



BOURNEMOUTH SCHOOL

Year 9

# Knowledge Organiser 4

Spring Term: 2023-24

Name: \_\_\_\_\_

✓Hard Work

✓Discipline

✓Smart Appearance

✓Respect

## Bournemouth School

### Knowledge Organiser: Year 9 Spring Term 2

*'Knowledge is power' by Francis Bacon*

A knowledge organiser provides you with all the most important knowledge you need for each unit of study this half term. Your aim is to transfer all of this information into your long-term memory so you can use it in your lessons and further expand your understanding of this work.

How to use your knowledge organiser (KO)?

1. Ensure you have your KO with you at all times in school and when you need to do your homework at home.
2. Ensure you have your homework learning journal with you at all times in school and when you need to do your homework at home.
3. In lessons when you have covered information that appears on your KO your teacher will ask you to put a tick next to that section. This means that is now added to what you must learn for homework.
4. Initially follow your homework timetable to decide what to revise each evening.
5. There are 4 strategies that you can use to revise. They are progressively more challenging so always start with number 1.

a. Look Cover Write Check

- i. Identify the subject and section of your KO that you want to revise. This should be one of the ticked sections.
- ii. LOOK carefully at the subject and section of your KO you want to revise and try to remember as much as you can. Remember this should be a ticked section.
- iii. Now COVER this information so you can't read it.
- iv. WRITE out what you can remember word for word in your Homework Learning Journal.
- v. CHECK what you have written by comparing it to your KO. Tick each correct word in green pen and correct any errors you have made.
- vi. Repeat this process until you are confident you can remember everything you need.

**AIM:**

**You should be able to repeat the information by rote**

b. Self or peer quizzing

- i. Identify the subject and section of your KO that you want to revise. This should be one of the ticked sections.
- ii. Write out a list of questions you could ask either yourself or a friend about this section of the KO. Write these in your homework learning journal.
- iii. If you are working on your own, cover the KO and write a full answer to each question.
- iv. If you are working with a partner swap books and copy down their questions and have a go at answering them.
- v. Now uncover the KO and with a green pen correct your work.

**AIM:**

**You should be able to repeat the information by rote but with a good understanding**

c. Playing with words and sentences

- i. Identify the subject and section of your KO that you want to revise. This should be one of the ticked sections.

- ii. You now want to check how well you have learnt the information in your KO.
- iii. Definitions – look at words that are used in this section. Can you write a definition in your own words?
- iv. Rephrasing – can you rewrite the sentences or explanations in your own words
- v. Summary – can you summarise the main points of this section of the KO?
- vi. Synonyms – can you write synonyms for key words and ideas
- vii. New Sentences – Can you write a sentence that includes the key vocabulary or definitions that you have learnt?

**AIM**

**You should be able to use the information in your KO in a flexible and confident way in your writing.**

d. Think it, Link it

- i. This is a technique to use towards the end of the half term when you are revising all of the KO.
- ii. Think of the links or connections between different sections of your KO.
- iii. Write these out in your own words in your homework learning journal
- iv. Think about the links between a particular section of your KO and what you have learnt in your lessons. Can you expand on this section by linking it to your wider knowledge?
- v. Write this out in your homework learning Journal.

**AIM**

**You should be able to link your homework and your lessons to show a confident understanding of the work covered.**

**Homework Learning Journal**

- 1. Always write the subject and the date when you start your homework
- 2. Always write the strategy that you are going to use for your homework
- 3. Use a blue or black pen to complete your homework or a pencil if you need to draw.
- 4. Always use a ruler to underline titles and dates
- 5. Use a green pen to complete corrections of your work

**Checking:**

Your tutor will check your Homework Learning Journal at least once a week. If they are concerned that you aren't doing your homework properly they will offer support and guidance. If you don't respond to this guidance you will be added to the afterschool 'Success club' where a member of staff will help you complete your homework.

**DO NOW tasks:**

At the start of every lesson you should expect a Do Now task. This is a low stakes retrieval quiz on what you have learnt so far. If you have completed your homework this should be easy. The aim is to get 100% in each of these. If you miss this target occasionally don't worry. If it happens regularly your teacher will ask your tutor to have a chat and offer you support.

## Artist page example

### Title

*Details about the artists work, how they have been inspired, what materials and processes do they use*

### Rik Reimert

"Analog, that's my thing. From music to photography to art. Yes, of course we use computers and cellphones, but isn't it great to put on a record on your turntable on a Sunday morning and just enjoy the cracks in the music and the great artwork on the cover?"

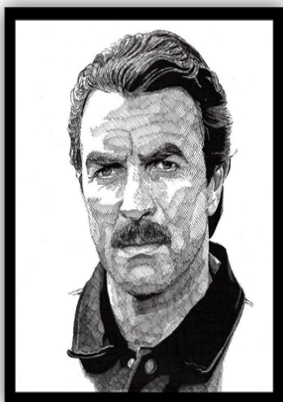
All artist Rik Reimert needs to create these detailed illustrations is some paper and some ink. The rest is a series of lines and hachmarks that Reimert builds, from light to dark, with Rotring Rapidograph - a variety of technical writing devices that provide consistent ink flow. The artist begins with pencil and then fills in the lines with his pens that vary in thickness from 0.2 to 0.8mm tips.

<https://myteacherfeed.com/rik-reimert-illustration-artist-portfolio/>

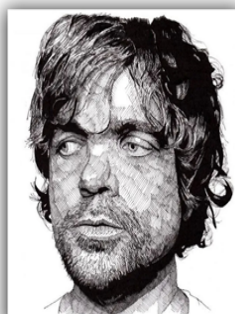
I've been drawing with pen and ink for over 10 years, started off with portraits, animals, cars and other vehicles and now doing mainly landscape. I'm self taught and when I'm not drawing myself I'm searching the internet for inspirational artists, getting new ideas and finding out how other artists work, so I can learn from that.

<http://rikreimert.com/works/>

I was drawn to the works of Reimert due to his harsh use of mark making and how he has chosen to work in a single medium. It shows the wide range of marks and layers that can be built upon to create almost hyper realistic outcomes (landscapes). In his portraits in particular, it almost looks like he has used a ruler for each individual line. A technique I would have frowned upon before has become an inspiration. I would like to try recreate a similar style with one of my own portrait photographs adding that sense of depth and atmospheric finish.



In the image below I especially appreciate the contrast between the obviously straight lines and the use of fine wavy lines to create the hair. The blocked out areas of black add more layers to the image therefore creating that high contrast between light and dark, I feel this adds to the mystery of the character. Depending on the image I choose I may try this mark making technique.



*Clear images of artists work, not pixilated*



*Details about why you have chosen the artist, what do you like about their work and how is it going to inspire you in your work.*

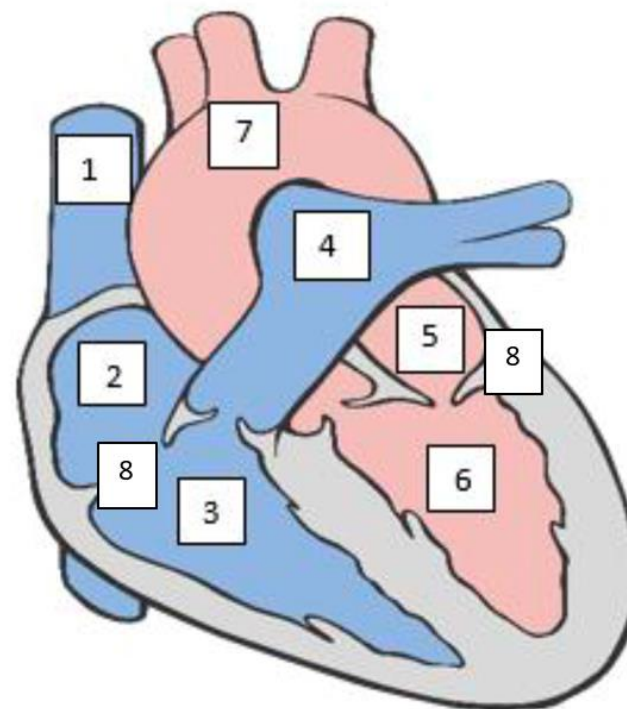
Term/ Keyword	Definition/ explanation	Tick
Tracing	When tracing use light pressure to create fine lines that are easily hid by drawing or painting on completion of work.	
Graphite transfer	Using a graphite pencil to shade the back of the image you want to transfer, place on top of a clean piece of paper then draw on top of the image to create the transfer.	
Light box	A lightbox is a artist aid to help one tracing more easily.	
Gridding	The grid method is a technique used in art that involves dividing an image into a series of smaller, more manageable sections using a grid.	
Mixed media	Mixed media describes artwork in which more than one medium or material has been employed.	
Graphite powder	Powdered graphite is the same graphite that pencil leads are made of, only ground into fine powder. You can "paint" it on paper with brushes to make watercolour-like "wash" effects, smooth textures, and cloudy backgrounds.	
Indian ink	Indian ink is a simple black or coloured ink once widely used for writing and printing and now more commonly used for drawing and outlining	
Surface textures	Textured surfaces can be created using a multiple of different materials, some may include thick layering of paint, also preparing the surface with poly filler, sand, PVA and tissue paper, newspaper and much more.	
Mount board	Mount board is a thin white, black or coloured card that artwork is placed inside for decorative purposes. Using an art frame mount presents artwork professionally, creating a clean and crisp finish.	
Water colour paper	Watercolour paper is a versatile surface which has a degree of absorbency that allows transparent colour to appear its most luminous. Watercolour paper is not only for use with watercolour paints – it can also be used for acrylics, gouache, pastels, pencils, graphite, charcoal, and it can also be primed for oil.	
Pastiche	Pastiche is an artistic work in a style that imitates that of another work, artist, or period.	

## B2b Heart and Health

Health		✓
Term	Definition	
Cancer	Uncontrolled cell division	
Benign	Doesn't spread	
Malignant	Does spread in the blood	
Risk factors	Increase the chance of getting a disease, e.g. obesity is a risk factor for diabetes	

Parts of the heart			✓
#	Structure	Function	
1	Vena cava	Major vein carrying blood back to the heart from the body	
2	Right atrium	Smaller chamber of the heart which fills with blood from the vena cava	
3	Right ventricle	Large chamber which pumps blood to the lungs	
4	Pulmonary artery	Artery carrying blood from the heart to the lungs	
5	Left atrium	Small chamber that fills with blood from the lungs	
6	Left ventricle	Large chamber which pumps blood around the body	
7	Aorta	Major artery carrying blood away from the heart to the body	
8	Valves	Prevent backflow of blood	

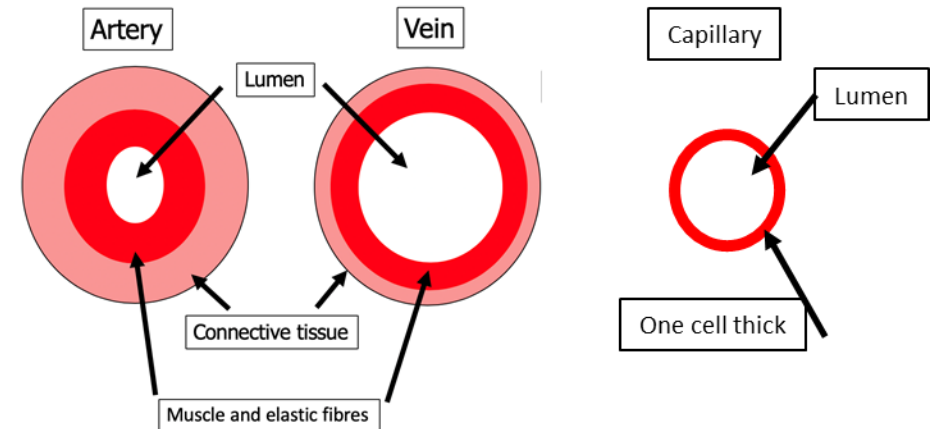
Components of blood		✓
Component	Function	
Red blood cells	Transports oxygen in the blood. No nucleus to allow more space for haemoglobin and a biconcave shape to give a large surface area.	
White blood cells	Cells in the blood that fight infection caused by pathogens.	
Platelets	Fragments of cells that cause clotting of blood at a wound, to reduce blood loss.	
Plasma	The liquid part of the blood, mostly made of water, but with substances like glucose, proteins, ions and carbon dioxide dissolved in it.	



