BOURNEMOUTH SCHOOL

# Year 9

# Knowledge Organiser 3

## Spring Term: 2025-26

Name: Master 09

Registration Form: -

✓Hard Work ✓Discipline ✓Smart Appearance ✓Respect

# Bournemouth School

## Knowledge Organiser: Year 9 Spring Term 3

*'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 and Homework Learning journal with you at all times in school and when you need to do your homework at home.
2. 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.
3. Initially, follow your homework timetable to decide what to revise each evening.
4. There are 4 strategies that you can use to revise. They are progressively more challenging so always start with the first in the list.
    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. Always use a ruler to underline titles and dates.
4. Use a blue or black pen to complete your homework or a pencil if you need to draw.
5. Use a green pen to complete corrections of your work.
6. **You are expected to complete half a side of your Homework Learning Journal each evening as a minimum.**

**Success Club**

You can attend Success Club every Monday to Thursday in room 53 until 5pm. This is a quiet room where you can complete your homework rather than doing it at home. There are also Sixth form helpers and staff who will be there to help you if you need it. You can also choose to work in the Library on a Monday, Tuesday and Thursday until 4:30 and a Friday until 4.

**Checking:**

Your teachers will check your Homework Learning Journal at least once a cycle. 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 Detention where you will be expected to complete your homework.

You can attend Success Club every Monday to Thursday in room 53 or the library to complete homework. Sixth form helpers and staff will be there to help you if you need it. Your teachers will check your Homework Learning Journal at least once a cycle. 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 Detention where you will be expected to 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 have a chat and offer you support.

**Maths:**

Your teacher will set you tasks to complete on Dr Frost Maths. This will be set every week on a Monday and will be collected in and checked on a Friday. If this has not been completed you will be issued a Detention on a Wednesday Lunchtime.

# How long should I spend on my homework?

| **Key Stage 4** | | | | | |
|---|---|---|---|---|---|
| Week 1 | | | | | |
| Time | Monday | Tuesday | Wednesday | Thursday | Friday |
| 5 mins | MFL | MFL | Physical Activity | MFL | MFL |
| 10 | Maths | English | | Maths | English |
| 10 | Biology | RS | | Chemistry | Physics |
| 10 | Option C | Option D | | Option A | Option B |
| 55 | Reading / Revision | Reading / Revision | | Reading / Revision | Reading / Revision |
| Week 2 | | | | | |
| Time | Monday | Tuesday | Wednesday | Thursday | Friday |
| 5 mins | MFL | MFL | Physical Activity | MFL | MFL |
| 10 | Maths | English | | Maths | English |
| 10 | Biology | RS | | Chemistry | Physics |
| 10 | Option C | Option D | | Option A | Option B |
| 55 | Reading / Revision | Reading / Revision | | Reading / Revision | Reading / Revision |

- You should spend about 35 minutes revising your KO each day.
- You should spend 55 minutes either reading or revising each day.
- This timetable is a guide. If you want to spend longer revising one subject that you find more difficult and less time on one you find easy, that is your choice.
- We would like you to spend one evening involved in a physical activity. This might be a sports club, a run, a game of football with friends or just a nice walk with the dog. Ask your PE teacher if you need guidance with this. It doesn't have to be on a Wednesday.


**What are Annotations?**
Annotations are written explanations or critical comments added to art or design work that record and communicate your thoughts.

| Do's and don'ts of annotation | Tick |
|---|---|
| **What to do** | |
| **Do** add labels which help explain your creative process, e.g. 'Initial Ideas', 'Thumbnail Compositional Studies', 'Exploring Negative Space.' | |
| **Do** add details on techniques you might forget later, e.g. the stages you went through to achieve a particular print-making or drawing technique. | |
| **Do** record your thoughts on the success of the work – what worked and what didn't. | |
| **Do** reflect on the work of artists and designers you are influenced by and how this helped inform your ideas. | |
| Do write down ideas about what you would like to try next, or if there is anything you could change to improve an idea or technique. | |
| **What not to do** | |
| Don't write very lengthy comments. At this stage, the purpose of annotation is to allow you to record your thoughts quickly so you can explore them later | |
| Don't annotate in a way that distracts attention from the work, e.g. by writing over an area of a drawing in large text. | |
| Don't use annotations to label obvious things, e.g. 'oil pencil drawing of a bottle.' | |

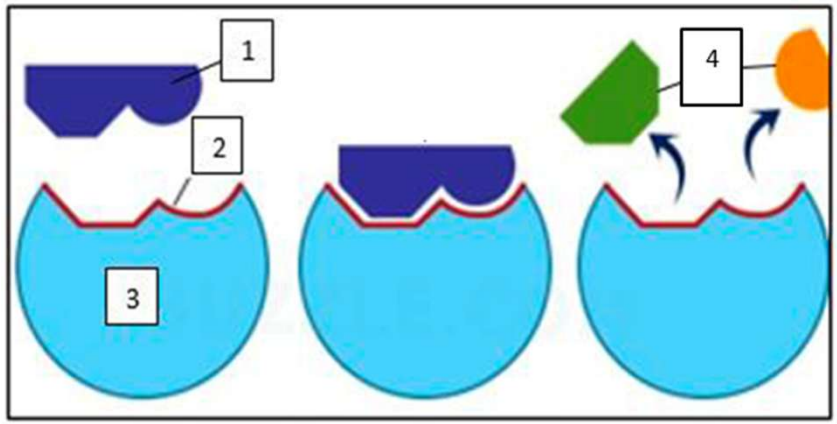
| Term/ Keyword | Definition/ explanation | Tick |
|---|---|---|
| Observational drawing | Drawing from observation comes in many forms, from a simple sketch of something in front of you to the surrounding landscapes or even a reference image from online sources. | |
| Tone | the relative lightness or darkness of a colour | |
| Proportion | refers to the dimensions of a composition and relationships between height, width and depth. | |
| Mark making | describes the different lines, dots, marks, patterns, and textures we create in an artwork. It can be loose and gestural or controlled and neat. | |
| Types of pencils | The H stands for hard and the B for black. The harder pencil leaves less graphite on the surface resulting in lighter mark-making. The pencils classed as B, on the other hand, are softer and leave much more graphite on the surface. Hence, the marks are blacker. | |
| Dry point etching | A printmaking process in which a design is drawn on a plate with a sharp, pointed needle-like instrument. | |
| Mono printing | a form of printmaking where the image can only be made once, unlike most printmaking which allows for multiple originals. | |
| Development of ideas | Development is about selecting ideas, visual elements, compositions and techniques from this initial work and using them in new ways. It is important that you don't become too attached to your first idea. | |
| Realising intentions and reflection | Reflect critically upon your creative journey and its effectiveness in relation to you personal intentions. Have you met them? Has your journey be clear and consistent? | |

- How tone is applied to create form: **You must vary the pressure you apply to your pencil to create a range of tones, from light to dark.** Mark making can be used to create tones, texture and surfaces. **A rubber can be used to create highlights.** Different types of pencils. The spacing between your mark making will create a range of tones, along with layering.

| Levels of organisation: cell → tissue → organ → organ system →organism | | ✓ |
|---|---|---|
| Cell | The smallest unit for building all organisms e.g. muscle cell | |
| Tissue | A group of similar cells which work together to do a particular job e.g. muscle tissue | |
| Organ | A group of different tissues, which all work together to do a particular job e.g. heart | |
| Organ system | A group of different organs, which all work together to do a particular job e.g. circulatory system | |
| Organism | A living thing (capable of the 7 life processes) | |

| Food tests | | | ✓ |
|---|---|---|---|
| **Food type** | **test** | **Positive result** | |
| Starch | iodine | Blue/black | |
| Protein | Biuret's solution | Purple | |
| Sugar, including glucose | Heat with Benedict's solution | Red | |

| Lock and key model | | ✓ |
|---|---|---|
| **#** | **Description** | |
| 1 | Substrate | |
| 2 | Active site | |
| 3 | enzyme | |
| 4 | products | |




| Digestive enzymes | | | | | ✓ |
|---|---|---|---|---|---|
| **Enzyme** | **Site of production** | **Site of action** | **substrate** | **product** | |
| Carbohydrase e.g. amylase | Salivary glands, pancreas and small intestine wall | Mouth, small intestine | Carbohydrates e.g. starch | Simple sugars e.g. glucose | |
| Protease | Stomach, pancreas and small intestine wall | Stomach, small intestine | Proteins | Amino acids | |
| Lipase | Pancreas and small intestine wall | Small intestine | Lipids | Glycerol and fatty acids | |

| The purpose of business planning | | ☑ |
|---|---|---|
| The main reasons why a business creates a business plan are: | | |
| Importance in setting up a new business | Lots of decisions to make – planning decisions can help to gather good quality information to help anticipate problems. | |
| Raising finance | Potential investors will want to know how any money invested will be spent. | |
| Setting objectives | Everyone in the organisation has a clear target | |
| How functions of a business will be organised | Marketing, Finance, Operations and HR will all be clearly organised to achieve the success outline in the business plan. | |

| Basic Financial calculations | ☑ |
|---|---|
| Revenue = Sales x price<br><br>Total costs = total fixed costs + total variable costs<br><br>Profit = Revenue – Total costs<br><br>If this is a negative figure it will be defined as a 'loss'. | |

| Evaluation | | ☑ |
|---|---|---|
| Benefits | • Help businesses to raise finance<br>• Organise resources<br>• Motivate employees | |
| Drawbacks | • Uncertainty<br>• Lack of experience<br>• Opportunity cost<br>• Too optimistic | |

| Basic financial terms | | ☑ |
|---|---|---|
| Variable costs | Costs that vary with output | |
| Fixed costs | Costs that do not change when a business changes their output | |
| Total costs | Fixed costs plus variable costs | |
| Revenue | The income a business receives from selling goods and services. | |
| Profit | The difference between revenue and costs over a period of time. | |

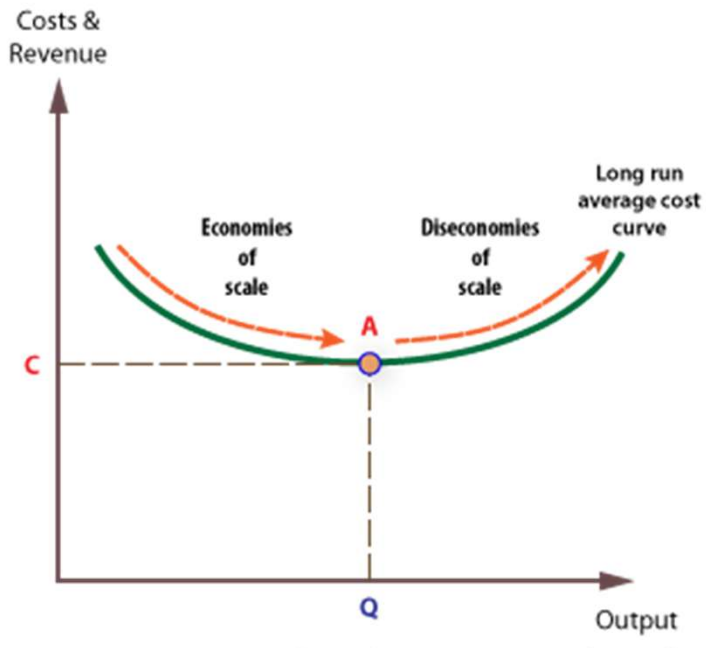
| The main sections within a business plan | ☑ |
|---|---|
| Most business plans include the following sections: | |
| 1. Personal details | |
| 2. Mission Statement | |
| 3. Objectives | |
| 4. Product Description | |
| 5. Production Details | |
| 6. Staffing requirements | |
| 7. Finance | |

| 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 | | ✓ |
|---|---|---|
| **Organic growth:** | **External Growth:** | |
| E-commerce | Merger | |
| Opening new stores | Take over | |
| Outsourcing | | |
| Franchising | | |

| Benefits and drawbacks of expansion | | ✓ |
|---|---|---|
| Benefits: | Drawbacks: | |
| Economies of scale | Risk of diseconomies of scale | |
| Greater market power | Slower decision making | |
| Reduced risk of takeover | Demotivated staff | |
| Image | Expensive | |

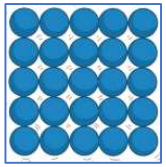
| Economies and Diseconomies of scale | | ✓ |
|---|---|---|
| Economies of scale: | Diseconomies of scale: | |
| As output increases average unit cost falls | Average unit cost increases as output increases | |
| **Types:**<br>Purchasing<br>Technical<br>Managerial | **Causes:**<br>Poor communication<br>Poor coordination<br>Poor control | |



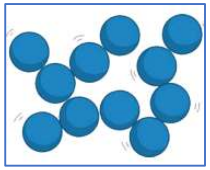
## Chapter 2 – Bonding, Structure and Properties of Matter

| Keyword | Learn | ✓ |
|---|---|---|
| Allotrope | Different physical forms in which an element can exist. Graphite, charcoal, and diamond are all allotropes of carbon | |
| Covalent bond | Sharing of pairs of electrons between two non-metal atoms, giving each a full outer shell of electrons | |
| Electrostatic forces | Forces of attraction between oppositely charged particles. | |
| Giant Ionic Lattice | A regular 3-D arrangement of alternating positive and negative ions held together by strong electrostatic forces of attraction | |
| Intermolecular forces | Forces which exist between covalently bonded molecules. The strength of the intermolecular forces impact physical properties like boiling/melting point. | |
| Ion | An atom or molecule with an electric charge due to the loss or gain of electrons. | |
| Ionic bond | Strong electrostatic force of attraction between oppositely charged ions. | |
| Ionic compound | Chemical compound formed of ions arranged in a giant lattice, held together by strong electrostatic forces. | |
| Metallic bond: | Strong electrostatic force of attraction between positive metal ions and delocalized negatively charged electrons. | |

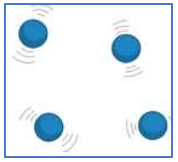
**States of Matter** – you must be able to represent as particle diagrams



Particles hold a regular arrangement and vibrate in fixed positions – have the least amount of energy. Solids are not compressible.



