

Year 9 Knowledge Book Autumn Term





Art





Challenge Tasks: Work into your worst prints by drawing and painting over the top of them to add more definition or detail.

sacks. It stops clay sticking to the table!









ST& CENTURY

GALEN ROWELL (1940-2002) AMERICAN PHOTOGRPAHER LIGHT SNOW (2008)



JOEL MEYEROWITZ (1938-) AMERICAN PHOTOGRPAHER AND FILMMAKER



CINDY SHERMAN (1954-) AMERICAN PHOTOGRPAHER **DROP OFF (2015)**



ROBERT FRANK (1924-) swiss-american PhotoGRPAHER AND FILMMAKER storm clouds over the Islands (2018)





MARGETHE MATHER (1941-) AMERICAN PHOTOGRPAHER ALPHABETARION # A FLOWER GEORGIA O'KEEFFE (1925)































OHN BLAKEMORE (1936-) SRITISH STILL LIFE AND LANDSCAPE





AMERICAN CONSERVATION PHOTOGRPAHER

ROBERT GLENN KETCHUM (1947-)

PHILIP HYDE (1921-2006)

RICAN PHOTOG

HUNGARIAN FRENCH PHOTOGRPAHER BRASSAÏ (1899-1984)

1117 13 864-194

NN RAY (1890-1976) ERICAN PHOTOGRAP

PONT NEUF (1934)

BREWSTER BOOGIE WOOGIE (1981)









































AARON SISKIND (1903-1991) AMERICAN PHOTOGRPAHER

PAUL STRAND (1890-1976) AMERICAN PHOTOGRPAHER AND FILMMAKER PV FAMILY (1957)

KARL BLOSSFELDT (1865-1932) GERMAN PHOTOGRAPHER AND SCULPTOR WUNDERGARTEN DER NATTUR PASSION FLOWER (1932)

EDWARD WESTON (1886-1958

TINA 7

ELIOT PORTER (1901-1990) AMERICAN PHOTOGRPAHER BIRCH TREES ON CLIFFE (1963)

FRANS LANTING (1951-) DUTCH NATIONAL GEOGRAPIC PHOTOGRAPHER

ANGO DELTA BOTSWAN













3D TEXTURE ARTIST TIMELINE

AARON SISKIND (1903-1991) AMERICAN PHOTOGRAPHER CHICAGO 25 (1957)



ALISON WATTS (1965-) SCOTTISH PAINTER **SABINE (2000)**







HEATHER COLLINS (UNKNOWN) BRISTISH CONTEMPORARY TEXTILES ARTIST DETAIL OF BRACKET FUNGUS (UNKNOWN)

ANSELM KIEFER (1945-) GERMAN PAINTER AND SCULPTOR TANDARADEI (2020)



KIRSTY WHITLOCK (1986-) BRITISH MIXED MEDIA TEXTILES ARTIST BAGS OF AGGRO (UNKNOWN)



SALLY MANKUS (UNKNOWN) **AMERICAN MIXED MEDIA ARTIST** GATHERING (2019)



DON TAYLOR (UNKNOWN) AMERICAN PHOTOGRAPHER UNTITLED (2011)



CHRIS DRURY (1948-) BRITISH ENVIRNOMENTALIST ARTIST CARBON SINK (2011)



SUE HOTCHKIS (UNKNOWN)

SPIN DETAIL (2018)

BRITISH CONTEMPORARY FIBRE ARTIST







CAROL NELSON (UNKNOWN)

AMERICAN FINE ARTIST

UNKNOWN (UNKNOWN)

BRITISH PHOTOGRAPHER LIGHT SWITCH (UNKNOWN)



AMY KENNEDY (UNKNOWN) AUSTRIALIAN CERAMIC ARTIST WINDSWEPT (2021)

AMERICAN CERAMIC ARTIST

BARK TREE VASE (UNKNOWN)



FRANK AUERBACH (1931-)

GERMAN-BRITISH PAINTER



NOVA LUBELSKI (1968-) AMERICAN CONTEMPORARY ARTIST UNKNOWN(UNKNOWN)



BRITISH CERAMICIST UNKNOWN (UNKNOWN)







Business





3.1.2 - Business ownership

| | Liebility/Cire | Advantages | Disadvantages |
|--|---|--|---|
| | Liability/Size | Auvantages | Disauvantages |
| Sole Trader Set up on your own | Owner: Unlimited liability Small | Own Boss - Keep control Keep all profits Can employ people Cheapest to set up | all liability / need insurance Not working = not earning |
| Partnership 2 or more people, max 20 partners. | Partners: Unlimited Liability Small/Medium | Shared responsibility More investment Partners can cover e.g. if ill or on holiday Partners can specialise in aspects of the business | Have to share profits Not in complete control Decisions can be slower More expensive to set up |
| Private Limited company (Ltd.) | Shareholders: Limited Liability Small—Large | Can keep control by keeping a majority of the shares shares can be sold to raise money | Cannot sell on the stock market Selling more than 49% of the shares could see you lose control Profit likely to be shared through dividends |
| Public Limited Company (PLC.) | Shareholders: Limited Liability Medium-Very Large | Can sell shares on the Stock Market - more investment Kudos / greater reputation | •Kudos / greater reputation •Share Price controlled by the market - investment might increase or decrease depending on the economy •Risk of a Hostile Takeover - could be voted out as CEO by the shareholders at an AGM |
| Not for Profit | Trustees: Limited liability | •Opportunity to increase income/impact by publicising 'Charity' status | •Close scrutiny by the Charity Commission |

Unlimited liability = personal possessions of owner at risk if business is in debt Limited liability = owners only liable for debts up to the value of their investment

3.1.3 - Setting business aims and objectives

| Explanation | | | |
|--|---|--|--|
| For the business to avoid going bust | | | |
| To achieve the most profit (total revenue exceed total costs) | | | |
| Internal e.g. sell more products/open more stores/franchise. External = merger / takeover | | | |
| Measures sales of product/business as % of the total market sales. | | | |
| To meet or exceed customer expectations related to the environment / treatment of staff or other issues | | | |
| How pleased a customer is with the product or service received | | | |
| Improving performance of the business to raise the share price or the amount of profit that can be shared as dividends | | | |
| ectives: ion making understand the business t for everyone everyone to e goals | When a business starts it usually focuses on survival, then making a profit. Over time, objectives change for example growth/social objectives. Market Share = $\frac{\text{Total Sales of the Company}}{\text{Total Sales of the Market}} \times 100$ | | |
| | Explanation For the business To achieve the m Internal e.g. sell in External = merge Measures sales of market sales. To meet or exceed environment / tri How pleased a cu received Improving perfor price or the amoundividends ectives: ion making understand the business t for everyone everyone to e goals | | |

AQA GCSE Business AQA **Business in the Real World** Unit 1 Appears in: Paper 1 & Paper 2

3.1.4 - Stakeholders

A Stakeholder is any person or organisation that is affected by the activity of a business.

Common Stakeholder Groups include:

Internal (work within the

- business) ✓ Employees
- ✓ Managers
- ✓ Owners
- ✓ Directors
- ✓ Pressure groups e.g. green peace

External (are affected by the business)

Different groups will have more or less of an interest and more or less influence over the business and its decisions.