## B2b Heart and Health

Helping the heart				✓
Treatment	What it is	Advantage	Disadvantage	
Stent	Wire mesh opens up a blocked artery	Keeps artery open, low risk surgery	Fatty material can rebuild.	
Statin (drug)	Reduces cholesterol	Reduces fat being deposited in arteries.	Side effects e.g. liver damage	
Heart transplant	Replacement heart from a donor.	Long term	Major surgery, could be rejected	
Artificial heart	Man-made heart used while waiting for a transplant	Not rejected, keeps patient alive.	Short lifetime, limited activity	
Mechanical heart valve	Mechanical replacement of faulty heart valve.	Can last a lifetime	Can damage red blood cells	
Biological heart valve	Biological replacement of faulty heart valve.	Doesn't damage red blood cells.	Valve hardens and may need replacing.	

Blood vessels				✓
artery	Thick muscle wall and small lumen	Carries blood AWAY from heart	Oxygenated blood	
vein	Thin muscle wall and large lumen	Carries blood IN to heart	Deoxygenated blood	



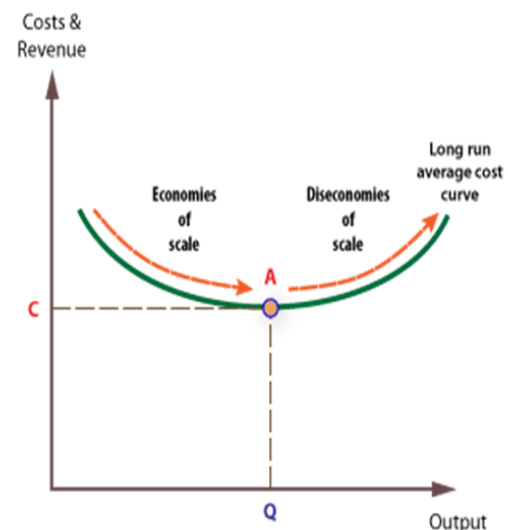


Definitions		✓
Organic (Internal) Growth	When a business grows by expanding its own activities	
External (Inorganic) growth	Growing the business by working with other businesses	
E-commerce	The act of buying or selling a product using an electronic system such as the internet	
Outsourcing	When a business uses another business to carry out tasks	
Franchisee	The entrepreneur who buys the right to trade under the name of the franchisor.	
Franchisor	The original business owner who sells a franchise.	
Franchise	When a franchisor sells the rights to its products to a franchisee.	
Merger	When two or more businesses join together to form a new business	
Takeover	When one business buys control of another.	

Methods of expansion		✓
<u>Organic growth:</u>	<u>External Growth:</u>	
E-commerce	Merger	
Opening new stores	Take over	
Outsourcing		
Franchising		

Benefits and drawbacks of expansion		✓
<u>Benefits:</u>	<u>Drawbacks:</u>	
Economies of scale	Risk of diseconomies of scale	
Greater market power	Slower decision making	
Reduced risk if takeover	Demotivated staff	
Image	Expensive	

Economies and Diseconomies of scale		✓
<u>Economies of scale:</u>	<u>Diseconomies of scale:</u>	
As output increases average unit cost falls	Average unit cost increases as output increases	
<b>Types:</b> Purchasing Technical Managerial	<b>Causes:</b> Poor communication Poor coordination Poor control	



## Chapter 4a – Chemical Changes

Keyword	Learn	✓
Acid	Substance producing $\text{H}^+$ ions in water. Acids react with a base to form a salt	
Alkali	Soluble base (e.g. metal hydroxides) that produces $\text{OH}^-$ ions in water. Bases react with an acid to form a salt	
Base	Substance that reacts with an acid to form a salt e.g. metal oxides	
Burette	Laboratory apparatus used to accurately measure a variable volume of solution	
Concentrated	A large number of solute particles per unit volume	
Concentration	Mass or number of particles of solute per unit volume ( $\text{dm}^3$ )	
Dilute	A small number of solute particles per unit volume	
Indicator	Substance that changes colour depending on the pH of a solution e.g. phenolphthalein, methyl orange, litmus	
Neutralisation reaction	Reaction in which an acid reacts with a base to form a neutral solution. Overall equation $\text{H}^+ + \text{OH}^- \rightarrow \text{H}_2\text{O}$	
pH	Measure of concentration of $\text{H}^+$ ions relative to pure water. As pH decreases by 1, $\text{H}^+$ ion concentration increases by a factor of 10	
Pipette	Laboratory apparatus that is used to accurately measure a fixed volume of solution	
Salt	Ionic compound formed by reaction of an acid with a base. Consists of a positive ion from the base and a negative ion from the acid	
Strong acid	One that is fully ionised in aqueous solution to release $\text{H}^+$ ions e.g. $\text{HCl}(\text{aq}) \rightarrow \text{H}^+(\text{aq}) + \text{Cl}^-(\text{aq})$	
Weak acid	One that is only partially ionised in aqueous solution to release $\text{H}^+$ ions e.g. $\text{CH}_3\text{COOH}(\text{aq}) \rightleftharpoons \text{H}^+(\text{aq}) + \text{CH}_3\text{COO}^-(\text{aq})$	

### pH Scale

Colours in Universal Indicator



#### Indicators for titration

Phenolphthalein

#### Colour in acid

Colourless

#### Colour in alkali

Pink

Methyl orange

Red

Yellow

Litmus

Red

Blue

### Neutralisation Reactions – general equations

Acid + base  $\rightarrow$  salt + water

Acid + alkali  $\rightarrow$  salt + water

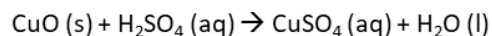
Acid + metal carbonate  $\rightarrow$  salt + water + carbon dioxide

### Preparation of a Soluble Salt

- Add excess base to warm acid. Stir
- Filter solution to remove unreacted base.
- Transfer filtrate (solution of soluble salt) to an evaporating basin.
- Heat until crystals begin to form.
- Leave to cool and completely crystallise at room temperature.
- Pat crystals dry using paper towel.

#### Example

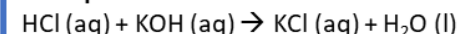
copper + sulfuric  $\rightarrow$  copper + water  
oxide acid sulfate



### Titration

- Fill a burette with acid. Note initial volume
- Transfer  $25\text{cm}^3$  of alkali to a conical flask using a pipette.
- Add a few drops of indicator and place flask on a white tile
- Slowly add acid from the burette, swirling to mix, adding dropwise near the end point
- Stop as soon as indicator changes colour and note volume of acid added
- Repeat until concordant results are obtained ( $\pm 0.1\text{ cm}^3$ ), then calculate mean volume of acid used

#### Example





## 2.2 Programming Fundamentals

File Handling			
Python	OCR	Definition	✓
<code>myFile = open("sample.txt", "r")</code>	<code>myFile = open("sample.txt")</code>	Opens a file ready for processing.	
<code>myFile.close()</code>	<code>myFile.close()</code>	Closes a file.	
<code>myFile.readline()</code>	<code>myFile.readLine()</code>	Reads one line of text at a time from an open file.	
<code>myFile.write("Add new line")</code>	<code>myFile.writeLine("Add new line")</code>	Writes one line of text at a time to an open file.	
<pre>line = MyFile.readline() while Line != "":     print(Line)     line = MyFile.readline()</pre>	<pre>while NOT myFile.endOfFile()     print(myFile.readLine()) endwhile</pre>	Loops through a text file line-by-line and prints out each line.	

<b>Data Types</b>	Determines what type of value the variable will hold.	✓										
	<table><tr><td><i>Integer</i> – Whole number</td><td>age = 12</td></tr><tr><td><i>Real / float</i> – Number that <i>can</i> have a fractional part</td><td>height = 1.52</td></tr><tr><td><i>Character</i> – A single letter, symbol or number</td><td>letter = 'a'</td></tr><tr><td><i>String</i> – Multiple characters</td><td>name = "Bart"</td></tr><tr><td><i>Boolean</i> – Has two values: true or false.</td><td>a = True b = False</td></tr></table>	<i>Integer</i> – Whole number	age = 12	<i>Real / float</i> – Number that <i>can</i> have a fractional part	height = 1.52	<i>Character</i> – A single letter, symbol or number	letter = 'a'	<i>String</i> – Multiple characters	name = "Bart"	<i>Boolean</i> – Has two values: true or false.	a = True b = False	
<i>Integer</i> – Whole number	age = 12											
<i>Real / float</i> – Number that <i>can</i> have a fractional part	height = 1.52											
<i>Character</i> – A single letter, symbol or number	letter = 'a'											
<i>String</i> – Multiple characters	name = "Bart"											
<i>Boolean</i> – Has two values: true or false.	a = True b = False											



### Papers

Type	Description	Uses	Advantages	Disadvantages
Copier paper 80gsm	Thin, lightweight, cheap, bright white paper with smooth, bleached, uncoated surface.	Writing, printing and drawing	Takes colour well; good surface for pencils, pens & markers; cheap; readily available & in range of colours	Prone to jamming printer feed mechanisms; can bleed through
Cartridge paper 120-150gsm	Creamy, thick, heavyweight paper	General drawing and printing; takes watercolour paint without buckling.	Accepts most types of drawing media and is opaque	Costs more than copier paper
Tracing paper 60-90gsm	Thin, smooth, translucent, dense, usually 60-90gsm	Art, making copies, envelope windows, overlays.	Strong, translucent	Can be expensive, limited ink absorption; longer drying time

### Boards

Type	Description	Uses	Advantages	Disadvantages
Folding boxboard	Stiff layers of: 1. Printable bleached top surface 2. Unbleached yellowish centre 3. Bleached inside layer	Cereal boxes, cartons, food packaging	Excellent for scoring and bending without splitting; accepts print well; inexpensive	Lower strength than solid white board
Corrugated board	Two or more layers of fluted paper between two paper liners	Protective packaging, e.g. for electrical products, etc.	Impact resistant, recyclable and inexpensive, strong, lightweight	Brown finish does not suggest quality, can deform under pressure, not water resistant
Solid white board	Strong, rigid board from pure, bleached wood pulp	Book covers; food; cosmetics; medicine packaging	Strong, rigid, accepts print very well	Can be expensive

Term	Meaning
Flexibility	Amount material bends when force is applied (stiffness); determined by its thickness and weight. Flexural stiffness is resistance to an external bending force; Handling stiffness is the ability to support its own weight.
Printability	Ability to accept a printed image onto its surface (porosity); affected by surface properties including smoothness or finish and structural properties such as bulk or thickness;
Biodegradability	Ability to be broken down by bacteria or other biological means; most uncoated paper products are biodegradable because they're made from wood pulp; compostability means that a material can biodegrade in less than 12 weeks.



*What is the different between a thermoforming and a thermosetting polymer?*

A thermoforming polymer can be reheated and reshaped lots of times whereas once a thermosetting polymer is set, it cannot be heated and change its' shape. This is due to the molecule structures: thermosetting polymers have cross links which prevents the reshaping whereas thermoforming polymers do not have these.

Thermoforming polymer	Properties	Uses
Acrylic	Brittle, easily cleaned, easily finished, food safe, scratches easily	<ul style="list-style-type: none"> <li>• Shop signs</li> <li>• Car headlights</li> <li>• Baths</li> <li>• Fish tanks</li> <li>• Menu holders</li> </ul>
HIPS (High Impact Polystyrene)	Lightweight, high stiffness, tough, scratches easily	<ul style="list-style-type: none"> <li>• Toys</li> <li>• TV parts</li> <li>• Refrigerator linings</li> </ul>
Biopol	Degrades in soil (biodegradable), lightweight, good electrical insulator	<ul style="list-style-type: none"> <li>• Disposable cups, razors and cutlery</li> <li>• Packaging</li> <li>• Surgical stitches</li> </ul>

Thermosetting polymer	Properties	Uses
Polyester resin	Rigid, brittle, good electrical and heat insulator, corrosion resistant	<ul style="list-style-type: none"> <li>• Boat hulls</li> <li>• Sports car bodies</li> <li>• Cast for decorative objects</li> </ul>
Urea formaldehyde	Rigid, hard, brittle, heat resistant, excellent electrical insulation	<ul style="list-style-type: none"> <li>• Plugs, sockets, light switches (electrical fittings)</li> <li>• Used as an adhesive in manmade boards</li> </ul>



Techniques used to present viewpoints	✓
Specific words (noun/Verb/adverb/adjective)	
Language devices (Simile/metaphor/etc)	
Persuasion - Aristotelian Triad (Logos, Pathos, Ethos)	
Lists	
Sentence types/Structure	

Language devices		
Technique	Definition	✓
Adverbial of time	Modify verbs to tell when something happens.	
Factual Content	Something that is known to have happened or to exist.	
Pattern of Three/Triple	A collection of three words, phrases, or sentences, e.g. Sleep is good for your health, intelligence and all-round well-being.	
Direct speech	Exact words spoken/written by speaker/writer.	
Opinion	View or judgement formed about something, not always based on fact or knowledge	
Exclamation	Indicate strong feelings and convey emotion, as well as to indicate shouting or high volume.	

