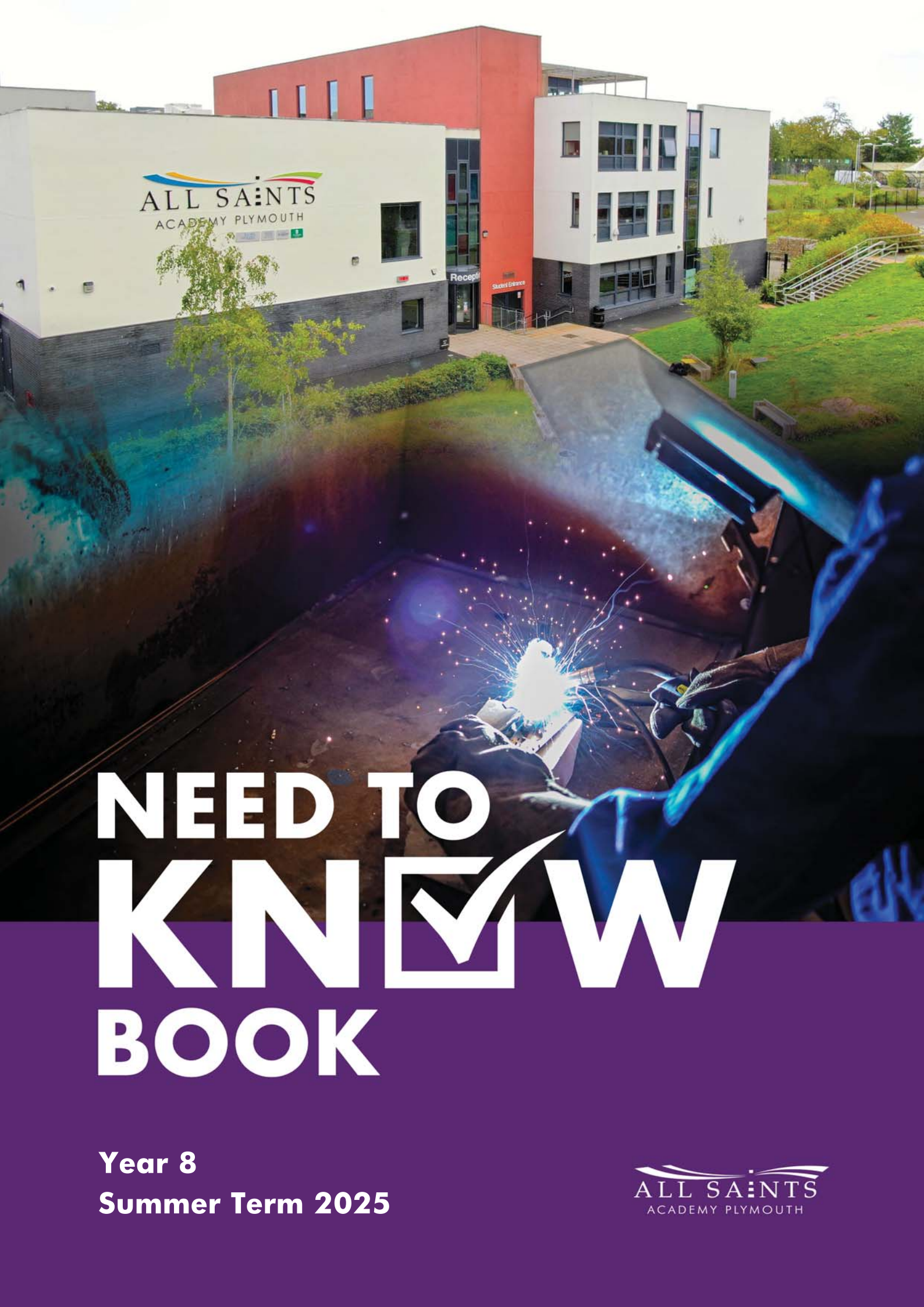


The background of the cover features a photograph of All Saints Academy Plymouth, a modern school building with white and red walls. In the foreground, there is a close-up of a person welding, with bright sparks flying from the welding torch. The bottom half of the cover has a solid purple background.

ALL SAINTS
ACADEMY PLYMOUTH

NEED TO KNEW BOOK

Year 8
Summer Term 2025

ALL SAINTS
ACADEMY PLYMOUTH

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Timetable

Week A

Period	Monday	Tuesday	Wednesday	Thursday	Friday
Tutor					
1					
2					
3					
4					
5					
6 or Extra Curricular					

Week B

Period	Monday	Tuesday	Wednesday	Thursday	Friday
Tutor					
1					
2					
3					
4					
5					
6 or Extra Curricular					

Homework Expectations

You are expected to complete up to 1 hour of Homework per night. This is split into 3 subjects at 20mins each.

	3 x 20 Minute Sessions		
	Subject 1 20 mins	Subject 2 20 mins	Subject 3 20 mins
Monday	Sparx Reader	Science	Science
Tuesday	Sparx Reader	Geography	French
Wednesday	Sparx Reader	Maths : Sparx	History
Thursday	Sparx Reader	Maths : Sparx	RE
Friday	Sparx Reader	Maths : Sparx	

Where is my homework?

Maths



Your maths homework is found at www.sparxmaths.uk. You will complete your Compulsory Homework on a Monday. If you have completed over 80% and are stuck on your last few questions, your teacher will help you on Tuesday.

Sparx Reader

Sparx Reader

Your Sparx reader homework is found at www.sparxreader.com. You will complete 20 minutes of reading every day Tuesday – Friday. You can, of course, complete more if you like!

Science



Educake

Your Science homework can be found at www.educake.co.uk. You will answer a series of questions once a week. When it comes to revising, you will have the option of picking a topic, reading an overview, and taking a quiz.

English, History, French and RE

Homework for these subjects will be found in your Google Classroom in the form of a quiz. These quizzes are to test that you have learned the knowledge in your Need to Know booklet. We have high expectations of you and expect students to try their best and achieve the best possible marks. We will give rewards for excellent attainment and we will help everyone achieve by using after school interventions to make sure no one falls behind.



At All Saints, we are organised and don't make excuses for ourselves. If we know we have evening plans, we complete our homework the night before to make sure we are free to go to our planned event. We always want the best for ourselves and my teachers want the same.

Reflection Sheet

Name:

Tutor:

Year:

Use this reflection sheet to track your progress and attitude to learning score after each progress check. This sheet will be used in your parent evening meetings with your teachers to discuss your areas of strengths, weaknesses and ways to improve. If your average attitude score is below a certain average your parents will be called in for a meeting with your Head of house and SLT member.

ATL SCORES	What will I get at GCSE?
0-1	Students who achieve an average of 1 or below usually leave school with no GCSEs.
1-2	Students who achieve an average of 1-2 usually leave with 1s or 2s (E or F) at GCSE
2-3	Students who achieve an average of 2-3 usually leave with 2s or 3s (D or E) at GCSE
3-4	Students who achieve an average of 3-4 usually leave with 3/4/5s (C or D) at GCSE
4-5	Students who achieve an average of 4-5 usually leave with 6/7/8s at GCSE

Average attitude to learning score	Term 1	Term 2	Term 3	Term 4

Subject rank	Subject Maths	Subject English	Subject Science	Subject	Subject	Subject	Subject	Subject	Subject	Subject
Term 1	/	/	/	/	/	/	/	/	/	/
Term 2										
Term 3										

Term 1 - Reflection (Answer the questions by filling in the boxes in blue or black pen)

Are you happy with your rank scores and ATL?	What subjects do you need to improve?	How will you get there?

Reflection Sheet

Term 2 - Reflection

Has your rank scores and ATL improved from term 1? If no, why not?	What subjects do you need to improve in?	How will you get there?

Term 3- Reflection

Has your rank scores and ATL improved from term 2? If no, why not?	What subjects do you need to improve in?	How will you get there?

Signed _____
signature _____

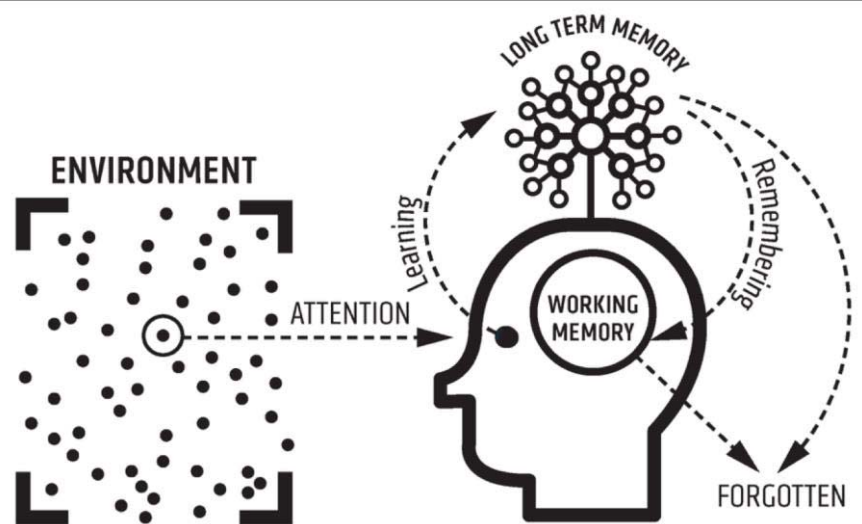
Tutor

Improving Your Long Term Memory

Memory

Your memory is split into two parts: the working-memory and the long-term memory. Everybody's working-memory is limited, and can therefore become easily overwhelmed. Your long-term memory, on the other hand, is effectively limitless.

You can support your working memory by storing key facts and processes in long-term memory. These facts and processes can then be **retrieved** to stop your working memory becoming overloaded.

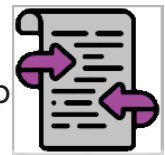


Need to know booklets are a key way to help you learn. Each booklet has the key information that needs to be memorised to help you master your subject and be successful in lessons.

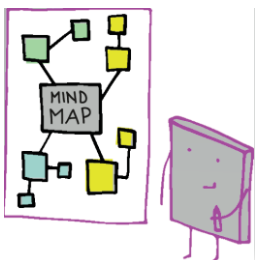
There is strong scientific evidence from cognitive psychology that shows the benefits of **self-quizzing** in promoting **retrieval strength**. This is your ability to quickly recall key facts related to your subject or topic

How should I self-quiz and how often?

There are lots of different ways to learn the material in your need to know booklet



You could:



Draw a mind map, jotting down everything that you can remember from the need to know booklet.



Cover up one section of the need to know booklet and try and write out as much as you can from memory.



Make flash cards based on the need to know booklet and ask someone to quiz you.

SENTENCES.
HAND
ARTICULATE.
PROJECT
Eye contact

Make up mnemonics to help you remember key facts, then write these out from memory.

Making revision notes and self-quizzing will help you be a more successful learner.

BOLD steps to your **BRIGHT** future



www.ASAPaspirations.co.uk

Post 16 pathways of Plymouth — Sixth forms — Apprenticeships — Employment — Resources

Support — Opportunities — Choosing a career — Parents guide — Writing a CV— Employability skills

The Formal Elements: The Formal Elements of Art are the parts used to make a piece of art work. It is impossible to create a piece of art, even if it is only a doodle, without using some or all of them. The art elements are Line, shape, form, tone, texture, pattern, colour and composition. They are often used together and how they are organised in a piece of art determines what the finished piece

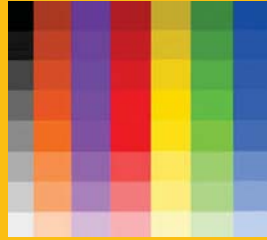
Line

A line is a path, left by a moving point. E.G. a pencil, or a paintbrush dipped in paint. A line can take on many forms. E.g. Horizontal, diagonal or curved. A line can be used



Tone

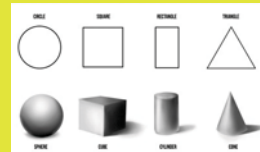
Tone means the lightness and darkness of something. This could be a shape and/or how dark or light a colour appears.