✓ Banks

✓ Suppliers

Stakeholder conflict occurs as different stakeholder groups may be **in conflict** with one another as their interests contradict each others. Forexample:

✓ Shareholders (PLC)

✓ Local Community

✓ Customers

✓ Government



CONFLICT

McDonald's wants to open a new store. Managers want more sales, employees want job security, except the local community are concerned with increased traffic and litter.

- Business Locat

Location is important because it 1. costs, 2. sales, 3. image

Factors influencing location:

5.

- ✓ Type of business e.g. theme pa
- ✓ Access to raw materials e.g dai ✓ Competitors e.g. petrol station
- ✓ Proximity to target market e.g
- ✓ Transport links e.g if exporting
- ✓ Technology e.g Internet access
- ✓ Availability & costs of labour e. production to China

3.1.6 - Business Planni

PURPOSE of business planning

- ✓ Helps set up the new business
- ✓ Raise finance from investors/
- ✓ Set objectives clear targets t
- ✓ Co-ordinate actions what is
- MAIN SECTIONS of a business plan
- background of founders (expension)
- Analysis of the market (target)
- Firms objectives
- Details of price and expected Competitor analysis (how do compete - USP)
- ✤ Analysis of financial data e.g. cash flow and break even figu

3.1.7 - Expanding a bus

| nternal growth | | External growth | |
|-----------------------------|--------------------------|--|--|
| ranchising | | Merger | |
| Opening new stores | | Takeover (acqui | |
| -commerce | | | |
| Dutsourcing | | | |
| Takeover | Als the | so called an ac e shares, or by | |
| Merger Tw | | o companies | |
| Forwards A H Vertical ma | | ousiness integr anufacturer bu | |
| Backwards Vertical | A I a r | ousiness integ nanufacturer t | |
| Horizontal | A l sa | ousiness integr me stage of pr | |
| Conglomerate | A l dif | ousiness integ ferent stage o | |
| Outsourcing | Ра | ying another c | |
| Franchising | Se (Fr the | lling the right t r anchisees) to e revenue. | |
| conomies of Scal | e: be Scale | enefits of get | |



| ion t affects: | | OVERSEAS LOCATION DECISIONS Advantages of overseas: |
|---|---|---|
| | | ✓ Cheaper labour |
| ark 🎫 | | ✓ Access to resources |
| iry cows | | ✓ Financial incentives |
| hairdresser | | from governments |
| , nan uresser | | Avoid protectionist measures |
| s | Disadvantages of ov | verseas: |
| .g. moving | different rules | and regulations |
| 0 0 | customers ma | iy have different taste |
| | | |
| ng A busi does a | ness plan is a documer nd what it hopes to ac | nt setting out what a business hieve in the future. |
| | PROBLEMS of busin | ness planning: |
| s - assess fisks /hank | Uncertainty - | lack of into about a situation. |
| o achieve | Lack of exper Change - rog | ularly need reviewing and |
| needed? | updated. | alany licea reviewing dilu |
| | | VS of husiness planning |
| l: | Research the | no of pusitiess planning: market thoroughly |
| t customers) | talk to consu | ultants (if affordable) |
| | Plan for a va | riety of outcomes |
| sales | Regularly rev | view and update the plan |
| you intend to | | |
| | Success Pro | ofit = Total revenue - Total costs |
| torecasts profit | t, | - |
| ures. | | |
| | | |
| | | |
| siness | Horizontal | Forward vertical |
| 1 | integration | integration |
| | | |
| cition) | Met inte | hods of |
| sitiony | | Backward |
| | Conglomerate | vertical |
| | congionnerate | integration |
| | | Integration |
| quisition, one cor buying the comp | mpany buys another. This bany outright. | could be by buying a majority of |
| agree to join toge | ether – both original sets o | of owners keep some ownership. |
| rates (merges wit Iying a retailer wł | h or takes overs) a busine no sells their goods. | ss closer to the customer. i.e. a |
| rates with a busin that supplies ther | iess further away from th m with goods. | e customer. i.e. a retailer buying |
| rates with a busin roduction. i.e. two | iess who operate in the sa o car manufacturers like Ja | ame market as them, at the aguar and Land Rover. |
| rates with a busin f production. i.e. | iess who operates in a dif Tata, who bought Jaguar I | ferent market, possibly at a Land Rover, and PG Tips. |
| ompany to do so | me of your work for you, | or perform certain jobs for you. |
| to use your brand use your name, le | l – you (the Franchisor) all ogo, products, in exchang | low other companies e for an annual fee and share of |
| tting larger (Pu of getting larg | rchasing / Technical) er (Communication/ ل | unit cost = total costs /output |
| | | |

AQA GCSE Business

AQA Business in the Real World

Unit 1

Appears in: Paper 1 & Paper 2

| Key Term | Definition | | |
|------------------------------|---|--|--|
| Acquisition / Takeover | One business takes control and ownership of another. | | |
| Business Environment | The range of external factors that influence a business: PESTLE-C – Political, Economic, Social, Technological, Legal, Environmental and Ethical, and Competition. | | |
| Business plan | Document setting out what a business does and what it hopes to achieve in the future | | |
| Capital | Investment in machinery, and the money required to start the business. One of the four Factors of Production . | | |
| Competition | The rivalry between businesses looking to sell their goods/services in the same market. | | |
| Competitive market | Businesses compete for the same customers, no one business has more than 25% market share. | | |
| Conglomerate | A business that owns brands in a range of different industries. For example, easyGroup own easyJet, easyHotel, easyPizza, easyGym, easyMoney, easyEnergy, and more. | | |
| Consumer | Someone who uses good and services produced by a business. | | |
| | The money spent by a business on goods and services. | | |
| Costs | Fixed Costs: The costs that stay largely the same, regardless of the business' output. | | |
| | Variable Costs: costs that vary directly with the business's levels of output | | |
| Creditor | hese are people or organisations who have supplied goods or services to a firm but have not yet een paid for them. | | |
| Customer | Someone who buys a product from a business | | |
| Deed of Partnership | This is a legal document which shows how responsibilities, profits and workload are to be shared. | | |
| Diseconomies of Scale | When a business grows too large, leading to a possible increase in unit cost. | | |
| Dividend | A portion of the after-tax profit that is paid to shareholders according to the number of shares they own. | | |
| E-Commerce | Business transactions carried out electronically on the internet. | | |
| Economies of Scale | The cost advantage of producing on a large scale. As output increases the unit cost decreases. | | |
| Enterprise | The ability to identify business ideas and opportunities to bring them to fruition and to take risks where appropriate. One of the four Factors of Production . | | |
| Entrepreneur | A person who is willing to take a risk by investing money into a business, organising the resources and hoping to make a profit. e.g. Richard Branson. Usually they do this because; they are ambitious, dissatisfied with working for other people, to pursue an interest, or because they have seen an opportunity, | | |
| Entrepreneurship | The act of being an entrepreneur – starting your own business and taking risks. | | |
| Flotation | Occurs when a private limited company becomes a public limited company and has its shares listed on the stock exchange. | | |
| Good | A physical product, such as a car. | | |
| Gross domestic product (GDP) | Measures all the income earned in a country's economy in the year | | |
| Imports | Goods and services from overseas by consumers of a businesses | | |
| Inflation | Refers to the rate at which prices are increasing | | |