Terminology #1		
Technique	Definition	✓
Anecdote	A short illustrating story based on real events.	
Hypophora	A rhetorical question which the author then answers.	
Hyperbole	Exaggeration for dramatic effect.	
Formal register	Formal language.	
Colloquialism	Slang or informal language.	

Aristotelian Triad		
Logos	Logic/Reason/Truth (Your argument)	
	Enhances Ethos; makes you look knowledgeable.	
Pathos	Emotions/Values (the hearer)	
	Humans are emotional creatures – this is a perfect way to sway somebody.	
Ethos	Credibility/Trust (Public persona)	
	Persuade your audience that you are one of them. You share the same interests.	

Terminology #2		
Technique	Definition	✓
Semantic field	A series of words that all relate to the same topic or theme i.e. branch, root, stem etc.	
Euphemism	Mild or indirect language used in place of terms considered too harsh or blunt i.e. passed-away rather than dead.	
Modal verb	Verbs used to express possibility or necessity i.e. will, should, might, must.	
Personal pronouns	Words used as substitute for the name of a person/people i.e. he, they. These can also be plural: they, us and possessive: my, our.	

Analyse Effects of writer's choices		
Step 1 WHAT	Identify the feature of language or the choice the writer has made. Make sure you include your quote.	
Step 2 HOW	How does that technique create an effect e.g. how does a metaphor create an effect and how does this specific metaphor create an effect?	
Step 3 WHY	Why does the author want this effect? Relate it to the question	

Question 5 Exam Structure				✓
Q5	40 (24 + 16 SPAG)	45 min	Write a non-fiction persuasive text: an article, letter or speech.	



English Language – Q5: <b>Writing</b> <b>Writing to present a viewpoint (Paper 2)</b>	✓
<b>A05/06</b>	
Communicate clearly	
Organise information	
Use a range of vocabulary and sentences	
Accurate spelling and punctuation	
To offer your own views and opinions on a subject	

Questions 1-4 Exam Structure				✓
1 hour 45 Minutes. 5 Questions. 2 sections: Reading and Writing.				
	Marks	Time	Description	
Q1	4	4 min	Select the 4 correct statements.	
Q2	8	8 min	Summarise the differences between the 2 sources, making inferences from both.	
Q3	12	12 min	Analyse one author's use of language to create effects.	
Q4	16	16 min	Compare how the author's present their viewpoints/perspectives and the methods they have used.	

<b>Speech Construction</b>	✓
Motivational and engaging opening.	
BECAUSE: I believe BECAUSE....Clear argument with interesting points.	
BUT: Consider how to manage counter arguments (objection handling). How they are a benefit to students? What would be bad about banning them?	
SO? What is the solution? Can there be a compromise?	

<b>Non-Fiction Writing</b>	✓
Clear plan that shows progression.	
Engaging introduction that not only hooks your reader but also establishes your stance on the subject.	
The main body should present reasons to support your viewpoint.	
You should also include counter-arguments – why others may disagree with you?	
A strong ending: a call to arms, a solution or even a compromise?	
A link between your conclusion and your introduction.	

<b>Article- Organisation</b>	✓
<b>Catchy headline</b>	
<b>Subheading</b> – brief expansion of the headline.	
<b>Introduction:</b> introduce your point of view and engage the reader. (one paragraph).	
<b>Main body (because &amp; but):</b> include interesting points about the topic and a counter-point. (three paragraphs).	
<b>Conclusion (so):</b> draw all of your ideas together – what message should your reader take away? Is there a solution or a compromise? (one paragraph).	

<b>Formal Writing - Organisation</b>	✓
The letter should begin with an <u>introductory paragraph</u> explaining the <u>general topic</u> of the letter.	
The main body of the letter needs to be in a <u>logical sequence</u> and give enough detail to make the reader 'get the message'.	
The last paragraph should be a <u>conclusion summarising the main purpose</u> of the letter in such a way to get the reaction you want; to get something done.	
The <b>tone</b> of the letter must match <b>purpose</b> outlined in the task - it can be neutral giving straightforward factual details or emotive using language to persuade reader about some issue	
<b>Formal letters</b> must stick to the conventions of <u>formal writing</u> – no slang, no shortened word forms, etc.	

Terminology #3		✓
Perception	The way in which something is regarded, understood, or interpreted.	
Perspective	A person's opinion or point of view.	
Attitude	A settled way of thinking or feeling about something.	
Compare	Note similarities/things in common.	
Contrast	Note the differences.	
Analyse	Examine in detail for meaning/effect.	



# Cooking – Food Science

- A broad range of ingredients, equipment, food skills and techniques, and cooking methods are used to achieve successful results.
- Recipes and cooking methods can be modified to help meet current healthy eating messages.

## Food skills

There are a number of food skills which enable a variety of increasingly complex dishes to be prepared and made.

These can include:

- beating, combining, creaming, mixing, stirring and whisking;
- blitzing, pureeing and blending.
- kneading, folding, forming and shaping;
- knife skills;
- rubbing-in and rolling-out;
- use of the cooker: boiling/simmering/poaching, frying, grilling, roasting and baking.

## Food skills are acquired, developed and secured over time.

### Bridge hold



### Claw grip



## Heat exchange/transfer

Cooking requires heat energy to be transferred from the heat source, e.g. the cooker hob, to the food. This is called heat transfer or heat exchange. There are three ways that heat is transferred to the food. They are:

- **conduction** – direct contact with food on a surface, e.g. stir-frying; Boiling, Simmering, Blanching, Poaching, Baking, Frying, Roasting.
- **convection** - currents of hot air or hot liquid transfer the heat energy to the food, e.g. baking; Casseroling, Braising, Blanching, Simmering, Boiling.
- **radiation** - energy in the form of rays, e.g. grilling, Barbecuing, Microwaving



Many methods of cooking use a combination of these. The amount of heat and cooking time will vary according to the type of food being cooked and the method being used.

## Vegetable cuts



batons – 5-6.5cm long x 1 cm square



dice – 1cm square



julienne/match stick – 5-6.5cm long x 3 mm square



fine julienne – 5-6.5cm long x 1.5mm square

## Factors that influence cooking methods-

Type of food being prepared

Facilities available- Specialist equipment i.e. a wok, steamer?

How much time we have

Needs of the individual

The skill of the cook, can they bake? Roast? Fry? prepare meals from scratch or just use ready meals.

Consumer choice, diets? Religion? Costs? etc



Advantages / Disadvantages of using a microwave?

## Key terms

**Conduction:** The exchange of heat by direct contact with foods on a surface e.g. stir-frying or plate freezing.

**Convection:** The exchange of heat by the application of a gas or liquid current e.g. boiling potatoes or blast chilling.

**Heat transfer:** Transference of heat energy between objects.

**Radiation:** Radiation is energy in the form of rays, e.g. grilling.

## Boiling

## Poaching

## Simmering

## Blanching

## Steaming



## Cooking for health

Take into account healthy eating recommendations to ensure that dishes/meals are part of a varied, balanced diet.

- Planning - does the meal meet the nutritional needs and preferences of those it is being cooked for? Base your meals on starchy food.
- Choosing - choose low fat/sugar/salt versions, where possible.
- Preparing - limit the amount of fat added (try a spray oil) and replace salt with other flavourings, such as herbs and spices.
- Cooking - use cooking practices which reduce the amount of fat needed and minimise vitamin losses from fruit and vegetables.
- Serving - serve the meal in proportions which reflect current healthy eating advice.
- Do not forget to include a drink.



## Safety

- Sharp knives: never walk around with a knife. Use the *bridge hold* and *claw grip* to cut safely.
- Grater: hold grater firmly on a chopping board. Grate food in one direction and leave a small amount at the end to prevent injury to knuckles.
- Hot liquid: drain hot liquid carefully over the sink using a colander.
- Saucepans: turn panhandles in from the edge, so they are not knocked.
- Hot equipment: always use oven gloves when placing food in and out of the oven.
- Spills: wipe up immediately.
- Electrical equipment: always follow instructions. Do not use close to water and ensure sharp blades are handled carefully.
- Keep work areas tidy and free from packaging, empty tins etc.
- Wash up all equipment properly and ensure hot water and washing up liquid is used.



Keep lids on bins and ensure surfaces are wiped down and sanitised.

## Cooking methods

These are based on the cooking medium used:

- **moist/water based methods** of cooking, e.g. Boiling, Steaming, Stewing, Braising, Simmering
- Boiling is the most common method of preparing food, heat is transferred through conduction and convection, used for rice, pasta, potatoes vegetables etc
- **dry methods of cooking**, e.g. grilling, baking roasting, toasting, BBQ; Used on cakes, biscuits, some vegetables- Potatoes, and pastry products.
- **fat-based methods of cooking** – Frying, Dry Frying, Stir Fry, Shallow and Deep Fat Frying.
- **Grilling**- A quick method of cooking to thin pieces of food, bacon, fish etc using radiation.
- **Microwaving**- Radiation waves are passed through the foods causing molecules to vibrate and therefore heat up. There are different types of Microwave with Grills and a combination of the two.



## Why is food cooked?

Some foods can be eaten raw and form an important part of the diet. However, many foods need to be prepared and cooked before they are eaten to:

- make the food safe to eat by destroying pathogenic microorganisms and toxins;
- destroy microorganisms and enzymes that cause food to deteriorate and therefore increase the keeping quality of the food;
- make the food more digestible and easier to absorb.
- To have hot food on cold days.
- Make it more attractive and colourful
- Make it easier to digest
- Add variety to the diet
- Improve flavour
- Release nice aromas
- Makes food less bulky
- Change Textures
- Improve the keeping quality



**French Foods-** Chicken Cordon Bleu, Tarte Tatin, Onion Soup, Clafoutis, Croque Monsieur, Bouillabaisse, Coq-Au-Vin. Profiteroles, Choux Buns, Eclairs.



## Healthier cooking methods

- Grill or BBQ foods rather than fry to allow fat to drain away.
- Drain or skim fat from liquids, e.g. sauces, stews and casseroles.
- Dry fry using non-stick pans, so no need for oil.
- Oven bake rather than fry.
- Steam or microwave vegetables.

By not adding fats we reduce the calorific content of food, 1g of fat = 10 KiloCal





### Reflexive verbs

Reflexive verbs are mostly verbs to do with daily routine or relationships. The reflexive pronoun is added before the conjugated verb and usually means 'self' eg I get myself dressed, I wash myself.