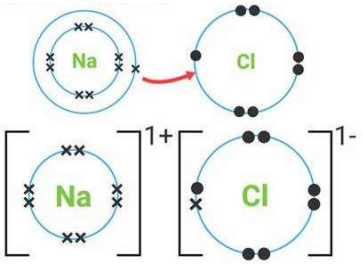
Particles are arranged randomly, close together and are able to move past each other. Liquids are not compressible.



Particles are relatively spread out, move randomly in all directions and have most energy. Gases are compressible.

**Giant Ionic Lattices** – you must be able to draw electron transfer diagrams to represent the formation of ionic bonds

A metal atom loses electron(s) to form a positively charged ion and a non-metal gains these electron(s) to form a negatively charged ion.



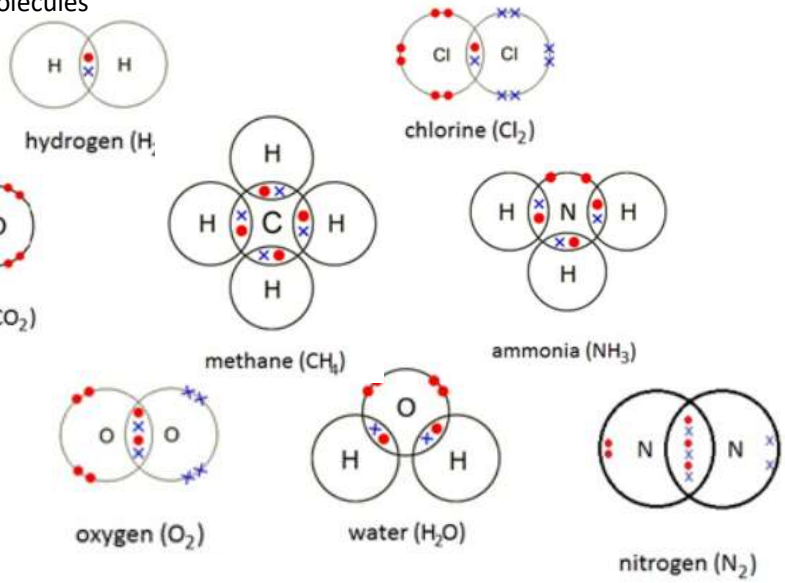

Forms a 3-D structure – a giant ionic lattice
e.g. sodium chloride




**Properties**

- High melting and boiling points as a lot of energy is needed to overcome the strong electrostatic attraction between positive and negative ions
- Conduct electricity only when molten or dissolved in water because the ions are free to move and carry charge. Ions are not free to move in solid ionic substances.

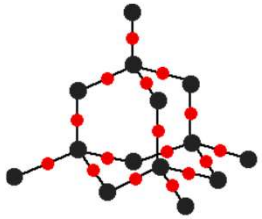
**Simple Covalent Molecules** - you must be able to draw dot and cross diagrams to represent these molecules




**Properties**

- Low melting and boiling points – due to weak intermolecular forces that require little energy to overcome
- Do not conduct electricity – contain no charged particles that are free to move

## Giant Covalent Structures – you must be able to recognise these diagrams



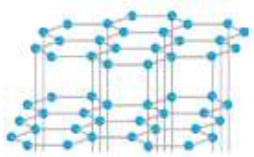
**Silicon dioxide (silica), Formula $SiO_2$**

- High melting and boiling point. Many strong covalent bonds between Si and O atoms require large amount of energy to break
- Does not conduct electricity. No charged particles free to move through structure and carry charge

**Allotropes of Carbon**

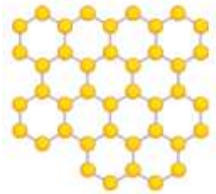
**1. Diamond, Formula C**

- High melting and boiling point. Hard. Each C atom bonded to 4 others in tetrahedral shape. Many strong covalent bonds between atoms require large amount of energy to break
- Does not conduct electricity. No charged particles free to move through structure and carry charge



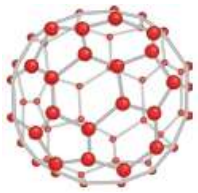
**2. Graphite, Formula C**

- High melting and boiling point. Each C atom bonded to 3 others in hexagonal shape. Many strong covalent bonds between atoms require large amount of energy to break
- Soft. Weak forces of attraction between layers easily broken
- Good electrical conductor. Delocalised electrons free to move through structure and carry charge



**3. Graphene, Formula C**

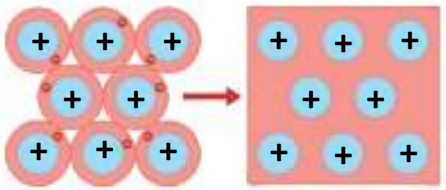
- Single layer of carbon atoms arranged as in graphite.
- Melting and boiling point as for graphite
- Conductivity as for graphite
- Forms strong, flexible sheets which are transparent



**4. Fullerenes and Nanotubes, Formula $C_n$**

- Macromolecules, e.g. Buckminsterfullerene $C_{60}$, with carbon atoms bonded in hexagons & pentagons
- Open cage structures useful in drug delivery systems
- Spherical molecules can roll so useful as lubricants
- Long tube structures form strong lightweight carbon fibres with good electrical conductivity

## Giant Metallic Structures



Giant Metallic Structure = layers of positive metal ions surrounded by a sea of delocalised electrons

- High melting and boiling points. Strong attraction between positive ions and negative delocalised electrons
- Good electrical conductors. Delocalised electrons are free to move through the structure and carry charge.
- Malleable and ductile. Layers of ions can slide over each other

## Alloys

Alloy = mixture of a metal with one or more other metals or non-metals

- Can be designed with specific improved properties, e.g. corrosion resistance (stainless steel) or hardness (tungsten steel)
- In an alloy, there are atoms of different sizes. The smaller or bigger atoms distort the layers of atoms.
- The layers do not slide over each other as easily so alloys are usually harder and stronger than the pure metal.

## Polymers

Polymer = Large long-chain molecule made up of lots of small molecules (monomers) joined together by covalent bonds.

**Thermosoftening Polymers**

- Easy to recycle as they soften and melt when heated – can be remoulded
- Polymer chains held together by weak intermolecular forces of attraction – require little energy to overcome

**Thermosetting Polymers**

- Suitable for saucepan handles as they do not soften and melt when heated
- Polymer chains held together by strong covalent bonds (crosslinks) so require lots of energy to break

## Nanoparticles

Nanoparticle = Particle between 1 and 100 nanometres in size

- Usually contain only a **few hundred atoms**
- High **surface area** to **volume** ratio gives properties different from those for the same materials in bulk so smaller quantities are needed

| Name of Particle | Diameter |
|---|---|
| nanoparticle | 1–100nm |
| fine particles ($PM_{25}$) | 100–2500nm |
| coarse particles ($PM_{10}$) | 2500–10000nm |

- As particle size decreases, surface area **increases** in relation to volume
- e.g. As the side of a cube decreases by a factor of 10, the surface area to volume ratio increases by a factor of 10

## String Manipulation ✓

phrase = “Computer Science”

| | Code | Value |
|---|---|---|
| **Python** | `len(phrase)` | 16 |
| **OCR Ref.** | `phrase.length` | |

| | Code | Value |
|---|---|---|
| **Python** | `phrase[3:8]` | “puter” |
| **OCR Ref.** | `phrase.substring(3,5)` | |

| | Code | Value |
|---|---|---|
| **Python** | `phrase.upper()` | “COMPUTER SCIENCE” |
| **OCR Ref.** | `phrase.upper` | |

| | Code | Value |
|---|---|---|
| **Python** | `phrase.lower()` | “computer science” |
| **OCR Ref.** | `phrase.lower` | |

| | Code | Value |
|---|---|---|
| **Python** | `ord("A")` | 65 |
| **OCR Ref.** | `ASCII(“A")` | |

| | Code | Value |
|---|---|---|
| **Python** | `chr(65)` | “A" |
| **OCR Ref.** | `CHR(65)` | |

## File Handling

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

How to practise at home?

- Code online using: https://vscodeedu.com/
- Online tutorial 1: https://www.w3schools.com/python/
- Online tutorial 2: https://time2code.today/python-course

# GCSE Design Technology: CORE 1.09 Papers and boards

**Papers**

| Tick | Type | Uses | Properties |
|---|---|---|---|
| | Copier paper | • Writing<br>• Printing | • Takes colour well<br>• Available in different colours |
| | Cartridge paper | • Drawing<br>• Art sketch books | • Accepts most types of drawing media<br>• Opaque |
| | Tracing paper | • Art<br>• Envelope windows | • Strong<br>• Translucent |

**Boards**

| Tick | Type | Uses | Properties |
|---|---|---|---|
| | Folding boxboard | • Cereal boxes<br>• Food packaging | • Excellent for scoring<br>• Accepts print well |
| | Corrugated board | • Protective packaging | • Impact resistant<br>• Lightweight |
| | Solid white board | • Book covers<br>• Cosmetic + medicinal packaging | • Strong<br>• Rigid |

# GCSE Design Technology: CORE 1.10 Polymers

| Tick | Thermoforming polymer | Properties | Uses |
|---|---|---|---|
| | Acrylic | • Brittle<br>• Easily cleaned | • Car headlights<br>• Baths |
| | HIPS (High Impact Polystyrene) | • High stiffness<br>• Tough | • Toys<br>• TV parts |
| | Biopol | • Degrades in soil<br>• Lightweight | • Disposable cups, razors and cutlery<br>• Packaging |

| Tick | Thermosetting polymer | Properties | Uses |
|---|---|---|---|
| | Polyester resin | • Rigid<br>• Brittle | • Boat hulls<br>• Sports car bodies |
| | Urea formaldehyde | • Hard<br>• Excellent electrical insulation | • Plugs, sockets, light switches (electrical fittings) |

| Tick | Natural fibres | Properties | Uses |
|---|---|---|---|
| | Wool | • Warm<br>• Can feel itchy | • Coats<br>• Jumpers<br>• Blankets |
| | Cotton | • Cool<br>• Resists abrasion | • Towels<br>• Bedding<br>• T-shirts |

| Tick | Woven textile | Properties | Uses |
|---|---|---|---|
| | Plain weave (calico) | • Strong<br>• Prints well | • Shirts<br>• Bags<br>• Beddings |
| | Twill weave (denim) | • Strong<br>• Less stiff | • Jeans<br>• Jackets<br>• Furnishings |

| Tick | Knit type | Properties | Uses |
|---|---|---|---|
| | Warp knit | • Fairly stretchy<br>• Doesn't unravel | • Geotextiles<br>• Lace<br>• Fleece |
| | Weft knit | • Stretchy<br>• Comfortable | • T-shirts<br>• Jumpers<br>• Socks |

| Tick | Synthetic fibres | Properties | Uses |
|---|---|---|---|
| | Polyester | • Dries quickly<br>• Crease resistant | • Raincoats<br>• Nightwear<br>• Medical textiles |
| | Acrylic | • Dries quickly<br>• Durable | • Imitation wool and knitwear<br>• Blankets |

| Tick | Non-woven textile | Properties | Uses |
|---|---|---|---|
| | Felted wool | • Resistant to chemicals<br>• Doesn't fray | • Pool table surface<br>• Hats |
| | Bonded fibres | • Doesn't fray<br>• Not very strong | • Wet wipes<br>• Disposable overalls |

| Tick | Facts | |
|---|---|---|
| | Natural fibres | • Comes from plants and animals |
| | Synthetic fibres | • Are manmade, made from oil |
| | Woven textiles | • Are formed by weaving threads |
| | Non-woven textiles | • Are formed by using glue, heat and pressure to combine fibres |
| | Warp knit | • Are interlocking yarns – vertically |
| | Weft knit | • Are interlocking yarns - horizontally |

| Themes | Poems | ✓ |
|---|---|---|
| Power of humans | Charge of the Light Brigade, War Photographer, Kamikaze, Emigree, Ozymandias, Storm on the Island, London, My Last Duchess, Tissue | |
| Power of nature | Bayonet Charge, Exposure, Kamikaze, Ozymandias, Prelude, Storm on the Island, Tissue | |
| Negative emotions | Bayonet Charge, Exposure, Remains, War Photographer, Poppies, Prelude, London, Checking Out Me History | |
| Loss and absence | Exposure, Charge of the Light Brigade, Remains, Poppies, Kamikaze, Emigree, My Last Duchess | |
| Effects of conflict | Bayonet Charge, Exposure, Charge of the Light Brigade, Remains, War Photographer, Poppies, Kamikaze, Emigree, Storm on the Island | |
| Memory | Charge of the Light Brigade, Remains, Poppies, Kamikaze, Emigree, Ozymandias, Prelude, My Last Duchess, Checking Out Me History | |
| Internal conflict | War Photographer, Kamikaze, Emigree, Checking Out Me History, Remains, Poppies, Bayonet Charge, London | |
| Identity | Remains, Kamikaze, Emigree, Checking Out Me History, Tissue | |
| Individual experiences | Bayonet Charge, Exposure, Remains, War Photographer, Poppies, Kamikaze, Emigree, Ozymandias, Prelude, London, My Last Duchess, Checking Out Me History | |
| Reality of conflict | Bayonet Charge, Exposure, Charge of the Light Brigade, Remains, War Photographer, Poppies, Emigree, | |

| Assessment objectives | ✓ |
|---|---|
| **AO1:**<br>• make meaningful comparisons between two poems<br>• Be able to use quotations to support your ideas. | |
| **AO2:**<br>• use subject terminology & analyse the effect of the writer's techniques | |
| **AO3:**<br>• demonstrate knowledge of context and compare contexts between two poems | |

| Poetic Device | Definition | ✓ |
|---|---|---|
| Enjambment | No punctuation at the end of a line of poetry. | |
| Caesura | A pause in a line of poetry. | |
| Sibilance | Alliteration beginning with S. | |
| Plosive alliteration | Alliteration beginning with p, b or d. | |
| Juxtaposition | A contrast between two things. | |
| Personification | Alliteration beginning with p, b or d. | |
| Hyperbole | Exaggerated language. | |

