 8m. Find the circumference.
			Share £56 in the ratio 2:5.	$C = \pi \times 8 = 25.132 m^2$
				17 Understanding Gradient as a Ratio
٤	8 Circumference	The perimeter (the distance	There are 7 parts altogether,	Gradient (or slope) describes how steep a line is.
		around the outside) of a circle.	these 7 parts by doing $56 \div 7 = 8$.	width : height of a triangle.
				Once we make the width equal 1, the height tells us the
ç	Diameter	The distance from one point on a	Now we know that 1 part = £8, we can work out how much 2	gradient of the line.
		circle to another point on a circle,	parts are $(2 \times 8 = \pm 16)$ and how much 5 parts are $(5 \times 8 = \pm 40)$.	Example
		The longest distance across the	We can check our answer is correct by adding together our	Here the width : height ratio is 2:4.
		circle.	amounts and seeing if we get our original value: 16 + 40 = 56,	This can be simplified to 1:2.
			so we are correct.	The width is 1, and the height is 2, so the gradient is 2.

Year 8 Spring Term KS3 Mathematics Knowledge Organiser – Multiplying and Dividing Fractions

Ke	y Vocabulary:		10 Representing Fraction Multiplication	14 Dividing an Integer by a Fraction We can use bar models to understand how to divide an
1	Unit Fraction	A fraction with 1 as its numerator, and an integer (whole number) as its denominator. E.g. ¼	ways, using the idea of repeated addition as well as pictures/physical objects and bar models. $\boxed{\frac{2}{3} \frac{2}{3} \frac{2}{3} \frac{2}{3} \frac{2}{3}}$	integer by a fraction, e.g. $1 \div \frac{1}{4} = 4$. We can link dividing by a fraction with multiplying by an integer to help us understand the relationship between the two.
2	Numerator	The top number in a fraction.	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	For example: $3 \div \frac{1}{4} = 12$ and $3 \times 4 = 12$. 15 Dividing a Fraction by a Unit Fraction We can use a fraction wall to belo us divide a fraction
3	Denominator	The bottom number in a fraction.		by a unit fraction. Think about how many unit fractions we would need to make the original $\frac{1}{2}$ $\frac{1}{2}$ 1
4	Product	The answer when two or more values are multiplied together.		fraction. E.g. $\frac{1}{2} \div \frac{1}{16} = 8$. 16 Understanding and Using the Reciprocal We need to know that:
5	Whole	All of something. A thing that is complete in itself.	11Multiplying a Fraction by an IntegerWe can use a number line to understand how to multiply a fraction by an integer. For example: $7 \times \frac{1}{8} = \frac{7}{8}$.	 The reciprocal of a number is always 1 divided by the number. Division is the same as multiplying by the reciprocal. A number multiplied by its reciprocal is always 1.
6	Non-unit Fraction	A fraction where the numerator is greater than 1. E.g. ¾	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	For example: $7 \div \frac{1}{5} = 35$ and $7 \times 5 = 35$. 17 Dividing any Pair of Fractions Now that we know dividing by a number is the same as multiplying by it's resigned we can apply this to divide any
7	Commutative	An operation is commutative when you can change the order of the calculation and still get the same answer. Both addition and multiplication are commutative.	12 Finding the Product of Unit Fractions We can use a grid to understand how to find the product of a pair of unit fractions. Remember, each side of the original grid has a unit length of 1. For example: $\frac{1}{4} \times \frac{1}{4} = \frac{1}{4}$	pair of fractions. For example: $5 \div \frac{2}{3} = 5 \times \frac{3}{2} = \frac{15}{2} = 7\frac{1}{2}$ $\frac{5}{9} \div \frac{2}{3} = \frac{5}{9} \times \frac{3}{2} = \frac{15}{18} = \frac{5}{6}$ 18 Multiplying and Dividing Improper and Mixed Fractions
8	Quotient	The answer we get after we divide one number by another.	13 Finding the Product of Any Fractions	When multiplying mixed numbers, we can convert them into improper fractions first before multiplying the numerators and $1 2 \frac{4}{5}$
9	Reciprocal	The reciprocal of a number is always 1 divided by the number. E.g. the reciprocal of 2 is $\frac{1}{2}$. When we multiply a number by its reciprocal, we get 1. E.g. 2 x $\frac{1}{2}$ = 1.	We can continue to use a grid to understand how to find the product of any fractions. We should remember to simplify if possible. For example: $\frac{3}{5} \times \frac{2}{3} = \frac{6}{15} = \frac{2}{5}$ One way to quickly multiply fractions is to multiply the numerators and multiply the denominators.	denominators, then simplifying.5Another way would be to use a grid method, splitting up the mixed number into integers and fractions, e.g. $2\frac{4}{5} \times 1\frac{6}{11}$ $\frac{6}{11}$ 19Multiplying and Dividing Algebraic FractionsAlthough we are using algebra, multiplying and dividing algebraic fractions follow the same rules as numerical fractions

