

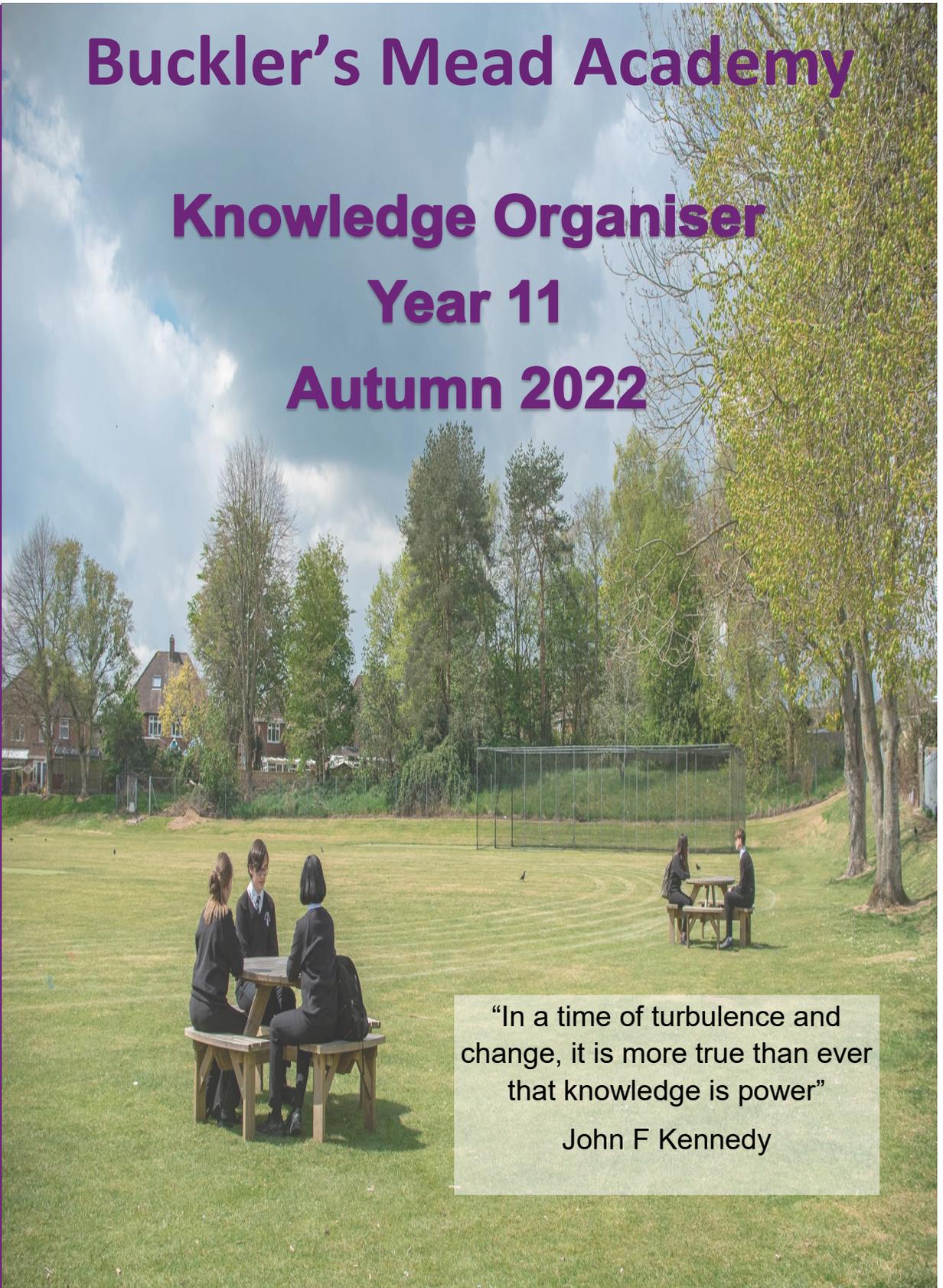
Buckler's Mead Academy

Knowledge Organiser

Year 11

Autumn 2022

Learning Cycle 1



“In a time of turbulence and change, it is more true than ever that knowledge is power”

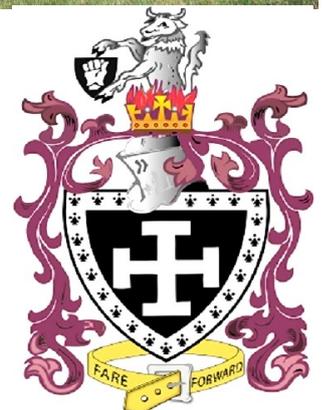
John F Kennedy

Inspiring Education for All

Name:

Tutor:

Ready, Responsible, Respect



Homework Timetable

Learning Cycle 1

	Week A	Week B
Monday		
Tuesday		
Wednesday		
Thursday		

Ambition

Success

Enjoyment

"Inspiring Education for All"

Opportunity

Community

Your Knowledge Organiser

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How to Use Your Knowledge Organiser

Self –Quizzing

Your Knowledge Organiser contains all of the key information you need to know for each subject area.

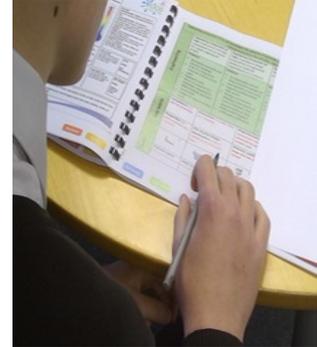
Your Knowledge Organiser will allow you to revise this key information and make sure it is stored in your long-term memory

The best way to use this resource is by self-quizzing.

“look, cover, write and check”

Look, Cover, Write, Check, Correct

First look through and read the information on a section of your knowledge organiser



Then Cover the section so you can no longer see the information

Next Try and **write out** the key definitions or facts that you need to know



Now uncover the section of your Knowledge Organiser and check how correct you were

Finally Correct anything that you wrote down that was incorrect

Knowledge Quiz

You teacher will quiz you on your knowledge organiser during the learning cycle .

Record your score from each quiz in the mark box.

Quiz 1					
Quiz 2					
Quiz 3					

Quiz 1					
Quiz 2					
Quiz 3					

Quiz 1					
Quiz 2					
Quiz 3					

Art

Key Literary Vocabulary:

Media/Medium

The materials and tools used by an artist to create a piece of art.

Technique

The skill in which an artist uses tools and materials to create a piece of art.

Abstract

A piece of art which is not realistic. It uses shapes colours and textures.

Style

The technique an artist uses to expressive their individual character of there work.

Composition

The arrangement and layout of artwork/objects.

Highlight

The bright or reflective area within a drawing/painting where direct light meets the surface of the object or person.

Shadow, shade, shading

The tonal and darker areas within a drawing/painting where there is less light on the object or person.

Texture

The feel, appearance or the tactile quality of the work of art

Mark making

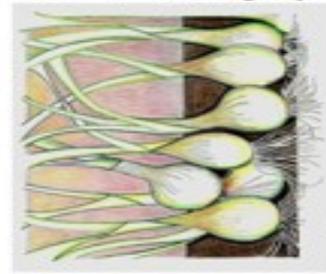
Mark making is used to create texture within a piece of art by drawing lines and patterns.

Collage

A piece of art made by using a variety of materials such as paper/newspaper/photographs which are cut out, rearranged and glued on a surface.

Art Principles

(Principles of the Visual Language)



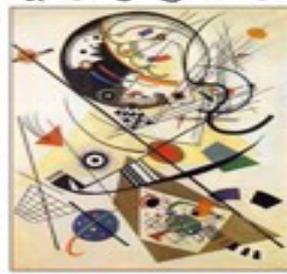
Rhythm: when elements are repeated in a certain direction.



Proportion: refers to the relationship between the size or scale of objects etc...



Pattern: when you repeat a 'motif' or design many times.



Balance: can be either symmetrical or asymmetrical. Organised in an even way.



Visual Movement: when forms, values or colours seem to create action.



Variety: when there are lots of different shapes, colours, forms, textures patterns lines or values in the work.



a high contrast image

Contrast: very different tones shown together.



Harmony: when the elements work together to create a pleasing arrangement.



Emphasis: when one part of an artwork stands out and attracts the eye (the tree on the left).



Unity: when an artwork seems whole, complete together.