Shape & Form

A shape is an area enclosed by a line. It could be just an outline or it could be shaded in.

Form is a three dimensional shape such as a sphere, a cube or a cone.



Texture

Texture is the surface quality of something, the way something feels or looks like it feels. There are two types of texture, actual texture and visual texture.

Actual Texture: really exists so you can feel it or touch it.

Visual Texture: Created by using different marks to create the impression

Colour

There are three primary colours:

Red, Yellow, Blue

By mixing any two primary colours together, you get secondary colours.

Orange, Green and

Pattern

Pattern is a design that is create by repeating lines, shapes and tones or colours.

Patterns can be manmade such as a design on fabric or natural like the print on animal fur.



COLOR THEORY
Color is an element of art.

Everytime I use color, I am creating a color scheme.

This is a color wheel.

The most common color schemes are listed below.

Primary.... {I can make all the other colors by mixing different amounts of primary colors.}

Secondary.... {I can mix two primary colors to make a secondary color.}

Warm.... {Yellow and all the colors with red and orange tones are warm.}

Cool.... {Violet and all the colors with blue and green tones are cool.}

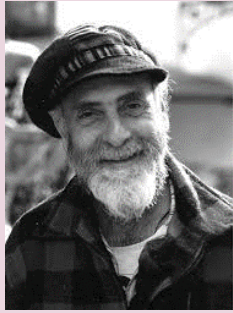
Complementary.... {Opposites on the color wheel are complementary.}

Analogous.... {Colors that are close neighbors on the color wheel are analogous.}

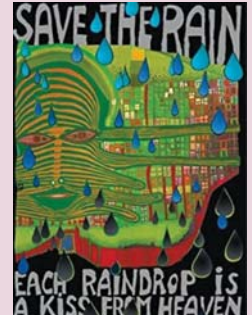
Rainbow.... {Using primary and secondary colors placed in order from the color wheel, I can make a rainbow.}

Intermediate.... is a color term I need to know. It is the color in between the primary and secondary colors on the color wheel.

Art & Design



Friedensreich Hundertwasser was an artist and an architect. He was born in Austria, but also had the nationality of New Zealand where he spent his later life. Hundertwasser was well known for his creative, colourful and abstract artwork. This artwork was reflected clearly in his architecture. He believed that architecture was another form of art and expression and that everyone should have the right to build. He was also famous for disliking the straight line and this is evident in all of his work. Hundertwasser other great passion was his love for the environment. He was an environmentalist and eco-activist. He designed original posters in support of the protection of nature, against nuclear power, for the saving of the oceans and the whales and for the protection of the rainforest, to name only a few examples.



Enquiry Task: At the start of your next lesson, you will be quizzed on what you have learned during this project. Spend time learning the meaning of these keywords and the concepts we have used. Parental signature required to show that 30min of revision has taken place.

Composition	The position and layout of shapes on the paper
Line	Defines shape, the outer edges of something.
Tone	How dark or light a shape is.
Shape	The outline of objects.
Form	Appearing three-dimensional.
Pattern	A repeated shape or line.
Texture	The feel or appearance of a surface, how rough or smooth it is.
Proportion	The size and shape of one object in comparison to another.
Relief	A relief is a wall-mounted sculpture in which the three-dimensional elements are raised from a flat base
Architect	A licensed professional trained in the art and science of building design.
Biomorphic shapes	Shapes that bear resemblance to fingerprints.
Collage	Sticking art materials down to create artwork.
Mixed media	Artwork made up of a mixture of art materials.
Photomontage	Creating an image by cutting, gluing and overlapping photographs.

Art and Design Assessment Objectives:	DEVELOP	Artist Research. Explore Ideas. Be Inspired. Personal comments and opinions.	EXPERIMENT	Explore different materials Explore different techniques Refine your work	RECORD	Observational drawings Collecting image Taking photos Annotating your work	PRESENT	Produce a final piece Link to prep work from project.

Week	I will need to know:	So that I can:
1 Design Brief	A designer or engineer will begin every project with a design brief . This is either created with the client or given to the designer by the client. The client is the person or company requiring the design of the new product. A design brief will include important details about the requirements of the product to be designed. After receiving the design brief, the designer will begin market research in order to learn more about the target market and similar products already out there.	Respond to a design brief effectively.
2 Design specification	After the research phase, designers and engineers will write a design specification . This is a list of detailed and measurable criteria for the success of the product . It will take account of all that has been learnt in the research and state clearly what the product must be like. This includes, cost, materials, manufacture, features, ergonomics and aesthetics as well as other things too. This will then be used while designing to ensure that the designer is keeping on the right track.	Create and follow a design specification and design successful products as a result.
3 Generating design ideas	Designers will use many techniques to create a wide variety of designs. As the designer will want to find the best possible solution, they will produce a great many quick sketch ideas at the start. This allows them to narrow down to the best ideas often with the help of the client. Techniques include biomimicry (finding inspiration in natural forms) and user centred design (thoroughly investigating the user and their requirements while designing accordingly)	Create a variety of appropriate design ideas in response to a design brief.
4 User requirements	The user is the person that will buy or use the product. We talk about the target market when we are considering what type of people these are. Designers will investigate the user in order to hope to solve the issues they raise with the product. To find out what the requirements of the user are designers often carry out a focus group where they make a group of their target market and ask them questions. Sometimes product observations are useful where the designer will observe a product being used and then ask the user questions in order to improve the design.	Design products that meet the needs and wants of the user.
5 Product Analysis	Designers will investigate similar or competitor products to ensure that the product they design will be competitive and to learn from all the design decisions that have taken place in the design of the product. Often ACCESSFM is used, this is where the designer will analyse a product in terms of Aesthetics, Customer, Cost, Environment, Size, Safety, Function, Materials and Manufacture.	Create products that are effective and competitive.
6 Sustainable products	Products that are better for the environment are called sustainable products. A product can be sustainable in many ways. A re-usable plastic bottle will prevent hundreds of disposable plastic bottles being needed. An electric vehicle will produce less harmful emissions and use less fossil fuels. Products which have spare parts available can be repaired and made to last longer therefore not needing to be replaced. Some products are made to be biodegradable .	Be responsible and protect our planet through my design decisions.
7 The 6 Rs	These should be considered when designing any product and will help the designer create a more sustainable product . Recycle (can materials be recycled?), Re-use (can parts be used again?), Reduce (can less material or energy be used?), Repair (can the design be changed), Refuse (refuse to use harmful materials or processes), Repair (spare parts? Easy to fix?)	Be responsible and protect our planet through my design decisions.
8 Quality Control	When manufacturing products, it is important that quality control checks are in place. These checks will ensure that the components or products are not faulty. These will take place at the end of manufacturer but also after each of the main stages of manufacture. The earlier mistakes are spotted the less likely an expensive problem will occur.	Make quality products that are consistent.
9 Testing and evaluating a prototype	Prototypes are models of a design, these are created so that a concept can be tested. Prototypes are carefully tested to see if they function as intended, look appealing to the target market, fit with other components, are strong enough and more. Evaluating prototypes takes account of these tests and looks at ways the design can be improved further.	Develop products to their best possible outcome.

Year 8 English – The Tempest by Shakespeare		Key Vocabulary	Definition	Text Summary:
A	The writer presents [topic] through... The theme of [topic] is shown by the writer through... The idea of [topic] has been used by the writer to...	Tempest	A storm	Prospero (former Duke of Milan) lives on an island with his daughter Miranda . Caliban (Prospero's slave) and Ariel (a magical spirit and servant).
N	The phrase '...' suggests... We can see this in the phrase '...' which implies... This is highlighted through the line '...' which shows...	Pathetic Fallacy	Nature representing the mood of the characters	Prospero ran away to the island after his brother (Antonio) forced him off the throne with the help of King Alonso .
A	Additionally, the line '...' also emphasises... Linking with this, the quotation '...' shows... The idea is [extended/contrasted] through the line '...'	Patriarchy	A society controlled by men	When Antonio and Alonso are passing Prospero's island on a ship, Prospero uses magic to create a storm and shipwreck them on the island.
L	The imagery suggests... The word choice '...' could imply... The [method] might show...	Subservient	To obey	With the help of Ariel , Prospero separates Alonso, Antonio and the other characters on the ship, and interferes with their plans.
Y	Although there is a sense of..., there is also the idea of... Alternatively, it could be argued that... A reader may also understand that...	Magical Realism	Adding a magical element to an otherwise normal society	Ferdinand, Alonso's son , is also on the boat and separated in the shipwreck.
S	Structurally, the use of... may show... The perspective may imply... The writer has chosen to use a form to suggest...	Imperative language	Command words	Prospero plans to make Ferdinand and Miranda fall in love to take back the throne.
I	The writer's intentions may have been to show... The writer felt it was necessary to present this as... The writer did this to demonstrate...	Hierarchy	An order of power in society	Caliban plots to kill Prospero but is stopped by Ariel . The characters are reunited and all conflict is resolved .
S	Contextually, the writer may be reflecting the time as... The writer used these themes to reflect on society as... The text reflects society as...	Servitude	To serve someone	
		Colonialism	Taking over another country	
		Manipulation	To control someone through an imbalance of power for personal gain	
Key themes: Conflict Power Nature Supernatural				

Health, Safety and Hygiene

Health, safety and hygiene.

- ◆ Always listen to the teacher and follow instructions.
- ◆ Do not run in the food room.
- ◆ Do not leave bags and blazers where they can get in the way and cause a tripping hazard.
- ◆ Walk sensibly around the room when carrying equipment especially knives.
- ◆ Always return equipment once its finished with and cleaned especially knives. These will be counted in at the end of every lesson.
- ◆ Always listen carefully when the teacher is demonstrating how to use equipment. Make sure you ask questions if you do not understand.
- ◆ Take your blazers off and roll up your sleeves when doing a practical lesson.
- ◆ Tie your hair back.
- ◆ Always wash your hands thoroughly when preparing foods.
- ◆ Always use hot soapy water to wash your equipment.
- ◆ Make sure all spillages are cleaned up immediately.
- ◆ **Always** use an oven cloth when taking food from the oven.

The Eatwell Guide

Fruits and vegetables.

Eat at least 5 portions of a variety of fruits and vegetables a day.



Drinks.

6-8 glasses a day. Water, lower fat milk, sugar free drinks including tea and coffee count.

Potatoes, bread, rice, pasta and other starchy carbohydrates.

Choose wholegrain or higher fibre versions with less added salt, sugar and fat.

Oils and spreads (fats).

Choose unsaturated oils and use in small amounts.

Beans, pulses, fish, eggs meat and alternatives (protein).

Eat more beans and pulses, 2 portions of sustainably sourced fish per week, one of which is oily. Eat less red and processed meat.

Dairy and alternatives.

Choose lower fat and lower sugar options.

Foods high in fats and sugars.

Eat less often and in small amounts.



Preparation Skills and Techniques

Chopping, Slicing, Dicing and Peeling Skills



A



B



C



Bridge Hold



Claw Hold



Peeling



What could happen?