| Glossary 1 | | ✓ |
|---|---|---|
| Term | Definition | |
| Convention | How something is usually done. | |
| Red Herring | A misleading clue. | |
| Metropolis | Large/ busy city. | |
| Pitiable | Poor/ small. | |
| Dog-cart | Large four wheeled carriage. | |
| Defray | Provide money to pay. | |
| Manifold | Many and various. | |
| Dissolute | Overindulging in pleasures. | |
| Squire | A man of high social standing. | |
| Morose | Sullen/ ill-tempered. | |
| Bequeathed | Leave something to someone. | |
| Delirium | Disturbed state of mind. | |
| Livid | Furiously angry. | |
| Zest | Great enthusiasm and energy. | |
| Masonry | Stonework. | |
| Tangible | Something you can touch. | |
| Vigil | Being awake when usually asleep. | |
| Circumlocution | Using too many words unnecessarily. | |

| Glossary 2 | | ✓ |
|---|---|---|
| Term | Definition | |
| Syntax | Arrangement of words. | |
| Postnatal | The time after childbirth. | |
| Bioterrorism | Using chemical substances as weapons. | |
| Parody | A funny, exaggerated imitation. | |
| Hearken | Listen. | |
| Dissimulation | Concealing our thoughts/ feelings. | |
| Sagacity | Being wise. | |
| Audacity | Taking bold risks. | |
| Trifles | Something unimportant. | |
| Felicity | Intense happiness. | |
| Congenial | Pleasing to one's tastes. | |
| Arbors | Like a pergola, a frame. | |
| Satire | Style of writing where human foolishness is mocked. . | |
| Scrutinising | Examine/ inspect closely. | |
| Chiefly | Mainly. | |
| Pestilence | A fatal epidemic disease. | |
| Exaltation | A feeling of extreme happiness. | |

| Context | Description | ✓ |
|---|---|---|
| Arthur Conan Doyle | A British writer and doctor who created the character of Sherlock Holmes. He wrote four novels and fifty-six short stories about Holmes and Dr Watson. | |
| Mystery genre | Population and therefore crime rises meant the public were interested in how the police solved crimes. | |
| Victorian Gentleman | Appeared respectable and orderly in society. Sherlock Holmes was an example of what people aspired to. | |
| Science | Technology was advancing, eg. Fingerprinting techniques. These featured more in literature. | |
| Edgar Alan Poe | Suffered from depression and substance misuse. His work captures the darker parts of his personality. | |
| Penny Dreadfuls | Little books that were cheap to buy and very popular for their stories that involved blood and gore, as well as scandals. | |
| Mental illness | People feared mental illness as a threat to public safety, so asylums were opened to contain these people. | |
| Women's rights | Women were expected to follow their husband's opinions, and only earned the right to vote fully in 1928. | |
| Charlotte Perkins Gilman | Suffered with postnatal depression and didn't receive good treatment (like many women at the time). She was an advocate for women's social reform. | |
| Bioterrorism | Because of the advances in Science, people were afraid of the possibility of using biochemical weapons for terrorism purposes. | |
| Religion | The Victorians were deeply religious and feared new scientific advancements as an opposition to their beliefs. | |
| H.G. Wells | A pioneer in the science genre, he was heavily respected as a writer because his work was stimulating. | |

## Food labelling – mandatory information

**Name of food:** must be accurate and not misleading
**List of ingredients:** listed in descending weight order
**Allergen information:** clearly emphasized e.g. bold or underlined
**Quantitative ingredient declaration:** ingredients which are highlighted in the name or image, must have their percentage declared
**Net quantity:** stated in grams, kilograms, milliliters or litres
**Durability date:** either use-by or best-before
**Storage instructions**
**Instructions for use**
**Name and address of food business**
**Country of origin**
**Alcoholic strength:** for drinks over 1.2% ABV

## Nutrition and health claims

Claims on a food or drink should have been authorised and listed on the European register of claims and have met certain conditions.

## Nutrition claims

A nutrition claim describes what a food **contains** (or does **not contain**) or contains in **reduced or increased amounts**.
Examples include:
· Low fat (less than 3g of fat per 100g of food);
· High fibre (at least 6g of fibre per 100g of food);
· Source of vitamin C (at least 15% of the nutrient reference value for vitamin C per 100g of food).

## Health claims

A health claim **states or suggests** there is a relationship **between** a product and health.
In order to make a claim, the amount present of the nutrient, substance or food must fulfil the specific conditions of use of the claim.
The types of health claims are:
· 'Function Health Claims';
· 'Risk Reduction Claims';
· Claims referring to children's development'.

## Methods of thickening

**Starch gelatinisation:** starch granules absorb liquid and swell when heated, thickening sauces e.g. roux-based sauces, custard
**Reduction**: Evaporating liquid by simmering concentrates flavours and thickens the mixture
**Protein coagulation**: Proteins set when heated, thickening mixtures like custard or egg-based sauces
**Emulsification**: combining fat and water with an emulsifier can create a thicker, stable texture e.g. mayonnaise
**Gelling agents**: gelatine or agar form gels that modify texture

## Emulsification

- Emulsification is the process of **mixing two liquids** that normally do not combine, such as oil and water.
- An emulsion is a mixture of two **immiscible** liquids where one is dispersed in the other.
- The role of emulsifiers is to help **stabilise** emulsions by reducing the surface tension between the two liquids.
- Egg yolk contains **lecithin** which is a natural emulsifier.
- Examples in food are: mayonnaise, hollandaise sauce, salad dressings and ice cream.

Bournemouth School – Knowledge Organiser – Year 9

FPAN

A l'horizon

Year 9 French Half-term 3

| travailler | to work |
|---|---|
| Je travaille | I work |
| Tu travailles | You work |
| Il/Elle travaille | He/She works |
| Nous travaillons | We work |
| Vous travaillez | You all work |
| Ils/Elles travaillent | They work |

| vouloir | to want (to) |
|---|---|
| Je veux | I want |
| Tu veux | You want |
| Il/Elle veut | He/She wants |
| Nous voulons | We want |
| Vous voulez | You all want |
| Ils/Elles veulent | They want |

| devoir | to have to |
|---|---|
| Je dois | I have to |
| Tu dois | You have to |
| Il/Elle doit | He/She has to |
| Nous devons | We have to |
| Vous devez | You all have to |
| Ils/Elles doivent | They have to |

| pouvoir | to be able to/can |
|---|---|
| Je peux | I can |
| Tu peux | You can |
| Il/Elle peut | He/She can |
| Nous pouvons | We can |
| Vous pouvez | You all can |
| Ils/Elles peuvent | They can |

Vouloir, devoir and pouvoir are modal verbs. Modal verbs are followed by an infinitive
eg je veux être, on veut travailler

## The simple future:

**It is used to describe what will happen in the future "I will work". To form it, use future stem plus appropriate ending.**
**e.g je travaillerai – *I will work*.**
**For –er and –ir verbs, the future stem is the infinitive. For –re verbs, drop the –e from the infinitive.**
**e.g. vendre -> Je vendrai – *I will sell***

| Simple future Infinitive + Verb endings | | For example |
|---|---|---|
| Je | -ai | Je travaillerai |
| Tu | -as | Tu travailleras |
| Il/Elle/On | -a | Il/Elle/On travaillera |
| Nous | -ons | Nous travaillerons |
| Vous | -ez | Vous travaillerez |
| Ils/Elles | -ont | Ils/Elles travailleront |

| Simple future verb forms for irregular verbs | |
|---|---|
| Irregular future stems + same endings | |
| avoir | aur- |
| être | ser- |
| aller | ir- |
| faire | fer- |
| vouloir | voudr- |
| pouvoir | pourr |
| devoir | devr- |

| avoir | to have |
|---|---|
| J'ai | I have |
| Tu as | You have |
| Il/Elle a | He/she has |
| Nous avons | We have |
| Vous avez | You all have |
| Ils/Elles ont | They have |

| être | to be |
|---|---|
| Je suis | I am |
| Tu es | You are |
| Il/Elle est | He/She is |
| Nous sommes | We are |
| Vous êtes | You all are |
| Ils/Elles sont | They are |

***To form the past tense (passé compose):***
***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***

***There are lots of irregular past participles!***

| aller | to go |
|---|---|
| Je vais | I go |
| Tu vas | You go |
| Il/Elle va | He/She goes |
| Nous allons | We go |
| Vous allez | You all go |
| Ils/Elles vont | They go |

| faire | to do |
|---|---|
| Je fais | I do |
| Tu fais | You do |
| Il/Elle fait | He/She does |
| Nous faisons | We do |
| Vous faites | You do |
| Ils/Elles font | They do |

| Mots utiles | Useful words |
|---|---|
| car | because |
| comme | as |
| lorsque | when |
| par contre | on the other hand |
| par exemple | for example |
| puisque | since/as |
| si | if |
| même si | even though |
| vu que | seeing that |
| étant donné que | given that |
| cependant | however |
| surtout | especially |

A l'horizon

Year 9 French Half-term 3

| Les emplois - Jobs | | |
|---|---|---|
| Qu'est ce que tu veux faire plus tard ? | What do you want to do later? | |
| je veux être | I want to be | |
| avocat | lawyer | |
| boulanger | baker | |
| caissier | cashier | |
| chanteur/chanteuse | singer | |
| coiffeur | hairdresser | |
| comptable | accountant | |
| diplomate | diplomat | |
| directeur/directrice de magasin | store manager | |
| fermier | farmer | |
| infirmier/infirmière | nurse | |
| ingénieur | engineer | |
| ouvrier | factory worker | |
| médecin | doctor (GP) | |
| professeur | teacher | |
| vendeur | shop assistant | |
| vétérinaire | vet | |

| Verbes utiles – Useful verbs | | |
|---|---|---|
| acheter | to buy | |
| aimer le contact avec les gens/les autres | to like the contact with people/others | |
| discuter | to discuss | |
| rencontrer | to meet | |
| respecter | to respect | |
| rigoler | to laugh | |
| travailler | to work | |
| vendre | to sell | |
| voir | to see | |
| voyager | to travel | |

| Le travail – Work | | |
|---|---|---|
| le métier | job/profession | |
| la profession | profession | |
| un stage | training course/ work placement | |
| un poste | post/job | |
| un candidat | candidate | |
| créatif/créative | creative | |
| varié(e) | varied | |
| le boulot | job (informal) | |
| l'emploi | job (more formal) | |

| A l'avenir – in the future | | |
|---|---|---|
| Je quitterai le collège | I will leave school | |
| Je ferai un apprentissage | I will do an apprenticeship | |
| Je ferai le tour du monde | I will go around the world | |
| Je travaillerai | I will work | |
| Je tomberai amoureux de quelqu'un | I will fall in love with someone | |
| J'habiterai | I will live | |
| J'aurai une Ferrari | I will have a Ferrari | |
| Je serai | I will be | |
| Je voyagerai | I will travel | |

| Questions importantes – Important questions | | |
|---|---|---|
| Qu'est-ce que tu fais dans la vie? | What do you do for a living? | |
| Que feras-tu à l'avenir? | What will you do in the future? | |
| Quelles langues parles-tu ? | Which languages do your speak? | |
| Comment tu trouves les langues? | How do you find languages? | |

| l'importance des langues – the importance of languages | | |
|---|---|---|
| C'est un avantage | It's an advantage | |
| C'est essentiel | It's essential | |
| C'est un plus | It a plus/bonus | |

| Les opinions -Opinions | | |
|---|---|---|
| C'est mon rêve | It's my dream | |
| Ce sera utile | It will be useful | |
| Ce serait bien | It would be good | |
| Ce serait ennuyeux | It would be boring | |
| Pourquoi pas ? | Why not? | |
| Tu rigoles ? | Are you joking? | |
| Ça ne m'intéresse pas | It doesn't interest me. | |
| Ce n'est pas mon truc. | It's not my thing. | |

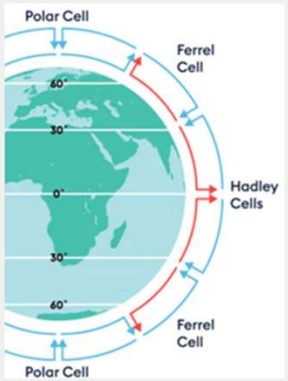
| Picture description | | |
|---|---|---|
| Sur la photo | On the photo | |
| Je peux voir | I can see | |
| On peut voir | We/you can see | |
| Il y a | There is/are | |
| De plus je peux voir | Also I can see | |
| À gauche | On the left | |
| À droite | On the right | |
| Au centre | In the centre | |
| À l'arrière plan | In the background | |
| Au premier plan | In the foreground | |
| Il est en train de … | He is in the middle of | |
| Ils sont en train de … | They are in the middle of | |

# Hazardous Earth



## 1. How does the worlds climate system function?

- The atmosphere is constantly moving - transferring heat around the earth in a **global circulation**




## 2. Global Circulation

- The **Inter-Tropical Convergence Zone** (ITCZ) occurs near the Equator.
- The Sun's radiation is most intense at the Equator causing warm tropical air to rise rapidly creating an area of low pressure that brings **heavy rainfall**.
- As the rising air moves away from Equator it loses its moisture and density, descending to form **arid** regions.
- The ITCZ brings **wet** and **dry** Seasons.

## 3. What are the natural causes of climate change?

- **Eruption theory** – eruptions produce ash that rise into the stratosphere, reflecting some sunlight back into space cooling the planet.
- **Asteroid collision theory** – asteroids hit Earth sending tonnes of ash and dust into the atmosphere, blocking sunlight, and cooling the climate.
- **Sunspot theory** – lots of sunspots means more solar energy warming the planet.
- **Orbital change theory** – the Earth's orbit is sometimes different, it can tilt, wobble or become more oval.

## 4. Evidence for Past Climates?

Ice cores, tree rings and historical sources tell us past climates.

- **Ice cores** – air bubbles contain $CO_2$ that tell us there have been previous warm and cold periods.
- **Tree rings** – each ring in a tree shows a year's growth. In warmer and wetter years, a tree grows more.
- **Historical sources** – historical drawings, diaries or newspapers are more recent evidence.