Photography

	<p>Focus: what areas appear clearest or sharpest in the photograph? What do not? How would you describe the Depth of Field?</p>		<p>Angle: the vantage point from which the photograph was taken; generally used when discussing a photograph taken from an unusual or exaggerated vantage point.</p>
	<p>Light: what areas of the photograph are most highlighted? Are there any shadows? Does the photograph allow you to guess the time of day? Is the light natural or artificial? Harsh or soft? Reflected or direct?</p>		<p>Background: the part of a scene or picture that is or seems to be toward the back.</p>
	<p>Line: are there objects in the photograph that act as lines? Are they straight, curvy, thin, thick? Do the lines create direction in the photograph? Do they outline? Do the lines show movement or energy?</p>		<p>Balance: the distribution of visual elements in a photograph. Symmetrical balance distributes visual elements evenly in an image. Asymmetrical balance is found when visual elements are not evenly distributed in an image.</p>
	<p>Repetition: are there any objects, shapes or lines which repeat and create a pattern?</p>		<p>Point/s of Interest: the object(s) which appears most prominently and/or most clearly focused in a photograph.</p>
	<p>Shape: do you see geometric or organic shapes? What are they?</p>		<p>Composition: the arrangement or structure of the formal elements that make up an image.</p>
	<p>Space: is there depth to the photograph or does it seem shallow? What creates this appearance? Are there important negative spaces in addition to positive spaces? Is there depth created by spatial illusions?</p>		<p>Contour: the outline of an object or shape.</p>
	<p>Texture: if you could touch the surface of the photograph how would it feel? How do the objects in the picture look like they would feel?</p>		<p>Contrast: strong visual differences between light and dark, varying textures, sizes, etc.</p>
	<p>Value: is there a range of tones from dark to light? Where is the darkest value? Where is the lightest?</p>		<p>Framing: what the photographer has placed within the boundaries of the photograph.</p>
			<p>Setting: actual physical surroundings or scenery whether real or artificial.</p>
			<p>Vantage point: the place from which a photographer takes a photograph.</p>

Community

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“Inspiring Education for All”

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Ambition

Computational Thinking

- 1) **What is Computational Thinking?** - Is a way of solving complex problems that are difficult to understand
- Creation of Algorithms to solve a problem.
 - Breaking the problem down into small chunks that can be rebuilt later
 - Looking for patterns in these smaller chunks. Have we solved anything before?
 - Focus only on the important detail

2) Decomposition

Yeovil News:

Armed Robbery at Town jewellery store

To break down the problem (decompose it) the police would think about:

- what crime was committed
- when the crime was committed
- where the crime was committed
- what evidence there is
- if there were any witnesses
- if there have recently been any similar crimes

KEY WORDS:

Abstraction - Taking away unnecessary parts of a problem

Decomposition - Breaking down a problem into smaller chunks

Pattern Recognition - When two or more things have something in common

Algorithms - a process or set of rules to be followed in calculations or other problem-solving operations

3) Pattern Recognition

Finding patterns makes it easier to solve problems. A pattern occurs when two or more things have something in common.

Think:

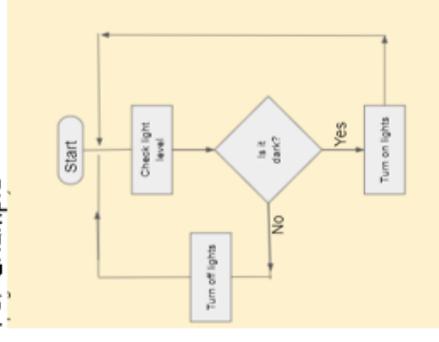
Which of the following contains a pattern and why?

- Buckler's Mead is a school
- Buckler's Mead and Preston are schools

5) Flowcharts

Flowcharts help us to create an Algorithm in a pictorial way that should be easy to follow.

For Example



Symbols:

	Stop / Start
	Process
	Decision
	Flow of Information

4) Abstraction

In computing, abstraction involves taking a complex problem and removing all of the specific detail to try and make the problem a little simpler to understand.

For example, when trying to describe a cat in general terms, you don't need to know exactly how big it is or what colour its fur is.



Computing

Project Life Cycle	Initiation, Planning, Execution, Evaluation
SMART Targets	Specific, Measurable, Achievable, Relevant, Timed
Planning Tools	GANTT Charts, PERT (Project Evaluation and Review Technique), Critical Path, Flowcharts, Mind map.
Risk Mitigation	A strategy to prepare for and reduce the risk of threats.
Feasibility	How practical/realistic a project is.
Interaction/iteration	Each phase of the Project Life cycle interacts with the phases before and after.

Data	raw facts and figures before they have been processed.
Data types	Text, alphanumeric, integer, real, currency, percentage, fraction, decimal, date/time, limited choice, object, logical/Boolean.
Information	The end result of data being processed.
Data collection methods	questionnaires/surveys, email, sensors, interviews, consumer panels.
IT methods of data collection	Barcode readers, QR codes, web based surveys, wearable technology, and mobile technology.
Storage methods	The cloud (virtual), hard disk drive, solid state drive, optical, flash memory device (all physical).
Big data	Large amounts of data collected and processed.

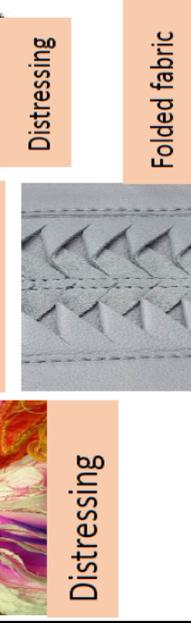
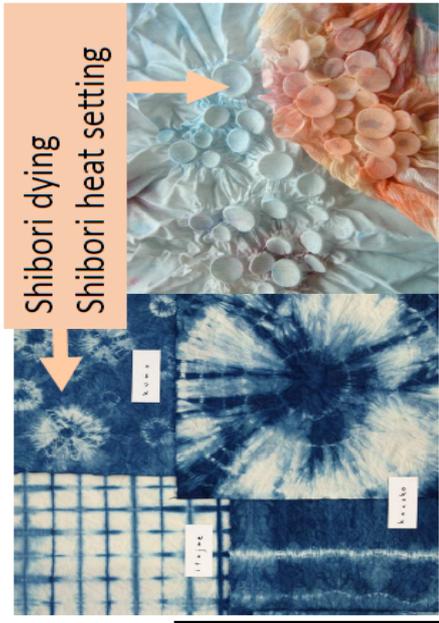
Types of threats	Malware (adware, bot, virus, worm, spyware); Social engineering (phishing, pretexting, baiting); Hacking, DDoS (distributed denial of service)
Vulnerability	A weakness that allows a person to launch a cyber-security attack (environmental, physical, system).
Impacts of cyber-security attack	Identity theft, data destruction, data manipulation, data modification, data theft.
IT legislation	Data Protection 1998; Copyright, design and patents act 1988; Computer Misuse Act 1990; Freedom of information act 2000.
Primary data	data collected directly through surveys/questionnaires
Secondary data	Collected from secondary sources such as journals/magazines.

Processing data	Two main tools for this: spreadsheets and database software.
Spreadsheets	Formulas, functions, worksheets.
Databases	Tables, records, queries, validation.
Presenting data	Word processing, desktop publishing, PowerPoint presentation.
Considerations of presenting data	Target audience, content limitations, availability of information.
Distribution Channel	Messaging services, websites, and Multimedia Cloud and Mobile apps.
Presentation Methods/Resources	report, presentation, charts, tables, hardware, software, connectivity

DT - Textiles

Knowledge Organiser: Fabric manipulation

Know what these words mean and learn the spellings	
Fabric manipulation	Any technique that reshapes the surface of the material
Shibori	This is usually a Japanese method of dyeing fabric, indigo dyes are normally used. Shibori can also be used to shape a fabric by manipulating and then heat setting the fabric to set the shape
Embroidery	The art of working raised and ornamental designs on fabric with a needle
Pleating	A pleat (older plait) is a type of fold formed by doubling fabric back upon itself and securing it in place.
Suffolk puff	A Suffolk puff is simply a circle of material gathered in on itself to form a smaller, double thickness, puffier circle
Ruching	Ruching is used to describe gathering of fabric
Fabric origami	Fabric folding that replicates the Japanese art of folding paper into decorative shapes and figures.
Layering	One layer of fabric on top of another
Distressing	Making the fabric look old and worn
Design development	The process of developing a design from an initial starting point



DT—Food and Nutrition

Functions of ingredients
Ingredients provide a variety of functions in recipes.

Carbohydrate, protein and fat
Carbohydrate, protein and fat all have a range of properties that make them useful in a variety of food products.

Carbohydrates perform different functions in food.
They can:

- help to cause the colour change of bread, toast and bakery products (dextrinisation);
- contribute to the chewiness, colour and sweet flavour of caramel;
- thicken products such as sauces and custards (gelatinisation).

Maillard reaction
Foods which are baked, grilled or roasted undergo colour, odour and flavour changes. This is primarily due to a group of reactions involving amino acids (from protein) and reducing sugars.

Dextrinisation
When foods containing starch are heated they can also produce brown compounds due to dextrinisation. Dextrinisation occurs when the heat breaks the large starch polysaccharides into smaller molecules known as dextrins which produce a brown colour.

Caramelisation
When sucrose (table sugar) is heated above its melting point it undergoes physical and chemical changes to produce caramel.