Cake and Pastry Making Methods

Rubbing -in Method

Used for pastry and cakes that **do not have a large amount of fat** compared to flour

- ◇ Fat is **cut into chunks** (block margarine is best)
- ◇ Air is trapped when sieving the flour and by lightly **rubbing the fat in to the flour**
- ◇ Any optional ingredients (e.g. sultanas) are **added before the liquid or egg** that binds the crumb together



Creaming Method

Used for cakes containing **more fat and sugar** compared to flour

- ◇ The fat and sugar are **creamed together** using a **wooden or plastic spoon**. Air is **trapped** by **creaming** the sugar and fat together
- ◇ Soft margarine is better as it is **easier to cream**
- ◇ **Caster sugar** has **smaller crystals** than **granulated** so it **traps more air** and mixes better
- ◇ **Self raising flour** is used to make the cakes rise



Melting Method

- Fat is melted with the sugars and syrup
- Dry ingredients added
- Liquids bind all ingredients together



Year 8 French - Cycle 3

	French	English
Week 1	La personne italienne est aussi gentille que mon ami.	The Italian person is as kind as my friend.
Week 3	La décision est difficile donc je le prends lentement.	The decision is hard so I make it slowly.
Week 4	Ça dépend si tu entends le message pendant l’annonce.	That depends if you hear the message during the announcement.
Week 5	Elle lit le programme et elle traduit toute l’information.	She reads the schedule and she translates all the information.
Week 6	Il attend en bas de la piste et il lit un roman.	He is waiting at the bottom of the ski slope and he is reading a novel.
Week 7	Le lieu est froid parce qu’il y a de la neige.	The place is cold because there is snow.
Week 8	Enfin le cours commence et le prof explique la tâche.	Finally the lesson is starting and the teacher is explaining the task.
Week 9	J’ai eu un accident et j’ai mal à la jambe et au bras.	I had an accident and my leg and my arm hurt.
Week 10	Elle lève le chapeau avec sa main et dit ‘bonjour’.	She raises the hat with her hand and says ‘hello’.

Each week you will need to practise and learn your **Sentence of the Week** as well as your **Vocabulary of the Week**. For your **Vocabulary of the Week** also pay attention to which type of words they are:

- Verbs are in **VIOLET**
- Feminine nouns are in **PINK**
- Masculine nouns are in **BLUE**
- Adjectives are in **AMBER**

Week 1		Week 2		Week 3		Week 4		Week 5	
l'italien (m)	Italian language			la décision	decision	dépendre (de)	to depend, depending	décrire	to describe, describing
plus	more			le soin	care	entendre	to hear, hearing	traduire	to translate, translating
moins	less			dur(e)	hard	répondre (à)	to reply, to answer	il/elle lit	he/she reads, is reading
aussi	also, as			facilement	easily	l'annonce (f)	announcement	la communauté	community
que	that, what?, than			lentement	slowly	la conversation	conversation	la culture	culture
dangereux	dangerous (m)			mal	badly	l'espagnol (m)	Spanish	l'expérience (f)	experience
dangereuse	dangerous (f)			mieux	better	le message	message	l'information (f)	information
gentil(le)	kind (m/f)			vite	quickly	le soleil	sun	le produit	product
gros(se)	fat (m/f)					le temps	weather	le programme	schedule
italien(ne)	Italian nationality (m/f)					espagnol(e)	Spanish nationality (m/f)	tout(e)	all, the whole (m/f)
meilleur(e)	better (m/f)					l'Espagne (f)	Spain	tous	all, the whole (m/f)
mince	thin								
pire	worse								
sûr(e)	safe (m/f)								
l'Italie (f)	Italy								

Revise cycle 1 & cycle 2 vocabulary

Week 6		Week 7		Week 8		Week 9		Week 10	
attendre	to wait, waiting	conduire	to drive, driving	commencer	to start, starting	bu	drank, drunk (pp)	lever	to raise, raising
descendre	to go down, going down	vous dites	you (pl/fm) say, are saying	expliquer	to explain, explaining	eu	had (pp)	je lève	I raise, am raising
le bas	bottom	interdire	to ban, banning	emprunter	to borrow, borrowing	pris	took, taken (pp)	il/elle lève	(s)he raises, is raising
en bas	at the bottom	inscrire	to write down, writing down	quitter	to leave, leaving (turn away)	l'accident (m)	accident	reposer	to put down, putting down
l'histoire (f)	history, story	le lieu	place	le cours	lesson	le bras	arm	le chapeau	hat
la règle	ruler, rule	l'arbre (m)	tree	la tâche	task, chore	la jambe	leg	la cuisine	cooking, kitchen
la piste	ski slope	l'autobus (m)	bus	la bibliothèque	library	le mal	ache	la main	hand
le roman	novel	chaud	hot, warm	la fois	time	la maladie	illness	le manteau	coat
le texte	text	froid	cold	déjà	already	le petit-déjeuner	breakfast	le matin	morning
		la neige	snow	enfin	finally	la photo	photo	la pluie	rain
		scolaire	school (adj)	toujours	always	déjà	already, yet	la tête	head
						pas encore	not yet		
						ensuite	next		
						avoir mal	to hurt, be sore		

Geography

Year 8 Geography – Cycle 3 KO	Week 1	Week 2
Rivers Key Vocabulary/ Processes <u>Erosion</u> : The wearing away of the river's bed and banks. <u>Hydraulic Action</u> : The force of water compressing air into cracks, breaking rock apart. <u>Abrasion</u> : Rocks carried by the river scrape against the bed and banks. <u>Attrition</u> : Rocks in the river collide and break into smaller, rounded pieces. - <u>Solution</u> : Some rocks (e.g., limestone) dissolve in the water.	<u>Drainage Basin</u> : The area of land drained by a river and its tributaries. <u>Key Features</u> : - Source: Where a river begins (e.g., springs, glaciers). - Watershed: The boundary between drainage basins. - Tributary: A smaller river joining a larger one. - Confluence: Where two rivers meet. - Mouth: Where the river meets the sea/lake. <u>The Hydrological Cycle</u> : Water moves through processes like evaporation, condensation, precipitation, infiltration, and runoff.	<u>Transportation</u> : The movement of sediment. <u>Traction</u> : Large boulders roll along the riverbed. <u>Salutation</u> : Small stones bounce along the bed. <u>Suspension</u> : Fine particles are carried in the water. <u>Solution</u> : Dissolved materials move within the water. <u>Deposition</u> : Occurs when the river loses energy, dropping sediment. Larger rocks are deposited first, fine sediment last.
Week 3	Week 4	Week 5
<u>Upper Course Features</u> : <u>Waterfalls</u> : Formed where hard rock lies over softer rock, creating a steep drop (e.g., High Force, UK). <u>Gorges</u> : Steep-sided valleys formed as waterfalls retreat. <u>V-Shaped Valleys</u> : Created by vertical erosion and weathering. <u>Interlocking Spurs</u> : Hills that a river winds around in the upper course.	<u>Middle Course Features</u> : <u>Meanders</u> : Bends in the river formed by lateral erosion on the outer bank and deposition on the inner bank. <u>Oxbow Lakes</u> : Created when a meander loop is cut off. <u>Lower Course Features</u> : <u>Floodplains</u> : Wide, flat land formed by deposition during floods. <u>Levees</u> : Raised riverbanks from repeated flooding. <u>Deltas</u> : Formed at the mouth when sediment builds up, splitting the river (e.g., Nile Delta).	<u>Physical Causes of Flooding</u> : <u>Heavy rainfall</u> : Increases surface runoff. <u>Steep slopes</u> : Water flows quickly into rivers. <u>Impermeable rock</u> : Prevents infiltration. <u>Snowmelt</u> : Increases river discharge in spring. <u>Human Causes of Flooding</u> : <u>Deforestation</u> : Less interception, increasing runoff. <u>Urbanisation</u> : Concrete surfaces reduce infiltration. <u>Climate change</u> : More extreme weather events.
Week 6	Week 7	Week 8
<u>Managing Rivers</u> : <u>Hard Engineering</u> : <u>Dams & Reservoirs</u> : Control river flow but are expensive (e.g., Three Gorges Dam, China). <u>Embankments</u> : Raise riverbanks to contain floods. <u>Flood Relief Channels</u> : Divert excess water. <u>Soft Engineering</u> : <u>Afforestation</u> : Planting trees to absorb water. <u>Flood Warnings</u> : Allow preparation but don't prevent floods. <u>Floodplain Zoning</u> : Restricts building in high-risk areas.	<u>Ethiopia Location</u> : Landlocked country in East Africa, bordered by Eritrea, Sudan, South Sudan, Kenya, Somalia, and Djibouti. <u>Development Status</u> : LIC (Low-Income Country) with a GDP per capita of around \$1,000. <u>Population</u> : Over 120 million people. <u>Life Expectancy</u> : Around 67 years. <u>Challenges</u> : <u>Landlocked status</u> : No coastline for trade. - <u>Climate</u> : Prone to droughts and unpredictable rainfall. <u>Conflict & Corruption</u> : Affects investment and stability.	<u>Physical Features</u> : <u>Ethiopian Highlands</u> : Mountainous terrain, fertile but difficult for infrastructure. <u>Great Rift Valley</u> : A tectonic plate boundary, creating volcanoes and earthquakes. <u>Danakil Depression</u> : One of the hottest places on Earth (up to 50°C). <u>Blue Nile</u> : One of the Nile's major tributaries, supplying water. <u>Human Geography</u> : <u>Rapid Urbanisation</u> : Cities like Addis Ababa are growing fast. <u>Agriculture</u> : Employs 70% of the population, but farming is vulnerable to drought. <u>Literacy Rate</u> : Around 52% (lowest in Africa).
Week 9	Week 10	Revision Tasks
<u>The Danakil Depression</u> : - A desert located 100m below sea level (lowest point in Ethiopia), one of the hottest places on Earth. - Salt mining has been carried out for centuries. Challenges: - Extreme heat (50°C+). - Low wages (workers earn around £5 per day). - Lack of healthcare. <u>GERD</u> : A \$4.5 billion hydroelectric dam on the Blue Nile. Expected to generate 6,000 MW of electricity. <u>Benefits</u> : - Provides electricity for millions in Ethiopia. - Reduces reliance on expensive imported energy. <u>Tensions with Egypt & Sudan</u> : - Egypt fears reduced water supply (it relies on the Nile for 97% of its water). - Sudan is concerned about water flow changes. - Negotiations have been ongoing for over a decade.	<u>Main Exports</u> : - Coffee: Ethiopia is Africa's largest producer. - Gold, flowers, livestock. - Salt: Mined in the Danakil Depression. <u>Challenges</u> : - Climate Change: More droughts and unpredictable weather. - Water Scarcity: By 2040, 35% of people in the Nile Basin may face water shortages. - Population Growth: More pressure on resources. - Political Instability: Conflict in regions like Tigray affects development. <u>Opportunities</u> : - Renewable Energy: GERD could make Ethiopia a leader in hydroelectric power. - Trade Partnerships: Improved exports (coffee, gold) can boost the economy. - Investment in Infrastructure: Roads, schools, and healthcare improvements can support development.	- Summarise a key section of the knowledge organiser in your own words. - Create five quiz questions based on the knowledge organiser and test a partner. - Compare two different topics from the knowledge organiser, explaining one similarity and one difference. - Explain a key concept to someone who has never studied this topic before. - Organise the information into a mind map, using key words and diagrams where possible.

Why did Britain support slavery and then end it?

How did Britain become richer than other countries?

- Britain was the first country to have an industrial revolution.
- As a result they became very rich and powerful as they could make products quickly in factories and sell them to other countries.
- This trade was also improved by British ships that became better due to the steam engines that could power them without sails.

Why did Britain take over other parts of the World?

- Soon the British were taking over areas of the world where they wanted to trade, or explore, or to take resources from.
- These areas became known as "colonies" within the British Empire.
- By 1900 the British Empire covered a fifth of the land on earth.