## 5. What is the Greenhouse effect?

The **enhanced greenhouse effect** is the way that human activities (industry, transport, energy, farming) produce **greenhouse gases** (**carbon dioxide, methane**) that trap heat from the sun and warm the planet. High-income and middle-income countries emit more carbon dioxide than low-income countries.

## 6. What are the impacts of Climate Change today?

- There has been a near 1°C rise in average temperature since the early 1900s.
- Sea levels have risen over 200mm (**thermal expansion**) in the same period. Thermal expansion is the increase in volume of sea water owing to heating.
- Arctic sea ice has halved in area since 1980.
- 90% of the world's valley glaciers are shrinking.

## 7. Climate futures...

Predicting future climate change is difficult because we don't know how populations and economies may grow, fossil fuel consumption versus renewable energy and people's lifestyle choices.

## 8. What are Tropical Cyclones?

A tropical cyclone:

- is a rotating system of clouds and storms
- forms over tropical waters (26.5°C)
- has winds which can exceed 118 km/h
- is known as a hurricane (Atlantic Ocean), typhoon (Pacific Ocean) and cyclone (Indian Ocean), and measured on different scales.
- Tropical cyclones form in **source regions** and need warm water, strong winds upwards and a strong **Coriolis force**

## 9. Cyclone hazards.

Tropical cyclones bring a range of hazards.

- **Strong winds** – bring down trees and power lines.
- **Storm surges** – bring flooding owing to the low pressure.
- **Intense rainfall** – large amounts of rainfall in a short period of time.
- **Landslides** – saturated hillsides can slump.

## 10. Bangladesh

Bangladesh is particularly vulnerable to cyclones. This is because much of its population is rural living on low-lying flood-prone farmland, it is a less developed country, and most its people are poor.
Bangladesh attempts to protect the population from tropical cyclones using a variety of methods, and although Bangladesh has reduced the number of deaths, warning systems are expensive and poverty meant that some people doesn't receive any warnings. In May 2009, Cyclone Aila killed 190 people and made 750,000 people homeless. Secondary impacts included crops being destroyed and farm animals killed. Sickness spread from contaminated water.

## 11.USA

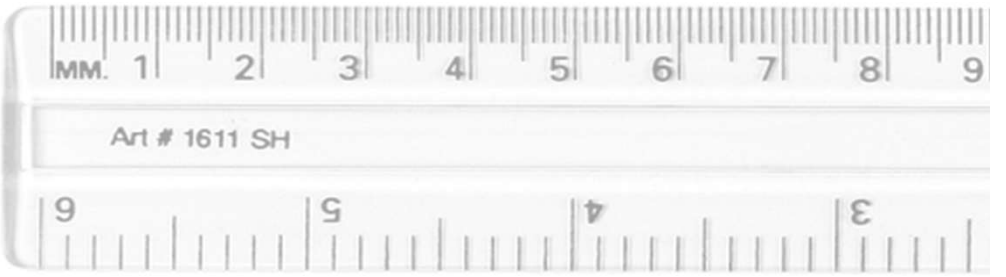
In 2005, Hurricane Katrina was the worst hurricane to hit the USA.

- Its **levees** (embankments) collapsed which flooded 80% of New Orleans.
- Faulty maintenance and design of the levees were partly to blame.
- **1,833** people died and it costed the economy **US$108 billion.**
- Most of New Orleans is **below sea-level** which is where many of the poor African-American suburbs are located.
- Many of the poor and elderly were left behind. **80%** of the city was evacuated and some residents sheltered in the Super Dome stadium.

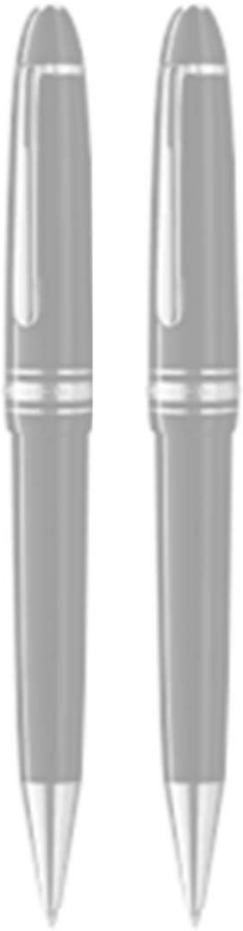
# Equipment

ID Card

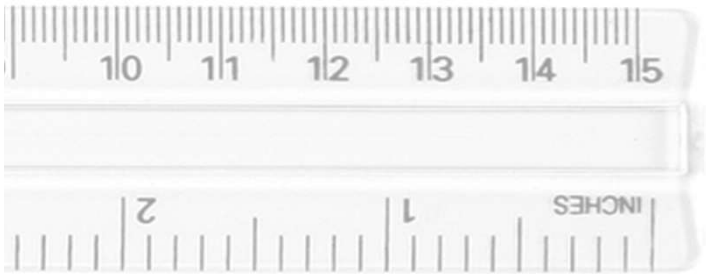


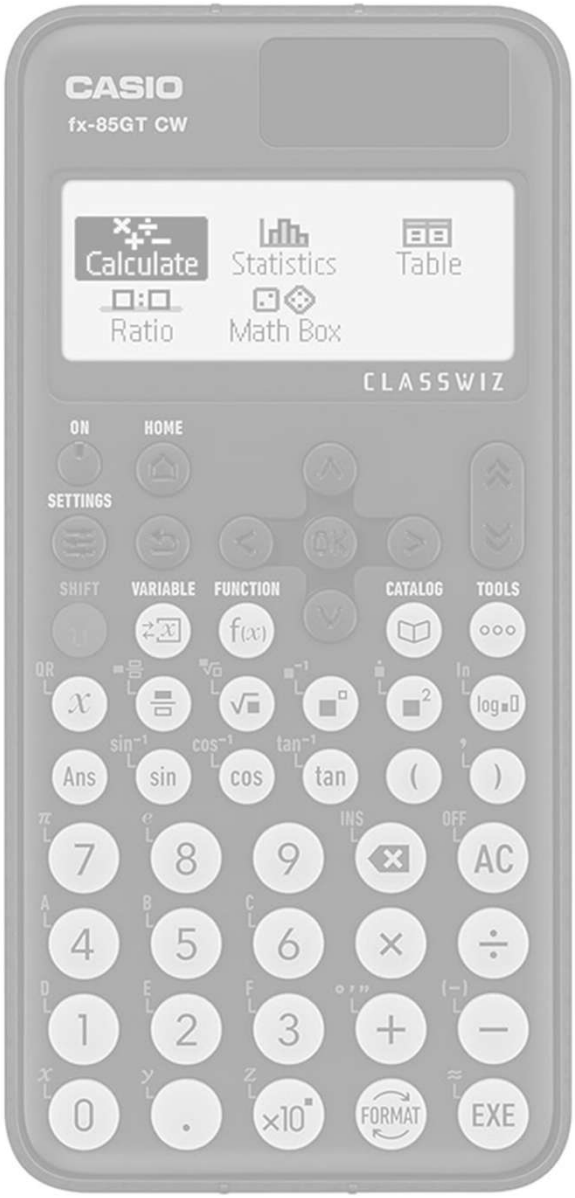



# Check



- ID card
- Green and purple pens
- Whiteboard pens
- Black/blue pens
- Glue stick
- Pencil
- Ruler
- Calculator

| Was isst du zum Frühstück? What do you eat for breakfast? | | |
|---|---|---|
| **Ich esse** | *I eat* | |
| **einen Joghurt** | *a yoghurt* | |
| **ein Brötchen mit Butter** | *a bread roll with butter* | |
| **und Marmelade** | and jam | |
| **kein Frühstück** | *no breakfast* | |
| **Toast mit …** | *toast with* | |
| **…. (die) Butter** | *butter* | |
| **…. (der) Käse** | *cheese* | |
| **…. (der) Schinken** | *ham* | |
| **…. (der) Speck** | *bacon* | |
| **das Obst** | *fruit* | |
| **das Ei/ Eier (pl)** | *egg/eggs* | |
| **Ich trinke….** | I drink | |
| **….eine heiße Schokolade** | hot chocolate | |
| **……einen Kaffee** | coffee | |
| **…..eine Tasse Tee** | a cup of tea | |
| **…….(der) Orangensaft** | orange juice | |
| **…..(die) Milch** | milk | |
| **Das ist (un)gesund** | That is (un)healthy | |
| **Das ist lecker/eklig** | That is delicious/ disgusting | |

| Time Phrases | | |
|---|---|---|
| **letztes Wochenende** | *last weekend* | |
| **letzte Woche** | *last week* | |
| **gestern** | *yesterday* | |
| **nächste Woche** | *next week* | |
| **nächsten Samstag** | *next Saturday* | |
| **morgen** | *tomorrow* | |

| Ein erstes Date – A first date | | |
|---|---|---|
| **Was wirst du machen?** | *What will you do?* | |
| **Ich werde** | *I will* | |
| **die Karten im Voraus kaufen** | *buy the tickets in advance* | |
| **einen guten Film auswählen** | choose a good film | |
| **früh ankommen** | *arrive early* | |
| **…….abholen** | *pick up* | |
| **etwas Schickes anziehen** | *wear something smart* | |
| **mit dem Bus in die Stadt fahren** | *go to town by bus* | |
| **ins Kino/essen gehen** | *go to the cinema/ out to eat* | |

| Gesund bleiben. Staying healthy. | | |
|---|---|---|
| **Man muss.....** | You must | |
| **….acht Stunden schlafen** | *sleep for eight hours* | |
| **….wenig Fett und Zucker essen** | *eat little fat and sugar* | |
| **….viel Obst und Gemüse essen** | *eat lots of fruit and vegetables* | |
| **….. mehr Wasser trinken** | *drink more water* | |
| **….früh ins Bett gehen** | *go to bed early* | |
| **…..drei Stunden trainieren** | *exercise/train for 3 hours* | |
| **…..zweimal pro Woche joggen** | *go jogging twice a week* | |

| Picture description | | |
|---|---|---|
| **Im Bild/Im Foto** | On the photo | |
| **Ich/Man kann … sehen** | I can see/You can see | |
| **Im Bild gibt es** | In the picture there is | |
| **Auf der linken/ rechten Seite** | On the left/on the right | |
| **Im Hintergrund (V2)** | In the background | |
| **Im Vordergrund (V2)** | In the foreground | |
| **Sie spielen, essen , tragen** | They are playing, eating, wearing | |

**USE PRESENT TENSE TO SAY WHAT PEOPLE ARE DOING – "NO IS-ING" "AM-ING" OR "ARE-ING"**

| High frequency words | | |
|---|---|---|
| **wenn** | *when (if)* | |
| **immer** | *always* | |
| **zum Beispiel** | *for example* | |
| **zuerst** | *first of all* | |
| **seit** | *since (for)* | |
| **für** | *for* | |
| **möglich** | *possible* | |
| **alle** | *all* | |
| **teuer** | *expensive* | |

| Connectives | | |
|---|---|---|
| **und** | *and* | |
| **aber** | *but* | |
| **auch** | *also* | |
| **denn** | *because* | |
| **oder** | *or* | |
| **weil (VTE)** | *because* | |

| müssen - to have to | | |
|---|---|---|
| **ich muss** | I have to | |
| **du musst** | you have to | |
| **er/sie/es muss** | he/she/it has to | |
| **wir müssen** | we have to | |
| **ihr müsst** | you all have to | |
| **Sie/sie müssen** | you (form)/ they have to | |

**müssen is a modal verb and needs an infinitive at the end e.g. Ich muss …….gehen**
**I have to go**

| nehmen – to take (strong) | | |
|---|---|---|
| **ich nehme** | I take | |
| **du nimmst** | you take | |
| **er/sie nimmt** | he/she takes | |
| **wir nehmen** | we take | |
| **ihr nehmt** | you take | |
| **Sie/sie nehmen** | you(form)/they take | |

| haben - to have | | |
|---|---|---|
| **ich habe** | I have | |
| **du hast** | you have | |
| **er/sie/es hat** | he/she/it has | |
| **wir haben** | we have | |
| **ihr habt** | you all have | |
| **sie haben** | they have | |

| sein - to be | | |
|---|---|---|
| **ich bin** | I am | |
| **du bist** | you are | |
| **er/sie/es ist** | he/she/it is | |
| **wir sind** | we are | |
| **ihr seid** | you all are | |
| **sie sind** | they are | |

| essen – to eat (strong) | | |
|---|---|---|
| **ich esse** | I eat | |
| **du isst** | you eat | |
| **er/sie isst** | he/she eats | |
| **wir essen** | we eat | |
| **ihr esst** | you eat | |
| **sie essen** | they eat | |

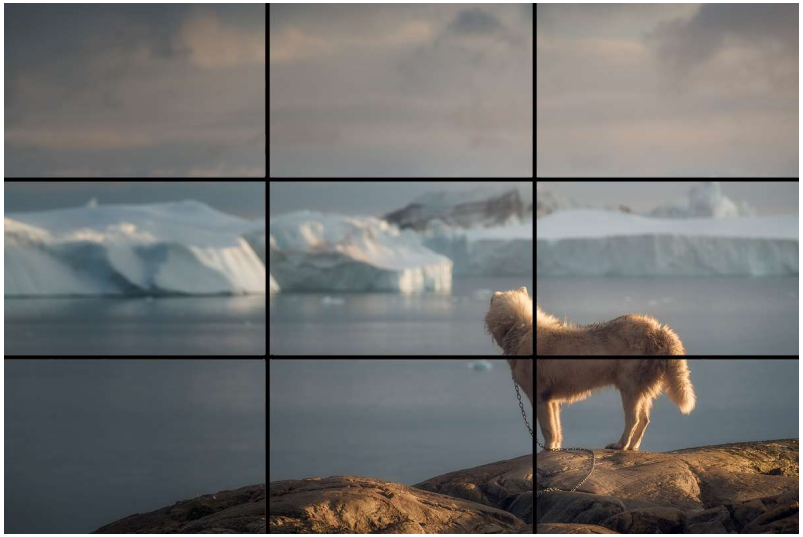
| Meinungen - opinions | | |
|---|---|---|
| **Meiner Meinung nach (V2)** | In my opinion | |
| **Es ist/war …….** | It is/was ……. | |
| **Ich finde/fand** | I find/found | |
| **Ich denke/dachte** | I think/thought | |
| **Ich glaube/ glaubte** | I believe/believed | |
| **Es macht Spaß** | It is fun | |
| **Es hat Spaß gemacht** | It was fun | |

| The future tense is formed by using the correct part of "werden" with an infinitive at the end. | | |
|---|---|---|
| **ich werde ……..gehen** | I will go | |
| **du wirst ……..gehen** | you will go | |
| **er/sie/es wird …..gehen** | he/she/it will go | |
| **wir werden …..gehen** | we will go | |
| **ihr werdet ……..gehen** | you (pl) will go | |
| **Sie/sie werden …..gehen** | you (formal)/they will go | |