| Key Term | Definition |
|------------------------|--|
| Integration | Businesses joining together through |
| Interest rates | The costs of borrowing money or th |
| Intrapreneurship | Encouraging your employees to tak working for you. |
| Labour | The work done by employees are the Production . |
| Land | Land and buildings. One of the four |
| | The extent of the owner's/owners' |
| Liability | Limited Liability: The owners are no liability for the business' debts is the |
| Market capitalisation | Of a company measures the value of Market capitalisation = market pric |
| Merger | When two or more businesses agree |
| Monopoly | Where a business has a market shar |
| Objective | A specific statement that defines a p time. |
| Opportunity Cost | The cost of the next-best alternative |
| Outsourcing | Contracting another business to car |
| Primary Industry | Industries which extract natural res |
| Private Sector | Businesses not owned by the state |
| Profit / Loss | Profit : Where income is greater tha Loss : Where expenditure is greater |
| Public Sector | Organisations where the activities a |
| Quota | Limit on the number of foreign goo |
| Raw Materials | Materials and resources that are for |
| Resources | The inputs that businesses use to p |
| Revenue | Income from the sale of goods and |
| Service | Intangible product (you cannot tou |
| Secondary Industry | Industries which manufacture, asse |
| Shareholder | A person or an organisation that ov |
| Social enterprise | A business that is set up to help soc |
| Sole trader | Someone who sets up their own bu |
| Special Interest Group | A stakeholder in an organisation wit group with a specific interest in bus |
| Stakeholder | Individuals and organisations that a |
| Tertiary Industry | Industries which provide services bo |
| Trade Union | An organisation who work to ensure workers) are protected. |
| Unit Cost | The costs of the raw materials and o |
| Unlimited liability | Personal possessions of the owners |

either a Merger or Acquisition / Takeover

ne reward for saving with a bank.

e risks and act as if they were an entrepreneur – but while

ose running the business. One of the four **Factors of**

Factors of Production.

responsibility for the debts of the business.

ot responsible for the debts of the business. The limit of their e amount they have **already** invested.

of all its shares.

e of shares x the number of shares

e to join together.

e of 25% or more. This allows them to dictate prices, their size to compete with as they are able to achieve economies of scale. precise goal that can be measured and delivered within a given

e that has to be given up when a choice is made.

ry out some of the business' activities.

ources. e.g. farming, oil drilling & mining.

government) but by individuals or groups.

n expenditure.

than income.

re carried out either by national or local government.

ds imported into a country

und / grown / extracted in the form that they will be used.

rovide their goods or services.

services over a period of time.

ch it) such as a bus journey

mble, process and construct goods.

vns part of a company

eiety rather than to make a profit.

isiness

th a particular interest, such as the Environmental Lobby – a inesses operating in an environmentally friendly way.

re affected by, and affect, the activities of a business.

oth to individuals and other sectors of industry.

e that the interests and rights of their members (a group of

components that have been combined to create a product.

of a business are at risk if there are any problems







Physical and Vocal skills

Vocal skills

Volume

Intonation

Emphasis

Personality

Mannerisms

Register

Accent

Age

Tone

Pace

Autumn 1 Knowledge Organiser – Year 9 Drama GCSE

Analysing and Evaluating

Physical skills

- Weight
- Tension
- Pace
- Gait
- Internal Rhythm
- Period of piece
- Reactions
- Non-verbals
- Facial expressions
- Gestures
- Mime
- Stance

Building a Character

<u>Basic</u>

What do they sound like?

How do they move?

What do they look like?

What is their backstory?

<u>Advanced</u>

Improvise characters in different scenarios.

Hotseat characters in pairs

Visualise characters and then analyse text to decide motivations and objectives moment to moment +super objective

Rehearse script extract applying motivations and objectives





Ask Mr. King for a FULL appendix which includes not only performance terminology, but every possible word you will need to describe even the most advanced piece of dramatic staging!

Warm Ups

Should include....

<u>Physical</u> - Relaxation, Relieving tension, Energising <u>Vocal</u> - Resonance, Breath, Articulation drills

Sentence Starters

This element of the performance ...

explored, conveyed, communicated, showed, presented

This symbolised ...

This represented ...

This moment was ...

The use of design elements included ...

The acting skills made use of ...

The director staged the section by ...

| (| |
|-------------------|--------------------|
| Voice | <u>Physicality</u> |
| accomplished | basic |
| enhanced the | inconsistent |
| performance | variable |
| exemplary use of | lacked development |
| sophisticated | poor |
| highly effective | cursory |
| impressive | vague |
| creative | patchy |
| thought provoking | little evidence of |
| powerful | ineffective |
| inspired | under-rehearsed |
| innovative | innovative |
| | |



Autumn 2 Knowledge Organiser – Year 9 Drama GCSE



Performance Glossary

| acting style | a particular manner of acting which reflects cultural and historical |
|-----------------|--|
| auticulation | the electity or distinction of encode |
| articulation | the clarity of distinction of speech |
| aside | to be overheard by other characters on-stage. |
| business | a piece of unscripted or improvised action, often comic in |
| | intention, used to establish a character, fill a pause in dialogue, or |
| | to establish a scene. An author may simply suggest 'business' to |
| | indicate the need for some action at that point in the play. |
| characterisatio | how a performer uses body, voice, and thought to develop and |
| n | portray a character. |
| dialogue | spoken conversation used by two or more characters to express |
| facus | thoughts, reenings, and actions. |
| nocus | any movement of the performer's head, shoulder, arm, hand, leg |
| gesture | or foot to convey meaning. |
| impaina | a technique which allows performers to slow down and facus |
| imaging | a technique which allows performers to slow down and focus |
| | closed allow pictures to form in their minds. These images may |
| | he motivated by hits of parration music sounds smells etc |
| improvisation | the spontaneous use of movement and speech to create a |
| | character or object in a particular situation; acting done without a |
| | script. |
| inflection | change in pitch or loudness of the voice. |
| Interaction | the action or relationship among two or more characters |
| language | in drama, the particular manner of verbal expression, the diction |
| | or style of writing, or the speech or phrasing that suggests a class |
| | or profession or type of character. |
| mannerism | a peculiarity of speech or behaviour. |
| mime | acting without words. |
| mirroring | copying the movement and/or expression or look of someone else |
| monologue | a long speech made by one performer: a monologue may be |
| monologue | a long speech indue by one performer; a monologue may be delivered alone or in the presence of others |
| mativation | the reason or reasons for a character's helperious as in sections and |
| motivation | the reason of reasons for a character's behaviour; an incentive or |
| | |
| movement | stage blocking or the movements of the performers onstage |
| | during performance; also refers to the action of the play as it |
| nace | noves non-event to event. |
| pace | include acting (e.g., character motivation and analysis, empathy) |
| elements | speaking (breath control vocal expression and inflection |
| cicilients | projection speaking style diction) and nonverbal expression |
| | (gestures, body alignment, facial expression, character blocking |
| | movement). |
| pitch | the particular level of a voice, instrument or tune. |
| | · · · · · · · · · · · · · · · · · · · |