Why did Britain trade humans as slaves?

- As the British were trading lots and setting up farms (plantations) and factories around the world, they needed lots of workers.
- In Africa they found some tribes who were willing to sell people as slaves.
- The British and Spanish turned this into a business and started transporting thousands of African people across the Atlantic Ocean on a route called the Middle Passage; to sell them as slaves in America and the West Indies.
- The slaves were sold at auction where they were checked for their health and strength.
- The slave ships returned to Britain with products such as rum, tobacco, and sugar.
- The Triangular Trade (as it became known) made people very rich but it exploited the Africans and forced them to work for no money.

Why were the punishments so horrible?

- The lives of slaves were incredibly hard: working from dawn to dusk and living in basic huts called "slave quarters".
- If the slaves didn't work hard enough or fought back they faced terrible punishments from their overseers.
- Punishments included: whipping, ears being cut off, and execution.

How was slavery ended in the British Empire?

- British people started to hear about how bad slavery was by reading autobiographies written by ex-slaves and by hearing speeches by people who wanted to end slavery called the Abolitionists.
- Slave-owners were offered compensation (£16 billion) for their lost slaves.
- MPs in the House of Commons supported the law and slavery in the British Empire was banned.

HISTORIAN SKILLS

Knowledge and understanding – knowing your facts and when to use them!
Explanation – telling people what you mean!
Using sources – finding out the truth!
Interpretation – other people's points of view!

KEYWORDS

Abolition = banning something
Industry = factories and trade
Parliament = group that controls GB
Slavery = working without pay and without any human rights

IMPORTANT DATES

1760 = Industrial Revolution begins
 1763 = Canada claimed by Britain
 1770 = Australia claimed by Britain
 1787 = Abolition Society formed
 1807 = Slave trade abolished
 1822 = First Royal Navy steam ship
 1831 = Mary Prince's book published
 1831 = Sam Sharpe's rebellion
 1833 = Slavery abolished

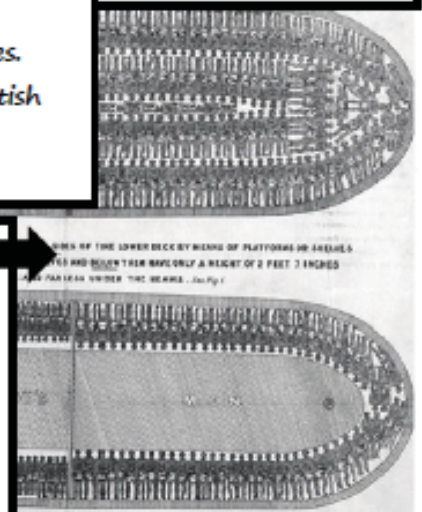
FAMOUS SOURCE

Nature = a poster showing a diagram of the slave ship called "Brookes"

Origin = made by a Plymouth Abolition Society in 1788

Purpose = to make people realise how awful slavery was by showing them the conditions on a slave ship.

The Source is biased as it was made to change people's opinions and turn them against slavery. However, it was based on reliable descriptions from sailors who lived in Plymouth and they had worked on-board slave ships. The makers of the poster had also seen slave ships at the docks.



Will the First World War be forgotten?

What caused the First World War?

- No one is still alive that fought in the First World War, as we get further and further away from the event is it going to be forgotten by people in Britain?
- Between 1914 and 1918, a war was fought that was unlike any before it.
- The "Great War" as it was known at the time, used modern, industrial weapons such as artillery guns.
- In July 1914, the empires of Britain, France, and Russia (known as the "Entente" alliance) went to war against Germany and Austria-Hungary (known as the "Central Powers").
- Later in the war, the Ottoman Empire, Italy, and the USA joined in too and so the whole world seemed to be at war.
- The long-term causes of the war include militarism, alliances, imperialism, and nationalism.
- The European countries became more aggressive towards each other, they built up their armed forces, and made secret deals to support other nations. All that was needed was a spark to trigger a war.
- The short-term cause of the Great War was Franz Ferdinand being assassinated by Gavrilo Princip and the Black Hand Gang in Sarajevo.

Give examples of evidence that historians can use to learn about the War.

- The war was fought using "trench warfare" on the Western Front, Eastern Front, in Gallipoli, and in the deserts of the Middle East.
- There were also battles at sea such as Jutland.
- The artefacts from these battle zones provide evidence of the Great War. Shrapnel, artillery, barbed wire, machine guns, magazine loaded rifles, and grenades all provide evidence about the war and the trench warfare.
- Soldiers who fought in the Great War wrote letters home, poetry, and articles, whilst they were serving in the armed forces.
- Any soldiers who were injured also have medical records about their treatment.
- Newspapers also printed stories about what was happening in the war.
- The British government wanted to keep people happy during the war, so they controlled what the media could say and they even changed soldiers' letters.
- These contemporary sources are very useful as evidence for historians as long as they compare them and remember that some may have been changed.

Why do the interpretations of the First World War sometimes differ?

- Many of the people who lived through the Great War wrote books or did interviews about what they experienced.
- This contemporary evidence has been used by historians to create their interpretations of the events.
- Historians' conclusions differ depending on their point of view and the different evidence they use.

FAMOUS SOURCE

Nature = a poem called "Dulce Et Decorum Est" (How Sweet and Right it is)

Origin = written in 1918 by Wilfred Owen

Purpose = to express his feelings about the war

Wilfred Owen was a soldier on the Western Front. He was awarded a medal for bravery after taking a German machinegun post. He suffered from "shell shock" during the war and he was treated in an Edinburgh hospital for "exhaustion"; writing poetry was part of his treatment.

HISTORIAN SKILLS

Knowledge
Explanation
Using Sources
Interpretation

KEYWORDS

Biased = one sided
Contemporary = from the time
Interpretation = version of events
Reliable = trustworthy
Source = piece of evidence
Militarism = building up armed forces
Alliances = making deals between countries
Imperialism = European countries taking over other places.
Nationalism = love for a country

IMPORTANT DATES

1903 = first German submarine built
1906 = first Dreadnought ship launched
1914 28th June = assassination of Franz Ferdinand
1914 28th July = war begins
1915 Feb = Gallipoli landings
1915 Apr = poison gas used for the first time in the war
1916 Feb-Dec = Battle of Verdun
1916 May = Battle of Jutland
1916 July-Nov = Battle of the Somme
1916 Sep = first tank used in the war
1917 June = Sidcup hospital opened
1918 Apr = RAF set up
1918 11th Nov = armistice
1919 = Treaty of Versailles

DULCE ET DECORUM EST.

Best double, like old beggars under sacks,
Knee-deep, coughing like hags, we carried through sludge.
Till on the haunting flares¹ we turned our backs
And towards our distant rest² began to trudge.
Men marched asleep. Many had lost their boots
But limped on, blood-shod. All went lame; all blind;
Drunk with fatigue; deaf even to the hoarse
Of tired, clatter'd³ Five-Nines⁴ that dropped behind.

Gas! Gas! Quick, boys! — An ecstasy of fumbling,
Fitting the clumsy helmets⁵ just in time,
But someone still was yelling out and stumbling,
And flound'ring like a man in fire or lime⁶ . . .
Dim, through the misty panes⁷ and thick green light,
As under a green sea, I saw him drowning.
In all my dreams, before my helpless sight,
He plunges at me, guttering⁸, choking, drowning.

If in some smothering dreams you too could pace
Behind the wagon that we drag him in,
And watch the white eyes writhing in his face,
His hanging face, like a devil's sick of sin;
If you could hear, at every jolt, the blood
Come gargling from the froth-corrupted lungs,
Obscene as cancer, bitter as the end⁹
Of vile, incurable sores on innocent tongues,
My friend, you would not tell with such high zest¹⁰
To children ardent¹¹ for some desperate glory,
The old Lie, Dulce et Decorum est
Pro patria mori.¹²

Purposes of digital media

Topic of Learning	I will need to know:	So that I can:
Purposes of digital media	Digital media feature in many areas of our lives and play an important part in today's world. The digital media sector relies heavily on using visual stimulants within products it produces to communicate messages effectively to a target audience. Digital media can be printed or used online and can be used for many different purposes, including to entertain, to advertise, to promote, to inform, to educate and instruct. Digital media content creators create digital graphics and media for a range of different uses, including on magazine covers, CD/DVD covers, online and printed adverts, multimedia products and computer games. Before the media product is created, the target audience must be identified so that the final design is suitable and meets the intended purpose.	Design and create effective digital graphics to ensure it meets a given purpose.
Digital media and target audience	When working with digital media, there are a number of different file formats that can be used to save them. These formats include, jpg, png, gif, tiff, psd, pdf, bmp, mp4, mp3. It is important to save a digital media using the most appropriate file format so that it can be opened or used within different software applications and on different platforms. A final version of a digital media product will either be printed or used online. When planning to create digital media there are various planning techniques that can be used during the design process. These techniques include mind maps, visualisation diagrams and mood boards. Using these planning techniques will make the production of the final product quicker and easier and will help to create a final product for the client which meets the intended purpose and target audience.	Understand the requirements of a client brief and target audience to ensure the final design of a digital graphic is appropriate.
Digital media file formats	Desktop publishing is the use of computer software to produce content in various formats for publishing on different platforms – online and offline. Traditionally, DTP software was used to create layouts combining text and images for print publications such as newspapers, magazines, books, brochures and leaflets. However, DTP software has developed significantly and is now commonly used to create layouts for online content. This ranges from web and app design to interactive pdfs and traditional magazine layouts.	Save digital graphics using the most appropriate file format depending on how the final product will be used.
Project planning techniques		Use appropriate planning techniques to help plan the design, layout and content of a digital graphic.
Desk-top publishing		Use a wide range of DTP tools in order to create effective digital graphics.

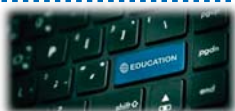
ICT and the way we communicate:

There was a time when people had limited options for communicating with one another. Face to face, letters and telephones were the main methods. Developments in ICT have given us limitless ways to communicate with others. Texting, skypeing, social media, email, apps, instant messaging and virtual platforms are just some of these options.



ICT in Education:

The impact of ICT on how we learn has been significant. Learning has become more personal, knowledge, skills and talents can be shared with others in a fun and creative way. Computers for learning provides us with an interactive audio-visual tool. Animation and presentation software along with projectors, screens, microphones and speakers can be combined to create effective and engaging teaching and learning tools. Remote learning tools enable learning to take place outside a classroom.



ICT and Entertainment:

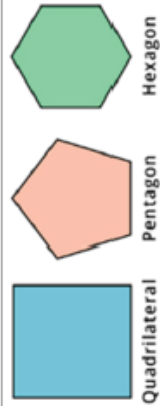
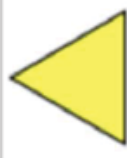
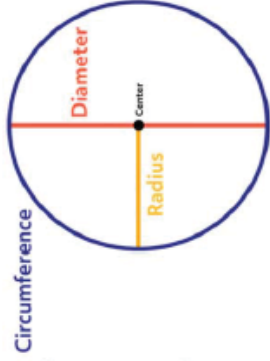
ICT has changed the way we access entertainment. The news can be read via the internet, we can read books by downloading e-books using e-readers. Our ability to download files onto our personal devices mean we have access to a vast range of music and films. Gamers can experience the very latest in AR and VR technology giving them a very immersive gaming experience.