**NB The future tense translates to I will go or I am going to go**

| 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) | | |
|---|---|---|
| **Ich habe/er, sie hat/wir haben**<br><br>**gespielt/gelernt/ gemacht/gekauft/getanzt**<br>some past participles are irregular<br>**getragen/ gesehen/gelesen** | I/he, she/we<br><br>played/learnt/ did/bought/danced<br><br>wore/saw/read | |
| **Ich bin/er, sie ist/wir sind:**<br>some past participles are irregular<br>**gefahren/gegangen/ geschwommen/geblieben** | I/he, she/we<br><br>travelled/went/ swam/stayed | |

| The imperfect tense is sometimes used to talk about the past. It is usually used for formal situations. Three key verbs are most of the time used in the imperfect to DESCRIBE things in the past | | |
|---|---|---|
| **Es war**<br>**Ich war** | It was<br>I was | |
| **Es hatte**<br>**Ich hatte** | It had<br>I had | |
| **Es gab** | There was | |
| **Es war spitze/klasse! – it was amazing**<br>**Die Stadt hatte ein modernes Kino – the town had a modern cinema**<br>**Es gab keine Schlange– there was no queue** | | |



| Keyword | Definition | tick |
|---|---|---|
| **The rule of thirds** | This is a guideline that places the subject in the left or right third of an image, leaving the other two thirds more open. It divides a photo into nine equal parts, split by two equally spaced horizontal and vertical lines. | |

| Left Align | Center Align | Right Align |
|---|---|---|
| Lorem Ipsum is simply dummy text of the printing and typesetting industry. Lorem Ipsum has been the industry's standard dummy text ever since the 1500s, when an unknown printer took a galley of type and scrambled it to make a type specimen book. | It has survived not only five centuries, but also the leap into electronic typesetting, remaining essentially unchanged. It was popularised in the 1960s with the release of Letraset sheets containing Lorem Ipsum passages, and more recently with desktop publishing software. | There are many variations of passages of Lorem Ipsum available, but the majority have suffered alteration in some form, by injected humour, or words which don't look believable. If you are going to use a passage of Lorem Ipsum, be sure there isn't anything hidden in the text. |

# Design terms:

| Keyword | Definition | Tick |
|---|---|---|
| **Negative space** | Negative space is a term used to describe the space surrounding a subject. It is typically empty and lacks details to simplify a design and provides breathing space which avoids over complicating visuals. Sometimes, it is used to show a hidden image too. | |
| **Hierarchy** | Hierarchy in graphic design utilizes several key principles, including size, colour, contrast, alignment, repetition, and brightness, to emphasize certain characteristics of the design. It controls those factors to show importance within the design. | |
| **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. | |
| **Colour palette** | A chosen set of colours to be used in a design. These colours are relevant to the subject theme and appear visually pleasing when used together. | |
| **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. | |

# History Department: Knowledge Organiser: Year 9 Spring 1: Life in Nazi Germany 1933-39

## 1. Extending control and removing opposition from January 1933

| Method | Description | ✓ |
|---|---|---|
| **Reichstag Fire (27th February 1933)** | This was blamed on the Communists and Marinus van Der Lubbe and used by Hitler and led to the passing of the 'Decree for the Protection of People and State, suspending peoples' basic civil rights | |
| **Concentration Camps (Feb 1933)** | Used to imprison the Nazi's enemies: prisoners had different categories: religious, political, 'work-shy', foreign forced labour groups, Jews. | |
| **Gestapo 1933** | Secret Police, led by Goering. Had power to arrest and people send to camps without trial. | |
| **Night of the Long Knives (30th June 1934)** | Also known as 'Operation Hummingbird' or the 'Blood Purge' refers to the brutal removal of Hitler's political and military rivals in the SA. | |

## 2. Keeping Control by using propaganda

| Method | Description | ✓ |
|---|---|---|
| **Ministry of Propaganda led by Joseph Goebbels** | *'Gleichschaltung'*: oversaw all censorship and propaganda to control all the thoughts, beliefs and opinions of Germans. | · |
| **Censorship** | Anti-Nazi newspapers closed, radio broadcasting controlled, pre-publication censorship, Jazz music banned, book burnings | · |
| **Propaganda** | Spread Nazi message through: Posters, films, rallies (Nuremburg), architecture, theatre, literature, 1936 Olympics (4x Gold medals for Jesse Owens, pause on anti-Semitism) | · |

## 3. Keeping control of the Law

| Method | Description | ✓ |
|---|---|---|
| **Nazi Socialist League for the Maintenance of Law** | Part of *Gleichschaltung* (an identical way of thinking) All judges had to join this organisation and swear an oath of loyalty to Hitler. | |
| **German Lawyer's Front 1933** | All lawyers had to join and swear oath, 100,000 members by late 1933. | |
| **People's Court 1934** | Judges were all Nazis. Cases of treason tried and defendants summarily executed. Hitler sometimes personally intervened on judgements. | |

## 4. Keeping control of the churches

| Method | Description | ✓ |
|---|---|---|
| **Catholic Church** | Concordat signed with Catholic Church 1933. Hitler agreed to allow Catholic schools, if the church stayed out of politics | · |
| **Reich Church** | All Protestant churches merged in 1933 under Bishop Muller, Nazification of the churches – swastikas in church etc. | · |
| **Faith Movement** | Rival church set up in 1933 to worship traditional volk images – worship of the soil, crops etc | · |

| 5. What opposition did Hitler face from churches? | ✓ | 6. What opposition did Hitler face from the youth? | ✓ | 7. What opposition did Hitler face from ordinary Germans? | ✓ |
|---|---|---|---|---|---|
| 1. Catholic Church: despite 'Concordat' there was tension: Pope Pius XI issued an encyclical called *'With Burning Anxiety'* read out in churches by Priests.<br>2. Protestant Church – Opponents set up the "Confessional Church" led by Father Niemoller. Emergency Pastor's League set up and had 7,000 members by 1934. | | 1. Edelweiss Pirates: attacked Hitler Youth, listened to Swing and Jazz. Began from 1934 and had 2000 members by 1939. Mainly working class youth groups and had differing names.<br>2. Swing Youth: generally from the middle-classes: listened to Swing music (hated by the Nazis) boys grew their hair, girls wore make-up and nail-varnish! Rebelling against the order and discipline of the Nazis. | | 1. Genuine support as result of Germany's economic recovery 1933.<br>2. Most happy to see Germany restored, Versailles reversed, army rebuilt.<br>3. Many happy that Communists imprisoned.<br>4. 300,000 left Germany to live in more liberal countries; 1.3 million sent to concentration camps between 1933 – 1939. | |

# History Department: Knowledge Organiser: Year 9 Spring Term 1 & 2: Life in Nazi Germany 1933-9

## 1. Attitude & Policies Towards Women

| Method | Description | ✓ |
|---|---|---|
| **Social Pressure** | Women encouraged to dress plainly, avoid make up, not work, to remain at home | |
| **Attempts to raise birth rate** | Propaganda, marriage loans, medals for mothers of large families, Lebensborn programme, divorce made easier, family allowances increased | |
| **Work** | 3 Ks, women removed from professional jobs from 1936, but this policy failed due to economy needing more workers pre-WW2 | |
| **Repression** | Concentration Camps: Moringen opened in 1933 and Ravensbruck opened in 1939 | |

## 2. Policies towards the Youth of Germany

| Method | Description | ✓ |
|---|---|---|
| **School changes** | Napola schools set up ages 10-18, Adolf Hitler Schools 12-18, Ordensburgen from age 20 | |
| **Curriculum Changes** | Textbooks rewritten, Mein Kampf used as a school text, teachers joined Nazi Teachers League and NSDAP, Racial Studies, 15% of curriculum for PE, girls taught domestic skills | |
| **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. Other groups for younger and older boys and girls. | |

## 3. Economic Policies – Reducing unemployment

| Method | Description | ✓ |
|---|---|---|
| **Reich Labour Service** | From 1935, compulsory labour for all men 18-25, low pay | |
| **Job Creation** | By 1938 37.1bn Marks spent on public works – Autobahns, engineering projects, public buildings. 7,000kms of autobahns built | |
| **Rearmament** | Conscription introduced 1935 – 1.4m in the army by 1939. Government contracts given to iron, coal, steel companies. | |
| **Invisible unemployment** | Jews dismissed, under 25s pushed into labour schemes, women dismissed, opponents were in camps so their numbers didn't count. | |

## 4. Improvements to the lives of workers

| Method | Description | ✓ |
|---|---|---|
| **KdF (set up by the DAF)** | Subsidised leisure and cultural activities for workers: holidays, museums, cinema trips | |
| **Beauty of Labour (Dept of the KdF)** | Improvements made to working conditions: ventilation, canteens, improved sports facilities. | |
| **Wages** | Average weekly wage rose from 86 Marks p/w in 1932 to 109 Marks p/w by 1938 | |
| **Unemployment Reduced** | Conscription and Public Works schemes provided thousands of new jobs from 1933. | |

## 5. Workers lives get worse ✓

* **Trade Unions closed** in 1933 – no one to represent the workers.
* **Volkswagen Swindle** 1938 – Workers encouraged to save for a VW car from the government but none were delivered
* **Cost of living increased** – Inflation reduced real wages. All basic groceries cost more in 1939 than in 1933. Food items in short supply to keep prices high for farmers
* **Working Hours increased**: 42.9 hours p/w by 1933 to 47 hours p/w by 1939

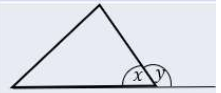
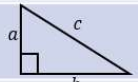
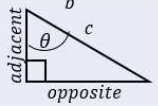
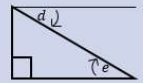
## 6. Persecution of minorities ✓

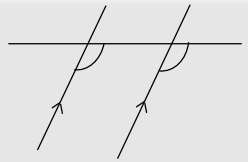
Nazis believed Aryans would be a *Volksgemeinschaft* (peoples community) and a pure race: a '*Herrenvolk'* achieved by elimination:
**1933** – Sterilisation Law – 350,000 compulsorily sterilised
**1935** – Marriage between gypsies and Germans forbidden
**1938** – Gypsies, Vagrants, Homosexuals taken to concentration camps
**1939** – Euthanasia Campaign – 6000 babies murdered for having disabilities

## 7. Persecution of the Jews ✓

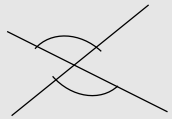
**1933** – Boycott of Jewish Shops
**1935** – Nuremberg Laws – Citizenship removed for Jews, marriage between Jews and non-Jews made illegal4
1936 – Jews forbidden from professional jobs
**1938** – Jewish children expelled from schools
**1938** – Kristallnacht – Pogrom against the Jews – 100 killed, 20,000 temporarily sent to camps, 20,000 businesses destroyed. Jews fined for the damage, 250,000 Jews left Germany.

| Keyword | | Definition | Example |
|---|---|---|---|
| Fraction | | Represents a non-integer value, made up of a numerator and denominator | $\frac{6}{10}$ which simplifies to $\frac{3}{5}$ |
| Reciprocal | | 1 divided by the number.<br>The reciprocal of "$n$" is $\frac{1}{n}$ or $n^{-1}$ | Reciprocal of $5 = \frac{1}{5}$<br>Reciprocal of $\frac{2}{3} = \frac{3}{2}$ |
| Ratio | | Used to compare values, showing how much there is of one quantity relative to another | $A: B = 1: 2$ means there is twice as much of B than A |
| Unit ratio | | One of the values is reduced to 1 in a ratio. The other can be a decimal. | $4: 7$ becomes $1: 1.75$ |
| Ratio equations | | Taking equivalent ratios and forming equivalent fractions that can be solved | If $x: 2x - 3 = 3: 4$<br>then $\frac{x}{2x-3} = \frac{3}{4}$ |
| Proportion | | A statement on how two quantities are linked. This can be direct or indirect. | |
| Direct proportion | | As one value increases, the other increases by the same multiple | $y \propto x$ |
| Indirect proportion | | As one value increases, the other decreases by the same multiple | $y \propto \frac{1}{x}$ |
| Percentage | | Parts out of 100 | 40% means $\frac{40}{100}$ or $\frac{2}{5}$ |
| Multiplier | | Used to find a percentage of a value, or to increase or decrease by a percentage | To increase by 35%, multiply by 1.35% |
| Percentage change | | The percentage increase from an original value to the new value | $\%\ change = \frac{difference}{original}$ |
| Appreciate | | To increase in value | Money invested in a bank appreciates in value |
| Depreciate | | To decrease in value | The value of common items depreciates in value |
| Simple interest | | Interest calculated from the original amount and is the same each year | £100 invested at 5% for 2 years<br>$100 + 2 \times (0.05 \times 100) = 110$ |
| Compound interest | | Interest is added on at the end of each term, and included in the interest calculation for the next term | £100 invested at 5% for 2 years<br>$100 \times (1.05)^2 = 110.25$ |
| VAT | | Value Added Tax, 20% is the UK, charged on most goods and services | |
| Recurring decimals | | A rational number. A decimal with a recurring pattern, which can be represented by a fraction. | $0.2\ (=\frac{1}{5})$ $0.\dot{6}\ (=\frac{2}{3})$ |

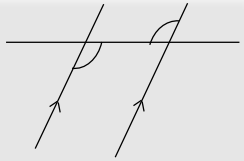
| Keyword | Definition | Example(s) |
|---|---|---|
| Vertex | The point where two lines meet | |
| Interior angle<br>Exterior angle | When one side of a polygon is extended at a vertex<br>• the angle inside the polygon is called the interior angle<br>• the angle outside the polygon between the side and the extended side is called the exterior angle. |  |
| Tesselate | Shapes fit together exactly like tiles with no gaps between them. The angles where the shapes meet must sum to 180° | |
| Sum of interior angles | $S_n = (n-2) \times 180°$ | |
| Sum of exterior angles | The sum of the exterior angles of a polygon is always 360° | |
| 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 opposite the angle labelled $\theta$ is called the opposite |  |
| Adjacent side | In a right-angled triangle, the side next to the angle labelled $\theta$ is called the adjacent. | |
| 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. | |



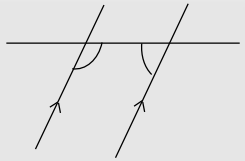
Corresponding angles are equal



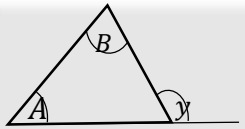
Vertically opposite angles are equal



Alternate angles are equal



Co-interior angles sum to 180°




The exterior angle of a triangle is equal to the sum of the interior angles at the other two vertices.