S'entendre avec quelqu'un	To get on with someone	
<i>je m'entends avec</i>	<i>I get on with</i>	
<i>tu t'entends avec</i>	<i>you get on with</i>	
<i>il s'entend avec</i>	<i>he gets on with</i>	
<i>nous nous entendons avec</i>	<i>we get on with</i>	
<i>vous vous entendez avec</i>	<i>you get on with</i>	
<i>ils s'entendent avec</i>	<i>they get on with</i>	

Se disputer	To argue with	
<i>je me dispute</i>	<i>I argue</i>	
<i>tu te disputes</i>	<i>you argue</i>	
<i>il se dispute</i>	<i>he argues</i>	
<i>nous nous disputons</i>	<i>we argue</i>	
<i>vous vous disputez</i>	<i>you (pl) argue</i>	
<i>ils se disputent</i>	<i>they argue</i>	

### Other reflexive verbs


<i>se soucier de</i>	<i>to worry about</i>	
<i>s'occuper de</i>	<i>to look after</i>	
<i>se comporter</i>	<i>to behave</i>	
<i>se mettre en colère</i>	<i>to get angry</i>	
<i>se séparer</i>	<i>to separate</i>	
<i>se faire des amis</i>	<i>to make friends</i>	
<i>s'appeler</i>	<i>to be called</i>	

### Possessive adjectives

	my	your	his/her
Masc	mon	ton	son
Fem	Ma	ta	sa
plural	mes	tes	ses

### Possessive adjectives

	your formal	their	our
singular	votre	leur	notre
plural	vos	leurs	nos


**Adjectival agreement**
Page 224

Most adjectives work like this:

masculine	feminine	masc plural	fem plural
no ending e.g. charmant	add -e e.g. charmante	add -s e.g. charmants	add -es e.g. charmantes

Mots essentiels	Essential words	
<i>car/parce que</i>	<i>because</i>	
<i>comme</i>	<i>as</i>	
<i>lorsque/quand</i>	<i>when</i>	
<i>par contre</i>	<i>on the other hand</i>	
<i>par exemple</i>	<i>for example</i>	
<i>puisque</i>	<i>since/as</i>	
<i>si</i>	<i>if</i>	
<i>même si</i>	<i>even though</i>	
<i>vu que</i>	<i>seeing that</i>	
<i>étant donné que</i>	<i>given that</i>	
<i>cependant</i>	<i>however</i>	
<i>surtout</i>	<i>especially</i>	
<i>personnellement</i>	<i>personally</i>	

To form the past tense (passé composé):  
Use a form of avoir/être and the past participle  
past participles of -er verbs end in é  
of -ir verbs end in i  
of -re verbs end in u

C'était = it was  
Ce n'était pas = it wasn't  
Je l'ai trouvé = I found it

### Past tense I form verbs

<i>J'ai discuté</i>	<i>I discussed</i>	
<i>Je suis allé</i>	<i>I went</i>	
<i>J'ai mangé</i>	<i>I ate</i>	
<i>J'ai retrouvé</i>	<i>I met</i>	
<i>J'ai raté le bus</i>	<i>I missed the bus</i>	
<i>J'ai contacté un ami</i>	<i>I contacted my friend</i>	
<i>J'ai écouté</i>	<i>I listened</i>	
<i>J'ai acheté</i>	<i>I bought</i>	
<i>J'ai quitté la maison</i>	<i>I left the house</i>	

### Past tense we form verbs

<i>nous sommes allés</i>	<i>we went</i>	
<i>nous sommes restés</i>	<i>we stayed</i>	
<i>nous sommes sortis</i>	<i>we went out</i>	
<i>nous avons pris</i>	<i>we took</i>	
<i>nous avons visité</i>	<i>we visited</i>	
<i>nous avons mangé</i>	<i>we ate</i>	
<i>nous avons bu</i>	<i>we drank</i>	
<i>nous avons acheté</i>	<i>we bought</i>	

plus ____ que	more ____ than
moins ____ que	less ____ than
aussi ____ que	as ____ as

Dans ma famille		
<i>il y a ...personnes</i>	<i>there are ...people</i>	
<i>ma mère s'appelle</i>	<i>my mum is called</i>	
<i>mon père s'appelle</i>	<i>my dad is called</i>	
<i>mes frères s'appellent</i>	<i>my brothers are called</i>	
<i>un beau-père</i>	<i>a step-father</i>	
<i>une belle-mère</i>	<i>a step-mother</i>	
<i>un demi-frère</i>	<i>a half brother</i>	
<i>une demi-sœur</i>	<i>a half sister</i>	
<i>j'ai ...ans</i>	<i>I am ... years old</i>	
<i>être enfant unique</i>	<i>to be an only child</i>	
<i>un oncle</i>	<i>an uncle</i>	
<i>une tante</i>	<i>an aunt</i>	
<i>un grand-père</i>	<i>a grandfather</i>	
<i>une grand-mère</i>	<i>a grandmother</i>	
<i>les grand-parents</i>	<i>Grandparents</i>	
<i>Un(e) cousin(e)</i>	<i>a cousin m/f</i>	
<i>il a.... ans/ils ont....ans</i>	<i>he is/they are ...years old</i>	
<i>un mari/une femme</i>	<i>a husband/wife</i>	
<i>un fils/une fille</i>	<i>a son/daughter</i>	
<i>un jumeau</i>	<i>a twin (m)</i>	
<i>une jumelle</i>	<i>a twin (f)</i>	
<i>un couple</i>	<i>a couple</i>	
<i>le foyer</i>	<i>home</i>	

Verbes utiles – Useful verbs		
<i>inspirer</i>	<i>to inspire</i>	
<i>discuter</i>	<i>to discuss</i>	
<i>rencontrer</i>	<i>to meet</i>	
<i>respecter</i>	<i>to respect</i>	
<i>rigoler</i>	<i>to laugh</i>	
<i>habiter/vivre</i>	<i>to live</i>	
<i>soutenir</i>	<i>to support</i>	
<i>dire</i>	<i>to say</i>	
<i>être né</i>	<i>to be born</i>	
<i>connaître</i>	<i>to know someone</i>	

La personnalité		
<i>bavard/bavarde</i>	<i>chatty</i>	
<i>heureux/heureuse</i>	<i>happy</i>	
<i>jeune</i>	<i>young</i>	
<i>gentil/gentile</i>	<i>kind</i>	
<i>sympa/agréable</i>	<i>nice</i>	
<i>fidèle</i>	<i>loyal</i>	
<i>actif/active</i>	<i>active</i>	
<i>calme</i>	<i>quiet</i>	
<i>aîné</i>	<i>older</i>	
<i>étonnant</i>	<i>astounding</i>	
<i>fier/fière</i>	<i>proud</i>	
<i>fou/folle</i>	<i>crazy</i>	
<i>handicapé</i>	<i>disabled</i>	
<i>paresseux/paresseuse</i>	<i>lazy</i>	
<i>occupé/occupée</i>	<i>busy</i>	
<i>pénible</i>	<i>annoying</i>	
<i>sportif/sportive</i>	<i>sporty</i>	
<i>stressé(e)</i>	<i>stressed</i>	
<i>timide</i>	<i>shy</i>	
<i>travailleur/euse</i>	<i>hard-working</i>	
<i>tranquille</i>	<i>quiet</i>	
<i>vieux/vieille</i>	<i>old</i>	
<i>étrange</i>	<i>strange</i>	
<i>triste</i>	<i>sad</i>	

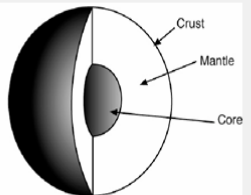

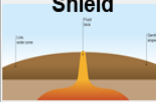
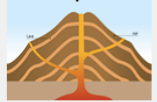
descriptions		
<i>les cheveux</i>	<i>hair</i>	
<i>les yeux</i>	<i>eyes</i>	
<i>une barbe</i>	<i>a beard</i>	
<i>gros/mince</i>	<i>fat/thin</i>	
<i>un fauteuil roulant</i>	<i>a wheelchair</i>	
<i>joli/jolie</i>	<i>pretty</i>	
<i>laid/laide</i>	<i>ugly</i>	
<i>des lunettes</i>	<i>glasses</i>	
<i>beau/belle</i>	<i>beautiful</i>	
<i>un sourire</i>	<i>a smile</i>	
<i>végétarien/ienne</i>	<i>vegetarian</i>	

Les rapports – relationship(s)		
<i>un allié</i>	<i>an ally</i>	
<i>moi-même</i>	<i>myself</i>	
<i>un ami/un copain</i>	<i>a friend (m)</i>	
<i>une amie/une copine</i>	<i>a friend (f)</i>	
<i>encourager</i>	<i>to encourage</i>	
<i>ensemble</i>	<i>together</i>	
<i>la confiance</i>	<i>trust</i>	
<i>partager</i>	<i>to share</i>	
<i>l'amitié</i>	<i>friendship</i>	
<i>l'amour</i>	<i>love</i>	
<i>l'esprit</i>	<i>spirit/mind</i>	

Other Family Vocabulary		
<i>la jeunesse</i>	<i>youth</i>	
<i>an avoir marre de</i>	<i>to have enough of</i>	
<i>mépriser</i>	<i>to despise</i>	
<i>le prénom/le nom</i>	<i>first name/name</i>	
<i>la séparation</i>	<i>separation</i>	
<i>la naissance</i>	<i>birth</i>	
<i>la mort</i>	<i>death</i>	
<i>le mariage</i>	<i>marriage</i>	
<i>se marier</i>	<i>to marry</i>	
<i>l'âge</i>	<i>age</i>	
<i>accueillir</i>	<i>to welcome</i>	

Picture description		
<i>sur la photo il y a</i>	<i>on the photo there is</i>	
<i>je peux voir</i>	<i>I can see</i>	
<i>on peut voir</i>	<i>we/you can see</i>	
<i>de plus je peux voir</i>	<i>also I can see</i>	
<i>à gauche/à droite</i>	<i>on the left/right</i>	
<i>À l'arrière plan</i>	<i>in the background</i>	
<i>Au premier plan</i>	<i>in the foreground</i>	
<i>Il est en train de ...</i>	<i>he is in the middle of</i>	