Gelatinisation
When starch is mixed with water and heated, the starch granules swell and eventually rupture, absorbing liquid, which thickens the mixture. On cooling, if enough starch is used, a gel forms.

Proteins perform different functions in food products.
They:

- aerate foods, e.g. whisking egg whites;
- thicken sauces, e.g. egg custard;
- bind ingredients together, e.g. fishcakes;
- form structures, e.g. gluten formation in bread;
- gel, e.g. lime jelly.

Gluten formation
Two proteins, gliadin and glutenin, found in wheat flour, form gluten when mixed with water. Gluten is strong, elastic and forms a 3D network in dough. In the production of bread, kneading helps untangle the gluten strands and align them. Gluten helps give structure to the bread and keeps in the gases that expand during cooking.

Gelation
Gelatine is a protein which is extracted from collagen, present in animal connective tissue. When it is mixed with warm water, the gelatine protein molecules start to unwind. On cooling, a stable, solid network is formed, trapping the liquid.

Denaturation
Denaturation is the change in structure of protein molecules. The process results in the unfolding of the protein's structure. Factors which contribute to denaturation are heat, salts, pH and mechanical action.

Coagulation
Coagulation follows denaturation. For example, when egg white is cooked it changes colour and becomes firmer (sets). The heat causes egg proteins to unfold from their coiled state and form a solid, stable network.

Aeration
Products such as creamed cakes need air incorporated into the mixture in order to give a well-risen texture. This is achieved by creaming a fat, such as butter or baking spread, with sugar. Small bubbles of air are incorporated and form a stable foam.

Fats perform different functions in food.
They help to:

- add 'shortness' or 'flakiness' to foods, e.g. shortbread, pastry;
- provide a range of textures and cooking mediums;
- glaze foods, e.g. butter on carrots;
- aerate mixtures, e.g. a creamed cake mix;
- add a range of flavours.

Plasticity
Fats do not melt at fixed temperatures, but over a range. This property is called plasticity.

Colloidal systems give structure, texture and mouthfeel to many different products.

System	Disperse phase	Continuous phase	Food
Sol	Solid	Liquid	Unset jelly
Gel	Liquid	Solid	Jelly
Emulsion	Liquid	Liquid	Mayonnaise
Solid emulsion	Liquid	Solid	Butter
Foam	Gas	Liquid	Whipped cream
Solid foam	Gas	Solid	Meringue

Raising agents
Raising agents include anything that causes rising within foods, and are usually used in baked goods. Raising agents can be:

- biological, e.g. yeast;
- chemical, e.g. baking powder;
- Mechanical, e.g. adding air through beating or folding.

Functional ingredients
These are ingredients that are specifically included in food for additional health benefits. They include:

- probiotics – 'good' bacteria that may have a positive impact on human health;
- prebiotics – food ingredients that promote the growth of beneficial microorganisms in the gut;
- sterols/sterols – compounds that can lower cholesterol;
- healthy fats (e.g. omega-3);
- added vitamins and minerals (more than in the original food).

Food is prepared and cooked to:

- make the food more palatable – improves flavour, texture and appearance;
- reduce the bulk of the food;
- Provide variety and interest to meals.

Methods of cooking food
The methods of cooking are divided up into groups. These are based on the cooking medium used. They are:

- moist/liquid methods, e.g. boiling;
- dry methods, e.g. grilling;
- Fat-based, e.g. frying.

Selecting the most appropriate way of preparing and cooking certain foods is important to maintain or enhance their nutritional value.

Tenderisation

- Mechanical tenderising – a meat cleaver or meat hammer may be used to beat the meat. Cutting into small cubes or mincing can also help.
- Chemical tenderisation (marinating) – the addition of any liquid to flavour or soften meat before cooking.

There are three ways that heat is transferred to food.

- Conduction – the exchange of heat by direct contact with foods on a surface.
- Radiation – energy in the form of rays.
- Convection – currents of hot air or hot liquid transfer the heat energy to the food.

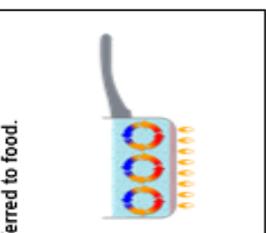
Tasks

- Choose a recipe that you enjoy or have made recently and explain in detail the functions of the ingredients.
- Explain the function of raising agents, giving examples of recipes.

Key terms
Conduction: the exchange of heat by direct contact with foods on a surface.
Convection: currents of hot air or hot liquid transfer the heat energy to the food.
Functional ingredients: Included in food for additional health benefits.
Heat transfer: transference of heat energy between objects.
Radiation: energy in the form of rays.

Tenderisation

- Mechanical tenderising – a meat cleaver or meat hammer may be used to beat the meat. Cutting into small cubes or mincing can also help.
- Chemical tenderisation (marinating) – the addition of any liquid to flavour or soften meat before cooking.



Tasks

- Choose a recipe that you enjoy or have made recently and explain in detail the functions of the ingredients.
- Explain the function of raising agents, giving examples of recipes.

DT—Food and Nutrition

Good food hygiene practices are necessary in order to produce, make and supply food that is safe to eat. This involves more than just being clean. A simple way to remember is the 4Cs:

- cleaning;
- cooking;
- chilling;
- Cross-contamination.

give bacteria no chance



Cleaning
Cleaning the kitchen is important to keep food safe and prevent bacteria from spreading. 'Clean as you go' means people make sure that they clean the area and utensils they have been working in or with, as they prepare food. This avoids build-up of mess and leads to better hygienic conditions. Areas which need particular attention are:

- surfaces that come into contact with food, e.g. chopping boards, utensils;
- surfaces that come into contact with hands, e.g. cupboard and fridge doors.

Cleaning – personal hygiene and getting ready to cook
Good personal hygiene is essential to reduce the risk of food poisoning.

- **Hands:** Thoroughly wash and dry hands before and after touching food and regularly throughout cooking.
- **Clothing:** Clean clothing should be worn. Long sleeves should be rolled up and a clean apron or chef's jacket worn over outside clothes. Enclosed, non-slip, shoes should be worn in the kitchen.
- **Jewellery:** All jewellery, including a watch, should be removed (piercings should be covered if they cannot be removed).
- **Skin:** Cuts and wounds should be covered with a coloured, waterproof dressing. The plasters are often blue in colour so they can be easily identified if they fall into food.
- **Face:** Do not cough or spit near or over food, taste food with fingers, bite nails, eat, chew or smoke, touch nose, or remove earrings.

For more information, go to: <https://bit.ly/3nE9t9E>

Cooking
To reduce the risk of food poisoning, hot food must be served steaming hot, that is above 63°C.

- Bacteria will begin to die when the temperature rises above 60°C.
- Some foods change colour when they are cooked.
- Cooking food thoroughly to a minimum core temperature of 75°C will ensure most bacteria is destroyed.
- When cooking burgers, sausages, portions of pork and chicken, there should be no pink meat they should also be steaming hot inside. The juices should run clear when cooked.
- Steak or other cuts of beef or lamb can be eaten less well done as long as they have been properly sealed. Sealing the meat will kill any bacteria on the outside.
- Leftovers should be cooled as quickly as possible within two hours and then stored in the fridge below 5°C. When leftovers are re-heated, they need to be steaming hot. Leftovers should not be re-heated more than once and should be used within 48 hours from when it was made (24 hours for rice dishes).

Chilling
The temperature between 5°C–63°C is known as the 'danger-zone'. Bacteria will multiply most rapidly within this temperature range. Reducing the temperature below 5°C slows the reproduction of micro-organisms. Cold temperatures do not kill bacteria.

High-risk food, such as such as meat, fish and dairy products plus opened bottles, jars or tubes, should be stored below 5°C. Eggs should be stored in a cool, dry place. Ideally, eggs should be stored in the fridge.

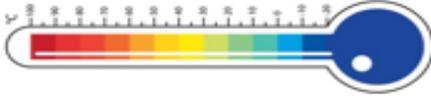
Cross-contamination
The process by which bacteria are transferred from one area to another is known as cross-contamination. The main carriers of bacteria and causes of cross contamination are:

- humans;
- rubbish;
- pets and other animals;
- Food, e.g. raw meat or poultry.

Cross contamination – raw meat

- Keep raw meat separate from ready-to-eat food.
- Do not let raw meat drip onto other food.
- Never use the same chopping board for raw meat and ready-to-eat food without washing the board (and knife) thoroughly in between. Ideally use a red board.
- Do not wash meat before cooking it.

Temperatures to remember
To reduce the risk of food poisoning, good temperature control is vital:



- 5-63°C – the danger zone where bacteria grow most readily.
- 37°C – body temperature, optimum temperature for bacterial growth.
- 8°C – maximum legal temperature for cold food, i.e. your fridge.
- 5°C (or below) – the ideal temperature your fridge should be.
- 75°C – if cooking food, the core temperature, middle or thickest part should reach at least this temperature.
- 75°C – if reheating food, it should reach at least this temperature. In Scotland food should reach at least 82°C.