$\angle A + \angle B = \angle y$

| | 0° | 30° | 45° | 60° | 90° |
|---|---|---|---|---|---|
| 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 | $\sqrt{3}$ | |

Bournemouth School – Knowledge Organiser – Year 9

MATHEMATICS

Bournemouth School

music department

# Year **9**
# Unit **Beethoven: 1st movement from Piano sonata no. 8 in C minor (*'Pathétique'*)**

**Context**

**Classical era** the musical period from ~1750-1820.

**Patronage** a system where composers earned money from a wealthy individual for writing music.

**Romantic era** the period of musical history from ~1810-1900

**Romanticism** the artistic and intellectual movement behind the Romantic era. Romanticism is characterised by an emphasis on an individual's expression of emotion and their freedom of imagination, as well as a love of the natural world. Another common theme was individual rebellion against established social rules and conventions, which led to the rise of the virtuoso heroic soloist in Romantic concertos.

**Sonata** a piece for solo instrument with three or sometimes four movements, each with a different tempo (usually fast-slow-fast).

**Dynamics**

**Crescendo** gradually getting louder.

**Diminuendo** gradually getting quieter.

**Fortissimo** very loud

**Sforzando (*sf* or *sfz*)** an accent showing that a note or chord should be played with greater force than those surrounding it.

**Rhythm**

**Rit./ritardando** slowing down.

**Tempo rubato** (usually just **rubato**) Literally 'robbed time'. The tempo is sped up and slowed down for expressive effect.

**Texture**

**Alberti bass** a figuration common in the Classical period, using broken chords as an accompaniment.

**Homophonic** a texture comprising a melody with accompaniment.

**Structure**

**Bridge passage** another term for transition

**Coda** a section sometimes added at the end of a piece or movement.

**Codetta** a short coda at the end of a section within a piece or movement.

**First subject** the first theme or melody in Sonata form.

**Second subject** the second theme or melody in sonata form.

**Sonata form** a large-scale form developed in the Classical era comprising exposition, development and recapitulation.

**Transition** a linking passage often used to modulate (change the key of the music) in preparation for the second subject in Sonata form.

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.

Bournemouth School – Knowledge Organiser – Year 9

MUSIC

Bournemouth School

music department

# Year **9**
# Unit **Beethoven: 1st movement from Piano sonata no. 8 in C minor (*'Pathétique'*)**

**Melody**

**Acciaccatura** 'crushed' note

**Appoggiatura** an ornament sometimes referred to as a 'leaning in' note. The appoggiatura leans on the main note, usually taking half its value and starting a step higher.

**Articulation** the manner in which a note or sequence of notes is played—for example staccato, legato, accented etc.

**Chromatic** from the Greek word for colour. In harmony, notes and chords that are not diatonic (part of the key of the music). In melody, ascending or descending in semitones.

**Conjunct** movement by step.

**Diatonic** notes that belong to the key of the piece.

**Legato** played smoothly

**Lyrical** songlike, flowing

**Mordent** an ornament that goes quickly from the main note to the note above (upper mordent) or below (lower or inverted mordent) and back again.

**Octave** An interval covering eight diatonic notes.

**Ornament** notes that decorate a melody, shown by small (grace) notes before a note or symbols above it

**Sequence** repetition of a musical phrase at a higher or lower pitch than the original.

**Staccato** played in a detached manner

**Instrumentation**

**Piano** Keyboard instrument capable of playing a range of dynamics. Invented around 1700.

**Range** The distance from the lowest to the highest notes an instrument can play.

**Register** how high or low a piece, or passage, sounds.

**Virtuostic** music designed to show off the player's technical skill

**Tonality**

**Passing modulation** modulations where the new key on lasts a few bars (or less) before modulating to another key.

**Harmony**

**Augmented sixth** A chord featuring the interval of an augmented sixth from the bass note. Often used as a secondary dominant.

**Cadential** relating to a progression of chords forming a cadence.
**Consonant** intervals or chords that sound pleasant; triads and intervals of a third and sixth are examples.
**Diminished seventh** a four-note chord (tetrad) made up entirely of minor thirds.
**Dissonant** intervals or chords that clash—seconds, sevenths and the tritone (augmented fourth or diminished fifth).
**Dominant preparation** a passage focused on the dominant chord to create expectation of a return to the tonic.
**Dominant seventh** chord V with added minor seventh.
**Harmonic rhythm** the rate at which the chords change.
**Imperfect cadence** a cadence ending on chord V. Sounds incomplete.
**Interrupted cadence** a cadence with chord V followed by chord vi—interrupts an expected perfect cadence.
**Inversion** chords with a note other than the root in the bass.
**Pedal** a sustained or repeated note in the bass, while the harmony changes.
**Perfect cadence** Chord V followed by chord I at the end of a phrase.
**Secondary dominant** dominant of the dominant.

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.

Bournemouth School – Knowledge Organiser – Year 9

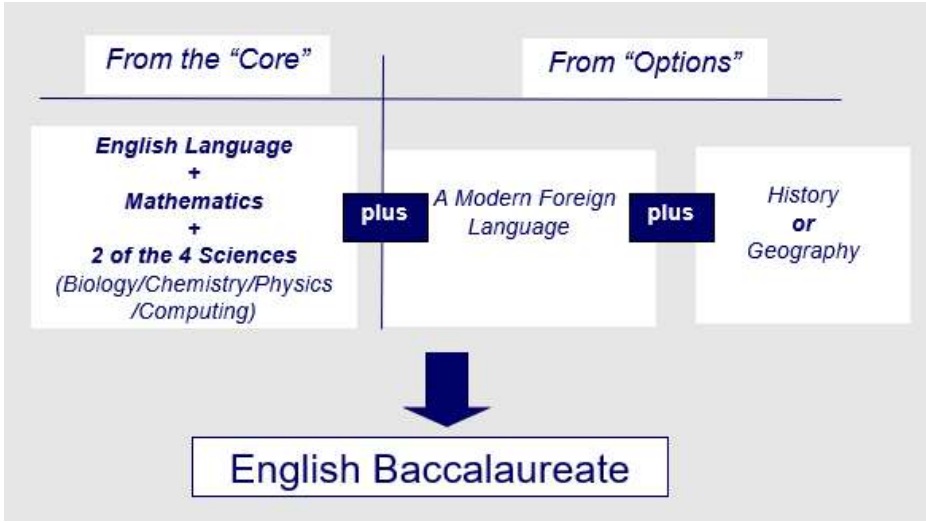
MUSIC

## GCSE Options at Bournemouth School

- At GCSE, you are able to pick some of the subjects that you wish to study
- These are known as the 'options' subjects
- You need to pick these subjects carefully

Our advice:

- Pick subjects that you enjoy
- Pick subjects in which high grades are likely
- Consider all of the subjects carefully
- Every subject is worth studying for its own sake
- Don't pick subjects based around one particular career choice at this stage
- Broad and balanced




| Core Subjects | Option Subjects |
|---|---|
| English Language | Art & Design OR Graphics Communication |
| English Literature | Business Studies |
| Mathematics | Computer Science |
| Biology | Design and Technology |
| Chemistry | Food Preparation and Nutrition |
| Physics | French |
| RS | Geography |
| Core PE – compulsory but not a GCSE qualification | German |
| | History |
| | Music |
| | Physical Education |
| | Spanish |

## 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

Information on apprenticeships, including a range of different schemes:
https://amazingapprenticeships.com/
www.gov.uk/apply-apprenticeship

General careers information:
https://careerpilot.org.uk/
www.nationalcareers.service.gov.uk
www.prospects.ac.uk/job-profiles

## Worship:

- **Liturgical worship-** a church service that follows a set structure and pattern.
- **Non-liturgical worship-** a church service that does not follow a set text or ritual
- Why do Christians worship? To praise God, give thanks thanks, for forgiveness, to strengthen relationship with God.

| Liturgical worship | Non-liturgical worship |
|---|---|
| takes place in a church | no set order |
| set prayers with set response | Services follow themes |

## Holy Communion and celebrating it:

- **Holy Communion** sacrament that uses bread and wine to remember sacrificial death of Jesus. Remembers the events of the Last Supper
- **Different understandings of Holy Communion** Catholic transubstantiation (bread and wine actually becomes the body and blood of Jesus) **Protestant** see the bread and wine as symbolic to remember Jesus' sacrifice

"**Do this in remembrance of me"**

## Mission and evangelism:

- **Mission**- vocation or calling to spread the faith
- **Evangelism-** showing faith in Jesus by example or by telling others. The Great Commission Jesus instructs his disciples to go and spread the gospels and make disciples of others through baptism. "Go and make disciples of all nations."
- **Missionary work** to persuade people to accept Jesus as their Saviour. Alpha is an example of evangelism in the UK. It is an introductory course to Christianity for those that are interested.

- **Set prayer-**prayers that have been said more than once and written and written down for example the Lord's prayer.
- **Informal prayer** -a prayer that is made up by the individual using his/her own words
- **Why is prayer important?** - Allows Christians time to reflect, find peace, allows them to communicate with God - The Lord's prayer is important as it reminds Christians to forgive others in order to be forgiven - **Key quote - "Our Father, who art in heaven**

## Pilgrimage:

- Religious journey of moral and spiritual importance
- **Lourdes** – France in the South West of France. Bernadette had numerous visions of the Virgin Mary who told her to dig for spring water. The water is believed to have healing powers and miracles are said to happen there. Pilgrims bathe in the water and there is a big focus on the sick and disabled.
- **Iona** – island off the coast of Scotland. Ecumenical community pilgrims spend time praying, reading the Bible, reflecting and meditating. It is said the veil between earth and heaven is thin here.

## Is Christianity in decline in the Great Britain?

- **For-** Interest in science, atheism ,rise in other groups for example Humanism, Immigration has led to rise in other faiths.
- **Against**- Still Christian places of worship in Great Britain, Festivals are still public holidays. Sunday trading laws show day of rest on Sunday.
- **Census**- Survey every ten years. Optional Religious question.

## Baptism:

- Infant baptism -is for babies and young children Believers' baptism people who are old enough to make the decision to be baptised.
- Why are people baptised? To become a member of the Church, to be cleansed of sin, follow in Jesus' footsteps.
- **Believer's baptism**
  - Attend baptism classes
  - Gives a brief testimony
- **Infant baptism**
  - Parents make promises
  - Removes original sin

## Celebrating festivals

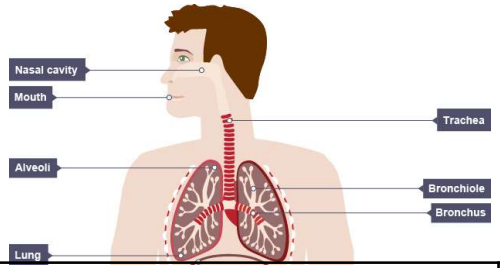
- **Christmas-** commemorates the incarnation of Jesus Ways it is celebrated carol services, nativity scenes, giving to charity, Midnight Mass, Christmas cards and gifts
- **Easter-c**elebrates the resurrection of Jesus from the dead Ways it is celebrated on Good Friday there are special services and processions led by a person carrying a cross, Saturday night some churches hold a special service to celebrate the resurrection, Easter Sunday churches are filled with flowers and hymns are sung **"He is Risen!"**

- **Role of the Church in the local community**: Food banks The Church the holy people of God, also called the Body of Christ, among who Christ is present and active A church building in which Christians worship
- **What does the Church do?** Support projects such as food banks, providing social services and campaigning for justice. **The Trussell Trust** runs over 400 foodbanks in the UK, provides food for those in need . **The Oasis Project** provides an internet café, CV support and a safe meeting place.

# 3.1.1.2 The structure and functions of the Cardio-Respiratory System (KO 1 of 2)

## The Pathway of Air into the Body

When we breathe in, air moves through the mouth and nose.
It then travels down the trachea. Near the lungs the trachea divides into two tubes called bronchi (one enters left lung and the other the right). Once in the lungs the bronchi split into smaller bronchi before dividing into even smaller tubes called bronchioles. At the end of each bronchiole are openings to the alveoli. At the alveoli gaseous exchange occurs. Capillaries carrying blood surround each alveoli resulting in oxygen being passed into the bloodstream from the alveoli in exchange for carbon dioxide which passes from the blood stream into the alveoli.



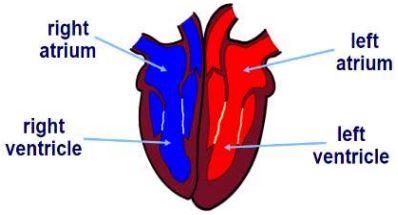

## Pathway of Blood

This is the order for the pathway of blood moving around the body.