<h3>1. The Earth's layered structure</h3> <ul style="list-style-type: none"> <li>The Earth is divided into layers.</li> <li>The <b>lithosphere</b> is the uppermost layer and is split into <b>continental crust</b> (granite) and <b>oceanic crust</b> (basalt).</li> <li>The <b>mantle</b> can be divided into two layers. The thinner <b>asthenosphere</b>, a partly molten 'lubricating' layer under the lithosphere. The lower mantle which is solid.</li> <li>The <b>core</b> is also split into two layers. The outer core is liquid, whilst the inner core is solid because the pressure is so great. The composition of both is iron and nickel.</li> </ul>	<h3>3. Plate Boundaries</h3> <ul style="list-style-type: none"> <li>Earthquakes and volcanoes are tectonic hazards. They occur at plate boundaries.</li> <li><b>Conservative</b> – plates slide past each other – friction between the plates causes earthquakes (e.g. San Andreas Fault in California).</li> <li><b>Divergent</b> – plates move apart, and magma rises to fill the gap – hot and runny magma made of <b>basalt</b> spreads to form <b>shield</b> volcanoes e.g. Iceland sits on the mid-Atlantic ridge. Earthquakes tend to be frequent but rarely life threatening. Smaller earthquakes tend to occur.</li> <li><b>Convergent</b> – plates push together, and the denser oceanic plate is <b>subducted</b> – partial melting of the oceanic plate creates <b>andesitic</b> magma which is cooler and less fluid, so more explosive forming <b>composite</b> volcanoes e.g. the Andes mountains in Chile and Peru. Earthquakes can be violent as pressure builds from the subducting oceanic plate.</li> </ul>	<h3>6. Sendai Earthquake: Developed country</h3> <ul style="list-style-type: none"> <li><b>Sendai (Japan)</b> was hit by a <b>tsunami</b> in 2011 following a <b>magnitude 9.0</b> earthquake 70km from the coast.</li> <li>Nearly 20 000 people were killed, and the waves caused US\$235 billion of damage.</li> <li>350 000 people were made homeless and two nuclear reactors went into meltdown.</li> <li>There is a <b>high probability</b> that a powerful earthquake will hit Japan again soon. Whilst its location and timing cannot be predicted, Japan has prepared with regular <b>earthquake drills</b>, <b>emergency kits</b>, <b>sophisticated building design</b> and <b>tsunami walls</b>.</li> </ul>	<h3>9. Volcano in a Developed Country: Sakurajima, Japan</h3> <p><b>Sakurajima</b> is a composite volcano (also called a stratovolcano) located in southern <b>Japan</b>.</p> <ul style="list-style-type: none"> <li>It is on a <b>convergent plate boundary</b>, where the Pacific plate <b>subducts</b> beneath the Eurasian plate.</li> <li>Eruptions are explosive, producing lots of <b>ash</b>, <b>pyroclastic flows</b>, <b>volcanic bombs</b> and <b>poisonous gases</b>. The lava is <b>andesitic</b>, which has a high gas content and is very <b>viscous</b> (thick).</li> </ul> <p><b>Primary impacts:</b></p> <ul style="list-style-type: none"> <li>Ash damaging crops and electricity lines, poor visibility and disrupts air travel.</li> <li>Lava flows have destroyed croplands and damaged homes.</li> </ul> <p><b>Secondary impacts:</b></p> <ul style="list-style-type: none"> <li>Respiratory problems caused from continual ashfall, such as asthma.</li> <li>Acid rain caused by poisonous gases emitted by the volcano has damaged crops.</li> <li>40% of the land is volcanic soil, which is extremely fertile. This has led to a strong tea and rice industry in the area.</li> <li>The area has become a major tourist destination due to its National Park status, bringing in jobs to the area.</li> </ul> <p><b>Management:</b></p> <p>Evacuations, warning systems, volcanic bomb shelters, collections of ash.</p>
<h3>2. The Earth's physical properties</h3> <ul style="list-style-type: none"> <li>The Earth is heated by <b>radioactive decay</b> in the core and mantle.</li> <li><b>Convection currents</b> are caused by the <b>geothermal energy</b> and move tectonic plates.</li> <li>The rising heat creates <b>plumes</b> which bring magma to the surface.</li> </ul> 	<h3>4. Earthquakes?</h3> <ul style="list-style-type: none"> <li>The magnitude of an earthquake is measured on the <b>Richter Scale</b>. The scale is logarithmic – a 6.0 quake is 10 times more powerful than 5.0.</li> <li>The <b>epicentre</b> is directly above the focus, on the Earth's surface. Earthquakes beneath the seabed can generate a <b>tsunami</b>.</li> </ul>	<h3>7. Nepal Earthquake: Developing country</h3> <ul style="list-style-type: none"> <li><b>Nepal</b> also suffers from earthquakes as two in 2015 killed almost 10,000 people.</li> <li>Whilst low-income countries like Nepal rely on <b>international aid</b>, they prepare by making houses safer. This includes lightweight thatch roofing, simple steel foundations (providing stability) and cross-braced wood frame (supporting the walls).</li> </ul> 	<h3>11. Volcano in a Developing Country: Mount Nyiragongo, DRC</h3> <ul style="list-style-type: none"> <li><b>Mount Nyiragongo</b> is a composite volcano located in the east of the <b>Democratic Republic of the Congo (DRC)</b>. Nyiragongo is on a <b>divergent</b> plate boundary.</li> <li>Non-explosive eruptions with <b>basaltic</b> lava which has a low viscosity (runny &amp; fast-flowing - up to 37 mph)</li> </ul> <p><b>Primary effects:</b></p> <ul style="list-style-type: none"> <li>Lava completely covered at least 15% (12,500 homes) of the city of Goma. The airport had to be closed and over 200 people were thought to be killed. 400,000 people had to be evacuated.</li> </ul> <p><b>Secondary effects:</b></p> <ul style="list-style-type: none"> <li>120,000 homeless, loss of cattle, looting, acid rain, overcrowding in refugee camps and the spread of Cholera.</li> </ul> <p><b>Management:</b></p> <p>International aid, refugee camps, charities provided vaccinations and the volcano is now monitored with evacuation routes set up</p>
	<h3>5. Haiti Earthquake: Developing country</h3> <ul style="list-style-type: none"> <li><b>Port-au-Prince (Haiti)</b> was hit by a magnitude 7.0 earthquake in 2010.</li> <li>Because the <b>focus</b> was so shallow and Haiti is a low-income country, as many as 300,000 people may have died, and 1 million people were made homeless.</li> <li>An outbreak of <b>cholera</b> killed a further 8,000 people unnecessarily and 1 in 5 jobs were lost from clothing factories.</li> </ul>	<h3>8. Volcanoes</h3> <p>Volcanoes can be described in terms of activity and can be:</p> <ul style="list-style-type: none"> <li><b>Active</b> and erupt frequently</li> <li><b>Dormant</b> (temporarily inactive but not extinct)</li> <li><b>Extinct</b> (never likely to erupt again)</li> </ul> <p>Volcanoes can also be described by their shape</p> <div> <div>  <p><b>Shield</b></p> </div> <div>  <p><b>Composite</b></p> </div> </div>	



Was hörst du gern? What do you like to listen to?		
<b>Ich höre (nicht) gern</b> .....	<i>I (don't) like listening to ..</i>	
<b>Ich höre lieber/nie .....</b>	<i>I prefer/never listen to .....</i>	
<b>Ich höre am liebsten</b>	<i>Most of all I like listening to .....</i>	
<b>elektronische Musik</b>	electronic music	
<b>R&amp;B Musik</b>	R&B music	
<b>Jazzmusik</b>	Jazz music	
<b>Tanzmusik</b>	Dance music	
<b>Heavy Metal-Musik</b>	Heavy Metal	
<b>Rap-Musik</b>	Rap	
<b>Popmusik</b>	Pop music	
<b>Rockmusik</b>	Rock music	
<b>klassische Musik</b>	Classical music	
Warum? Why?		
<b>Sie ist/war</b>	<i>It is/was .....</i>	
<b>originell</b>	original	
<b>melodisch</b>	tuneful	
<b>beliebt</b>	popular	
<b>laut</b>	loud	
<b>modern</b>	modern	
<b>klassisch</b>	classical	
<b>kulturell</b>	cultural	
<b>leise</b>	quiet	
<b>berühmt</b>	famous	
<b>spannend</b>	exciting	
<b>teuer</b>	expensive	

hören – to listen to		
<b>ich höre</b>	<i>I listen to</i>	
<b>du hörst</b>	<i>you listen to</i>	
<b>er/sie/es hört</b>	<i>he/she/it listens to</i>	
<b>wir hören</b>	<i>we listen to</i>	
<b>ihr hört</b>	<i>you all listen to</i>	
<b>Sie/sie hören</b>	<i>you (formal)/ they listen to</i>	
Hören means to listen to, so no need to add anything – eg Ich höre gern Rap. These are the regular present tense verb endings and apply also to spielen to play		

fahren – to travel/go		
<b>ich fahre</b>	<i>I travel</i>	
<b>du fährst</b>	<i>you travel</i>	
<b>er/sie/es fährt</b>	<i>he/she/it travels</i>	
<b>wir fahren</b>	<i>we travel</i>	
<b>ihr fahrt</b>	<i>you all travel</i>	
<b>Sie/sie fahren</b>	<i>you (formal) /they travel</i>	
This is a strong verb – note the vowel change in the du and er/sie/es forms This change also applies to tragen – to wear and laufen to run		

Role Play Questions		
<b>Was kostet .....?</b>	<i>How much?</i>	
<b>Wo ist .....?</b>	<i>Where is ?</i>	
<b>Wann beginnt .....bitte?</b>	<i>When does .....begin, please?</i>	
<b>Um wie viel Uhr .....?</b>	<i>At what time?</i>	
<b>Gibt es .....?</b>	<i>Is there?</i>	
<b>Können Sie ..... empfehlen bitte?</b>	<i>Can you recommend?</i>	

Sportarten - Sports		
<b>Ich bin (sehr) sportlich</b>	<i>I am (very) sporty</i>	
<b>Ich bin ziemlich sportlich</b>	<i>I am quite sporty</i>	
<b>Ich bin nicht sehr sportlich</b>	<i>I am not very sporty</i>	
<b>Was spielst du?</b>	<i>What do you play?</i>	
<b>Ich spiele .....</b>	<i>I play.....</i>	
<b>Badminton</b>	badminton	
<b>Basketball</b>	basketball	
<b>Eishockey</b>	ice hockey	
<b>Fußball</b>	football	
<b>Handball</b>	handball	
<b>Tennis</b>	tennis	
<b>Tischtennis</b>	table tennis	

Freizeitaktivitäten – free time activities		
<b>Was machst du gern?</b>	<i>What do you like doing?</i>	
<b>Ich fahre Rad</b>	<i>I ride my bike.</i>	
<b>Ich fahre Skateboard/Ski Snowboard.</b>	<i>I go skateboarding/skiing/ snowboarding</i>	
<b>Ich mache Leichtathletik</b>	<i>I do athletics</i>	
<b>Ich mache Judo/Karate.</b>	<i>I do judo/karate.</i>	
<b>ich reite.</b>	<i>I go horse riding.</i>	
<b>Ich schwimme.</b>	<i>I swim.</i>	
<b>Ich gehe ins Fitnesszentrum</b>	<i>I go the gym</i>	
<b>Ich spiele für eine Mannschaft</b>	<i>I play for a team</i>	



TELEVISION AND FILM		
<b>Die Nachrichten</b>	<i>The news</i>	
<b>Die Sportsendung(en)</b>	<i>Sports programme</i>	
<b>Der Film(e)</b>	<i>The film(s)</i>	
<b>Die Serie(n)</b>	<i>Series</i>	
<b>Der Krimi(s)</b>	<i>Crime Programme/thriller</i>	
<b>Die Komödie(n)</b>	<i>Comedy</i>	
<b>Der Dokumentarfilm(e)</b>	<i>Documentary</i>	
<b>Die Sendung(en)</b>	<i>Programme</i>	

(fern)sehen – to see/watch (TV)		
<b>ich sehe ..(fern)</b>	<i>I watch (TV)</i>	
<b>du siehst..(fern)</b>	<i>you watch (TV)</i>	
<b>er/sie/es sieht..(fern)</b>	<i>he/she/it watches (TV)</i>	
<b>wir sehen ..(fern)</b>	<i>we watch (TV)</i>	
<b>ihr seht..(fern)</b>	<i>you all watch (TV)</i>	
<b>Sie/sie sehen ..(fern)</b>	<i>you (form) /they watch (TV)</i>	
This is a strong verb – note the vowel change in the du and er/sie/es forms		

Picture description		
<b>Im Bild/Im Foto</b>	<i>On the photo</i>	
<b>Ich/Man kann ... sehen</b>	<i>I can see/You can see</i>	
<b>Im Bild gibt es</b>	<i>In the picture there is</i>	
<b>Auf der linken/rechten Seite</b>	<i>On the left/on the right</i>	
<b>Im Hintergrund (V2)</b>	<i>In the background</i>	
<b>Im Vordergrund (V2)</b>	<i>In the foreground</i>	
<b>Sie spielen, essen , tragen</b>	<i>They are playing, eating, wearing</i>	
USE PRESENT TENSE TO SAY WHAT PEOPLE ARE DOING – “NO IS-ING” “AM-ING” OR “ARE-ING”		

Meinungen - opinions		
<b>Meiner Meinung nach (V2)</b>	<i>In my opinion</i>	
<b>Es ging um .....</b>	<i>It was about</i>	
<b>Ich finde/fand</b>	<i>I find/found</i>	
<b>Ich denke/dachte</b>	<i>I think/thought</i>	
<b>Ich glaube/ glaubte</b>	<i>I believe/believed</i>	
<b>Es fand in ....statt</b>	<i>It took place in</i>	
<b>Es hat Spaß gemacht</b>	<i>It was fun</i>	

The future tense is formed by using the correct part of “werden” with an infinitive at the end.		
<b>ich werde .....</b>	<b>spielen</b>	
<b>du wirst .....</b>	<b>spielen</b>	
<b>er/sie/es wird .....</b>	<b>spielen</b>	
<b>wir werden .....</b>	<b>spielen</b>	
<b>ihr werdet .....</b>	<b>spielen</b>	
<b>Sie/sie werden .....</b>	<b>spielen</b>	
NB The future tense translates to I will play or I am going to play		

herunterladen – to download		
<b>ich lade .....</b>	<b>herunter</b>	<i>I download</i>
<b>du lädst .....</b>	<b>herunter</b>	<i>you download</i>
<b>er/sie/es lädt ...</b>	<b>herunter</b>	<i>he/she/it downloads</i>
<b>wir laden ...</b>	<b>herunter</b>	<i>we download</i>
<b>ihr ladet ....</b>	<b>herunter</b>	<i>you all download</i>
<b>Sie/sie laden ...</b>	<b>herunter</b>	<i>you (form)/ they download</i>

To talk about actions in the past use the perfect tense. You need a form of haben or sein (for movement verbs) plus a past participle (ge+verb stem+t)		
<b>Ich habe/er, sie hat/wir haben: gespielt/gelernt/ gehört/gekauft/getanzt</b> <i>some past participles are irregular</i> <b>getragen/gesehen(ferngesehen)</b>	<i>I/he, she/we played/learnt/ listened/bought/danced</i>	
<b>Ich bin/er, sie ist/wir sind gefahren/gegangen/ geschwommen/geblieben/gelaufen</b>	<i>I/he, she/we travelled/went/ swam/stayed/ran</i>	