 Inductine
 Induction
 Induction

| posture | Physical alignment of a performer's body or a physical stance |
|------------------|--|
| | taken by a performer which conveys information about the |
| | character being played |
| projection | how well the voice carries to the audience. |
| prompt | to give performers their lines as a reminder; the prompter is the |
| | one who assists performers in remembering their lines. |
| proxemics | contemporary term for 'spatial relationships', referring to spatial |
| | signifiers of the relationship between different performers or a |
| | performer and elements of the set which convey information |
| | about character and circumstances. |
| rhythm | measured flow of words or phrases in verse forming patterns of |
| | sound. Regularity in time or space of an action, process or |
| | reature. |
| role | the character portrayed by a performer in a drama. |
| role playing | improvising movement and dialogue to put oneself in another's |
| | place in a particular situation, often to examine the person(s) |
| | and/or situation(s) being improvised. |
| soliloquy | a speech in which a performer, usually alone on stage, speaks the |
| | Inner thoughts of his/her character aloud. |
| spatial | traditional term for what is currently referred to as proxemics , |
| awareness | nerformers or a performer and elements of the set which convey |
| | information about character and circumstances |
| stago proconco | the level of comfort, commitment, and operative performer |
| stage presence | appears to have on stage |
| staging | appears to have on stage. |
| stagning | performers stand and how they move on stage to communicate |
| | character relationships and plot and to create interesting stage |
| | pictures in relation to set, properties and audience and effects |
| | created by lighting, for example. |
| stock characters | characters who represent particular personality types or |
| | characteristics of human behaviour. Stock characters are |
| | immediately recognizable and appear throughout the history of |
| | theatre, beginning with Greek and Roman comedy and elaborated |
| | upon in <i>commedia dell' arte.</i> |
| tableau | a technique in creative drama in which performers create a frozen |
| | picture, as if the action were paused; plural is <i>tableaux</i> . Not to be |
| | confused with freeze frame, which is a term used in film and video |
| | production. |
| theatre games | improvisational exercises structured by the director or teacher to |
| | achieve a specific objective, such as breaking down inhibitions or |
| | establishing trust. |
| timbre | The distinctive character or quality of a musical or vocal sound |
| | apart from its pitch or intensity such as in a nasal voice quality. |
| upstage: (verb) | to deliberately draw the audience's attention away from another |
| | performer or performers by overacting, using flashy bits of business, or |
| | other means; term originated from an performer |
| | purposefully positioning himself upstage of the other performers |
| | so that they must turn their backs on the audience to deliver their |
| | l lines to nim. |
| vocal expression | now an performer uses his or her voice to convey character |
| vocal projection | directing the voice out of the body to be heard clearly at a |
| | aistance. |
| voice | the combination of vocal qualities a performer uses |



Computer Science





Data Representation: Compression of Images and Text

| Α | | Key Vocab | D File types | | | Е | Image |
|-------------|---|--|---|-------------------|-----------------------|-------------|-----------------|
| Compressio | n Re | eduction in file size to lessen download times and | PDF document lossless | | | metadata | |
| | storage requirements | | PNG | image | lossless | Filename | |
| Lossy | Co | ompression which loses data (and therefore quality) | JPEG | image | lossy | File format | |
| Lossless | Co | ompression which preserves the original data | GIF | image | image lossy Dimension | | nensions |
| Metadata | Da | ata about data | BMP | image | uncompressed | Res | olution |
| В | | Representing Text | MPEG | video | lossy | Col | our depth |
| ASCII | | A 7-bit code which represents a basic character set | MP4 | video | lossy | Tim | e and Date |
| Extended | | A character set represented by 8 bits instead of 7, | MOV | video | lossless | Loc | ation |
| ASCII | | in other ways just like ASCII | MP3 | audio | lossy | Car | nera settings |
| Unicode | | A modern standard character set which uses 16 | WAV | audio | lossy | 80 | |
| | bits and includes many international characters | | F | Lossy compression | | | n |
| Character s | Character setThe complete set of letters and symbols available within a given code | | | SPE S | AT I | Y | AF. S |
| С | C Representing Images | | 100 | 00 | 0 0 0 | | 100 |
| Bitmap | The and | representation of an image by converting it to pixels each pixel to a binary number | | | | | |
| Vector | The and | representation of an image by splitting it into shapes storing each shape as a binary number | Original: Compressed: Very compr 12KB 1.8KB 0.56KB | | y compressed: 6KB | | |
| Pixel | The | he smallest element of an image. One dot of one | | G Colour depth | | | |
| | colour. | | 1 bit | = 2 colors | 2 bit = 4 colors | 4 | pit = 16 colors |
| Resolution | The | level of detail in an image, measured in pixels (dots) | | | | | |
| | per | per inch (dpi) | | | | | |
| Colour | The number of bits used per pixel to record colour. | | | | | | |
| depth | | | | | | | |
| File Size | width (px) × height (px) × colour depth | | | | N. Harris | | James |

Data Representation: Compression of Sound











| Α | Representing Sound | | | | |
|--------------------|--------------------|--|------------|--|--|
| Digital | | Having discrete values which can be stored as binary | | | |
| Analogu | ie | Having continuously changing values | | | |
| Sample | | The smallest element of a recorded sound. A value or s | set of | | |
| | | values which represent a sound at a specific moment | | | |
| Sample | size | The number of seconds over which a <i>sample</i> was | 6 | | |
| | | taken | 3 | | |
| Sample rate | | The number of times per second the sound is | <i>Ц</i> 7 | | |
| | | sampled. Sample size ÷ sample interval | | | |
| Bit rate | | The number of bits used to store a second of | | | |
| | | sampled sound. Bit depth × sample rate | bps | | |
| Sample | interval | The length of time between two samples | S | | |
| Bit depth / Sample | | The number of bits used to store each sample | | | |
| resoluti | on | | D | | |
| Channel | | An audio file which is intended to be played at the same | | | |
| | | time as another | | | |
| File size | | Sample rate × bit depth × sample size | | | |

| | | | D | Variables and Constants - Types | | |
|--|-----|--|------------|--|--|--|
| Programming: Basics | | | Variable | A named value which can be changed as | | |
| ۵ | | | | the program is running | | |
| A | | | Constant | A label that refers to a location in memory | | |
| Debugging | 5 | Finding and fixing errors in code | | containing a fixed value | | |
| Execution | | When a command or program is run by the processor | Global | A variable which is used throughout the | | |
| Operation | | A mathematical process which takes one or two | | program | | |
| | | inputs and produces one output | Local | A variable which is defined and used only | | |
| Programm | ing | A set of instructions and syntax which can be used to | | within a sub program | | |
| Language | | make programs | E | Sub Programs | | |
| Script | | A small simple program, particularly run on command | Sub | Any section of the program which might | | |
| | | line interfaces | program | be <i>called</i> by the main program and is self- | | |
| Sequence The order in which a list of instructions is carried out | | The order in which a list of instructions is carried out | P. 60 | contained | | |
| В | | Syntax | Argument | Data supplied to a <i>function</i> or <i>procedure</i> | | |
| Comment | | A part of a program which is ignored by the computer | 0 | when it is <i>called</i> | | |
| | | but can be read by the programmer | Breakpoint | The part of a subprogram where it stops | | |
| Indentation | | A stylistic approach for writing code. The contents of | • | and returns to the main program or where | | |
| | | loops or selection are set a few spaces in from the | | the main program stops completely | | |
| | | previous indentation | Call | An instruction to run a sub program | | |
| Syntax | | Rules for the structure of a programming language | Function | A sub program which can take any amount | | |
| С | | Variables and Constants - Initialisation | | of arguments and return a value | | |
| Assign | | Give a value to a variable or constant at the beginning | Parameter | A variable which is defined within a sub | | |
| | | of a program | | program and which the sub program | | |
| Data Type | | The nature of information used by a computer | | needs to run | | |
| Declare | | Set up a variable by naming it and allocating memory | Procedure | A sub program which can take arguments | | |
| | | to it | | but which does not return a value | | |
| Initialise | | Declare variables and assign values at the beginning | Return | To give back a value from a sub program to | | |
| | | of a program | | the main program | | |