1. Deoxygenated blood into the right atrium.
2. Then into the right ventricle.
3. Pulmonary artery transports deoxygenated blood to the lungs.
4. Gas exchange occurs (blood is oxygenated).
5. Pulmonary vein transports oxygenated blood back to the left atrium.
6. Then into the left ventricle.
7. Oxygenated blood is then ejected and transported to the body via the aorta.

The diastolic phase of the cardiac cycle is the filling stage during relaxation.
The systolic phase of the cardiac cycle is the ejection stage during contraction.
Valves within the heart open due to pressure and close to prevent backflow

## Structure of the Heart




## Gaseous Exchange

Oxygen passes through the alveoli, into the capillaries.
In the capillaries, oxygen combines with haemoglobin to form oxyhaemoglobin and is carried around the body.
At the same time, haemoglobin carries carbon dioxide from the body to the capillaries.
The carbon dioxide in the capillaries passes through the alveoli and is exhaled.
Oxygen combines with haemoglobin in the red blood cells to form oxyhaemoglobin.
Haemoglobin can also carry carbon dioxide back to the heart from the working muscles.

| Features that assist gaseous exchange | Role |
|---|---|
| Large surface area of alveoli. | Allows a larger volume of gases to move between the lungs and the bloodstream. |
| Moist thin walls (one cell thick) – semi permeable membrane. | Allows gases to pass through the walls of the alveoli. |
| Short diffusion pathway. | Allows gases to move quickly from the alveoli to the bloodstream. |
| Large capillary network. | Creates a large area for gaseous exchange to take place. |
| Large blood supply. | Carries oxygen and carbon dioxide to and from the alveoli. |
| Movement of gas from high concentration to low concentration. | This pressure gradient allows diffusion to occur as gases always move from an area of high concentration to an area of low concentration. |

## Blood Vessels

**Arteries:** Carry blood away from the heart.
Most arteries carry oxygenated blood (oxygen rich).
Thick walls to withstand the high blood pressure.
Small / narrow lumen so that the blood is forced around the body at a high pressure.
Strong elastic walls that can easily increase and decrease in diameter (vasodilate).
The Pulmonary Artery carries deoxygenated blood from the right side of the heart to the lungs.
The Aorta carries oxygenated blood from the left side of the heard to the rest of the body.

**Veins:** Veins carry blood towards the heart.
Most veins carry deoxygenated blood (carbon dioxide rich).
Thinner walls than arteries as the blood is pumped through at a low pressure.
Due to the low pressure, veins contain valves to prevent the backflow of blood.
They also have a large lumen to allow more blood to pass through them.
The Vena Cava carries deoxygenated blood from the body to the right side of the heart.
The Pulmonary Vein carries oxygenated blood to the left side of the heart from the lungs.

**Capillaries:**
In Capillaries gaseous exchange takes place.
Capillaries are one cell thick to enable substances to enter and leave the blood stream (allows rapid diffusion).
Capillaries surround our alveoli and body tissues (e.g. muscles) to allow gaseous exchange to take place (the exchange of oxygen and carbon-dioxide).
Huge network throughout the body linking arteries and veins (large surface area for gaseous exchange to take place).

**Vasoconstriction / Vasodilation**
Vasoconstriction and vasodilation work together to cause 'blood shunting' (the redistribution of blood around the body).
Vasoconstriction is reducing the diameter of small arteries, so by reducing the blood flow to certain parts of the body.
Vasodilation is increasing the diameter of small arteries to increase blood flow to certain parts of the body.
This occurs during exercise. Vasoconstriction reduces blood flow to parts of the body not needed during exercise e.g. bladder / stomach, and that blood is redistributed to the muscles that are being used in the activity.
Vasodilation occurs around the muscles so that more blood, carrying oxygen, can get to the muscles to create more energy. This will allow a performer to perform for longer and maintain their standard of play.

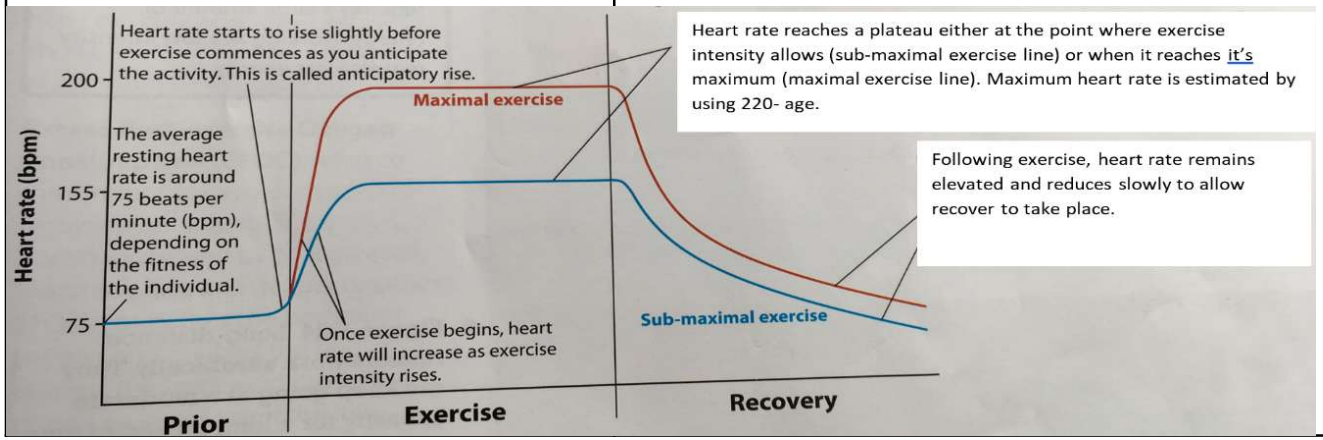
# 3.1.1.2 The structure and functions of the Cardio-Respiratory System (KO 2 of 2)

## Heart rate, stroke volume and cardiac output

Heart rate – the number of times the heart beats per minute.
Stroke volume – amount of blood pumped out of the heart per beat.
Cardiac Output – amount of blood pumped out of the heart per minute.
HEART RATE X STROKE VOLUME = CARDIAC OUTPUT (Q)

**Heart Rate**
Heart rate is expressed as beats per minute (BPM) and resting heart rate is lower the fitter the person is. Average resting heart rate is 70 – 75bpm.
If your heart rate is below 60 then you are said to have 'bradycardia'.
MAXIMUM HEART RATE = 200 – AGE
During exercise the heart beats faster and with greater force to keep up with the demands from the body. This means that both heart rate and stroke volume will increase.

**Regular exercise causes changes to the heart**
The heart gets larger, as the muscular wall becomes thicker and stronger.
Stroke volume at rest increases, leading to a lower resting heart rate.
Stroke volume during exercise increases, leading to increased cardiac output.




## Breathing during exercise

During exercise, muscle cells use up more oxygen and produce increased amounts of carbon dioxide.
Your lungs and heart have to work harder to supply the extra oxygen and remove the carbon dioxide.
Your breathing rate increases and you breathe more deeply.
Heart rate also increases to transport the oxygenated blood to the muscles.

INSPIRATION
Pectorals and sternocleidomastoid assist in raising the sternum when you breathe in. This further reduces the pressure of the chest cavity, allowing more air to rush in.

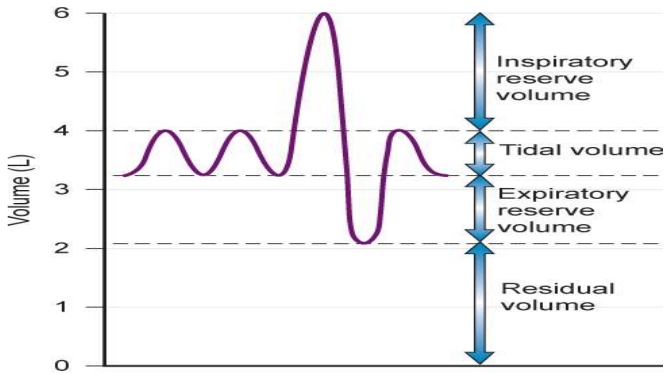
EXPIRATION
Abdominals pull the ribs down more quickly, forcing air out when you expire.

## The effects of exercise on the respiratory system

The respiratory muscles get stronger, enabling the chest cavity to become larger. Therefore, more air can be inspired leading to increased lung capacity. More capillaries form around the alveoli, creating a larger surface area for gaseous exchange.

## Spirometer trace

| Volume | Definition |
|---|---|
| Tidal Volume | The amount you breathe in and out in one normal breath. |
| Inspiratory Reserve Volume | The amount of air that can be forced in after a normal inspiration. |
| Expiratory Reserve Volume | The amount of air left in your lungs after you have breathed out as hard as you can. |
| Residual Volume | The amount of air left in your lungs after you have breathed out as hard as you can. |
| Vital Capacity | Largest volume of air that can be forcibly expired after the deepest possible inspiration. |




**During Exercise**
1. Tidal Volume increases
2. Breathing rate increases

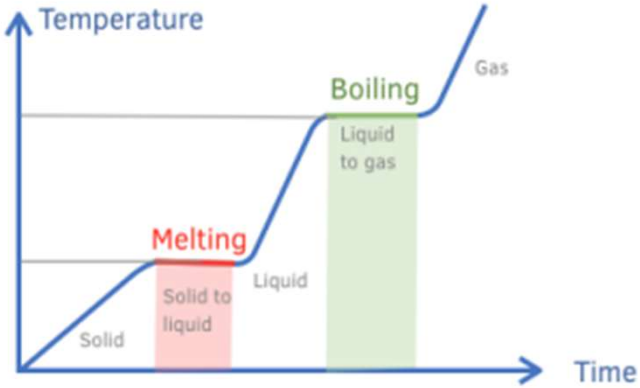
## Topic 3 – Particle Model of Matter

| Keyword | Learn | ✓ |
|---|---|---|
| Density | The mass per unit volume. | |
| Internal energy | The total kinetic and potential energies of all the particles that make up the system. | |
| Melting | When a solid turns to a liquid. The internal energy increases. | |
| Freezing | When a liquid turns to a solid. The internal energy decreases. | |
| Boiling / evaporation | When a liquid turns to a gas. The internal energy increases. (Boiling occurs at one temperature the boiling point. Evaporation occurs at any temperature.) | |
| Condensation | When a gas turns to a liquid. The internal energy decreases. | |
| Sublimation | When a solid turns to a gas. The internal energy increases. | |
| Physical change | A change that does not produce a new substance and it can be reversed. | |
| Specific heat capacity | The amount of energy required to raise the temperature of 1 kg of a substance by 1°C. | |
| Specific latent heat of fusion | The amount of energy required to change the state of 1 kg of a substance from solid to liquid. With no temperature change | |
| Specific latent heat of vaporisation | The amount of energy required to change the state of 1 kg of a substance from liquid to gas. With no temperature change | |

| State | Diagram | Learn the key points for each state of mater. |
|---|---|---|
| Solid | | • Regular arrangement, touching neighbouring particles<br>• Vibrate about a fixed position<br>• Strong intermolecular forces<br>• Fixed shape<br>• Cannot be compressed |
| Liquid | | • Irregular arrangement, touching neighbouring particles<br>• Particles move past one another<br>• Weaker intermolecular forces than in a solid<br>• Take the shape of the container (can flow)<br>• Cannot be compressed |
| Gas | | • Particles are not touching<br>• Particles move randomly<br>• No / very small intermolecular forces<br>• Particles move to fill the container<br>• Can be compressed |

| Quantity | Unit | Symbol |
|---|---|---|
| mass | kilograms | kg |
| volume | metres cubed | $m^3$ |
| density | kilograms per metre cubed | $kg/m^3$ |
| specific heat capacity | joules per kilogram per degree Celsius | J/kg °C |
| specific latent heat | joules per kilogram | J / kg |
| pressure | pascal OR newtons per metre squared | Pa OR $N/m^2$ |

Heating Curve




| Gases – Learn these properties. |
|---|
| The higher the temperature the higher the average kinetic energy of the particles . |
| The pressure in a gas produces a force at right angles to the wall of the gas container. |
| Heating a gas in a fixed volume increases the pressure. |
| Using a force to decrease the volume of a gas is doing 'work' to transfer energy to the gas. The gas will get hotter as its internal energy is increasing. |

**Equations**

$$\text{Density} = \frac{\text{mass}}{\text{volume}} \qquad \rho = \frac{m}{v}$$

Thermal energy transferred = mass x specific heat capacity x temperature change

$$E = m \times x \times \Delta T$$

Thermal energy transferred = mass x specific latent heat $\quad E = m \times L$

Pressure x volume = constant $\quad p \times V = constant$

Work = force x distance moved in the direction of the force $\quad W = F \times s$

Bournemouth School – Knowledge Organiser – Year 9

PHYSICS

**The future tense**

The future tense is formed by taking the infitive and adding the endings seen below.
The endings are the same for AR, ER and IR verbs