Three key verbs are often used in the imperfect to DESCRIBE things in the past		
<b>Es war</b>	<i>It was</i>	
<b>Ich war</b>	<i>I was</i>	
<b>Es hatte</b>	<i>It had</i>	
<b>Ich hatte</b>	<i>I had</i>	
<b>Es gab</b>	<i>There was</i>	
<b>Die Musik war spitze/klasse! – the music was amazing</b>		
<b>Es gab keine Schlange– there was no queue</b>		
<b>Es war das Gelbe vom Ei – it was the bees knees.</b>		

## Design terms:

Keyword	Definition	Tick
Kerning	Kerning refers to the space between two specific letters (or other characters: numbers, punctuation, etc.) and the process of adjusting that space improves legibility.	
Tracking	Tracking is similar to kerning in that it refers to the spacing between letters or characters. However, instead of focusing on the spacing between individual letters (kerning), tracking measures space between groups of letters.	
Bold	Bold colours or text stand out in a design. They are often bright or contrasting colours. Bold text has a thicker weight.	
Font weight	The font-weight specifies the weight, or thickness, of a font. A heavier weight is often used to aid with hierarchy in a design.	
Alignment	Depending on the desired visual outcome, text can be either left, center or right aligned in a design. This refers to which margins the paragraph is aligned to.	
Justified text	Justified text has a unified line length created by increasing the spacing between the words. While the structured shape of justified text can initially look neater (with hard edges on both sides as opposed to the soft edge of left-aligned text), it can lead to unpleasant rivers (or gaps), which can cause the design to be more disorganised.	
Script	Script typefaces are fonts or type based upon historical or modern handwriting styles and are more fluid than traditional typefaces.	
Slab serif	Slab serif fonts feature a geometric feel compared to traditional serif fonts and feature serifs that are square and larger, bolder.	
Sans serif	A serif is the little extra stroke or curves, at the ends of letters.	
Sans	“Sans” literally means “without”, and a sans serif font does not include any extra stroke at the ends of the letters.	
RGB	RGB Color model stands for Red, Green, and Blue and is mainly used for electronic displays including computers and smartphones, and is based on the additive color model of light waves.	
CMYK	CMYK Color model stands for Cyan, Magenta, Yellow, and Key (Black). CMYK is the colour model used for printing.	
Monochromatic	The monochromatic scheme as the name says combine different shades from one color to create an attractive design.	
Saturation	Saturation refers to the intensity of a colour. Highly saturated colours appear more vibrant and bold, whereas less saturation appears dull.	





# Bournemouth School: History Department: Knowledge Organiser: Year 9: Spring 2 Life in Nazi Germany 1933-9



1. Attitude & Policies Towards Women			2. Policies towards the Youth of Germany		
Method	Description	✓	Method	Description	✓
Social Pressure	Women encouraged to dress plainly, avoid make up, not work, remain at home. Before the Nazis 100k women were teachers and 3000 women were doctors.		School changes	Napola schools set up ages 10-18, Adolf Hitler Schools 12-18, Ordensburg 20s	
Attempts to raise birth rate	Propaganda, Marriage loans, medals for mothers of large families, Lebensborn programme “donate a baby to the Fuhrer”, Divorce made easier, family allowances.		Curriculum Changes	Textbooks rewritten, Mein Kampf used as school text, teachers joined Nazi Teachers league and NSDAP, Racial Studies, 15% of curriculum for PE, girls taught domestic skills	
Work	3 Ks (Kinder, Kuche, Kirche ‘children, kitchen, church’) Removed from professional jobs Women policy failed and from 1937 policies reversed.		Youth Groups	Hitler Youth (boys) and League of German Maidens (girls) for ages 14-18. Military drill, camping, singing, marching for boys. Domestic skills for girls. 1936 – membership was compulsory 1939 – 7m members of the Hitler Youth	
Repression	Concentration Camps – 1933 Morigen opened, Ravensbruck opened in 1939				
3. Economic Policies – Reducing unemployment			4. Improvements to the lives of workers		
Method	Description	✓	Method	Description	✓
Reich Labour Service	From 1935, compulsory labour for all men 18-25, low pay		KDF	Subsidised leisure activities for workers, museums, cinema trips. 1938 – over 10m took KdF holidays.	
Job Creation	By 1938 37.1bn Marks spent on public works – Autobahns, engineering projects, public buildings. 7,000kms of autobahns built		Beauty of Labour	Improvements made to working conditions – ventilation, canteens, other leisure facilities	
Rearmament	Conscription introduced 1935 – 1.4m in army by 1939. Government contracts given to iron, coal, steel companies.		Wages	Rose from 86m p/w in 1932 to 109m p/w in 1938	
Invisible unemployment	Jews dismissed, Under 25s pushed into labour schemes, women dismissed, opponents in camps		Unemployment Reduced	Conscription, Public Works schemes provide jobs	
5. Workers lives get worse		✓	6. Persecution of minorities		✓
* Trade Unions closed in 1933 – no one to represent the workers. * Volkswagen Swindle 1938 – Workers encouraged to save for a VW car from the gov – none were delivered * Cost of living increased – Inflation reduced real wages * Working Hours increased – 42.9p/w 1933 to 47hrs p/w 1939			1933 – Sterilisation Law – 350,000 compulsorily sterilised 1935 – Marriage between gypsies and Germans forbidden 1938 – Gypsies, Vagrants, Homosexuals taken to concentration camps 1939 – Euthanasia Campaign – 6000 babies murdered for having disabilities		
			7. Persecution of the Jews		✓
			1933 – Boycott of Jewish Shops 1935 – Nuremberg Laws – Citizenship removed for Jews, marriage between Jews and non-Jews illegal 1936 – Jews forbidden from professional jobs 1938 – Jewish children expelled from schools 1938 – Kristallnacht – Pogrom against the Jews – 100 killed, 20,000 temporarily sent to camps, 20,000 businesses destroyed. Jews fined for the damage. 250,000 Jews leave		



## Bournemouth School: History Department: Knowledge Organiser: Year 9: Spring 2: Revision

The Weimar Republic, 1918-1929	Hitler's rise to power 1919-1933	Nazi Control and Dictatorship 1933-1939	Life in Nazi Germany 1933-1939
November 1918 – Kaiser Wilhelm abdicates January 1919 – Spartacist uprising June 1919 - Treaty of Versailles is signed August 1919 – Weimar Constitution set up 1920 - Kapp Putsch 1923 – French occupation of the Ruhr 1923 – January – November –Hyperinflation 1923 – Rentenmark introduced 1924 – Dawes Plan 1925 – Locarno Pact 1926 – Germany becomes a member of the League of Nations 1928 – Kellogg – Briand Pact 1929 – Young Plan	1919 – Hitler joins the German Workers' Party 1920 – NSDAP set up 1921 – The SA is formed 1923 – Munich Putsch 1925 – Mein Kampf is published 1926 – Bamberg Conference 1928 – Nazis win 12 seats in the Reichstag 1929 – Stresemann dies 1929 – October – Wall Street Crash 1932 – Nazis win 107 seats in the Reichstag 1932 – In July the Nazis win 230 seats in the Reichstag and von Papen becomes Chancellor 1932 – In November the Nazis win 196 seats in the Reichstag and von Schleicher becomes Chancellor 1933 – Hitler becomes Chancellor	1933 – 30 <sup>th</sup> January, Hitler becomes Chancellor 1933 – February, the Reichstag building was set on fire 1933 – March – Enabling Act 1933 – Dachau set up (first concentration camp) 1933 – May, trade unions were banned 1933 – July Law Against the Formation of Parties was passed 1934 – June – the Night of the Long Knives 1934 – August, President Hindenberg died 1934 – August, Hitler combined both the posts of Chancellor and President and took the title of Fuhrer 1934 – August, German army swore allegiance to Hitler 1938 – 16 army generals were removed from their positions	1933 – Boycott of Jewish shops and businesses 1933 – Law for the Encouragement of Marriage 1933 – Sterilisation Law 1933 – opening of Moringen (first concentration camp for women) 1933 – Napola schools set up 1935 – Nuremberg Laws passed (the Reich Citizenship Law and the Law for the Protection of German Blood and Honour) 1935 – Conscription introduced 1936 – Membership of the Hitler Youth made compulsory 1938 – Jewish children were not allowed to attend German schools 1938 – Lebensborn programme 1938 – Kristallnacht 1939 – Euthanasia campaign began 1939 Designated Jewish ghettos established

### Exam Format

Question 1: 'Give two things you can infer from source A about...' (4 marks)

Question 2: 'Explain why...' (12 marks)

Question 3 a): 'How useful are sources B and C for an enquiry into...' (8 marks)

Question 3 b): 'Study interpretations 1 and 2... They give different views... What is the main difference between their views?' (4 marks)

Question 3 c): 'Suggest one reason why interpretations 1 and 2 give different views on.... You may use sources B and C to help explain your answer.' (4 marks)

Question 3 d): 'How far do you agree with interpretation 2 about...?' (16 marks + 4 SPaG marks)

## Year 9 – Maths – Spring 1 – Units 5 &amp; 6

Keyword	Definition	Extra information
Gradient	The steepness of a line, giving the change in $y$ for every 1 increase in $x$	$m = \frac{\Delta y}{\Delta x}$
$y$ - intercept	Where a graph crosses over the $y$ -axis	Found by making $x = 0$
Root	Where a graph crosses over the $x$ axis	Found by making $y = 0$
Parallel lines	Lines with the same gradient	$m_1 = m_2$
Perpendicular lines	Lines at right-angles to each other	$m_1 = -\frac{1}{m_2}$
Linear Graph	A straight line graph.	Has the general form $y = mx + c$ or $ax + by = c$
Distance-time graph	Shows distance from the starting point on the $y$ -axis. The gradient at given time gives the speed	
Velocity-time graph	Shows velocity on the $y$ -axis. The gradient at a given time gives the acceleration. The area under the graph gives the distance travelled	
Line Segment	A line with a start and end point.	Midpoint of a line segment: $\left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2}\right)$
Average speed	$Average Speed = \frac{Total Distance}{Total Time}$	It may require several calculations to find the total distance.
Rate of change	How something changes over time.	Can be found from the gradient of a tangent to a graph
Axis break	Axes do not have to start at zero. A discontinuity symbol can be used.	
Quadratic graph	A parabolic curve, with 1 turning point which is either a maximum or minimum.	Has the general form $y = ax^2 + bx + c$
Quadratic equation	An equation with a quadratic term. Can be solved graphically by finding intersections.	Will have 0, 1 or 2 solutions
Cubic graph	A curve with 0 (an inflection) or 2 (a minimum and a maximum) turning points	Has the general form $y = ax^3 + bx^2 + cx + d$
Cubic equation	An equation with a cubic term. Can be solved graphically by finding intersections.	Will have 1, 2 or 3 solutions
Reciprocal graph	A graph with horizontal and vertical asymptotes	Has the general form $y = \frac{k}{x}$
Circle graph	A circle centred on the origin with a radius $r$	Has the general form $x^2 + y^2 = r^2$

Formula for finding the equation of a line that passes through  $(x_1, y_1)$  with gradient  $m$ :

$$y - y_1 = m(x - x_1)$$

Keyword	Definition	Example(s)
Vertex	The point where two lines meet	
Interior angle	When one side of a polygon is extended at a vertex	
Exterior angle	<ul style="list-style-type: none"> <li>the angle inside the polygon is called the interior angle</li> <li>the angle outside the polygon between the side and the extended side is called the exterior angle.</li> </ul>	
Tessellate	Shapes fit together exactly like tiles with no gaps between them. The angles where the shapes meet must sum to $180^\circ$	
Sum of interior angles	$S_n = (n - 2) \times 180^\circ$	
Sum of exterior angles	The sum of the exterior angles of a polygon is always $360^\circ$	
Regular polygon	A polygon where all sides are the same length, and all interior angles are the same.	
Hypotenuse	In a right-angled triangle, this is the longest side and is opposite the right angle.	
Pythagoras' theorem	The square of the hypotenuse is equal to the sum of the squares of the other two sides	
Opposite side	In a right-angled triangle, the side <u>opposite</u> the angle labelled $\theta$ is called the <u>opposite</u>	
Adjacent side	In a right-angled triangle, the side <u>next to</u> the angle labelled $\theta$ is called the <u>adjacent</u> .	
Sine ratio	The sine of angle $\theta$ is the ratio of the opposite side to the hypotenuse	$\sin \theta = \frac{opp}{hyp}$
Cosine ratio	The cosine of angle $\theta$ is the ratio of the adjacent side to the hypotenuse	$\cos \theta = \frac{adj}{hyp}$
Tangent ratio	The tangent of angle $\theta$ is the ratio of the opposite side to the adjacent side	$\tan \theta = \frac{opp}{adj}$
Angle of depression	The angle of depression ( $d$ ) is the angle measured downwards from the horizontal	
Angle of elevation	The angle of elevation ( $e$ ) is the angle measured upwards from the horizontal.	