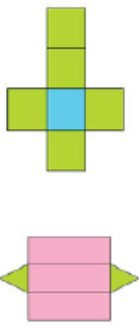
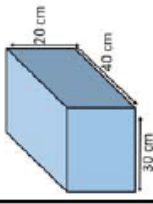
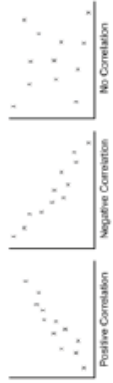


ICT and the way we shop:

The way we shop has changed significantly in the past few years. We no longer have to physically go into a shop to buy the goods we want. The evolution of e-commerce enables us to shop online using a vast number of online shops 24/7 from the comfort of our own home. We can view products up close, watch videos of the product and read reviews to help us make decisions. Shops collect our data in order to make our shopping experience more personal.



Word	Used in context	Definition	Example
Parallel	A square is made up of two sets of parallel lines	Lines that do not meet or cross and are always the same distance apart	
Perpendicular	Two sides of a square meet at a right angle. Therefore, they are perpendicular	Two lines intersecting to form a right angle	
Transversal	Which of the lines below is the transversal ?	A line that crosses at least two other lines	
Polygon	Square, rectangle, triangle and pentagon are all examples of polygons	A closed shape with straight sides	
Regular Polygon	A pentagon with all sides the same length is a regular polygon	A polygon with all angles equal and all sides the same length	
Circumference	Calculate the circumference of this circle	The perimeter of a circle	
Diameter	Use the diameter to work out the circumference of the circle.	A straight line passing from side to side of a circle, through the centre	
Radius	Use the radius to calculate the area of the circle	A straight line from the centre to the circumference of a circle. Half of the diameter	
Compound Shape	Calculate the area of the compound shape shown in the diagram	A shape made up of two or more geometric shapes	

<u>Word</u>	<u>Used in context</u>	<u>Definition</u>	<u>Example</u>
Net	Show the net of a cube with edges 3cm long	Describes what a 3D shape looks like when opened and laid flat	
Prism	How many faces does this prism have?	A solid object with a constant cross section	
Volume	Calculate the volume of the cuboid	The amount of 3D space an object takes up Volume = length x width x height	
Surface Area	Work out the surface area of this prism	The amount of space covering the outside of a 3D shape	
Scatter graph	The scatter graph shows the heights and weights of ten children	A graph displaying values for two variables for a set of data	
Bivariate data	What type of graph shows bivariate data?	Data that has two (usually related) variables	Weight and height
Correlation	What type of correlation is shown by this scatter graph?	The relationship between two variables	
Probability	What is the probability of flipping a coin and it landing on heads	The likelihood of an event happening	$P(\text{Heads}) = 0.5$
Relative Frequency	Calculate the relative frequency of getting a 6 after the dice was rolled thirty times	The number of times an event happens divided by the number of trials in an experiment	Emma has won ten tennis matches and lost seven. The relative frequency of Emma winning a match is $\frac{10}{17}$

Training Zones

Make sure that you can recall the guidelines for each zone. Can you link to sporting activities that would require training in each zone.

	Aerobic Training Zone	Anaerobic Training Zone
% of Maximum Heart Rate	60-80% of MHR	80-90% of MHR
Intensity of Exercise	Low to moderate intensity	High intensity
Length of Time in Zone	At least 15-20 minutes to have a training effect	15 seconds to 1 minute intervals
Related Training Methods	Continuous, Fartlek, Interval, Circuit	Weight, Interval, Circuit
Fitness Components that can be worked	Cardiovascular and muscular endurance	Speed, Power, Strength Tolerance to lactic acid

Calculating Intensity of Exercise through Heart Rate Zones– Example

A 20 year old joins a local gym and has been set a training programme where they will need to monitor their heart rate, to make sure that they are working hard enough but not overtraining.

- Step 1– Calculate maximum heart rate.
- Step 2– Aerobic Training Zone (lower threshold)
- Step 3– Anaerobic Threshold
- (upper end of Aerobic Zone/lower end of Anaerobic Zone)
- Step 4– Upper End of Anaerobic Zone

$$220 - 20 = 200 \text{ bpm}$$

$$220 \times 0.6 = 120 \text{ bpm}$$

$$220 \times 0.8 = 160 \text{ bpm}$$

$$220 \times 0.9 = 180 \text{ bpm}$$

Can you calculate training zones for yourself and a member of your family?

Training Methods– Memory Tip– WIFCC

Can you describe training methods and the component of fitness they target. What type of training would different athletes use? Why would it improve their performance? Can you attempt the example sessions.

Training	Description	Example Session
Weight Training	Lifting a resistance to cause adaptation to the muscles. Involves repetitions (the amount of times the movement is performed) and sets (a group of repetitions).	3 sets of 10 repetitions @60% of One Rep Max (the greatest amount you can lift once). Exercises– Bench Press, Leg Press, Shoulder Press, Bicep Curl. Can improve muscular strength, muscular endurance and muscular power.
Interval Training	Training which involves alternating work and rest periods. Can be structured to improve either speed or cardiovascular endurance.	Short Interval Training– 10-15 seconds sprinting with 90 seconds slow jog x 10 sets Long Interval Training– 2 minutes steady
Fartlek Training	Speed play. Working at a range of intensities, varying the speeds with no rest periods. Improves cardiovascular endurance.	5 minutes jog to warm up, then 15 seconds sprint, 45 seconds walk, 30 seconds steady, 15 seconds sprint and so on. Work for 15 minutes.
Continuous Training	Working at a low to moderate intensity for a long period of time with NO rest periods.	20-30 minutes steady jogging @60-80 % of Maximum Heart Rate. Improves cardiovascular endurance.
Circuit Training	Performing a series of exercises at different stations often with a brief rest in between to complete a set Improves muscular and cardiovascular endurance.	30 seconds work– 30 seconds rest Order of exercises– Press Up, Squats, Sit Ups, Shuttle Runs, Tricep Dips, Step Ups, Plank, Skipping

Religious Studies

1: What is a worldview?

- ⇒ A worldview is a collection of attitudes, values, stories and expectations about the world around us, which inform our every thought and action.
- ⇒ Everyone has a unique worldview.
- ⇒ A worldview is based on beliefs.
- ⇒ A worldview influences your actions and thoughts.
- ⇒ It makes up who you are as an individual.

Enquiry task: Look at each of the following beliefs and explain how they could influence someone's worldview.

1. Friends are more important than family.
2. There is NO afterlife.
3. Humans should not eat animals.

Challenge: Write out a different interpretation for each belief.

2. What builds a world view?

- ⇒ A worldview is built by personal experiences and beliefs.
- ⇒ This means worldviews can change over your lifetime as you experience more things in your life.
- ⇒ A sibling who has experienced the same things you have will still have a unique worldview as they will have had different feelings and understood things in their own unique way.
- ⇒ This means there is only one worldview that is the same as yours in the whole world.

Enquiry task: Explain 3 ways of your worldview changing since you were in primary school.

Explain 3 ways your worldview has not changed since primary school.

3. To what extent are beliefs unshakable?

- ⇒ There are many beliefs people have different opinions on.
- ⇒ People as a result of their beliefs have gone to great lengths to protect or show their beliefs publicly.
- ⇒ Some people have boycotted companies (refused to buy things from the company) or participated in marches/protests.
- ⇒ Others have gone to jail for their beliefs.
- ⇒ There are even individuals who have been killed for their own beliefs.



Enquiry task:

"There are some beliefs that should NEVER be supported."

Evaluate the statement.

In your answer you need to include:

1 paragraph supporting the statement

1 paragraph of a different view

1 conclusion showing your personal view point

4. Different beliefs about God.

There are many beliefs about God throughout all of humanity.

These beliefs can be broken down into 3 main categories:

- ⇒ **Atheist** - A person who disbelieves or lacks belief in the existence of God or gods.
- ⇒ **Agnostic** - A person who believes that nothing is known or can be known of the existence or nature of God.
- ⇒ **Theist** - A person who believes in the existence of a god or gods, specifically of a creator who intervenes in the universe.

The belief about God is part of someone's worldview. This belief for some people never changes during their lives. For others their belief in God may change multiple times in their life time.

Enquiry task: Explain 2 beliefs about God. (4 marks)

5. Atheist verses Humanist worldview

An atheist believes that there is no God. Richard Dawkins is an atheist and he has a strong belief that religious “truths” harm society. He argues that just because something is believed to be true doesn’t mean it is true. Instead humans have a duty to believe in something only if there is evidence to support its existence. So humans should be motivated to find out the truth about the world.

A Humanist believes that there is no God. However unlike Dawkins they don’t believe the belief in a religious “truth” harms society. Instead humans should be motivated to be good people because there is no life after this one.

Enquiry task: Compare a humanist and a atheist view point.

6. Bonhoeffer—Christian case study

Dietrich Bonhoeffer was a German Christian who lived in Germany during WW2 and apposed Hitler’s regimes. The reason he did this was because Hitler’s ideals went against his own personal religious world view and the rules he lived his life by.



Dietrich Bonhoeffer followed the Golden rule during Hitler’s reign. “Do for others what you want them to do for you” Matthew 7:12. As a result of his belief he planned to assassinate Hitler to stop him from causing anymore pain/hurt to people. Bonhoeffer thought this was the most loving action as a Christian.

Enquiry task: Explain how plotting to kill Hitler was the most loving action.

Explain how Bonhoeffer was still following the Golden rule by plotting to kill Hitler.

. Doss—Christian case study

- ⇒ Desmond was an American Christian during WW2.
- ⇒ Desmond was heavily influenced at a young age by the Sixth Commandment of ‘Thou shalt not kill’.
- ⇒ During WW2 Desmond felt it was an honour to serve God and country, but he wanted to do it as a medic, by saving life instead of taking life.
- ⇒ Some of Desmond’s fellow soldiers believed he should carry a weapon for protection, but he told them that he would put his trust in God. He said that “they could do the fighting and I would do the patching”
- ⇒ In May 1945, his battalion were sent up on the top of a 400-foot-high cliff named Hacksaw Ridge to fight the Japanese.
- ⇒ In this battle about 75 men were wounded and could not move. Desmond was the only medic and would not leave his men.
- ⇒ He stayed at the top of the cliff and let them down one by one to where they could be taken on down to the aid station.
- ⇒ He kept praying: ‘Lord, help me to get one more.’ And Desmond felt God did help him that day. He got all the men down safely and did not get a scratch from the bullets that were going past him as he worked to help his fellow men.



Enquiry task: How did Doss’ worldview effect his service in during WW2?

How might someone argue that Doss was a war hero.

8. Nicky Cruz—Conversion Case Study

Nicky Cruz was born in Puerto Rico. When he was 15 his parents sent him to live with his brother in New York City. In the 1950s he became a member of the Brooklyn ‘Mau Mau’ street gang, and later was selected leader of the gang.

His life revolved around drugs, alcohol and violence. He was arrested many times and a court psychiatrist said that Nicky would be soon ‘heading to prison, the electric chair and hell’.

No one could reach Nicky until he met a Christian street preacher called David who was trying to stop the violence by teaching the gang about Christianity.

David showed Nicky something he had never experienced before: love, care and interest.

At a religious meeting David’s preaching of the gospel message of Jesus’ love and forgiveness got through to him. Nicky felt called to go to the front where he prayed and asked God to forgive him.

After this Nicky became a Christian and left the gang.

Enquiry task: Have you had an experience that changed your life dramatically?

Cruz converted to Christianity. Explain how his worldview changed by meeting David.

Food chains and food webs

A food chain shows the different species of an organism in an ecosystem, and what eats what. Food chains show the flow of energy from one organism to another with arrows ('is eaten by').

Food webs are several food chains linked together.

The first organism in a food web is always a producer, which makes its own food by photosynthesis (for example an algae or plant).

The consumers are the organisms that eat plants or animals to obtain food.