Safe use of a food probe
Digital probes can be used to check the temperature of food. To use a food probe:

- clean with a disinfectant wipe before and after use;
- insert the probe into the core (center) or the thickest part of the food;
- do not touch the bottom of the pan or cooking dish.

Food labelling
Food labels help consumers make healthier choices. Some information also helps to reduce the risk of food poisoning or other adverse reactions to food:

- date marks;
- list of ingredients with allergens in bold, highlighted, underlined or in italics;
- Storage and preparation conditions.

Tasks

- Write a detailed explanation of the 4Cs, demonstrating how they can help to reduce the risk of food poisoning.
- Explain, giving detailed reasons, the food hygiene controls when buying, preparing, cooking and serving fresh poultry.

Key terms
Best-before-date: Relates to the quality of the food. Food may still be eaten beyond this date.
Cross-contamination: The transfer of bacteria from one source to another. Usually raw food to ready to eat food but can also be the transfer of bacteria from unclean hands, equipment, cloths or pests. Can also relate to allergens.
Danger zone: Bacteria will multiply most rapidly between 5-63°C.
Optimum temperature: Bacteria that cause food poisoning reproduce around body temperature (37°C).
The 4Cs: Cleaning, cooking, chilling and cross-contamination.
Use-by-date: Relates to the safety of the food. Food must be eaten by this date.

Use by date
You have until the end of this date to use or freeze the food before it comes too risky to eat.

USE BY:
25/08/20
KEEP REFRIGERATED

Best before date
You can eat food past this date but it might not be at its best quality.

BEST BEFORE:
25/08/21
STORE IN A COOL DRY PLACE

Drama

Key concepts, skills, questions or processes	
What will I learn?	You will develop your understanding of the performing arts by examining practitioners' work and the processes used to create performance.
What is a practitioner?	A practitioner is an individual or company who has a distinct style of performance, e.g. Brecht (Epic theatre), Stanislavski (Naturalism), Kneehigh, Frantic Assembly (Physical Theatre), 1927, Artaud (Theatre of Cruelty), Boal (Theatre of the Oppressed), Berkoff, Lecoq.
How will I do this?	You will watch a range of performances by professional rep in a range of styles. You will investigate how they created the pieces, and what influenced them, stylistically and contextually. You will also engage in workshops (lessons) where you will try out these styles for yourselves, and explore how different roles within the companies are linked together – e.g. director and actor/ puppeteer, set designer and choreographer, etc. You will keep a record of everything you are learning along the way.
What is expected of me?	It is vital that you keep an ongoing record, using your rehearsal logs, of everything we do in lessons, writing analytically (WWW/EB) rather than just recounting the events of the lesson. You need to become critics as well as participants, showing an understanding of the processes behind the performance. You will have a number of assignments to submit, both practical and online/ written. You MUST keep on top of these assignments, as they all count towards your final grade.
What is an Assignment Brief?	This document explains exactly what you are expected to do, and how you will evidence it. The brief will also contain all your deadlines for submitting work. It details all the success criteria, so you should look at it often to ensure you are on track.

	Definitions & Explanations	Examples
Key Vocabulary		
Creative Intentions	What was the director/ writer/ creator thinking about? Themes / issues / response to stimulus / style/genre / contextual influences / collaboration with other practitioners / influences by other practitioners.	FUP – look at your creative intentions sheet – have you been able to complete all the boxes?
Purpose	Why was it made? to educate / to inform / to entertain to provoke/ to challenge viewpoints / to raise awareness / to celebrate...	This is not a complete list – what other purposes can you think of?
Practitioners' roles, responsibilities and skills	Performance roles e.g., actor / dancer / singer/ puppeteer, etc & Non-performance roles e.g.: choreographer /set designer / director / writer etc. Responsibilities: rehearsing /performing /contributing to the creation and development of performance material, e.g., devising, designing, choreographing, directing, writing / refining performance material / managing self and others. Skills: physical, vocal and music skills, managing and directing skills, communication skills used to liaise, direct and perform, creative skills, such as designing set, costume, lighting or sound, writing scripts and composing songs, organisational skills used to put on a performance by a director or choreographer.	You will be expected to research several roles within the Performing Arts business, and explore how they work with each other to create a piece, e.g. How does the musical director of Kneehigh work with the director/ writer/ actors when creating a piece like FUP? Music is integral to the piece – look at how their creative process unfolds – it's all on the website. How do roles differ, depending on the company and the performance piece itself?
Processes used in development, rehearsal and performance	Responding to stimulus to generate ideas for performance material / exploring and developing ideas to develop material / discussion with performers / setting tasks for performers / sharing ideas and intentions / teaching material to performers / developing performance material / organising and running rehearsals / refining and adjusting material to make improvements / providing notes and/or feedback on improvements.	What does a good rehearsal look like? Can you use your rehearsal time productively? How do you do this? Do you assign roles? Do you keep track of decisions made? Are you asking other people to feedback their opinions?

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Language Paper Two Knowledge Organiser

Key Terminology & Definitions

Imperative	An imperative verb can be used to give instructions. It can work on its own, for example: Stop! Go! It comes from the infinite form of the verb. They can be in first person or third person.
Active voice	This is where the <u>subject of the sentence</u> is also the <u>agent</u> (the thing doing the verb) ex: John's dad fixed the car.
Passive voice	This is where the <u>agent</u> (the thing doing the verb) appears after the verb. For example: My car is being repaired by John's dad.
Main clause	A group of words with a subject, object and verb. All sentences must contain a main clause
Simple sentence	A sentence made up of a main clause and nothing else
Subject	The part of a sentence that contains the person/thing doing the verb
Object	The thing or person involved in the verb
Verb	A doing word
Noun	A person, place or thing. Nouns are either concrete or abstract.
Adjective	A describing word
Comparative discourse markers	Words that introduce a comparison: however, whilst, similarly, whereas etc.
Symbols	Something that stands for or represents an abstract concept
Emotive vocabulary	Words that cause a strong emotional reaction in a reader
Repetition	Repeated words, phrases or sentence structures
Anecdote	A short personal story
Metaphor	A description of something by saying it is something else
Semantic field	A set of words grouped together that relate to a specific subject
Overview	A statement that explains an opinion without using the word agree/disagree
Topic sentence	A sentence at the start of a paragraph that indicates what the paragraph will be about
Compound sentence	Two simple sentences joined with a conjunction
Subordinate clauses	Extra information contained within two commas that need the rest of a main clause to make sense
Anaphora	is the repetition of a word or a phrase at the beginning of successive clauses or sentences.
Conjunction	Words used to connect clauses: and, but, yet, though, if etc.
Pronouns	A word that refers to the participants in the discourse
Statistics	Numerical data

Spellings (the most commonly misspelt words on language P2)

Disgust, beginning, specific, precise, apprehensive, definitely, necessary, disappear, disappoint, appearance, completely, a lot, happened, received, really, tomorrow, weird, tired, normal, interrupt, exaggerate, braking, satisfied, decided, probably, interested, relief, possibly, his/he's, says