	$0^\circ$	$30^\circ$	$45^\circ$	$60^\circ$	$90^\circ$
sin	0	$\frac{1}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$	1
cos	1	$\frac{\sqrt{3}}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{1}{2}$	0
tan	0	$\frac{\sqrt{3}}{3}$	1	$\sqrt{3}$	

Vertically opposite angles

Alternate angles

Co-interior angles

Corresponding angles



## Component 3: Appraising

### Indian Music

Sitar — plucked string instrument with frets and sympathetic and drone strings. Plays the melodic line.

Tambura—plucked string instrument. Plays the drone.

Bansuri —bamboo flute —plays the melodic line.

Tabla—pair of drums used to the rhythmic part in Indian music. Have a black disc of iron filing paste on the drum skin.

Raga—word used to describe the scales in Indian music

Bhangra—1. Punjabi folk music 2. Fusion of Indian music and Western dance music.

Chaal Rhythm —characteristic rhythm in bhangra music

### Gamelan Music

Gamelan —music for percussion orchestra from Indonesia

Gong—circular metal instrument hit with a beater

Metallophone —generic name for a xylophone type instrument with metal bars

Suling—Bamboo flute

## Component 3: Appraising

Rebab—2 stringed bowed instrument

Slendro—5 note scale used in Indonesia

Pelog—7 note scale used in Indonesia

Balungan —core melody—the melody on which all the other parts of the music are based

Heterophonic—simultaneous variation of a melody

### African Music

Djembe —Goblet shaped hand drum

Dun Duns—Cylindrical drum played with sticks

Donno or talking drum —hourglass drum held under one arm and played with a stick

Polyrhythm —more than one independent rhythm playing at the same time

Cross Rhythm —when the accents of the music or rhythm go across each other and don't coincide

Master Drummer—leader of a drumming ensemble

### Latin American Music

Bongos - small pair of drums placed between knees to play

Congas—tall pair of drums played standing up

Claves—pair of round wooden sticks hit together

Maracas—shaker with a handle, usually used as a pair

Guiro—ridged wooden tube scraped with a beater

Cowbells or Agogo bells—pair of metal bells hit with a beater

Salsa—dance from Cuba in 4/4 time with repeated clave rhythm

Rumba—Slower Cuban dance with lots of syncopation

Cha cha—dance from Cuba with a guiro rhythm and shuffling of the dancers feet. In 2 or 4 time.

Merengue—Dominican dance in 2/4 with a syncopated rhythm of 5 drum hits

Samba—energetic style of music from Brasil associated with Carnival in 2 beats per bar

Bossa Nova—mixture of jazz and samba and in 2/4. More emphasis on melody than rhythmic percussion.

Tango —dramatic and passionate Argentinian dance in 4/4 featuring a syncopated osinato










This QR code will take you to a Spotify playlist with audio examples of many of the concepts covered on this sheet and in lessons. You will find it helpful to listen to these as you learn.



## Theory of Music

### Note Values

Notes	Name		Value
	Semibreve	Whole note	4 beats
	Minim	Half note	2 beats
	Crotchet	Quarter note	1 beat
	Quaver	Eighth note	½ beat
	Semi-quaver	Sixteenth note	¼ beat
	2 Quavers	2 Eighth notes	1 beat
	4 Semi-quavers	4 Sixteenth notes	1 beat

Time Signatures—way beats are grouped within a piece of music. Top number tells you how many, bottom number tells you what type of beat

4/4—4 crotchets per bar

3/4—3 crotchets per bar

2/4—2 crotchets per bar

6/8—2 dotted crotchets per bar

9/8—3 dotted crotchets per bar

12/8—4 dotted crotchets per bar

## Theory of Music

### Scales

Major Scale — made up of 7 pitches. The bottom note is repeated an octave higher. Pattern of intervals is tone, tone, semitone, tone, tone, tone, semitone

Minor Scale—made up of 7 pitches. The bottom note is repeated an octave higher. In the harmonic minor, the interval pattern is tone, semitone, tone, tone, tone, augmented 2nd, semitone.

Relative major/ minor—two scales which share the same key signature

### Intervals

Interval—the distance between two notes. Intervals are always defined as an adjective and a number

### Chords

Chord—two or more notes sounding together. The most common chords are triads with 3 notes. Chords are named after their bottom or root note and by whether they are major or minor

Perfect Cadence—Chord V-I Sounds finished

Imperfect Cadence—Chord I, IV or II -V sounds unfinished

Plagal Cadence—Chord IV-I sounds finished, sometimes called Amen cadence



This QR code will take you to a Spotify playlist with audio examples of many of the concepts covered on this sheet and in lessons. You will find it helpful to listen to these as you learn.



Keyword	Learn	✓
Homeless	The state of not having safe, secure and (semi)permanent accommodation.	
Conflict	An active disagreement between people with opposing opinions or principles	
Commitment	A willingness to give your time and energy to something or someone that you believe in	
Marriage	A social and legal bond between two people that gives them rights and duties as spouses and parents	
Civil Partnership	A legal bond entered into by two people, it has the same responsibilities as marriage but the difference is that it is entered into by signing a document while marriage is confirmed by vows.	
Divorce	An official or legal process to end a marriage.	
Dissolution	An official or legal process to end a civil partnership. In many respects it is the same as a divorce.	

Useful websites:  
<https://www.depaul.org.uk/nightstop/>  
<https://www.childline.org.uk/> 0800 1111



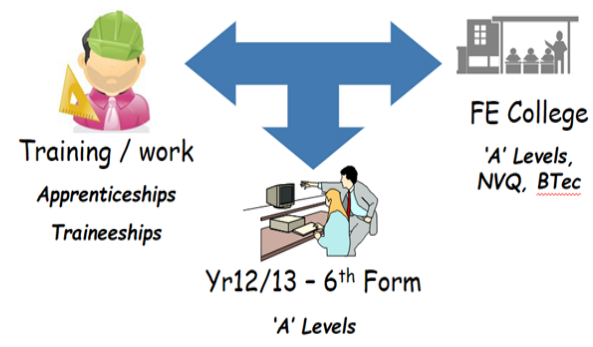
### Useful Careers Websites

The **Unifrog** platform is designed to support learners in making the most informed decisions about their futures and has a range of tools that are suitable for all year groups. Each student has their own personal account that provides a wide range of information related to their interests and aspirations. [www.unifrog.org](http://www.unifrog.org)

Information on apprenticeships, including a range of different schemes:  
<https://amazingapprenticeships.com/>  
[www.gov.uk/apply-apprenticeship](http://www.gov.uk/apply-apprenticeship)







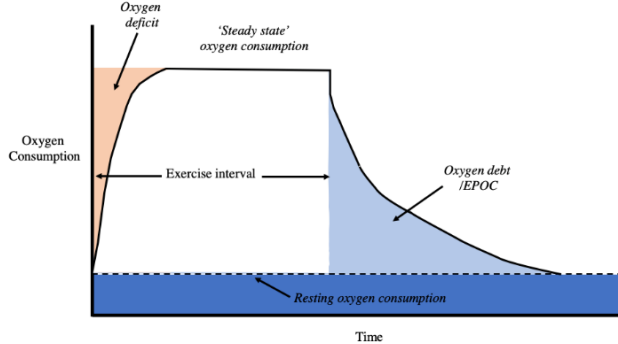
General careers information:  
<https://careerpilot.org.uk/>  
[www.nationalcareers.service.gov.uk](http://www.nationalcareers.service.gov.uk)  
[www.prospects.ac.uk/job-profiles](http://www.prospects.ac.uk/job-profiles)

### KS4 - choices for Post 16





### 3.1.1.3 Anaerobic and Aerobic Exercise – KO 1 of 1

Aerobic Exercise	Anaerobic Exercise	Excess Post-Exercise Oxygen Consumption (EPOC)										
<p><u>Aerobic respiration</u> With the presence of oxygen.</p> <p><u>Word equation</u> oxygen + glucose = energy + carbon dioxide + water</p> <p><u>Application to sport</u> <b>Continuous</b> exercise for more than one minute. Completed at <b>moderate</b> intensity.</p> <div><p>Road cycling</p></div> <div><p>Cross-country skiing</p></div> <div><p>Marathon</p></div>	<p><u>Anaerobic respiration</u> Without the presence of oxygen.</p> <p><u>Word equation</u> glucose = energy + lactic acid</p> <p><u>Application to sport</u> <b>Short</b> duration Completed at <b>high</b> intensity</p> <div><p>Shot putt</p></div> <div><p>50m freestyle</p></div> <div><p>Vault in gymnastics</p></div>	<p><u>Definition</u> The amount of oxygen needed to recover after anaerobic exercise.</p> <p><b>Lactic acid</b> is produced when the body cannot supply the muscles with enough oxygen.</p> <p>It is a <b>waste product</b> that causes muscles to <b>fatigue</b> and causing the performer to <b>reduce intensity</b> or stop. Your muscles need oxygen to convert the lactic acid into glucose, carbon dioxide and water. This happens after you have finished exercising.</p> <p>To enable this to happen, you must maintain an increased breathing rate and depth of breathing post exercise.</p> <p>By completing an active recovery your heart rate (HR) stays higher. This allows more O<sub>2</sub> to be delivered to the muscles, thus clearing away more lactic acid in a shorter amount of time.</p> <div><p>The graph illustrates the relationship between oxygen consumption and time during and after exercise. The y-axis represents 'Oxygen Consumption' and the x-axis represents 'Time'. A horizontal dashed line indicates 'Resting oxygen consumption'. During the 'Exercise interval', oxygen consumption rises sharply, creating an 'Oxygen deficit' (the area between the resting line and the initial rise). It then levels off at a higher plateau labeled ''Steady state' oxygen consumption'. After exercise ends, oxygen consumption remains elevated above the resting level, with the area between the two lines labeled 'Oxygen debt / EPOC', before gradually returning to the resting baseline.</p></div> <p><u>The Recovery Process</u></p> <table><tr><th>Method</th><th>Explanation</th></tr><tr><td>Cool down</td><td>Maintain elevated breathing rate/heart rate for blood flow and stretching will support the removal of lactic acid</td></tr><tr><td>Massage</td><td>Increased blood flow to muscles. Prevents the Delayed Onset of Muscle soreness (DOMS).</td></tr><tr><td>Ice bath</td><td>Causes blood vessels to constrict forcing blood away from the muscles. Following the bath, the blood vessels dilate and oxygenated blood flows to the muscles. Prevents DOMS.</td></tr><tr><td>Diet</td><td>Drinking water to replace the fluids lost during exercise – rehydrate. Increased protein intake to repair muscles. Eat carbohydrates to replenish glycogen stores.</td></tr></table>	Method	Explanation	Cool down	Maintain elevated breathing rate/heart rate for blood flow and stretching will support the removal of lactic acid	Massage	Increased blood flow to muscles. Prevents the Delayed Onset of Muscle soreness (DOMS).	Ice bath	Causes blood vessels to constrict forcing blood away from the muscles. Following the bath, the blood vessels dilate and oxygenated blood flows to the muscles. Prevents DOMS.	Diet	Drinking water to replace the fluids lost during exercise – rehydrate. Increased protein intake to repair muscles. Eat carbohydrates to replenish glycogen stores.
Method	Explanation											
Cool down	Maintain elevated breathing rate/heart rate for blood flow and stretching will support the removal of lactic acid											
Massage	Increased blood flow to muscles. Prevents the Delayed Onset of Muscle soreness (DOMS).											
Ice bath	Causes blood vessels to constrict forcing blood away from the muscles. Following the bath, the blood vessels dilate and oxygenated blood flows to the muscles. Prevents DOMS.											
Diet	Drinking water to replace the fluids lost during exercise – rehydrate. Increased protein intake to repair muscles. Eat carbohydrates to replenish glycogen stores.											