The first consumer in the chain is also called the primary consumer, the next one is the secondary consumer the one after that is the tertiary consumer.

A consumer that only eats plants is called a herbivore, and a consumer that only eats other animals is called a carnivore. An omnivore is an animal that eats both plants and

Predators and preys

A **predator** is an animal that hunts and eats other animals, and the **prey** is the animal that gets eaten by the predator. Grass → Grasshopper → Frog → Hawk

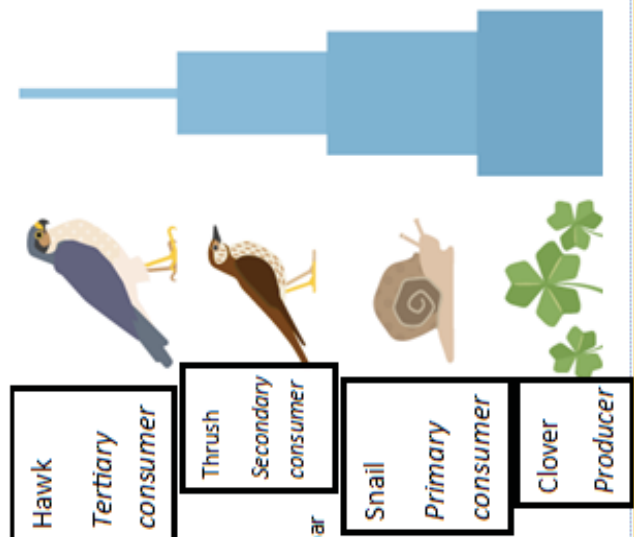
In the food chain above: the frog is a **predator** and the grasshopper is its **prey**. The hawk is a **predator** and the frog is its **prey**.

Pyramids of numbers

The population of each organism in a food chain can be shown in a type of bar chart called a pyramid of numbers.

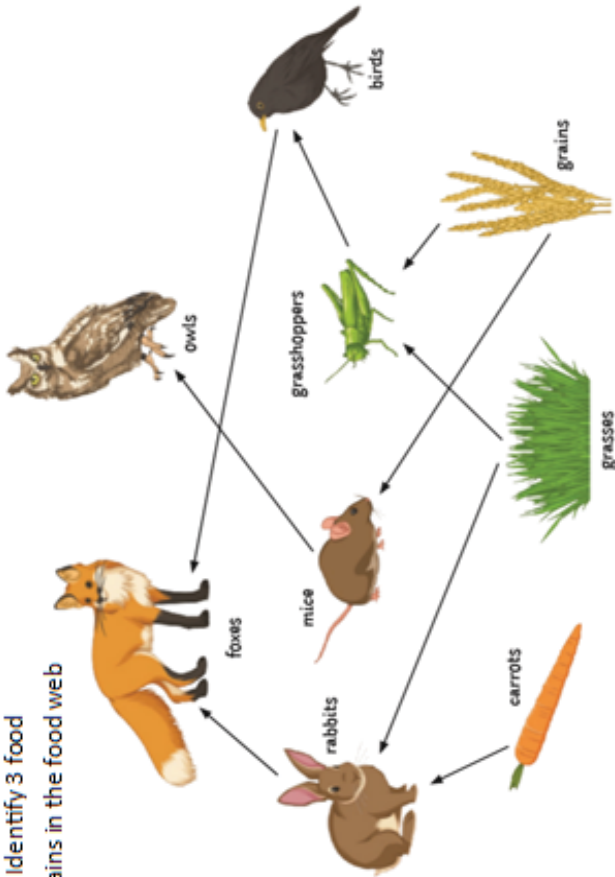
The bars are drawn to scale – the more organisms it represents, the wider the bar. The producer in the food chain always goes at the bottom of the pyramid of numbers.

Clover is a producer so goes at the bottom of the pyramid.



TASK 1

Identify 3 food chains in the food web



Draw a food chain that has 4 stages. _____

Name 2 primary consumers in this food web. _____

TASK 2

What could cause the population of a producer to decline?

What could happen if the population of mice in the task 1 food web decreased?

Research what DDT is _____

What is a definition of 'bioaccumulation' _____

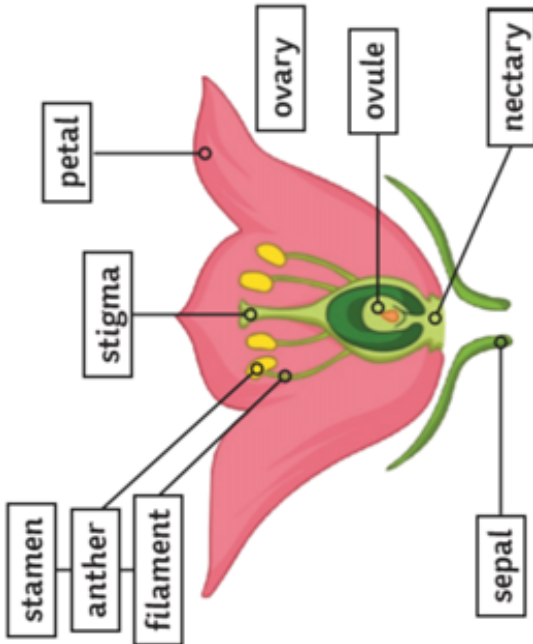
Plants have adaptations to disperse seeds using wind, water or animals.
Plants reproduce sexually to produce seeds, which are formed following fertilisation in the ovary.

Pollen (contain male sex cells found on the stamen) can be carried by the wind, pollinating insects or other animals. During Pollination, the pollen is transferred from the male part of the flower to the female part (of the same of a different plant).

Fertilisation is when the nucleus from the male and female sex cells (ovules, found in the ovary) join to produce seeds.
The seed is the embryo of a new plant. They are usually contained in a fruit

Fact

Flowers contain the plant's reproductive organs.
The carpel is the female part of the flower and is made up of the stigma, the style and the ovary.



TASK: Copy the following table and replace the structure numbers with the correct terms:

Petals, Sepals, Stamens, Ovary, Anthers, Stigma, Nectary

structure	Function
1	Protect the unopened flower
2	May be brightly coloured to attract insects
3	The male parts of the flower (each consists of an anther held up on a filament)
4	Produce male sex cells (pollen grains)
5	The top of the female part of the flower which collects pollen grains
6	Produces the female sex cells (contained in the ovules)
7	Produce a sugary solution called nectar, which attracts insects

Task: Copy the table below, filling in the boxes



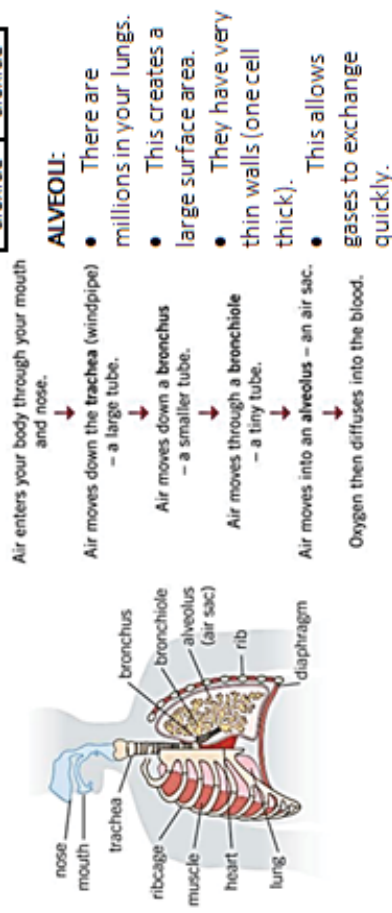
	Plant A	Plant B
Insect or wind		
Appearance		
Adaptation of		

Wind and insects are needed to pollinate food crops.	Feature	Insect pollinated	Wind-pollinated
	Petals	Large, bright coloured to attract insects	Small, dull green or brown, no need to attract insects
	Scent and nectar	Usually scented and with nectar to attract insects	No scent or nectar- no need to attract insects
	Pollen grains	Sticky or spiky- sticks to insects well	Smooth and light, easily carried by the wind
	Anthers	Inside flower, stiff and firmly attached to brush against insects	Outside flower, loose on long filaments, to release pollen grains easily
	Stigma	Inside flower, sticky, pollen grain s stick to it when an insect brushes past	Outside flower, feathery- form a network to catch drifting pollen grains

1. The lungs

Gas exchange takes place inside your lungs. Lungs are made of elastic tissue and expand when you breathe in. As they are delicate, they are protected by your ribs.

What happens when we breathe?



ALVEOLI:

- There are millions in your lungs.
- This creates a large surface area.
- They have very thin walls (one cell thick).
- This allows gases to exchange quickly.

Enquiry tasks

- State which structure in the figure opposite represents the alveoli, ribcage, diaphragm and trachea.
- Evaluate the model by listing ways in which the model matches a real breathing system and ways in which it doesn't.



2. INHALATION AND EXHALATION

Why do we breathe in and out?

- We inhale to take in oxygen (used in respiration) and exhale to remove carbon dioxide (waste product: turns lime water cloudy).
- The harder you exercise, the faster your breathing rate and greater your depth of breathing.
- This allows you to take in more oxygen for respiration (transferring more energy to the muscle cells).

Enquiry tasks

- State which way a diaphragm moves when you inhale.
- Describe the changes in the volume of the chest as you breathe in and out.

3. SMOKING

Tobacco smoke contains many harmful substances. These include:

Tar → causes lungs, mouth and throat cancer. It coats the inside of the lungs, including the alveoli, causing coughing. It damages the alveoli, making it more difficult for gas exchange.

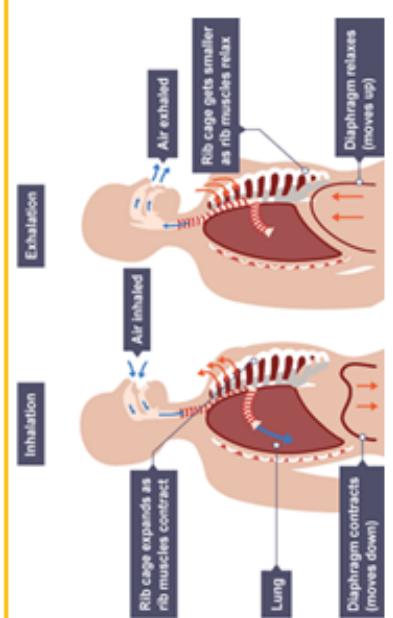
Nicotine → is **addictive** and also increases the heart rate and blood pressure, and makes blood vessels narrower than normal. This can lead to heart disease.

Carbon monoxide → is a gas that takes the place of oxygen in red blood cells, reducing the amount of oxygen that the blood can carry.

KEYWORD	DEFINITION
Asthma	A lung disorder in which inflammation (swelling) causes the bronchi to swell and narrow the airways, creating breathing difficulties.
Diaphragm	A sheet of muscle found underneath the lungs which is used in breathing.
Exhale	Breathing out, to remove carbon dioxide.
Gas exchange	The transfer of gases (oxygen & carbon dioxide) between an organism and its environment.
Inhale	Breathing in, to take in oxygen.
Lung volume	Measure of the amount of air breathed in or out.
Passive smoking	Breathing in other people's smoke.
Respiration	Process that transfers energy in plants and animals. Glucose + oxygen → carbon dioxide + water
Ribs	Bones which surround the lungs to form the ribcage and protect the lungs.

Enquiry tasks

- Using flashcards or cut paper into rectangles, write the keyword on one side and the definition on the other. Ask family or friends to test you to improve your recall.