Programming: Operations

| А | Key vocab | | | | | | D | Order of operations | | | | | |
|--|-------------------------------|--|---|-------------|---------------|--------|---|---|---|-------------------------|-------------|--------------------------------|---|
| Operand | | A number (or string or Boolean) which is to be | | | | 1 | Bracket | s What | Whatever is in the brackets is resolved | | | | |
| operated on | | | | | | 2 | llnany | Δρ | nora | tion with only one | operand | | |
| String manipulation Operating on strings | | | | | | 2 | Undiago | Baic | ing to | the newer of a nu | mbor | | |
| В | Unfamiliar operations | | | | | 5 | Division | Rdis | uding | o the power of a nu | | | |
| Concatenati | on Joins two strings together | | | | '-)" | 4 | Division | | | | | | |
| Exponentiat | ion Ra | aises one n | umber to the | power | of and | other | 2**3 | 5 | | | | | |
| Modulus / n | nod Re | eturns the r | remainder aft | er divis | sion | 10 % 3 | 3 = 1 | 7 | 7 Subtraction | | | | |
| Quotient / | Re | eturns the v | whole numbe | r part o | of the | 10 // | 3 = 3 | 8 | Comparison An operation which return | | | irns a | |
| floor divisio | n di | ivision | | | | | | 0 | Roolean by comparing ty | | | wo operands | |
| Unary | 0 | nly has one | operand | | | -7 | | 9 | Boolean An operation which returns | | | urns a | |
| С | | Τ | ypes of opera | tor | | | | Boole | | | | lean by comparing two Booleans | |
| Arithmetic | An op | erator whic | h turns two: | | **, /, 9 | %, //, | | 10 | Assignment An operation which assigns a va | | | | gns a value |
| operator | numb | ers into a s | ingle number | with | *, +, - | | | | to a name | | | | |
| A | a mathematical process | | | E | E Logic vocab | | | | | | | | |
| Assignment | to a n | ame | in assigns a ve | alue | =, ⇒ | | Boolean algebra Mathematical expression of logic circuits | | | | | gic circuits | |
| Declear | <u> </u> | orator whi | <u></u> | | | | Logic | ic gate A component which takes in one or two bin | | | | | r two binary |
| Boolean | An op | erator which | ch compares | | AND, | UR, | inputs and produces a single binary output | | | | | , v output | |
| operator | Boole | an values | | | NOT | | Logic | circ | uit Aci | rcuit n | i nade (| of a combination of | logic gates |
| Comparison | An op | erator which | ch compares t | wo | >, <, > | >=, | Truth table A table of inputs and outputs for a logic gate | | | | | logic gate | |
| operator | tor numbers <=, ==, != | | | | | svst | em | mpac | | logic Bate | | | |
| F | F Logic gates | | | | | | | | 3,30 | em | | | |
| OR A — gate B — | \sum | ≻-z | A B Z 0 0 0 0 1 1 1 0 1 1 1 1 | AND gate | А — В — | |)- | z | A B 0 0 0 1 1 0 1 1 | Z 0 1 1 | NOT gate | A | A Z 0 1 1 0 |

Programming: Structures

| IterationRepeated execution of a group of instructionsLinearA search algorithm which starts by looking atConditionAn iteration statement which repeats until a certain requirement is metSearchFirst item in an unordered list, then moves to second etc.CountAn iteration statement which repeats for a controlled loopA search algorithm which starts by looking at second etc.CountAn iteration statement which repeats for a controlled loopBinary searchA search algorithm which starts by looking at middle term in an ordered list, then if the ite | g at the s to the g at the | | | |
|---|---|--|--|--|
| ConditionAn iteration statement which repeats until a certain requirement is metsearchfirst item in an unordered list, then moves to second etc.CountAn iteration statement which repeats for a controlled loopAn iteration statement which repeats for a specified number of timesBinary searchA search algorithm which starts by looking at middle term in an ordered list, then if the ite | s to the g at the | | | |
| controlled loopcertain requirement is metsecond etc.CountAn iteration statement which repeats for a controlled loopBinary specified number of timesA search algorithm which starts by looking at search | g at the | | | |
| CountAn iteration statement which repeats for a controlled loopBinary searchA search algorithm which starts by looking at middle term in an ordered list, then if the ite | g at the | | | |
| controlled loop specified number of times search middle term in an ordered list, then if the ite | | | | |
| | item is | | | |
| Search Find a specific item in a list of data using an not found, recursively searching on the half of | alf of | | | |
| algorithm the list with the item in it | | | | |
| Selection A choice of which branch to take in a E Sort | | | | |
| program, often with IF statements Bubble A sorting algorithm which swaps adjacent in | nt items | | | |
| Sort Arranging a list into an order sort in a list if they are not in the right order, be | before | | | |
| StatementAn instruction or clause in a programmoving onto the next pair. | moving onto the next pair. | | | |
| Recursive An algorithm which calls itself Insertion A sorting algorithm which goes through a list | A sorting algorithm which goes through a list by | | | |
| B Iteration structures sort item, removes the item and puts it into the | item, removes the item and puts it into the | | | |
| DO UNTIL Iteration structure which has a stop condition at appropriate place in a new ordered list | appropriate place in a new ordered list | | | |
| the end of the loop Merge A sorting algorithm which splits a list in two | two, | | | |
| DO WHILE Iteration structure which has a continuation sort sorts each list recursively, then merges the | sorts each list recursively, then merges them back together | | | |
| condition at the end of the loop back together | | | | |
| FOR NEXT Iteration structure which has an index variable, a Search for 12 between index 0 and 6 | | | | |
| step value and a stop condition | 5 6 | | | |
| WHILE Iteration structure which has a start condition at Image: Start condition of the start c | | | | |
| the beginning of the loop Search for 12 between index 4 and 6 | | | | |
| C Selection structures | 5 6 | | | |
| IF (ELIF) A selection statement which branches the | 1/ 10 | | | |
| ELSE program under certain conditions | | | | |
| SWITCH A type of selection statement where there are a Index 4 is 12 0 1 2 3 4 5 | 5 6 | | | |
| CASE number of possible branches | 11/18 | | | |