Ambition

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English Language

English Literature

Plot		Key Terminology	
Act 1	<ul style="list-style-type: none"> The 3 witches gather to meet Macbeth and Banquo. Duncan hears the Thane of Cawdor has betrayed him. Macbeth is seen as a hero. Macbeth and Banquo hear the predictions. Duncan decides that Malcolm will be heir to the throne. Duncan plans to visit Macbeth. Lady Macbeth reads Macbeth's letter. 	Act 1	<ul style="list-style-type: none"> "Fair is foul, and foul is fair" (1.1) Witches "For brave Macbeth—well he deserves that name" (1.2) The Captain "So foul and fair a day I have not seen" (1.3) Macbeth "Stars hide your fires, let not light see my black and deep desires" (1.4) Macbeth "Come you spirits...unsex me here and fill me from the crown to the toe top full of direst cruelty." (1.5) Lady Macbeth "Look like the innocent flower but be the serpent under't" (1.6) Lady Macbeth "When you durst do it, then you were a man" (1.7) Lady Macbeth "But screw your courage to the sticking place and we'll not fail." (1.7) Lady Macbeth
Act 2	<ul style="list-style-type: none"> Macbeth has doubts and sees a vision of a floating dagger. He follows through with Duncan's murder. LM has to finish the job by wiping blood on the drunk guards. Macduff discovers Duncan's body. The guards are the likely suspects. Macbeth kills the guards. Malcolm and Donalbain flee the castle because they are afraid. 	Act 2	<ul style="list-style-type: none"> "This is a dagger I see before me, the handle towards my hand?" (2.1) Macbeth "Give me the daggers. The sleeping and the dead are but as pictures" (2.2) Lady Macbeth "Will all great Neptune's ocean wash this blood clean from my hand?" (2.2) Macbeth "A little water clears us of this deed" (2.2) Lady Macbeth "Wake Duncan with thy knocking, I would thou couldst." (2.2) Macbeth "Oh horror! Horror! Horror! Tongue nor heart cannot conceive, nor name thee" (2.3) Macduff "There's daggers in men's smiles" (2.3) Donalbain
Act 3	<ul style="list-style-type: none"> Banquo suspects Macbeth for the murder of King Duncan. Macbeth sends murderers to kill Banquo. Banquo is murdered but Fleance escapes. The ghost of Banquo is at the banquet. Macbeth rants and raves. LM tries to cover up the situation. Macduff didn't attend the banquet as he is suspicious of Macbeth. 	Act 3	<ul style="list-style-type: none"> "Thou has it all now, King, Cawdor, Glamis, all, as the weird sisters promised, and I fear though play'st most foully for't." (3.1) Banquo "To be thus is nothing, but to be safely thus. Our fears in Banquo stick deep" (3.1) Macbeth "Of full of scorpions is my mind, dear wife" (3.2) Macbeth "Be innocent of the knowledge, dearest chuck, till thou applaud the deed" (3.2) Macbeth "Thou canst not say I did it; never shake they gory locks at me" (3.4) Macbeth "My lord is often thus, and hath been from his youth" (3.4) Lady Macbeth "I am in blood stepp'd so far, that, should I wade no more, returning were as tedious as go o'er" (3.4) Macbeth
Act 4	<ul style="list-style-type: none"> Macbeth visits the 3 witches and they show him more visions. He believes he can't be killed by any man. Macbeth sends murderers to Macduff's castle to kill his family. In England, Macduff begs Malcolm to return to the throne. Malcolm tests Macduff's loyalty then agrees to the war against Macbeth. 	Act 4	<ul style="list-style-type: none"> "Something wicked this way comes" (4.1) Witches "Speak, I charge you" (4.1) Macbeth "From this moment, the very firstlings of my heart shall be the firstlings of my hand" (4.1) Macbeth "The castle of Macduff I will surprise; seize upon Fife." (4.1) Macbeth "Let grieve convert to anger. Blunt not the heart, enrage it" (4.3) Malcolm "Macbeth is ripe for shaking, and the powers above put on their instrument" (4.3) Malcolm
Act 5	<ul style="list-style-type: none"> LM has gone mad with guilt. She sleepwalks and tries to clean blood from her hands. She commits suicide. Many of Macbeth's supporters decide to help Malcolm. Macbeth isn't worried as he believes the prophecies. Macbeth confronts Macduff and learns that he was not born naturally but by caesarean section. Macbeth and Macduff fight and natural order is restored when Macbeth is killed and Malcolm is crowned king. 	Act 5	<ul style="list-style-type: none"> "Out, damned spot! Out, I say!... Will these hands ne'er be clean?" (5.1) Lady Macbeth "All the perfumes of Arabia will not sweeten this little hand" (5.1) Lady Macbeth "My name's Macbeth" (5.7) Macbeth "Turn, hell-hound, turn...I have no words; my sword is my voice" (5.8) Macduff "I bear a charmed life which must not yield to one of woman born" (5.8) Macbeth "Macduff was from his mother's womb untimely ripped" (5.8) Macduff "I will yield to kiss the ground before young Malcolm's feet" (5.8) Macbeth "Behold where stands the usurper's head" (5.9) Macduff "His fiend-like queen who, as 'tis thought, by self and violent hands took off her life" (5.9) Malcolm.
		Key Vocabulary	
Ambition			Strong desire to achieve something.
Apparitions			A ghost/ghost-like image of a person.
Betrayal			Being disloyal.
Catholics			A person belonging to the Christian church.
Fatal Flaw			A defect / weakness in character.
Hallucination			Apparent vision of something not present.
Invincible			Feeling too powerful to be defeated.
Jacobean			Relating to the reign of King James I.
Kinsman			A relative / blood relation.
Masculinity			Qualities considered to be of a man.
Noble			Belonging to aristocracy.
Protestant			A member of the Western Christian church.
Regicide			The action of killing a king.
Remorseless			Without guilt or regret.
Scepticism			Doubts the truth of things.
Thane			A man with land granted by the king.
Tragedy			A play with tragic events.
Traitor			A person who betrays someone.
Treason			Betraying one's country.
Virtuous			Having high moral standards.

Geography



Option 1: FOOD

Food Security is when people at all times need to have physical & economic access to food to meet their dietary needs for an active & healthy life. This is the opposite to **Food Insecurity** which is when someone is unsure when they might next eat.

Human Causes

- **Poverty** prevents people affording food and buying equipment.
- **Conflict** disrupts farming and prevents supplies.
- **Food waste** due to poor transport and storage.
- **Climate Change** is affecting rainfall patterns making food production difficult.



Physical Causes

- The **quality of soil** is important to ensure crops have key nutrients.
- **Water supply** needs to be reliable to allow food to grow.
- **Pest, diseases and parasites** can destroy vast amounts of crops that are necessary to populations.
- **Extreme weather** events can damage crops (i.e. floods).



Daily Calorie Intake



This map shows how many **calories per person** that are consumed on average for each country. This can indicate the global distribution of **available food** and **food inequality**.

Food Supply



This map shows the amount of **food produced** in different countries. Whilst **Asia and North America** have **high** production outputs, **Africa** and **Central America** have **low** production outputs.

Sustainable Food Supply

This ensures that **fertile soil, water and environmental resources are available for future generations**.

- **Organic Farming** - The banned use of chemicals and ensuring animals are raised naturally.
- **Permaculture** - People growing their own food and changing eating habits. Fewer resources are required.
- **Urban Farming** - Planting crops in urban areas. i.e. roundabouts.
- **Managed Fishing** - Includes setting catch limits, banning trawling and promoting pole and line methods.



C.S. LIC - Indus Basin Irrigation System (Large Scale Scheme)

Largest irrigation scheme in the world. Involves large and small dams. Thousands of channels provides water to supports Pakistan's rich farmlands.

Advantages

- Improves food security by adding 40% more land for farming.
- Increased yield & range of foods.
- Irrigation increased so did crop yield
- Diets have improved as a greater range of food products available
- HEP is generated by the large dams

Disadvantages

- Some farmers take an unfair share of water.
- Poor irrigation techniques mean water is wasted.
- Salinisation (increased saltiness) can damage the soil
- Population growth will increase the demand for water
- High cost to maintain reservoirs.

C.S. The Makeni Food and Water-Security Programmes, Kenya (Small Scale Scheme)

The programme provided direct help to two small villages and a primary school in the Makeni County in Kenya.



Programme included:

- Improving water supply by building sand dams for each village
- Providing reliable source of water for crops and livestock
- A training programme to support local farmers
- Growing trees to reduce soil erosion

Was it successful?

- Crop yields and food security have increased
- Water borne diseases have been reduced
- Less time waster fetching water.

Impacts of Food Insecurity

- **Famine**- is widespread shortage of food often causing malnutrition, starvation and death. Example Somalia (201-2012) over 250000 people died due to famine- main cause lack of rain and militant group blocked aid.
- **Rising Prices**- Food prices are rising, mainly due to increased cost of fertilisers, food shortage and transportation.
- **Soil Erosion**- involves the removal of fertile top soil layers by wind and rain as no crops to protect due to either overgrazing/ over cultivating, deforestation.
- **Undernutrition**- is the lack of a balanced diet and a deficiency in minerals and vitamins- can cause death.
- **Social Unrest**- food riots happen due to prices of food rising. E.g. Algeria 2011. cooking oil price rose and lead to five days of riots and 4 deaths.

Increasing Food Supply

- **Hydroponics** - A method of growing plants without soil. Instead they use nutrient solution.
- **New Green Revolution** - Aims to improve yields in a more sustainable way. Involves using both GM varieties and traditional and organic farming.
- **Biotechnology** - Genetically modified (GM) crops changes the DNA of foods to enhance productivity and properties.
- **Irrigation** - Artificially watering the land so crops can grow. Useful in dry areas to make crops more productive.
- **Appropriate Technology** - means using skills or materials that are cheap and easily available to increase the output without outting people out of work.