4. Food groups

There are 7 different types of nutrients;

- 1) Carbohydrates; simple carbohydrates provide a quick source of energy.
- 2) Lipids (fats and oils)
- 3) Proteins
- 4) Vitamins
- 5) Minerals
- 6) Water (needed in all cells and body fluids)
- 7) Dietary fibre

Food Tests

A food solution must be prepared by crushing the food and then adding a few drops of distilled water.

Starch —> if iodine is added to starch it will turn blue/black.

Sugar —> if Benedict's solution is added to a sugar and heated it will form an orange-red precipitate.

Lipids —> to test for fat, mix the substance with a small amount of ethanol and distilled water, if a milky white emulsion appears, then fat is present
OR rub solid food into a piece of filter paper, if the paper turns translucent the food contains lipids.

Protein —> if Biuret solution is added to protein it will turn purple.

Enquiry tasks - complete the table

Food group	Chemical reagent	Positive test
Starch	Iodine	Blue/black

5. DIGESTIVE SYSTEM

The **small intestine** has a thin wall, covered in villi. These structures increase the surface area for absorption. They also contain blood capillaries to carry away absorbed food molecules.

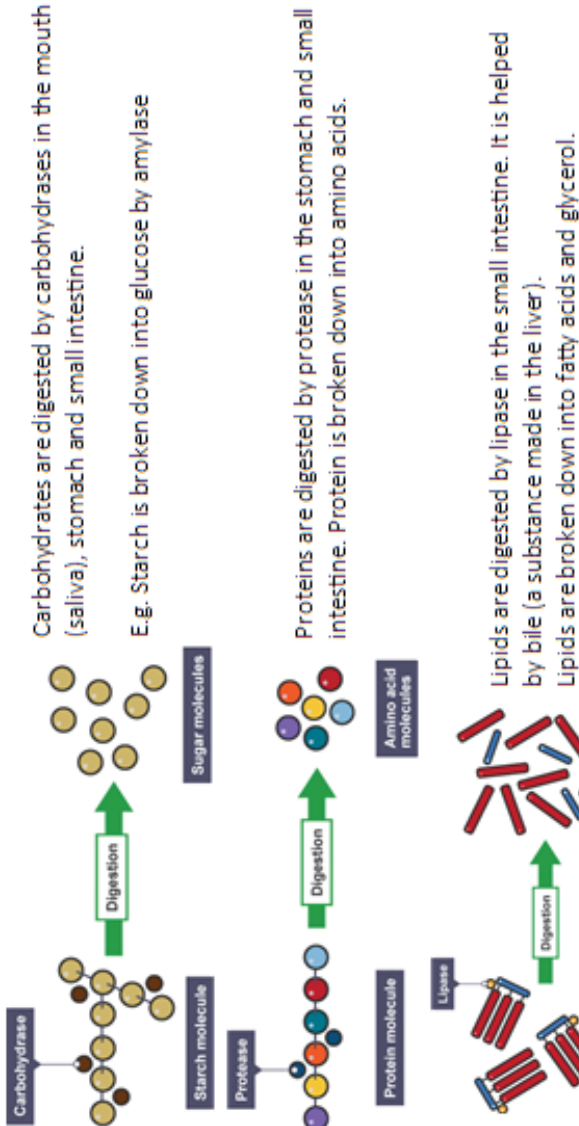
Liver and pancreas

The liver and the pancreas play an important part in digestion. The liver produces bile, which helps the digestion of lipids (fats and oil). The pancreas produces biological catalysts called digestive enzymes which speed up the digestive reactions.

Enquiry task

Describe how the digestive system is adapted for its function (6)

6. DIFFERENT TYPES OF ENZYMES: different enzymes break down different nutrients.



Enquiry task – complete the table

Food group	Product of digestion	Enzyme	Where the enzyme is found.
Starch	Glucose	amylase	Mouth, stomach and small intestine



Keywords and their definition

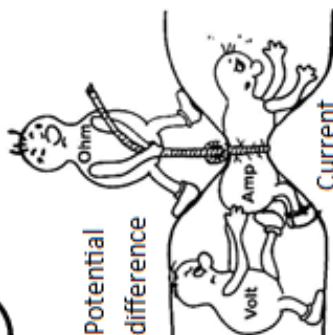
1

Keyword	Definition	Measured in
Potential difference	The amount of energy that an electron has between two points in a circuit. The energy is transferred to the electrical components in a circuit when electrons pass through them.	Volts (V)
Current	The flow of charge around the circuit	Amps (A)
Resistance	The measure of how easy it is for the current to flow around a circuit	Ohms (Ω)

Relationship between the variables

1

Resistance



Resistance is restricting the current (flow of electrons) around the circuit.

The higher the resistance, the harder it is for electrons to flow around the circuit

1 A set of Christmas tree lights is made from twenty identical lamps connected in series

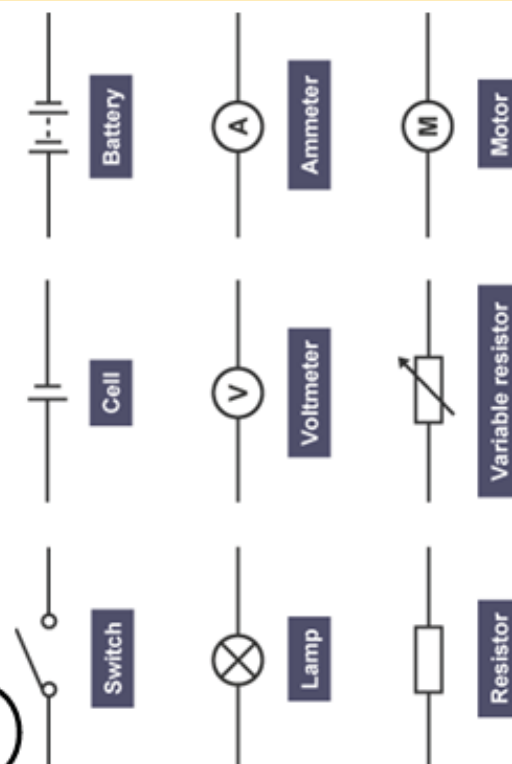


Each lamp is designed to take a current of 0.25 A. The set plugs directly into the 230 V mains electricity supply

- Write down the **equation** that links current, potential difference and resistance.
- Calculate the **resistance** of **one** of the lamps. Show clearly how you work out your final answer and give the unit.

Electric circuit symbols

2



Measuring / calculating the variables:

2

Current	Use an ammeter
Potential difference	Use a voltmeter
Resistance =	Potential difference / current

2 Draw a line from each circuit symbol to the correct name. lines.



switch



motor



battery

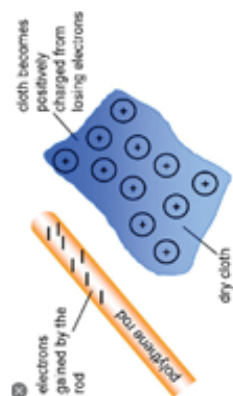


bulb

Static Electricity

3

When you rub two different materials against each other, they become electrically charged. This only works for electrically insulated objects and not with materials like metals, which conduct. For example, if you rub an acetate plastic rod with a duster



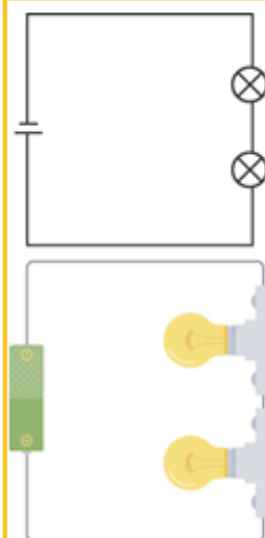
- electrons move from the rod to the duster
- the duster becomes negatively charged and the rod becomes positively charged

Task: research how static electricity could be removed from a charged item.

Series circuit

4

If you follow the circuit diagram from one side of the cell to the other, you should pass through all the different components, one after the other, without any branches.

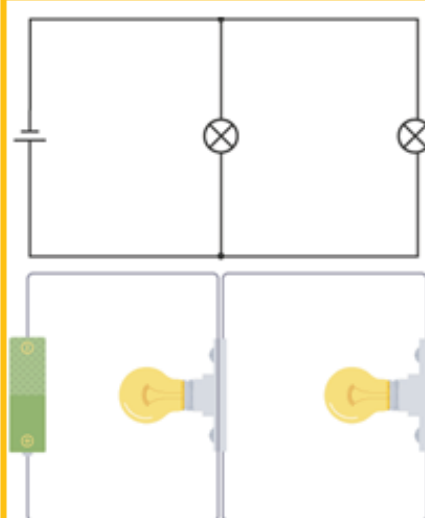


In a series circuit, if a lamp breaks or a component is disconnected, the circuit is broken and all the components stop working.

Parallel circuit

4

In a parallel circuit, different components are connected on different branches of the wire.

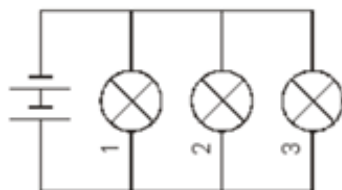


In a parallel circuit, if a lamp breaks or a component is disconnected from one parallel wire, the components on different branches keep working.

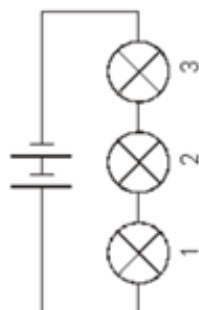
4

In each circuit below, **bulb 1 breaks** and goes off.

Under each circuit diagram below, tick the correct boxes to show if bulb 2 and bulb 3 are **on** or **off**.



circuit B



circuit A

	on	off
bulb 1 breaks		?
bulb 2		
bulb 3		

	on	off
bulb 1 breaks		?
bulb 2		
bulb 3		

Give the name of the part that provides energy for each circuit.

.....

Why is copper used for wires in a circuit?
Tick the correct box.

Copper does not stick to a magnet.	☐
Copper is a good conductor of electricity.	☐
Copper is a brown metal.	☐
Copper is a good conductor of heat.	☐



Need to Know Dictionary: English

Word	Definition
Fiction	Literature that describes imaginary events and characters.
Protagonist	The main (usually 'good') character in a text.
Antagonist	A character who opposes the protagonist.
Allegory	A story with a hidden meaning behind it. Usually a moral or political one.
Characterisation	The way in which a fictional character is created.
Setting	The background or location in which a text is set.
Moral	A lesson that can be learned from a story.
Theme	A recurring idea in a text.
Narrative	A spoken or written account of something . A story.
Civilisation	An organised society or group of people. A civilisation has laws, culture, food production and protection for its people.

Need to Know Dictionary: Maths

Word	Definition
ratio	commonly a ratio is the comparison of two values of the same kind, which may be written as a to b, a:b
circumference	the distance around a circle
prism	a prism is a solid three-dimensional shape with two identical, parallel polygon bases
surface area	total area of the surface of a three-dimensional object measured in square units
loci	a set of points that satisfy a particular condition or rule
translation	move an item in any direction without rotating it
transformation	a change in position or size, including a reflection ... flip, a translation ... slide, a rotation ... turn and a dilation ... zoom
congruent	having the same shape and the same size
similar	having the same shape but not necessarily the same size
scale	having the same shape but not necessarily the same size



Need to Know Dictionary: Science

Word	Definition
Electromagnet	A non-permanent magnet turned on and by controlling the current through it.
Magnetic Field	A region in which there is a force on a magnet or magnetic material.
Solenoid	Wire wound into a tight coil, part of an electromagnet.
Photosynthesis	The process plants and algae use to make their own food, glucose. In photosynthesis, carbon dioxide and water react together to make glucose and oxygen.
aerobic respiration	Breaking down glucose with oxygen to release energy and producing carbon dioxide and water.
Producer	Organism that makes its own food using photosynthesis.
Contact Force	A force that acts when an object is in contact with a surface, air, or water.
Equilibrium	State of an object when opposing forces are balanced.
Deformation	Changing shape due to a force.
Atmospheric Pressure	The pressure caused by the weight of the air above a surface.