Programming: Data and Data types

| Α | Key vocab | | D | Data measurements | | | | |
|------------------|---|-----------------|------------|--|-------|--|--|--|
| Alphanumer | ic Containing letters, digits and symbols | | Bit | A single unit of information. A 1 or | b | | | |
| Data | A unit of information without context, | measured in | | a 0. A binary digit. | | | | |
| | bits | | Nibble | Half a byte. Four bits. | | | | |
| Information | Data, made intelligible by context | | Byte | Eight bits | В | | | |
| Typecast | Force a variable into a certain data type | e | Kilobyte | 1000 B | | | | |
| B Number Systems | | | Megabyte | 1000 KB | MB | | | |
| Binary | Counting system using 1s and 0s. Comp | outers use it | Gigabyte | 1000 MB | GB | | | |
| | because transistors can be used as swit | ches: 1 is 'on' | Petabyte | 1000 GB | PB | | | |
| | and 0 is 'off'. | Terabyte | 1000 PB | ТВ | | | | |
| Denary | Our normal numbering system with dig | its from 0 to 9 | E | Binary manipulation | | | | |
| Hexadecima | A number system using the digits from | 0 to 9 and A to | Binary | Adding or taking a zero at the end of a | | | | |
| | E. Easy to convert to and from binary ar | | shift | binary number | | | | |
| read than binary | | | Left shift | Adding a zero to the end of a binary | | | | |
| С | Data types | Python | | number, multiplying it by 2 | | | | |
| Array | An indexed list of values. The index | ['o','m','g'] | Right | Taking a bit from the end of a binary | | | | |
| | normally starts at 0. Unlike a Python list, | [6, 0, 8, 1] | shift | number, dividing by 2 and rounding c | lown | | | |
| | all values have the same data type and | [0.1, 5.0] | Binary | Adding binary numbers together | | | | |
| | the maximum size is normally declared | | addition | | | | | |
| Boolean | A data type which is either true or false | True, False | Overflow | A carried digit which is lost because t | he | | | |
| Character | A single alphanumeric symbol | 'B', '@', '8' | | number is too big for the space allott | ed to | | | |
| Integer | A data type which is a whole number | 50, -7, 2 | | it. ie 1111 + 0011 = 0010 (4 bit additio | on) | | | |
| List | An indexed collection of data in Python | ["a", 2, True] | | | | | | |
| Real / Float | A number with a decimal point | 5.0, 3.14, 1.9 | | | | | | |
| String | A data type which is a collection of any | "hello", "", | | | | | | |
| | number of characters | "01273" | | | | | | |

Memory

| А | A Secondary Storage: Types | | | | B Secondary Storage: Qualities | | | | | |
|-------------------------|----------------------------|-------------|---|--|--|-------------------------|------------------------------------|--------------------------------------|---------------------------|--|
| Flash | | A ty | pe of SSD which stores information by forcing | 1 | Сар | acity | , | Amount of da | data a storage device can | |
| | | elec | trons through a barrier with a large current | | | | | hold | | |
| Magnet | tic | Che | ap storage which requires moving parts and | 2 Durabilit | | ty | How well the device resists damage | | | |
| writable magnetic disks | | 3 | Port | Portability How easily the device can be | | e device can be carried | | | | |
| Optical | | Chea | ap storage which requires a laser and a disk | 4 | Reli | abilit | ty | How well the | data resists corruption | |
| Solid St | ate | Mer | nory with no moving parts | 5 | Spe | ed | | How quickly t | he data can be read from | |
| Drive (S | SSD) | | | | | | | the storage device | | |
| С | | | Primary Storage | 6 | Cost | t | | Pounds per G | В | |
| Main m | nemory | 1 | Other ways of saving PAM | | E | | The Cloud | | | |
| Primary | y stora | ge | | | oud | id Rem | | notely located storage and software, | | |
| Virtual | memo | ry | Part of secondary storage which is used as | | | accessed via the ir | | ssed via the in | nternet | |
| | | | main memory when RAM is full | | Advan | | dvaı | ntages | Disadvantages | |
| Dynamic RAM | | 1 | Single transistor / capacitor RAM which needs | 1 | 1 No need to up | | update | Entrusting potentially | | |
| | | | to be refreshed every few milliseconds | | арр | pplication software | | oftware | sensitive data with | |
| Static R | AM | | 4/5 transistor RAM which can hold data | | | | | outsiders | | |
| | | | without being refreshed (but does need power) | | No need to maint | | naintain the | Safety and security of | | |
| D | | | Key Vocab | | equipment, s | | software or | sensitive data is outside | | |
| Read O | nly | | Non-volatile memory which cannot be over- | | data | à | | | your control | |
| Memor | y (RON | / I) |) written. Generally used for booting | | No need to employ The service | | The service must be | | | |
| Storage device | | e | Any hardware which can hold, read and write | | network m | | mai | nagers or | totally reliable | |
| | | | data | | othe | other technical staff | | | | |
| Storage mediur | | um | The type of material or method used to store | 4 | Service provider takes Requires internet | | Requires internet | | | |
| - | | | data | | care | e of b | ack | ups | connection | |
| rertiary | stora | ge | | 5 | Easy | / to s | hare | e files and | | |
| Volatile | <u>)</u> | | Memory which requires power | | colla | abora | ate a | across | | |
| Non-volatile | | | Memory which persists without power | | plat | form | is an | d locations | | |

Programming: Essential Programs 1

| Α | A Count from 1 to 20 | | | | | | | |
|--|------------------------|--|--|---|---|---|--|--|
| | Python | | | Pse | | Main Differences | | |
| Conditio controllo loop | on 1 ed 2 3 4 | <pre>x = 1 while x < 21: print(x) x = x + 1</pre> | | <pre>x = 1 while x < 21 print(x) x = x + 1 endwhile</pre> | <pre>x = 1 do print(x) x = x + 1 until x == 21</pre> | • | Pseudocode has ENDWHILE Pseudocode can use DO UNTIL | |
| Count1for i in rcontrolled2print(i)loop21 | | ange(1, 21): | for i=1 to 20 print(i) next i | | • | Pseudocode FOR loop looks like this. Must have NEXT i | | |
| В | B One Question Quiz | | | | | | | |
| | Pyt | thon | | Pseudocode | | | Main Differences | |
| <pre>1 ans = input("5 x 3?") 2 if ans == "15": 3 print("Yes") 4 elif ans == "16": 5 print("Close") 6 else: 7 print("No")</pre> | | <pre>ans = input if ans == " print("Ye elseif ans print("Cl else print("No endif</pre> | ("5 x 3?") 15" then s") == "16" then ose") ") | <pre>ans = input("5 x switch ans: case "15": print("Yes") case "16": print("Close" default: print("No") endswitch</pre> | 3?" | ') THEN instead of colon ELSEIF instead of elif ENDIF at the end Indentation not necessary SWITCH CASE is not in Python | | |
| C O | utput al | I the members of a | an array which are | multiples of 3. | | | | |
| 1 a = [2,3,5,8,13,21,34,55] Makes 2 for x in a: when x 3 if x % 3 == 0: is an ex 4 print(x) is an ex | | | Makes use of mo when x is divided is an exact multip | odulo division – x % 3 d by 3 . If the remain ole of 3. This program | 3 means x MOD 3 which n ider is 0, there is no remai m will output 3 and 21 | าea nde | ns the remainder er. Which means that x | |

Flowcharts

| A | | Key Vocab | |
|------------------|----------------------|---|---|
| Component | Shape | Function | Notes |
| Terminator | Rounded rectangle | Start or end of the program. Normally "Start" or "Stop" | The start will always have one arrow coming out. The end may have many arrows going in. |
| Input/ Output | Parallelogram | Input – asks for an input input () or wait for click etc. Output – outputs information print () or make a sound etc. | Can have many arrows coming in. Only one |
| Process | Rectangle | Performs an action internally ie change the value of a variable, pause etc. | arrow comes out. |
| Decision | Diamond | Contains a question where the answer is normally Yes/No ie n == 8 or is password == "car"? | Always has two arrows coming out (at least). The paths must be labelled (eg Yes and No) |
| _ | | | |

| В | Programming Structures in Flowcharts | С | Key Ideas | |
|-----------|---|--------|------------------------------------|--|
| Sequenc | e The order of instructions. Shown here with arrows | Flow | The direction the arrows point in. | |
| Itoration | Looping or repeated instructions. Shown here when | FIOW | Similar concept to sequence | |
| iteration | arrows go back to a previous point in the program | Arrows | Always point towards the next | |
| | Where a program can branch in (at least) two | Allows | component in the sequence | |
| Selection | directions. Decision components are always | Beacon | Visually shows the sequence of a | |
| | examples of selection | Reason | program | |