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What is Urbanisation?	Sustainable Urban Living	Traffic Management
<p>This is an increase in the amount of people living in urban areas such as towns or cities. In 2007, the UN announced that for the first time, more than 50 % of the world's population live in urban areas.</p>	<p>Water Conservation This is about reducing the amount of water used.</p> <ul style="list-style-type: none"> Collecting rainwater for gardens and flushing toilets. Installing water meters and toilets that flush less water. Educating people on using less water. <p>Energy Conservation Using less fossil fuels can reduce the rate of climate change.</p> <ul style="list-style-type: none"> Promoting renewable energy sources. Making homes more energy efficient. Encouraging people to use energy. 	<p>Urban areas are busy places with many people travelling by different modes of transport. This has caused urban areas to experience different traffic congestion that can lead to various problems.</p>
<p>Where is Urbanisation happening?</p> <p>Urbanisation is happening all over the world but in LICs and NEES rates are much faster than HICs. This is mostly because of the rapid economic growth they are experiencing.</p>	<p>Environmental problems</p> <ul style="list-style-type: none"> Traffic increases air pollution which releases greenhouse gases that is leading to climate change. <p>Economic problems</p> <ul style="list-style-type: none"> Congestion can make people late for work and business deliveries take longer. This can cause companies to lose money. <p>Social Problems</p> <ul style="list-style-type: none"> There is a greater risk of accidents and congestion is a cause of frustration. Traffic can also lead to health issues for pedestrians. 	<p>Environmental problems</p> <ul style="list-style-type: none"> Traffic increases air pollution which releases greenhouse gases that is leading to climate change. <p>Economic problems</p> <ul style="list-style-type: none"> Congestion can make people late for work and business deliveries take longer. This can cause companies to lose money. <p>Social Problems</p> <ul style="list-style-type: none"> There is a greater risk of accidents and congestion is a cause of frustration. Traffic can also lead to health issues for pedestrians.
<p>Causes of Urbanisation</p> <p>The movement of people from rural to urban areas.</p> <p>Push</p> <ul style="list-style-type: none"> Natural disasters War and Conflict Mechanisation Drought Lack of employment <p>Pull</p> <ul style="list-style-type: none"> More Jobs Better education & healthcare Increased quality of life. Following family members. 	<p>Water Conservation This is about reducing the amount of water used.</p> <ul style="list-style-type: none"> Collecting rainwater for gardens and flushing toilets. Installing water meters and toilets that flush less water. Educating people on using less water. <p>Energy Conservation Using less fossil fuels can reduce the rate of climate change.</p> <ul style="list-style-type: none"> Promoting renewable energy sources. Making homes more energy efficient. Encouraging people to use energy. 	<p>Environmental problems</p> <ul style="list-style-type: none"> Traffic increases air pollution which releases greenhouse gases that is leading to climate change. <p>Economic problems</p> <ul style="list-style-type: none"> Congestion can make people late for work and business deliveries take longer. This can cause companies to lose money. <p>Social Problems</p> <ul style="list-style-type: none"> There is a greater risk of accidents and congestion is a cause of frustration. Traffic can also lead to health issues for pedestrians.
<p>When the birth rate exceeds the death rate.</p> <p>Natural increase (2)</p> <p>Increase in birth rate (BR)</p> <ul style="list-style-type: none"> High percentage of population are child-bearing age which leads to high fertility rate. Lack of contraception or education about family planning. 	<p>Waste Recycling More recycling means fewer resources are used. Less waste eventually goes to landfill.</p> <ul style="list-style-type: none"> Collection of household waste. More local recycling facilities. Greater awareness of the benefits in recycling. 	<p>Congestion Solutions</p> <ul style="list-style-type: none"> Widen roads to allow more traffic to flow easily. Build ring roads and bypasses to keep through traffic out of city centres. Introduce park and ride schemes to reduce car use. Encourage car-sharing schemes in work places. Have public transport, cycle lanes & cycle hire schemes. Having congestion charges discourages drivers from entering the busy city centres.
<p>Lower death rate (DR)</p> <ul style="list-style-type: none"> Higher life expectancy due to better living conditions and diet. Improved medical facilities helps lower infant mortality rate. 	<p>Creating Green Space Creating green spaces in urban areas can improve places for people who want to live there.</p> <ul style="list-style-type: none"> Provide natural cooler areas for people to relax in. Encourages people to exercise. Reduces the risk of flooding from surface runoff. 	<p>Traffic Management Example: Bristol</p> <p>In 2012 Bristol was the most congested city in the UK. Now the city aims to develop it's integrated transport system to encourage more people to use the public transport. The city has also invested in cycle routes and hiring schemes.</p>
<p>Types of Cities</p> <p>Megacity An urban area with over 10 million people living there.</p> <p>More than two thirds of current megacities are located in either NEES (Brazil) and LICs (Nigeria). The amount of megacities are predicted to increase from 28 to 41 by 2030.</p>	<p>Background & Location</p> <p>Freiburg is in west Germany. The city has a population of about 220,000. In 1970 it set the goal of focusing on social, economic and environmental sustainability.</p>	<p>Urban Regeneration</p> <p>This is a zone of land surrounding a city where new building is strictly controlled to try to prevent cities growing too much and too fast.</p> <p>The investment in the revival of old, urban areas by either improving what is there or clearing it away and rebuilding.</p>
<h2>Urban Issues & Challenges</h2>		
<p>Sustainable Urban Living Example: Freiburg</p> <p>Background & Location</p> <p>Freiburg is in west Germany. The city has a population of about 220,000. In 1970 it set the goal of focusing on social, economic and environmental sustainability.</p>	<p>Sustainable Strategies</p> <ul style="list-style-type: none"> The city's waste water allows for rainwater to be retained. The use of sustainable energy such as solar and wind is becoming more important. 40% of the city is forested with many open spaces for recreation, clean air and reducing flood risk. 	<p>Greenbelt Area</p> <p>This is a zone of land surrounding a city where new building is strictly controlled to try to prevent cities growing too much and too fast.</p>
<p>Integrated Transport System</p> <p>This is the linking of different forms of public and private transport within a city and the surrounding area.</p>	<p>Brownfield Site</p> <p>Brownfield sites is an area of land or premises that has been previously used, but has subsequently become vacant, derelict or contaminated.</p>	<p>Urban Regeneration</p> <p>This is a zone of land surrounding a city where new building is strictly controlled to try to prevent cities growing too much and too fast.</p> <p>The investment in the revival of old, urban areas by either improving what is there or clearing it away and rebuilding.</p>

Community

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History

Key individuals



Andreas Vesalius



Ambroise Paré



William Harvey



John Hunter



Edward Jenner



Thomas Sydenham

Other key people

William Clowes, Nicholas

Culpepper, Lady Mary Wortley

Montague

Impact of the Renaissance on Britain

Through careful observation and dissections Vesalius proved that some of Galen's findings were wrong. This encouraged people to question the knowledge used for 1400 years. His books inspired the work of people in England.

Paré was a surgeon who changed ideas about surgery and cauterisation. He ran out of cautory oil and used Vigo's oil of roses, egg yolk and turpentine mixture. He found they slept well and their wounds healed quickly. He also used ligatures and made false limbs.

Investigated and proved that the heart acted as a pump, that blood circulated rather than being burned up and that veins had one way valves. It was 50 years before the University of Paris taught his ideas. His discovery was not immediately useful without further scientific discovery.

Dealing with disease

King Charles was given 58 drugs some of which would have contributed to his death.

Ordinary people still went to

barber-surgeons, apothecaries, wise women and quacks. New medicines were being brought back on voyages of discovery. The Great Plague hit again in 1665 and there was still no cure. In the 18th century hospitals began to be built.

John Hunter the scientific method and collected anatomical specimens for his collection.

Prevention of disease

Inoculation - giving a weakened form of live germs to build up immunity. It could be fatal but had been the most popular method of dealing with smallpox.

Jenner had noticed that milkmaids did not get smallpox but did get cowpox. From this developed a vaccination from the latin vacca - cow. He could not explain his findings scientifically so his ideas were not embedded until a £10,000 research grant from parliament in 1802. In 1853 vaccination was compulsory.

Key dates

1400s	The Renaissance - a period of history when there was a 'rebirth' of ancient Greek and Roman ideas.
1525	Vigo published Of wounds in General
1543	Vesalius published The Fabric of the Human Body
1575	Paré published Works on Surgery
1588	William Clowes published Proved Practice
1628	Harvey published De Motu Cordis
1665	The Great Plague
1685	King Charles II died
1796	Edward Jenner's cowpox vaccination

KEY VOCABULARY/TERMS

Renaissance, anatomy, blood, illustrations, Barber-Surgeons, bec de corbin, cauterisation, ligature, surgery, amputation, oil of roses, egg yolk, turpentine, circulation, arteries, veins, valves, quack, purgative, emetic, enema, Great Plague, watchmen, searchers, quarantined, epidemic, leeches, poisoned air, apothecary, hospitals, dispensary, specimens.

Maths

Mathematics - Year 11



In Maths you will receive a separate knowledge organiser.

Your knowledge organiser will help you to:

- Know** which **MET*** skills you should be learning
- Track** when you have learnt, revisited and revised a skill
- Identify** any gaps where you have missed lessons
- Guide** your revision when it comes to assessments

*The **MET (Mathematics Expertise Tower)** shows you all the skills you will master during your lessons and how each skill builds upon the last.