Year 8 Spring Term Mathematics Knowledge Organiser – Multiplicative Change

key vocabulary:				
1	Proportion	When two ratios or fractions are equal to each other.	11Direct ProportionTwo things are directly proportional if: as one amount increases (or decreases), the other amount increases (or	14Ratio between Similar ShapesCorresponding lengths on similar shapes are always in the same ratio.
2	Ratio	Used to compare values; says how much of thing there is, compared to another thing.	decreases) at the same rate. We can use lots of different methods to solve problems with direct proportion, such as bar models, ratios, fractions and the unitary method (finding the value of one).	Example 8m 6m
3	Variable	A symbol for a value we do not know yet, usually a letter like x or y. E.g. in x + 2 = 6, x is the variable.	Carina is making 50 muffins. 50 = '2 and a half lots of 20' 2.5 × 250 = 625 g of sugar Zaib is making 12 muffins 20 20 20 20 20 8 eggs 8 eggs	8m : 16m These lengths are in ratio so the rectangles are similar. 10m 3m 5m
4	Conversion	Changing a value or expression from one form to another.	20: 250 mlDaniel is making 5 multins.1: 12.5 ml20 ÷ 5 = 412: 150 ml"I need 4 times less than the recipe150 ml of milkI will use 100g of flour".	3m : 5m 8m : 10m These lengths are not in ratio, so the rectangles are not
5	Approximation	A result that is not exact, but close enough to be used.	12 Conversion Graphs Conversion graphs can be used to convert between many different things, for example: currency, temperature, weights, distances time, numbers etc.	similar. Understanding Scale Factors A scale factor tells us the ratio between corresponding measurements of an actual object and a copy of the object
6	Estimation	Finding a value that is close enough to the right answer, usually with some thought or calculation involved.	lt is important to label the axes on a conversion graph and to make sure the scale is going up in equal amounts.	If the scale factor is bigger than 1, the copy will be larger. If the scale factor is less than 1 (e.g. ½), the copy will be smaller.
7	Exchange rate	Tells us the value of one currency (type of money in a particular country) in terms of another currency.	13 Converting between Currencies We can convert between currencies using lots of different methods. Example	Scale diagrams (or drawings) are used to represent a smaller or larger object, shape or image. The scale used will depend on the reduction or enlargement of the object. Some common scale ratios that are used: - A medium sized wall map of the World (1:30,000,000
8	Corresponding	Referring to two (or more) things that appear in the same place, in two similar situations.	1 British pound (£) is approximately 50 Thai Baht (fi). Convert 700fi into pounds. $\begin{array}{c} & & \\ & & \\ \hline & & \\ \hline & & \\ & & \\ \hline & & \\ \hline & & \\ & & \\ \hline \hline & & \\ \hline & & \\ \hline & & \\ \hline \hline & & \\ \hline \hline & & \\ \hline & & \\ \hline & & \\ \hline \hline \\ \hline & & \\ \hline \hline \\ \hline & & \\ \hline \hline \\ \hline \hline \\ \hline \hline \\ \hline & & \\ \hline \hline \hline \\ \hline \hline \hline \\ \hline \hline $	 A road map for motorists (1:250,000 which represents 1cm to 2.5km) An Ordnance survey map for walkers or hikers (1:25,000
9	Similar	Two shapes are similar when one can become the other after a resize, flip, slide or turn.	$ \begin{bmatrix} 700 \\ 50 \\ \hline \\ 1 \\ \hline \\ \\ \\ 1 \\ \hline \\ \\ \\ \\$	 which represents 1cm to 250m) An architects drawing (1:100 which represents 1cm to 1m) 17 Interpreting Maps with Scale Factors
10	Scale factor	The ratio between corresponding measurements of an object and a representation of that object.	$ \begin{array}{c} $	Example If the scale is 1:25,000, this means 1cm on the map is 25,000cm in real life.