Design and Technology



Knowledge Organiser – Year 9 Cube Calendar Project

| | 00 | | | | P |
|-----------------|---|---|--|--|--|
| <\$4 | Knowledge CAD - Drawing design ideas by hand and using 2D Design to produce a range of designs for the Cube Calendar. Isometric – Using Isometric to draw different views of Cube Calendar. Manufacturing Plans – Following complex planning for marking out, cutting and assembling of Cube Calendar. | Design Situation – The Prob Moodboard – A collection of chosen theme/s. Design Brief & Specif A written description of what why. A list of specific statements your product will be like. Research: Existing Products– looking at them using ACESS FAME and for our own designs. Design: CAD – using computers to g Drawing techniques – using for the Cube Calendar. Evaluation: Analyse, refine and test the | sign Process when you are aiming to solve. If inspiring images and words based on a fication: at you intend to design and make and to then further describe exactly what at existing Cube Calendars, analysing d then how we can use these features enerate Isometric Final Idea thand drawn images to generate designs final product. Suggest modifications. | Practical Skills Pencil Crayons: Used to apply subtle colour. Felt Tips: Used to apply bold colour. Laser Cutter: Used to cut out parts and pieces for Cube Calendar. Vinyl Cutter: Used to further embellish Cube Calendar Hand Tools & Machinery – Used for cutting, sanding and assembly parts of Cube Calendar. Manufacturing Plan Templates – Used to follow, mark out, drill and cut parts and pieces for Cube Calendar. | SCAN ME - Vinyl Cutting |
| Problem Solved! | Key WordsAesthetics: Concerned with beauty or the appreciation of beauty.Analyse: To look at and discuss in depth.CAD: Computer Aided Design – the use of computers to help create and design.Client: The customer/target audience you are designing and making for.Isometric Projection: A 3dimensional drawing where all angles on the horizontal lines are pre-set to angles of 30 degrees.Manufacturing Plan: The planning of the making of a product from its raw material to the finished product.Risk Assessing: Identifying hazardous tasks on machines and being able to control those risks associated with them. | <section-header></section-header> | NumeracyMm = MillimetersCm = CentimetersM = Meters1cm = 10 mm10cm = 100mm100cm = 1000mm1000mm = 1mTolerance = +/- 3mmArea = Length x WidthPerimeter = all sides added toget2D & 3D Shapes - Sides, FacesEdges & Vertices $C = 2 \pi R$ $D = C / \pi$ | therefore the series of the se | Pinatch ■ mination ■ mination |

JULY

Knowledge Organiser – Year 9 Inclusive Design Project



Practical Skills

Pencil Crayons: Used to apply subtle

Felt Tips: Used to apply bold colour.

Craft Knife: Used for cutting w

Cutting Mat: Used to protect

surfaces when cutting with a craft

Junior Hacksaw – A small handsaw

used for cutting a variety of resistant

materials in wood, metal and plastic

Bench Hook – Holds work in place

whilst crosscutting with a hand saw.

to protect finger tips.

precision and trimming.

Safety Ruler: Used with a craft knife

colour.

knife.



Knowledge

Accessibility – Ensuring that within designing there are no barriers that prevent the interaction with a product.

Modelling – Using a variety of modelling mediums to produce different solutions to a problem. Inclusive Design – Applying the principle that the design of a product relies on a single design to suit the needs of those with all types of abilities and disabilities, from nondisabled individuals to those with visual, auditory, cognitive and physical disabilities. 5th to 95th % - Designing for approximately 90% of the population.

Key Words

Accessibility – the practice of making information, activities, products and/or environments sensible, meaningful and useable for as many people as possible. Anthropometrics – Measurements of the human body that are needed to ensure designs are the correct size. **Ergonomics** – The study of people's efficiency in their working environment It is concerned with making products and equipment more comfortable for the people that use it. Inclusive Design – Also called universal design makes places and products useable by everyone regardless of age, ability and circumstance.

Percentiles – the 100 equal groups the population can be divided into.





Literacy

Write about your own design ideas and

because it reflects the needs of the user

I have researched. Whilst I think that my

first design reflects their needs, it may

next time

Use ACCESS FM technique for

annotating design ideas.

it's almost as it

this particular idea

what I like about this idea

satisfies the specification

of all the ideas I have drawn

E.g. I am really pleased with the

be inaccessible for all.

prototype I have designed. I like it

sources.

I think that

Portravs

reminds me of

suggests that

it could be that

makes me feel

gives the impression that

another idea would be

Research: Design: prototypes.

Design Process

Task Analysis:

Design Situation – The Problem you are aiming to solve. **Design Brief** – A written description of what all of the project aims are.

Mind Map – A brainstorm of all the different areas of research.

Moodboard – A collection of inspiring images and words based on a chosen theme/s.

Different Materials – looking at modelling materials that we can use for our own models and prototypes

CAD – using computers to design and make parts/pieces for

Drawing techniques – perspective, isometric and CAD to draw walls, floors and different views of final idea. which must hold all of the cards, board, counters etc.

Numeracy Mm = Millimeters Cm = Centimeters M = Meters 1cm = 10 mm 10 cm = 100 mm100 cm = 1000 mm1000mm = 1m

Tolerance = +/- 3mm

Area = Length x Width Perimeter = all sides added together

2D & 3D Shapes - Sides, Faces, Edges & Vertices $C = 2 \pi R$ $D = C / \pi$

Calculating design percentiles

Inspiration







.......

SCAN ME - Good Grips Products



Knowledge Organiser — Year 9 Mp3 Player Project Knowledge

Dimensions for

CAD Work





CAD - Drawing design separate parts/pieces using 2D Design to formulate a completed Final Idea.

Guerrilla Marketing – Using creative and unconventional ways to promote and advertise final Mp3 Player. Manufactured Boards – Using

man-made boards to construct

the frame of the Mp3 Player.

Polymers – Using Plastics to

for the Final Idea of the Mp3

Soldering – Joining electronic

components together to make

Key Words

Acrylic – Scientific name Polymethylmethacrylate

(PMMA). A synthetic Polymer used for strength and

Ceramic Disc Capacitor - A small component,

that looks like a flat bean, that holds the charge for

Electrolytic Capacitor - A small component, that looks like a cylinder, that holds the charge for

storage devices. This has a polarity.

a complex circuit.

thermoplastic properties.

storage devices.

together.

form the parts/pieces needed



Player.

SCAN ME – Guerilla Marketing









Different Artists/Designers – looking at inspiring work that we can use for our own Mp3 inspiration. Design: **CAD** – using computers to generate parts/pieces to create our designer theme. Drawing techniques – perspective, isometric and CAD to draw designs.

Marketing & packaging – designing creative ways to promote and advertise Final Mp3 Player.

Design Process

Design Situation – The Problem you are aiming to solve.