Need to Know Dictionary: Geography

Word	Definition
Ecosystem	A community of plants and animals that interact with each other and their environment.
Biome	A plant and animal community that covers a large area of the Earth's surface (e.g. desert, tropical rainforest).
Adaptation	the process of change by which an organism or species becomes better suited to its environment.
Deforestation	The cutting down of trees, transforming afforest into cleared land for other uses such building or growing crops.
Pollution	the presence in or introduction into the environment of a substance which has harmful or poisonous effects.
Nutrient Cycle	are on-going recycling of nutrients between plants and animals and their environment.
Desertification	is when the physical land in an area becomes drier and vegetation struggles to grow there.
Overgrazing	is when too many animals are allowed to eat the vegetation in an area for too long, so the vegetation cannot recover.
Biodiversity	is the wide range of plant and animal life that lives in an area or ecosystem.
Biome	A plant and animal community that covers a large area of the Earth's surface (e.g. desert, tropical rainforest).



Need to Know Dictionary: French

Week/ Word/ Definition/ In a sentence/ Word Knowledge

- 1 Irregular (adjective)** - Not following the usual pattern. It's really important you learn irregular verbs because they don't follow the usual pattern. The prefix 'in' can mean 'opposite of' the Latin root word 'regularis' means 'having rules'.
- 2 Infinitive (noun)** - The verb in its unchanged state. In French, infinitives end in either -er, -ir or -re. The Latin root word 'fin' means 'end'.
- 3 Past participle (noun)** - The form of a verb, typically ending in -ed in English. The perfect tense is made up of the verb avoir (pronounced av-wa) or être (pronounced etruh) followed by a past participle. From the Latin for 'sharing'.
- 4 Gender (noun)** - Whether the noun is masculine or feminine. Some verbs use être (pronounced et-ruh) in the perfect tense, the past participle needs to agree in gender and number. From the Latin root word 'genus' which means 'race', 'kind' or 'species'.
- 5 Negative (noun)** - A word or statement that expresses denial, disagreement, or refusal. Always try to include a negative phrase in your writing and speaking. The prefix 'neg' means 'deny' or 'nothing'.
- 6 Conjugate (verb)** - To change the verb depending on who is performing the action or when the action is taking place. We are now able to conjugate verbs in the present and the perfect tense. The prefix 'con' means to 'join'.
- 7 Indefinite article (noun)** - The word 'a' or 'an'. In French, there are two ways to use the indefinite article depending on whether the noun is masculine or feminine. The indefinite articles in French are: 'un' or 'une'.
- 8 Partitive article (noun)** - The word 'some' In French, there are four different ways to use the partitive article, depending on whether the noun is masculine or feminine, singular or plural. The partitive articles in French are: 'Du', 'de la', 'de', 'l' des'.
- 9 Cognate (noun)** - Cognates are words that share similar meaning, spelling and pronunciation. When trying to work out meaning, you should look for cognates. From the Latin word meaning 'of common descent'.
- 10 Tense (noun)** - A set of forms taken by a verb to indicate time. You should use a variety of tenses in your speaking and writing, in order to achieve a higher grade. From the Latin word 'tens' meaning 'time'.

Need to Know Dictionary: History

Word	Definition
1800s	The correct way to write "the eighteen hundreds" as a number.
Abolish	To end or get rid of
Century	100 years
Contemporary	At the same time of the event or person
Decade	10 years
Empire	Different nationalities all controlled by one central government.
Morale	A feeling about how well or badly something is going.
Parliament	A group of people that debate and decide the laws and taxes for a country.
Rebellion	To fight back against the people in charge
Slave	A person with no human rights who is forced to follow orders and work without pay.



Need to Know Dictionary: Design and Technology

Word	Definition
Printed Circuit Board (PCB)	A Printed Circuit Board or PCB is essentially a board that connects electronic components.
Soldering	The process by which solder, which is an alloy of lead and tin, is heated until liquid and then added to components allowing electricity to flow from one point to another.
Bridal joint	A carpentry joint connecting a slotted end of one timber to the double-notched end of another timber.
Soldering iron	An electrical tool used for melting solder and applying it to metals that are to be joined.
Function	The special purpose or activity for which a thing is designed or used.
Illumination	To light up an area, our lamps will hopefully do this effectively.
Precision	Precision is defined as the reproducibility or repeatability of a result from repeated measurements under unchanged conditions.
Dimensions	A measurement of something in a particular direction, especially its height, length, or width:
Resistor	A device having resistance to the passage of an electric current.
Light Emitting Diode (LED)	A semiconductor diode which glows when a voltage is applied.

Need to Know Dictionary: Art

Word	Definition
Op Art	a form of abstract art that gives the illusion of movement by the precise use of pattern and colour, or in which conflicting patterns emerge and overlap.
Annotations	a note or comment added to a text to provide explanation or criticism about a particular part of it.
Geometric forms	characterised by or decorated with regular lines and shapes. "a geometric pattern"
Installation	The term installation art is used to describe large-scale, mixed-media constructions, often designed for a specific place or for a temporary period of time.
Contrast	It is one of the principles of art which refers to the striking difference between two elements. For example, there is a strong contrast when you place a vivid red next to a dull green, or a rough texture next to a smooth texture, or a hard edge next to a soft edge, and so on.
Composition	The position and layout of shapes on paper.
physiology and psychology	The study of how the human body and the study of how the human mind and behaviour.
Perception	The way in which something is regarded, understood, or interpreted.
Pattern	A repeated shape or line.
Disorienting	causing someone to lose their sense of direction and/or feel confused.



Need to Know Dictionary: Drama

Word	Definition
Characterisation	how an actor uses body, voice, and thought to develop and portray a character.
Slow motion	the speed is reduced to highlight a scene or bring a big moment into focus.
Genre	refers to the type of story being told. I.E comedy, tragedy, tragicomedy, melodrama.
Forum theatre	is a drama technique that encourages an audience to interact and explore different options for dealing with a problem or issue.
Stimulus	starting point, idea or inspiration for your devised drama.
Devising	is a group collaboration in response to a stimulus leading to the creation of an original performance.
Improvisation	created spontaneously or without preparation (making it up as you go along).
Marking the moment	is a way of highlighting the most important moment in a scene in order to draw the audience's attention to its significance.
Abstract techniques	is the representation of the underlying feelings, moods, themes and ideas of a performance rather than telling the story in a realistic manner.
Choral work	Actors moving, breathing and speaking together as one group.

Need to Know Dictionary: Music

Word	Definition
BPM (beats per minute)	Unit of measurements of a piece's tempo.
Musical phrase	is a substantial musical thought, which ends with a musical punctuation called a cadence.
Music for Film	A film score is original music written specifically to accompany a film.
Music genre	is a conventional category that identifies some pieces of music as belonging to a shared tradition or set of conventions.
Leitmotif	is a "short, recurring musical phrase" associated with a particular person, place, or idea.
Soundscape	refer to an audio recording or performance of sounds that creates the sensation of experiencing a particular acoustic environment.
Soundtracks	is a narrow strip running down a movie film that carries the recorded sound in synchronisation with the pictures.
Diegetic sound	is sound that comes from the setting of the film.
Non- diegetic	is any type of sound that does not specifically exist within the world of the film itself
Mickey-mousing	Matching movement to music.



Need to Know Dictionary: PE

Word	Definition
Training Methods	There are a number of different ways of training that can improve health and fitness necessary for a range of activities.
Weight Training	Lifting a resistance to cause adaptation to the muscles. Involves repetitions (the amount of times the movement is performed) and sets (a group of repetitions).
Interval Training	Training which involves alternating work and rest periods. Can be structured to improve either speed or cardiovascular endurance.
Fartlek Training	Speed play. Working at a range of intensities, varying the speeds with no rest periods. Improves cardiovascular endurance.
Continuous Training	Working at a low to moderate intensity for a long period of time with NO rest periods.
Circuit Training	Performing a series of exercises at different stations often with a brief rest in between to complete a set Improves muscular and cardiovascular endurance.
Maximum Heart Rate (MHR)	The highest number of beats per minute your heart can pump under maximum stress (220-age).
Aerobic Training	Training at an intensity level above the aerobic threshold but below the anaerobic threshold. Typically 60-80% of MHR.
Anaerobic Training	Training at an intensity level above the anaerobic (without oxygen) threshold. Typically 80-90% of MHR.
Anaerobic Threshold	The heart rate above which anaerobic (without oxygen) fitness improves. Typically above 80% of MHR.

Need to Know Dictionary: Religious Studies

Word	Definition
Abuse	misuse; of the world and environment.
Animal experimentation	using animals to conduct scientific experiments usually to try to improve human life.
Awe	A feeling of respect, mixed feelings of fear and wonder.
Vegetarian	a person who does not eat meat or fish.
Deforestation	the cutting down of large amounts of forests, usually for business needs.
Dominion	power over something ; having charge of something or ruling over it.
Vegan	a person who does not eat meat or food produced by animals e.g. eggs. a vegan will not use any products that have caused harm to animals e.g. leather.
Natural resources	materials found in nature, such as oil and trees that can be used by people.
Renewable energy	energy that comes from a source that does not run out, such as wind or the sun.
Stewardship	the idea that believers have a duty to look after the environment on behalf of God.



Need to Know Dictionary: Food Technology

Word	Definition
Combine	This refers to when ingredients are mixed together when following a method for a recipe. For example this could be combining yeast and bread flour with water to make bread dough or to combine sugar with butter and then adding the eggs and flour to make a cake.
Knead	You knead the bread dough to make it smooth and stretchy. The palm of the hand is used to push the dough away from you then it is pulled back towards you by folding it back over from the front then it is pushed away again. This is repeated to make the dough soft and stretchy and it activates the gluten in the flour along with the yeast.
Consistency	This refers to how a food holds together or what it looks and feels like. The consistency of a sauce could be thick or runny, smooth or lumpy
Incorporated	This refers to different ingredients being mixed together to make one thing such as bread dough, pastry and cheese sauce.
Equal	This refers to quantities being the same such as cake mixture being divided into cupcake cases or equal amounts of bread dough to make into rolls.
Even	This refers to products made evenly when cut out or shaped such as scones being all the same size and height. It could also refer to the surfaces being flat and smooth.
Presentation	How something looks when it is made and then presented on a plate or dish. It could be the edges of a pie or cupcake icing that has been presented in a decorative way or the meal may have been displayed on a plate with a salad garnish to make it look good and appetising.
Management	This could refer to time management where you are planning your time when preparing a dish to ensure the dish and its accompaniments (side dishes) are ready at the same time or management within a team working in a kitchen environment.
Method	When making a dish or a product a method is followed using step by step instructions. This helps to get each ingredient combined together in the correct order and prepared correctly as well.
Independent	Where you work on your own or follow a recipe by yourself with no help from others.

Need to Know Dictionary: ICT

Word	Definition
Audience	The group of people a product is specifically designed for to entertain, educate or to advertise.
Design brief	Instructions given by a client about how they want the finished product to look or contain.
Desk-top publishing (DTP)	Using a computer and graphic design software to design and create a publication.
Page layout	The placement of design and content within a page.
House-style	The use of consistent colours, fonts and layout.
Logo	A symbol which represents a company or organisation.
Layering	Putting objects in front of or behind each other on a page.
Resize	When an image or object is made larger or smaller.
Group/ungroup	Joining or splitting an image or object into one or separate component parts.
Align	Making objects line up on the left, centre or the right of a page.