It is arranged into **4 topic areas:**

Number & Ratio	Algebra & Graphs	Geometry & Measure	Probability & Statistics
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You can see the full **MET** in the Maths Corridor!

Maths Equipment you must have every lesson:

Pen, pencil, rubber, ruler, protractor, compasses, scientific calculator

USEFUL WEBSITES:

My Login:

Password:



My Login:

Password:



www.bbc.co.uk/bitesize www.khanacademy.org
<https://corbettmaths.com>



Programme of study and assessment calendar

9.1G L'école et les matières

Amusant(e)	fun, enjoyable
L'anglais (m)	English
La biologie	biology
Le bulletin (scolaire)	school report
Le cahier	exercise book
La cantine	canteen
La chimie	chemistry
La cour	playground
Le cours	lesson
Le dessin	art
Les devoirs (m)	homework
Difficile	difficult
Le / la directeur / directrice	headteacher
L'élève (m / f)	pupil
Ennuyeux(-se)	boring
L'EPS (f)	PE
Facile	easy
Faire attention	to pay attention
Faire des efforts	to make an effort
Fatigant(e)	tiring
Le français	French
L'histoire-géographie (f)	history-geography
L'informatique (f)	ICT
L'instituteur (m) / institutrice (f)	primary school teacher
Insuffisant(e)	poor
Intéressant(e)	interesting
la langue	language
Les maths (f)	maths
la matière	school subject
La musique	music
Les notes (f)	marks
oublier	to forget
la pause-déjeuner	lunch break
La physique	physics
Le professeur	secondary school teacher
Les progrès (m)	progress
La récréation)	break
sévère	strict
Utile	useful

9.1F La journée scolaire

Achefer	to buy
les affaires (f)	belongings
L'animal (m) en peluche	cuddly toy
appendu	to learn
l'arbre (m)	tree
le car	coach
le cartable	school bag
commencer	to start
comprendre	to understand
demander	to ask
distribuer	to give out
l'emploi (m) du temps	timetable
énervé	to annoy
finir	to finish
l'ordinateur (m)	computer
la poubelle	bin
le professeur principal	form teacher
la quatrième	year 9
remarquer	to notice
le sac	bag
la seconde	year 11
le singe	monkey
la sixième	year 7
sonner	to ring (of bell)
le tableau	board
Le trajet	journey

Phonics

Emploi- oh/plwah/ devoirs/vwah

Ordinateur- uhr

Qu- k

Sixième- seezee- em

Seconde- sugond

Ennuyeux- uh (silent x)

Adjectives- sounding final consonant in the feminine eg vert (vair) verte (vairt)

Grammar

Using adverbs (eg couramment) and using the comparative of adverbs- mieux/pire/plus/moins....que

Revision of perfect tense using er verbs

Pouvoir, vouloir and devoir



Opinions

Ich liebe I love
 ...gefällt mir gut I like a lot
 Ich mag I like
 ...gefällt mir ganz gut I quite like
 ...gefällt mir nicht so gut I don't like much
 Ich mag nicht I don't like
 ...gefällt mir gar nicht I don't like at all
 Ich hasse I hate
 Ich habe eine Schwäche für I have a weakness for
 Ich mag lieber I prefer
 Ich ziehe vor I would prefer
 Ich möchte I would like
 Meiner Meinung nach In my opinion
 Meiner Ansicht nach In my opinion
 Ich denke, dass I think that
 Ich meine, dass I believe that
 Ich glaube, dass I find that
 Ich finde, dass I am convinced that
 Ich bin davon überzeugt, dass I must admit that
 Ich muss zugeben, dass It seems to me that
 Mir schient, for me
 Für mich I agree with
 Ich bin mit einverstanden I am (not) opposed to
 Ich bin (nicht) gegen

ich habe geliebt I loved
 ich habe sehr geliebt I liked a lot
 ...hat mir gefallen I liked
 ...hat mir ganz gut gefallen I quite liked
 ...hat mir nicht so gut gefallen I didn't like much
 Ich mochte nicht I didn't like
 ...hat mir gar nicht gefallen I didn't like at all
 Ich habe gehasst I hated
 einige sagen, dass - some people think that
 es gibt das Für und Wider - There are pros and cons
 ich habe gedacht, dass I thought that
 ich habe geglaubt, dass I believed that
 ich habe gefunden, dass I found that
 ich war mit einverstanden I agreed with
 ich war (nicht) gegen I was(n't) opposed to

Useful adverbs

völlig absolutely
 normalerweise usually
 oft frequently
 im Allgemeinen generally
 glücklicherweise fortunately
 natürlich of course
 gewöhnlich normally
 persönlich personally
 nach und nach gradually
 praktisch practically
 schnell quickly
 genug sufficiently
 ehrlich truly/really

School day

Französisch - French
 Deutsch - German
 Spanisch - Spanish
 Englisch - English
 Mathematik - Maths
 Erdkunde - Geography
 Geschichte - History
 Naturwissenschaften - science
 Sport - sport
 Technik - Technology
 Informatik - IT
 Musik - music
 Kunst - art
 Theater - drama
 Tanz - dance
 Hausaufgaben - homework
 Sozialkunde - PHSE
 die Pause - break
 die Mittagspause - lunch hour

Linking words

weil	because	außerdem	moreover	wenn	if
aber	but	wegen (+ gen)	because of	als	as
und	and	kurz gesagt	in short	da	since
jedoch	however	der,/die/das	that/which	sobald	as soon as
deshalb	therefore	obwohl	although	besonders	especially
trotz (+ gen)	in spite of	wenn	when (fores)	als	when (past)

In der Schule

die Bibliothek - library
 die Kantine - canteen
 die Labors - science labs
 Die Klassenzimmer - classroom
 das Lehrerzimmer - staffroom
 der Tennisplatz - tennis court
 das Büro - office
 der Schulhof - playground
 Toiletten - toilets

Adjectives

ich bin zu blöd dazu - I'm rubbish at it
 furchtbar - awful
 kompliziert - complicated
 langweilig - boring
 es macht viel Spaß - it's good fun
 faszinierend - fascinating
 fantastisch - fantastic
 nutzlos - useless
 gut - good
 schwierig - difficult
 einfach - easy
 interessant - interesting
 schwer - hard work
 nützlich - useful

Qualifiers

sehr - very
 ganz - quite
 ein Bisschen - a little
 zu - too
 immer - always
 nie - never
 manchmal - sometimes