**Infinitve + ending = future tense**
**trabajar + é = trabajaré (I will work)**

| Trabajar | To work | |
|---|---|---|
| trabajar**é** | I will work | |
| trabajar**ás** | you will work | |
| trabajar**á** | he/she will work | |
| trabajar**emos** | we will work | |
| trabajar**éis** | you all will work | |
| trabajar**án** | they will work | |

| There are some irregular stems which are not the infinitive. Here are some examples: | | |
|---|---|---|
| haré | I will do | |
| tendré | I will have | |
| podré | I will be able to | |

| Describing a photo | | |
|---|---|---|
| **En la foto** | In the photo | |
| **Hay** | There is/are | |
| **Puedo ver** | I 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 el primer plano** | In the foreground | |
| **En la imagen** | In the image | |
| **Está jugando** | He / she is playing | |
| **Están comiendo** | They are eating | |

| Las responsabilidades | | |
|---|---|---|
| **Preparo mis cosas** | I prepare my things | |
| **Escribo** | I write | |
| **Organizo** | I organise | |
| **Hablo con clientes** | I speak with clients | |
| **Leo mi agenda** | I read my diary | |
| **Trabajo con mi equipo** | I work with my team | |
| **Voy a la oficina** | I go to the office | |

| Durante las vacaciones de Navidad… | | |
|---|---|---|
| **fui** | I went | |
| **fue** | He / she went | |
| **fue** | It was | |
| **recibí** | I received | |
| **comí** | I ate | |
| **jugué** | I played | |
| **bebí** | I drank | |
| **vi** | I watched | |
| **salí** | I went out | |

| Essential words | | |
|---|---|---|
| **porque** | because | |
| **dado que** | given that | |
| **sin embargo** | however | |
| **pero** | but | |
| **también** | also | |
| **además** | furthermore | |
| **si** | if | |
| **cuando** | when | |
| **por ejemplo** | for example | |
| **sobre todo** | especially | |

| Mis ambiciones | | |
|---|---|---|
| **Voy a…** | I am going to… | |
| **ganar mucho dinero** | earn lots of money | |
| **hacer un trabajo interesante** | do an interesting job | |
| **ir a la universidad** | go to university | |
| **ser famoso/a** | be famous | |
| **ser voluntario/a** | be a volunteer | |
| **tener hijos** | have children | |
| **viajar mucho** | travel a lot | |
| **vivir en el extranjero** | live abroad | |

| ¿Cómo será tu futuro? | | |
|---|---|---|
| **En el futuro…** | In the future | |
| **ganaré mucho dinero** | I will earn lots of money | |
| **haré un trabajo interesante** | I will do an interesting job | |
| **iré a la universidad** | I will go to university | |
| **seré famoso/a** | I will be famous | |
| **seré voluntario/a** | I will be a volunteer | |
| **tendré hijos** | I will have children | |
| **viajaré mucho** | I will travel a lot | |
| **viviré en el extranjero** | I will live abroad | |
| **Será…** | It will be… | |

| Los trabajos | | |
|---|---|---|
| **Soy….** | I am | |
| **camarero/a** | a waiter | |
| **cocinero/a** | a cook | |
| **dependiente/a** | a shop keeper | |
| **esteticista** | a beautician | |
| **jardinero/a** | a gardener | |
| **limpiador(a)** | a cleaner | |
| **peluquero/a** | a hairdresser | |
| **recepcionista** | a receptionist | |
| **Note: in Spanish we don't use the article un/una with jobs (e.g. soy camarero)** | | |

| ¿En qué consiste tu trabajo? | | |
|---|---|---|
| **¿Tienes que…?** | Do you have to… | |
| **Tengo que….** | I have to.. | |
| **contester al teléfono** | answer the phone | |
| **cortar el pelo a los clientes** | cut the customers' hair | |
| **cuidar las plantas** | to look after the plants | |
| **limpiar habitaciones** | clean rooms | |
| **servir la comida en el restaurante** | serve food in the restaurant | |
| **vender productos en la tienda** | sell products in the shop | |

| ¿En qué trabajan tus padres? | | |
|---|---|---|
| **Mi padre / madre es** | My father / mother is | |
| **abogado/a** | a lawyer | |
| **médico/a** | a doctor | |
| **amo / ama de casa** | a househusband/wife | |
| **veterinario/a** | a vet | |
| **profesor/a** | a teacher | |
| **banquero/a** | a banker | |
| **enfermero/a** | a nurse | |

| ¿Qué te gustaría hacer? | | |
|---|---|---|
| **trabajar en una oficina** | work in an office | |
| **trabajar al aire libre** | work outdoors | |
| **hacer un trabajo creativo** | do a creative job | |
| **hacer un trabajo manual** | do a manual job | |
| **trabajar con animales** | work with animals | |
| **trabajar solo** | to work alone | |
| **me gustaría ser** | I would like to be | |
| **quiero ser** | I want to be | |
| **por eso** | because of this | |

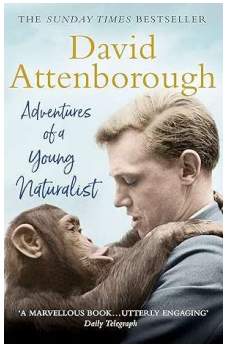
| Un día fatal | | |
|---|---|---|
| **Tuve un día fatal** | I had an awful day | |
| **Tuve un día malo** | I had a bad day | |
| **Mi día fue estresante** | My day was stressful | |
| **Fue un desastre** | It was a disaster | |
| **Llovió** | It rained | |
| **Perdí** | I lost / I missed | |
| **Tuve que** | I had to | |

| -ar verb endings preterite | | | |
|---|---|---|---|
| **é** | | **amos** | |
| **aste** | | **asteis** | |
| **ó** | | **aron** | |

| -er / ir verb endings preterite | | | |
|---|---|---|---|
| **í** | | **imos** | |
| **iste** | | **isteis** | |
| **ió** | | **ieron** | |

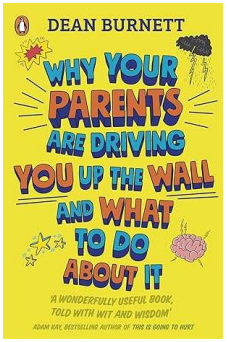
| Common irregular verbs (preterite) | | |
|---|---|---|
| **jugué** | **I played** | |
| **fui** | **I went** | |
| **fue** | **it was** | |

| ¿Qué tipo de persona eres? | | |
|---|---|---|
| **En mi opinión, soy** | In my opinion, I am | |
| **creo / pienso que** | I believe / think that | |
| **soy muy / bastante** | I am very / quite | |
| **ambicioso/a** | ambitious | |
| **creativo/a** | creative | |
| **práctico/a** | practical | |
| **responsable** | responsible | |
| **independiente** | independent | |
| **organizado/a** | organised | |
| **inteligente** | intelligent | |
| **sociable** | sociable | |
| **paciente** | patient | |



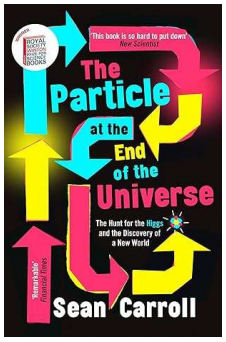

**Adventures of a Young Naturalist**
by David Attenborough

In 1954, a young television presenter named David Attenborough was offered the opportunity of a lifetime - to travel the world finding rare and elusive animals for London Zoo's collection, and to film the expeditions for the BBC. Now 'the greatest living advocate of the global ecosystem' this is the story of the voyages that started it all.




**Why Your Parents Are Driving You Up the Wall**
by Dean Burnett

After years of reliable performance, has something recently gone wrong with your parents? Do you find yourself stressed out, arguing about the most ridiculous things? You'll never be able to remove arguments completely. But imagine what you'd be capable of if you weren't wasting all that time and energy arguing about tidying your room.

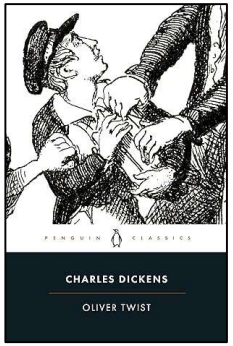



**The Particle at the End of the Universe**
by Sean Carroll

Sean Carroll reveals the history-making forces of insight, rivalry, and wonder that fuelled the Higgs search and how its discovery opens a door to the mind-boggling domain of dark matter and other phenomena we never predicted.

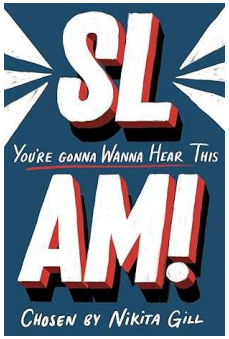

**Armada** by Ernest Cline

Computer gamers throughout the world find that their skills are needed when an alien invasion identical to a video game begins. But isn't the scenario a little too familiar to be real?



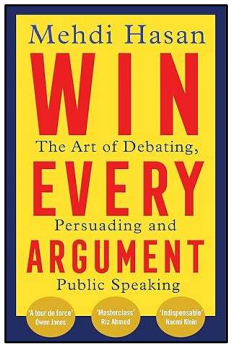

**Oliver Twist** by Charles Dickens

The story of orphaned Oliver, who runs away from the workhouse only to be taken in by a den of thieves and plunged into a dark criminal underworld of vivid and memorable characters - the arch-villain Fagin, the artful Dodger, the menacing Bill Sikes and kind-hearted Nancy.




**SLAM!** Chosen by Nikita Gill

Empowering, inspiring and often hilarious, SLAMs are a platform for well-known and emerging talent from all walks of life where every style of poetry has a home. With poets such as Raymond Antrobus, Sophia Thakur and Dean Atta guest starring alongside up-and-coming poets, this is the perfect introduction to the world of modern poetry.




**Win Every Argument** by Mehdi Hasan

Whether you're navigating heated social media debates or crucial conversations in your daily life, everyone wants to make their voice heard and their point understood. Strong arguments, presented thoughtfully and in good faith, are invaluable: they help us solve complex problems, uncover fresh ideas . . . and can even be fun. In this riveting and indispensable guide, British-American journalist and broadcaster Mehdi Hasan reveals for the first time the secrets to communicating with confidence


**Hyo the Hellmaker** by Mina Ikemoto Ghosh

Hyo Hakai is a hellmaker. But when a curse destroys her village, she and her brother are forced to flee to the Island of Onogoro - a place where Gods live among humans. Hyo expects the bodies when they show up, but as she investigates, she is drawn into a tangled web of death, conspiracy and secrets.

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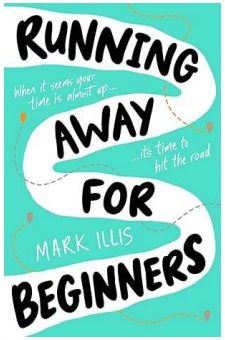
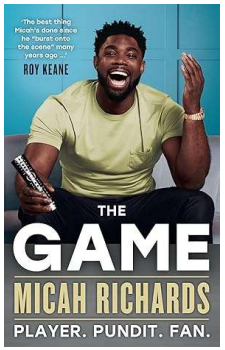


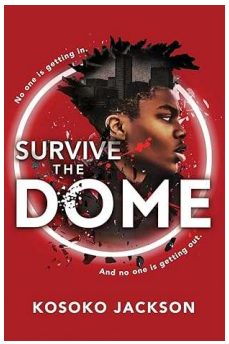

**Running Away for Beginners** by Mark Illis

Jasper was just diagnosed with cancer. His treatment starts in a week, and his parents want him to carry on as normal. His friends organise a weekend trip to get away from everything and clear his mind. It'll be like running away for beginners, they joke. But what they don't know is Jasper isn't planning on making the journey back.



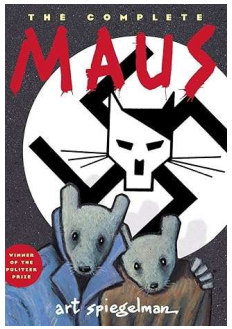

**The Game** by Micah Richards

From how he spent his first Premier League paycheque and how he prepared - financially and mentally - for the day they stopped coming, to the euphoria of lifting the Premier League trophy and the physical and emotional impact of injury, Micah reflects openly on the many wins and losses in professional football.



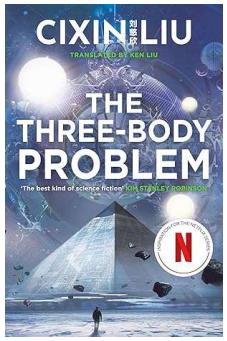

**Survive the Dome** by Kosoko Jackson

Jamal Lawson just wanted to be a part of something. As an aspiring journalist, he packs up his camera and heads to Baltimore to document a rally protesting police brutality after another Black man is murdered. But before it even really begins, the city implements a new safety protocol...the Dome.



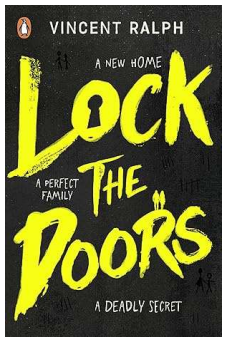

**Maus** by Art Spiegelman

The first and only graphic novel to win the Pulitzer Prize, MAUS is a brutally moving work of art about a Holocaust survivor -- and the son who survives him.




**The Three Body Problem** by Cixin Liu;
translated by Ken Liu

Beijing police ask nanotech engineer Wang Miao to infiltrate a secretive cabal of scientists. His investigation will lead him to a mysterious online game and immerse him in a virtual world ruled by the intractable and unpredictable interaction of its three suns. This is the Three-Body Problem and it is the key to the extinction-level threat humanity now faces.




**Lock the Doors** by Ralph Vincent

Tom's family have moved into their dream home. But pretty soon he starts to notice that something is very wrong - there are strange messages written on the wall and locks on the bedroom doors. The previous owners have moved just across the road and they seem like the perfect family. Tom is sure they have something to hide. And he isn't going to stop until he finds the truth behind those locked doors…


**Let's Play Murder** by Kesia Lupo

Veronica wakes up trapped with four strangers in a sprawling manor house in a snow storm with a dead body, a mystery right out of an Agatha Christie novel. It feels so real - but it isn't. This is VR and this is THE Game. And there's no escaping the VR world until the Game is won. But something is not right in the VR world. Blackouts, glitches, NPCs acting strange, and a mysterious figure haunting their footsteps. Then when a player dies…


**Under the London Sky** by Anna Woltz

London, September 1940. Deep in the Underground, taking shelter from the bombs, four teenagers meet. Without the Blitz, they never would have met. Ella has had polio and struggles to get around, her younger brother, Robbie, still finds war exciting, Jack teeters on the edge of crime and Quinn is a runaway, escaping her aristocratic parents' expectations.

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# Timetable

| | 1Mon | 1Tue | 1Wed | 1Thu | 1Fri | 2Mon | 2Tue | 2Wed | 2Thu | 2Fri |
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| 1 | | | | | | | | | | |
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| Break | | | | | | | | | | |
| 3 | | | | | | | | | | |
| 4 | | | | | | | | | | |
| Reg | | | | | | | | | | |
| Lunch | | | | | | | | | | |
| 5 | | | | | | | | | | |
| 6 | | | | | | | | | | |