Year 8 Term 4 – ¿Qué hacemos?

Invitations	Prepostions	7. Parallel Text:
¿Te gustaría? – would you like	4. ¿Dónde quedamos? - Where shall we meet?	
Me gustaría I would like	Quedamos – let's meet	Normalmente llevo unos Normally I wear blue je
venir a mi casa – to come to my house	enfrente del polideportivo – in front of the sports centre	<u>vaqueros azules</u> ,
ir a la bolera – to go bowling	al lado de la bolera – next to the bowling alley	2 a <u>t-shirt</u> and
ir a la cafetería – to go to the café	delante de la cafetería – in front of the café	<u>una camiseta y</u>
ir a la pista de hielo – to go to the ice rink	detrás del centro comercial – behind the shopping	3 some white trainers
ir al centro comercial – to go to the shopping	centre	deporte blancas
centre	en tu casa – at your house	
ir al museo – to go to the museum	Clothes	porque son muy because they're very
ir al parque – to go to the park	^{5.} Una camisa – a shirt	cómodos
ir al polideportivo – to go to the sports centre	Una camiseta – a t-shirt	5 and <u>practical</u> .
ir al cine – to go to the cinema	Un jersey – a jumper	y <u>prácticos</u> .
ir al restaurante – to go to the restaurant	Una sudadera – a sweatshirt	6 However l've just beer
I have to	Una falda – a skirt	Sin embargo, acabo de riswerten vejosi beel ir a un restaurante <u>restaurant</u>
	Un vestido – a dress	
cuidar a mi hermano – look after my brother	Una gorra – a cap	/ and I wore <u>a red dress</u>
hacer los deberes – do my homework	Unos pantalones – some trousers	
lavarme el pelo – wash my hair	Unos vaqueros – some jeans	8 and some black shoe
ordenar mi dormitorio – tidy my room	Unas botas – some boots	y unas zapatos negros
pasear al perro – walk the dog	Unos zapatos – some shoes	9
salir con mis padres – go out with my parents	Unas zapatillas de deporte – some trainers	ya que son muy because mey re very
	Model dialogue	eleganies
No quiero – I don't want to	6. María: #Ta austaría ir a la balara?	¹⁰ El fin de semana me At the weekend I wou
No tengo dinero – I don't have any money	Maria: "Te gustaria ir a la bolera?	gustaría
No puedo salir - I can't go out	<u>Diego</u> : "No puedo. Tengo que cuidar a mi hermano. Te	¹¹ <u>ir a la bolera con mis</u> <u>to go bowling with my</u>
Daily Routine Verbs that start with 'me' are called reflexive verbs	gustaría ir al cine mañana?"	amigos.
Me baño – I have a bath		12 Pienso que voy a llevar I think I'm going to we
Me ducho – I have a shower	maria: "No tengo ainero y ir al cine	12
Me lavo la cara – I wash my face	cuesta un ojo de la cara. Me gustaría	una falda negra con a black skirt with tights medias
Me lavo los dientes – I brush my teeth	ir al parque. Te gustaría ir al parque?"	14 and a blue immer
Me visto – I get dressed		y <u>un jersey azul</u> . and <u>a bive jumper</u> .
Me maquillo – I put on makeup	<u>הופסס: "או Sounde quedamos?"</u>	15 It's going to be really
Me peino – I comb my hair	María: "Quedamos enfrente del parque a las diez."	Va a ser muy <u>divertido</u> .
Me aliso el pelo – I straighten my hair	Diego: Vale. ¡Hasta mañana!	
Me panga gaming - Liput gel on my hair		