BTEC SPORT UNIT 1 – KNOWLEDGE ORGANISER APPLYING THE PRINCIPLES OF PERSONAL TRAINING	
AEROBIC ENDURANCE	THE ABILITY OF THE CARDIORESPIRATORY SYSTEM TO WORK EFFICIENTLY, SUPPLYING NUTRIENTS AND OXYGEN TO WORKING MUSCLES DURING SUSTAINED PHYSICAL ACTIVITY.
MUSCULAR ENDURANCE	THE ABILITY OF THE MUSCULAR SYSTEM TO WORK EFFICIENTLY, WHERE A MUSCLE CAN CONTINUE CONTRACTING OVER A PERIOD OF TIME AGAINST A LIGHT TO MODERATE FIXED RESISTANCE LOAD.
FLEXIBILITY	HAVING ADEQUATE RANGE OF MOTION IN ALL JOINTS OF THE BODY; THE ABILITY TO MOVE A JOINT FLUIDLY THROUGH ITS COMPLETE RANGE OF MOVEMENT.
SPEED	DISTANCE DIVIDED BY THE TIME TAKEN. SPEED IS MEASURED IN METRES PER SECOND (M/S). THE FASTER AN ATHLETE RUNS OVER A GIVEN DISTANCE, THE GREATER THEIR SPEED.
MUSCULAR STRENGTH	THE MAXIMUM FORCE (IN KG OR N) THAT CAN BE GENERATED BY MUSCLE OR MUSCLE
BODY COMPOSITION	THE RELATIVE RATIO OF FAT MASS TO FAT-FREE MASS (VITAL ORGANS, MUSCLE, BONE) ON THE BODY.
AGILITY	THE ABILITY OF A SPORTS PERFORMER TO QUICKLY AND PRECISELY MOVE OR CHANGE DIRECTION WITHOUT LOSING BALANCE OR TIME.
BALANCE	THE ABILITY TO MAINTAIN CENTRE OF MASS OVER A BASE OF SUPPORT.
COORDINATION	THE SMOOTH FLOW OF MOVEMENT NEEDED TO RESPOND TO A MOTOR TASK EFFICIENTLY AND ACCURATELY.
POWER	THE PRODUCT OF STRENGTH AND SPEED.
REACTION TIME	THE TIME TAKEN FOR A SPORTS PERFORMER TO RESPOND TO STIMULUS AND THE INITIATION OF THEIR RESPONSE.
FREQUENCY	THE NUMBER OF TRAINING SESSIONS COMPLETED OVER A PERIOD OF TIME.
INTENSITY	HOW HARD AN INDIVIDUAL WILL TRAIN.
TIME	HOW LONG AN INDIVIDUAL WILL TRAIN FOR
TYPE	HOW AN INDIVIDUAL WILL TRAIN BY SELECTING A TRAINING METHOD TO IMPROVE A SPECIFIC COMPONENT OF FITNESS AND/OR THEIR SPORTS PERFORMANCE
PROGRESSIVE OVERLOAD	IN ORDER TO PROGRESS, TRAINING NEEDS TO BE DEMANDING ENOUGH TO CAUSE THE BODY TO ADAPT, IMPROVING PERFORMANCE.
SPECIFICITY	TRAINING SHOULD BE SPECIFIC TO THE INDIVIDUAL'S SPORT, ACTIVITY OR PHYSICAL/SKILL-RELATED FITNESS GOALS TO BE DEVELOPED.
INDIVIDUAL DIFFERENCES/NEEDS	THE PROGRAMME SHOULD BE DESIGNED TO MEET INDIVIDUAL TRAINING GOALS AND NEEDS.
ADAPTATION	HOW THE BODY REACTS TO TRAINING LOADS BY INCREASING ITS ABILITY TO COPE WITH THOSE LOADS.
REVERSIBILITY	IF TRAINING STOPS, OR THE INTENSITY OF TRAINING IS NOT SUFFICIENT TO CAUSE ADAPTATION, TRAINING EFFECTS ARE REVERSED.
VARIATION	IT IS IMPORTANT TO VARY THE TRAINING REGIME TO AVOID BOREDOM AND MAINTAIN ENJOYMENT.
FLEXIBILITY TRAINING	STATIC, BALLISTIC, PROPRIOCEPTIVE NEUROMUSCULAR FACILITATION (PNF), SIT AND REACH TEST
STRENGTH, MUSCULAR ENDURANCE AND POWER TRAINING	CIRCUIT TRAINING, FREE WEIGHTS, PLYOMETRICS, GRIP DYNAMOMETER, MULTISTAGE FITNESS TEST (BLEEP TEST), FORESTRY STEP TEST, VO2 MAX - THE MAXIMUM AMOUNT OF OXYGEN UPTAKE, USUALLY MEASURED IN ML OF OXYGEN PER KG OF BODY MASS PER MINUTE. IT IS A MEASURE OF CARDIORESPIRATORY ENDURANCE.
SPEED	HOLLOW SPRINTS, ACCELERATION SPRINTS, INTERVAL TRAINING, 35M SPRINT, ILLINOIS AGILITY TEST
AEROBIC ENDURANCE TRAINING	CONTINUOUS TRAINING, FARTLEK TRAINING, INTERVAL TRAINING, CIRCUIT TRAINING, ANAEROBIC POWER - VERTICAL JUMP TEST, MUSCULAR ENDURANCE - ONE MINUTE PRESS UP, ONE MINUTE SIT UP, BODY COMPOSITION - BODY MASS INDEX (BMI), BIOELECTRICAL IMPEDANCE ANALYSIS (BIA), SKIN FOLD TESTING.

Atomic Structure Knowledge Organiser – Foundation and Higher

Developing the Model of the Atom

Scientist	Time	Contribution
John Dalton	Start of 19th century	Atoms were first described as solid spheres.
JJ Thomson	1897	Thomson suggested the plum pudding model – the atom is a ball of charge with electrons scattered within it. <div data-bbox="422 929 710 1153" data-label="Image"> </div>
Ernest Rutherford	1909	Alpha Scattering experiment – Rutherford discovered that the mass is concentrated at the centre and the nucleus is charged. Most of the mass is in the nucleus. Most atoms are empty space. <div data-bbox="774 929 997 1153" data-label="Image"> </div>
Niels Bohr	Around 1911	Bohr theorised that the electrons were in shells orbiting the nucleus. <div data-bbox="1061 929 1300 1153" data-label="Image"> </div>
James Chadwick	Around 1940	Chadwick discovered neutrons in the nucleus.

Isotopes

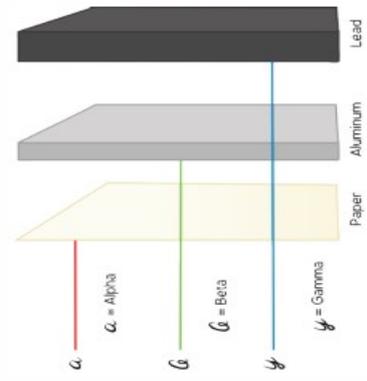
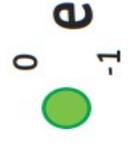
An isotope is an element with the same number of protons but a different number of neutrons. They have the same atomic number, but different mass numbers.

Isotope	Protons	Electrons	Neutrons
${}^1_1\text{H}$	1	1	0
${}^2_1\text{H}$	1	1	1
${}^3_1\text{H}$	1	1	2

Some isotopes are unstable and, as a result, decay and give out radiation. Ionising radiation is radiation that can knock electrons off atoms. Just how ionising this radiation is, depends on how readily it can do that.

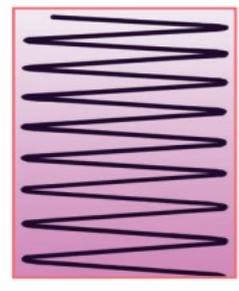
Beta

Beta radiation is a fast moving electron that can be stopped by a piece of aluminium. Beta radiation is emitted by an atom when a neutron splits into a proton and an electron.



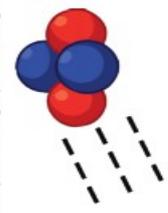
Gamma

A gamma wave is a wave of radiation and is the most penetrating – stopped by thick lead and concrete.



Alpha

Alpha radiation is an alpha particle emitted from the nucleus of a radioactive nuclei. It is made from two protons and two neutrons. They can't travel too far in the air and are the least penetrating – stopped by skin and paper. However, they are highly ionising because of their size.



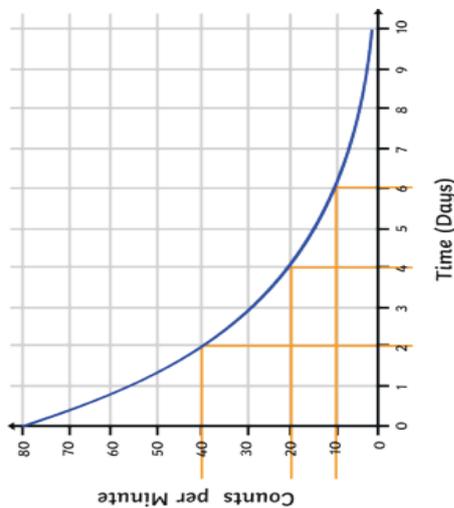
Half-life

The half-life is the time taken for the number of radioactive nuclei in an isotope to halve.

Radioactivity is a random process – you will not know which nuclei will decay. Radioactive decay is measured in becquerels Bq. 1 Bq is one decay per second.

Radioactive substances give out radiation from their nucleus.

A graph of half-life can be used to calculate the half-life of a material and will always have this shape:



Judging from the graph, the radioactive material has a half-life of two days.

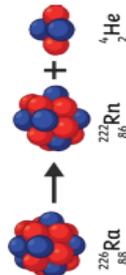
Irradiation

Irradiation occurs when materials are near a radioactive source. The source is sometimes placed inside a lead-lined box to avoid this.

People who work with radioactive sources will sometimes stand behind a lead barrier, be in a different room or use a remote-controlled arm when handling radioactive substances.

Alpha Decay Equations

An alpha particle is made of two protons and two neutrons. The atomic number goes down by two and its mass number decreases by four.



Gamma rays

There is no change to the nucleus when a radioactive source emits gamma radiation. It is the nucleus getting rid of excess energy.



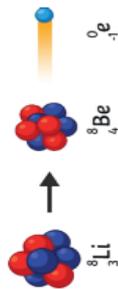
Contamination

When unwanted radioactive atoms get onto an object, it is possible for the radioactive particles to get inside the body.

Protective clothing should be worn when handling radioactive material.

Beta Decay Equations

A neutron turns into a proton and releases a beta electron. The mass of the nucleus does not change but the number of protons increases.



Alpha radiation is more dangerous inside the body. It is highly ionising and able to cause a lot of damage. Outside the body it is less dangerous because it cannot penetrate the skin.

Beta radiation is less dangerous inside the body as some of the radiation is able to escape. Outside the body it is more dangerous as it can penetrate the skin.

Gamma radiation is the least dangerous inside the body as most will pass out and it is the least ionising. Gamma is more dangerous outside the body as it can penetrate the skin.