**Topic 5a - Forces**

Keyword	Learn	✓
Scalar	A quantity with size (magnitude) only.	
Vector	A quantity with both size and direction. A vector quantity may be represented by an arrow. The length of the arrow represents the magnitude, and the direction of the arrow the direction of the vector quantity.	
Velocity	Speed in a given direction. Velocity is a vector.	
Displacement	Distance travelled in a given direction. Displacement is a vector.	
Force	A push or pull. Measured in newtons, N. Force is a vector.	
Contact force	Force exerted between two objects when they touch. E.g. friction, air resistance, tension and normal contact force.	
Non-contact force	Force exerted on objects when they are physically separated. E.g. gravity, electrostatic and magnetic forces.	
Centre of mass	The point at which the weight of the object can be taken to act. In diagrams, arrows representing the weight should start from this point.	
Resultant force	A single force that can replace multiple forces acting on an object.	
Free body diagram	Used to show the magnitude and direction of all the forces acting on the object.	
Work	When a force of 1 N pushes an object 1 m, in the direction of the applied force, then 1 J of work is done	
Elastic deformation	When an object is stretched, it returns to its original length after the forces are removed.	
Inelastic deformation	When an object is stretched, it does not return to its original length after the forces are removed.	
Extension	The difference between the stretched and unstretched lengths of a spring.	
Elastic potential energy	The energy stored in a stretched ( or compressed ) spring.	
Moment	The turning effect of a force. Measured in newton metres, Nm.	
Principle of moments	When a system is balanced the sum of the anti-clockwise moments equal the sum of the clockwise moments.	
Fluid	A liquid or a gas. It flows and can take the shape of the container.	

Quantity	Unit	Symbol
force	newton	N
mass	kilograms	kg
gravitational field strength	newtons per kilogram	N / kg
work	joule	J
extension	metre	m
spring constant	newtons per metre	N / m
elastic potential energy	joule	J
moment	newton metres	Nm
pressure	newtons per metre squared	$N/m^2$
density	kilograms per metre cubed	$kg/m^3$

**Pressure in fluids. Learn these two statements.**

The pressure in fluids causes a force normal (at right angles) to any surface.

A partially (or totally) submerged object experiences a greater pressure on the bottom surface than on the top surface. This creates a resultant force upwards. This force is called the upthrust.

**Equations**

$$\text{Weight} = \text{mass} \times \text{gravitational field strength} \quad W = m \times g$$

$$\text{Work done} = \text{force} \times \text{distance in the direction of the force} \quad W = F \times s$$

$$\text{Force} = \text{spring constant} \times \text{extension} \quad F = k \times e$$

$$\text{Elastic potential energy} = \frac{1}{2} \times \text{spring constant} \times (\text{extension})^2 \quad E_e = \frac{1}{2} \times k \times e^2$$

$$\text{Moment} = \text{Force} \times \text{perpendicular distance} \quad M = F \times d$$

$$\text{Pressure} = \frac{\text{Force normal to the surface}}{\text{area of the surface}} \quad P = \frac{F}{A}$$

$$\text{Pressure} = \text{height} \times \text{density of the liquid} \times \text{gravitational field strength} \quad P = h \times \rho \times g$$



Olam Ha-Ba:	Refers to the 'world to come' in Jewish teachings.	Shul:	A Yiddish word for school, originating from the German word <i>school</i> , used by Jews with reference to the synagogue	Tefillin:	Two black cube-shaped boxes containing the SHEMA that are fastened to the forehead and arm.
Hell:	Jews believe it is a place where wicked people go; a place without God.	Mantle:	A cover for the Torah Scrolls, (usually a royal colour), with a breastplate placed over it. Two crowns are placed on top of each of the wooden scrolls (rimonim), and bells at the bottom.	Siddur:	Jewish prayer book, containing a set order of daily prayers. Siddur means 'order'.
Soul:	The inner you; it is the part of us that can communicate to God. It is eternal (survives death).			Chumash:	Book that contains the 54 set readings (sidrot/ orders) read out each Shabbat according to the Jewish calendar.
Heaven:	A place that people can live within God's presence, where there will be no more death, sadness or pain.	Aron Hakodesh:	(The Ark) A cupboard which holds the Torah Scrolls situated within the eastern wall of a synagogue.	The Amidah:	Forms the core of every Jewish worship service (containing 18 blessings) and is also referred to as 'The standing prayer. Jews stand to show they are in God's presence.
Torah Scrolls:	The First five books of Moses (the Law) that are kept in the form of a scroll in the Ark; made out of parchment and hand-written by a Scribe.	Bimah:	A raised platform from which the Torah Scrolls are read from.		
Oral Law:	Known as the Talmud, contains an explanation and interpretation of the 613 mitzvot found in the Torah.	Menorah:	Seven or nine-branched candelabra. Typically used during worship and in observance of Hanukkah.	Haftarah:	Passage from one of the books of the Nevi'im (prophets) which is read after the Torah reading.
Chumash:	Comes from the Hebrew word meaning five, referring to the five books of the Torah, which are divided into weekly readings.	Ner Tamid:	A light that is always kept on above the Aron Hakodesh. Represents God's eternal presence.	Shabbat:	Day of spiritual renewal and rest. Beginning at sunset on Friday and closing at nightfall on Saturday.
Haftarah:	A selection of readings from the Nevi'im read in addition to the Torah in services.	Gallery:	Women's seating area within an orthodox synagogue.	Cantor (chazzan):	Person who leads the service; they chant the prayers and leads the singing.
Synagogue:	A house of assembly; a building for Jewish public prayer, study and worship.	Minyan:	A group of at least 10 adults (males only in orthodox); required for Jewish service.	Rabbi:	A teacher and spokesman for the Jewish community. They preach the sermon (talk/lesson).
Beit Midrash:	House of learning. It is where Jews come to learn Hebrew; to learn about Jewish history and how to observe festivals.	Yad:	A silver pointer that is used to follow the words of the Torah scrolls. It is used to avoid physically touching the scroll parchments.	Challah:	Plural challot) is a special bread used by Jews during Shabbat where three separate pieces of dough are plaited.
Beit Knesset:	House of gathering / assembly. It is a place for the Jewish community to come together for all types of meetings, celebrations and other community activities.	The Decalogue:	Also known as the Ten Commandments. It is a list of commandments or laws that are believed to be divinely revealed to Moses on Mount Sinai.	Manna:	'Bread from heaven'. A dough substance that could be made into bread, collected by Jews when they lived in the desert, provided by God.
Beit Tefilah:	It is where Jews come to worship God. Jews also worship at home but worshipping with others is an important part of Judaism.	Mezzuzah:	Parchment of scroll which contains the SHEMA that is fixed to a doorpost.	Havdalah:	A ceremony that marks the symbolic end of Shabbat and Jewish holidays, and ushers in the new week.
		Yarmulke:	Also known as 'kippah'. This is a skull cap worn by Jewish men to show respect to God.	Kiddush:	

Body parts		
el cuerpo	body	
la cara	face	
los ojos	eyes	
el pelo	hair	
la nariz	nose	
la garganta	throat	
el diente / los dientes	tooth / teeth	
el corazón	heart	
el pie	foot	
la pierna	leg	
rodilla	knee	
la espalda	back	
el hombro	shoulder	
el brazo	arm	
el dedo	finger	
el estómago	stomach	
la piel	skin	
los oídos	ears	

Illness & injury		
me duele	it hurts (singular body part)	
me duelen	they hurt (plural body parts)	
el dolor	pain	
doler	to hurt	
médico/a	doctor	
doctor/a	doctor	
la medicina	medicine	
una emergencia	emergency	
una farmacia	a pharmacy	
una fiebre	a fever	
una herida	an injury	
un virus	a virus	
enfermo/a	ill	
quemarse	to burn yourself	
sufrir	to suffer	

Food & drink		
el agua (f)	water	
el arroz	rice	
un bocadillo	a sandwich	
la carne	meat	
un huevo	an egg	
la leche	milk	
la paella	paella	
el pan	bread	
la pasta	pasta	
las patatas fritas	crisps / chips	
el pescado	fish	
el queso	cheese	
las tapas	tapas	
el té	tea	
una tortilla	Spanish omelette	
las verduras	vegetables	

Healthy / unhealthy eating		
el chocolate	chocolate	
los churros	churros	
la fruta	fruit	
una hamburguesa	a burger	
el helado	ice cream	
un pastel	a cake	
el azúcar	sugar	
vegano/a	vegan	
vegetariano/a	vegetarian	

Mealtimes		
comer	to eat	
beber	to drink	
cocinar	to cook	
el desayuno	breakfast	
la comida	food / lunch	
la cena	dinner	
la merienda	snack	
el postre	dessert	

Adjectives		
rico/a	delicious	
delicioso/a	delicious	
frío/a	cold	
caliente	hot	
dulce	sweet	
fresco	fresh	
sano	healthy	

At the supermarket		
el supermercado	the supermarket	
la caja	the till	
las ofertas	offers	
con tarjeta	by card	
el precio	the price	
el dinero	money	
un euro	a euro	
un dólar	a dollar	
el cambio	change	
barato/a	cheap	
caro/a	expensive	

At the restaurant		
una cuchara	a spoon	
un tenedor	a fork	
un cuchillo	a knife	
un plato	a plate / dish	
una mesa	a table	
una bebida	a drink	
tengo hambre	I am hungry	
tengo sed	I am thirsty	
compartir	to share	
servir	to serve	
pedir	to order	
probar	to try	
¡Buen provecho!	Enjoy your meal!	

Sports		
el deporte	sport	
un pasatiempo	a hobby	
el baile	dance	
el baloncesto	basketball	
el ciclismo	cycling	
el fútbol	football	
el tenis	tennis	
el vóleibol	volleyball	
el atletismo	athletics	
la natación	swimming	
un partido	a match	
una actividad	an activity	
el ejercicio	exercise	
un equipo	a team	
una competición	a competition	
zapatillas de deporte	trainers	

Verbs		
practicar	to practise	
jugar	to play	
juego	I play	
bailar	to dance	
caminar	to walk	
pasear	to walk	
andar	to walk	
ganar	to win	
corer	to run	
estar al aire libre	to be outdoors	
montar en bici	to ride a bike	
montar a caballo	to ride a horse	

Healthy / unhealthy living		
el daño	damage	
la salud	health	
fumar	to smoke	
mantenerse en forma	to stay in shape	
descansar	to rest	

Describing a photo		
en la foto	in the photo	
hay	there is/are	
puedo ver	I can see	
puedes ver	you can see	
a la izquierda	on the left	
a la derecha	on the right	
en el centro	in the centre	
en el fondo	in the background	
en primer plano	in the foreground	
al lado de	next to	

Present continuous		
está comiendo	he / she is eating	
están bebiendo	they are drinking	
está jugando	he / she is playing	

The future tense		
The future tense is formed by taking the infinitive and adding the endings seen below. The endings are the same for AR, ER and IR verbs		
Infinitve + ending = future tense comer + é = comeré (I will eat)		
Comer	To eat	
comeré	I will eat	
comerás	you will eat	
comerá	he/she will eat	
comeremos	we will eat	
comeréis	you all will eat	
comerán	they will eat	

Irregular stems		
haré	I will do	
tendré	I will have	
podré	I will be able to	

Antes de / después de + infinitive		
antes de	before...	
después de	after...	
<p>These are followed by an <b>infinitive verb</b></p> <p>e.g. Antes de ir al colegio, desayuno. Before going to school, I have breakfast.</p> <p>Después de jugar al fútbol, ceno con mi familia. After playing football, I have dinner with my family.</p>		

Direct object pronouns		
lo	it (singular / masc.)	
la	it (singular / fem.)	
los	them (plural / masc.)	
las	them (plural / fem.)	
<p>e.g. Me encanta el pescado. Lo como todos los días. No me gustan los huevos. No los como mucho.</p> <p>Me encanta la limonada. La bebo mucho. Me gustan las patatas fritas. Las como a menudo.</p>		

Soler – Stem changing verb		
suelo	I usually	
sueles	you usually	
suele	he/she usually	
solemos	we usually	
soléis	you all usually	
suelen	they usually	
<p>To say what you usually do or tend to do, you can use <b>soler + infinitive</b>.</p> <p><b>Suelo comer fruta.</b> I usually eat fruit</p> <p><b>Solemos hacer ejercicio</b> We usually do exercise</p>		

# Timetable

[illegible]