Design Brief – A written description of what all of the project

Mind Map – A brainstorm of all the different areas of research.

Moodboard – A collection of inspiring images and words based

Manufacture: Modelling – Using different mediums to build a protype model.

Task Analysis:

on a chosen theme/s.

aims are.

Research:

Literacy

Reading and comprehension

on Designer/Artist

Movement:

Written and pictorial production of a Storyboard

Numeracy

Mm = Millimeters Cm = Centimetres M = Meters 1 cm = 10 mm10cm = 100mm 100cm = 1000mm 1000mm = 1m

Tolerance = +/- 3mm

Area = Length x Width Perimeter = all sides added together 2D & 3D Shapes - Sides, Faces, Edges &

Vertices

 $C = 2 \pi R$ $D = C / \pi$

Resistor Values and Calculations

colour. Felt Tips: Used to apply bold colour. Laser Cutter: Used to cut out parts and pieces for Mp3 Player. Vinyl Cutter: Used to further embellish Mp3 Player. Hand Tools & Machinery - Used for cutting, sanding and assembly parts

Practical Skills

Pencil Crayons: Used to apply subtle

of Mp3 Player. Soldering: Used to join and combin electronic components to make a fully working circuit for the Mp3

Player.



Inspiration **Designer Research**

Existing Products

.........





wood, made from wood offcuts and resin to hold it

Push To Make Switch – An electronic switch that operates when pressed.

MDF – Medium Density Fibreboard is a man-made

Thermoplastic – A plastic polymer that can be heated, soften and remoulded.

Thermosetting Plastic - A plastic polymer that can only be heated and moulded once.

Tinning – Coating the soldering iron or

component with soft solder.to encourage the flow.



of making.

- Tinning



English



Narrative Writing

| Technique | Example |
|---|---|
| Open with an adverb (describes the verb) | Hysterically, the girl began to laugh |
| Open with a verb (doing word/action) | Sauntering towards the exam hall, the student couldn't control his dread |
| Open with a simile | Like a dangerous assassin, the cat waited patiently to pounce |
| Open with 3 adjectives | Silvery, shimmering and bright, the sea stretched out endlessly into the horizon |
| Open with 'Although' or 'Despite' | Although the fire had been blazing relentlessly for three months, it was showing no signs of stopping |
| Open with a noun phrase | Chairs with tattered upholstery littered the empty hallway |
| Open with a prepositional phrase | Beneath the bridge, the children giggled hysterically at the fact they had managed to shake off their dad |



Narrative hooks can be:

- funny appeal to the reader's sense of humour
- atmospheric evoke a particular mood through description of a place or emotion
- **speech** capture the immediate action and scene
- direct address talk directly to the reader
- question encourage the reader to find an answer

Setting is the context in which a narrative occurs and includes the time, place, and social environment. It is important to establish a setting in your narrative, so your readers can visualize and experience it to the maximum degree. Settings can also build up a sense of atmosphere which can hugely heighten a readers sense of enjoyment and excitement.

- Simile Comparing something to something else using 'as' or 'like' e.g. 'eyes as blue as the ocean'
- Metaphor Saying something IS something else (direct comparison) e.g. 'David growled viciously at his parents' or 'He was a pig'
- Personification Giving human qualities to inanimate objects 'The daffodils danced merrily in the breeze'
- Pathetic Fallacy When the weather reflects the mood of the story. 'The rain lashed down furiously outside as the family began to argue yet again'
- Zoomorphism It means to attribute animal forms or animal characteristics to other animals, or things other than an animal

 The resolution takes place directly after the climax and is the last scene(s) in the book.

2. The resolution must tie off all prominent loose ends, leaving the reader without any salient questions. However, it must also avoid being too Neat.

3. The resolution needs to offer the reader a sense of continuation in the lives of the characters. Even a standalone book should hint at the life the characters will lead after the reader has closed the back cover.

4. The resolution should give the reader a concrete example of how the character's journey has changed him. If he was a selfish jerk at the beginning of the story, the resolution needs to definitively demonstrate his change of heart.

5. Finally, the resolution should strike an emotional note that resonates with the tone of the book as a whole (funny, romantic, melancholy, etc.) and leaves the reader completely satisfied.

The hero is the audience's personal tour guide on the adventure that is the story. It's critical that the audience can relate to them, because they experience the story through their eyes. During the journey, the hero will leave the world they are familiar with and enter a new one. This new world will be so different that whatever skills the hero used previously will no longer be sufficient. Together, the hero and the audience will master the rules of the new world, and save the day.: Anti-hero: Antiheroes do not possess traditionally heroic qualities. In fact, they have qualities that seem more befitting of a villain, such as dishonesty, greed, or general

immorality.

Tragic hero: A tragic hero is a hero who possesses a fatal flaw or makes an error in judgment that ultimately leads to their downfall.

Everyman hero:

Everyman heroes are ordinary people without any apparent heroic qualities or characteristics.

Classical hero: A classical hero is a character who possesses a great talent or ability that separates them from the rest of their contemporaries.


Food Technology



Proteins are large molecules, made up of amino acids

As they are so big, protein molecules are often folded into compact bundles as they take up less space.

Proteins are complex molecules which contain the elements: oxygen, carbon, hydrogen, nitrogen and sometimes

sulphur and phosphorus. Chemical bonds in the protein molecule bundles hold it together and stop it unfolding.

Denaturation

Protein molecules can easily be denatured.

This means that the chemical bonds that hold the protein molecule bundle together can be broken, which makes the protein molecule bundle unfold and change shape.



<u>Denaturation</u> of protein molecules can be caused by:-

Heat e.g. boiling or frying an egg

Acids e.g. when adding lemon juice to cream or meat as a marinade

Air bubbles e.g. in a whisked sponge such as Swiss roll

Mechanical agitation e.g. whisking egg whites for meringue



Acids e.g. marinating

Marinating is the process of soaking meat, fish or vegetables in liquid before cooking.

Marinating will tenderise tougher cuts of meat because the acids (used in the marinade) cause the meat fibres to break down and allows more moisture to be absorbed into the meat, making the meat juicy and tender.



Denatured protein molecules are larger and take up more space.

Due to this, they knock into other denatured protein molecules and then start to join together in large groups. This is called <u>coagulation</u>

As they coagulate, the protein molecules trap and hold water from the food in pockets.

As coagulation continues, the appearance and texture of the food changes.



If a food containing a protein is overcooked, the coagulated protein molecules tighten up and squeeze out the water they were holding. This is why overcooked meat or fish is dry and chewy and an overcooked scrambled egg is rubbery and watery. (**Syneresis**)

Mechanical agitation e.g. whisking to form a foam

Whisking makes the protein in the egg white unravel and denature. This allows tiny bubbles of air to be incorporated into the egg white producing an egg white foam.

This form of denaturation is reversible because if the foam is left to stand it will collapse back into liquid egg white.

However, if you heat the foam it will <u>coagulate</u> resulting in a firm texture.

If you add an acid to the egg whites before whisking it will make the mixture slightly acidic and therefore less likely to suffer the effects of over whisking e.g. lumpiness, loss of water and collapse.



Protein is needed for:

growth of body cells and tissue **repair** and **maintenance** of all body tissue providing a **secondary** source of energy

Different people need different amounts of protein:

Men need more protein than women as they are normally taller than women and have more muscle tissue.

Babies and children need a lot of protein (relative to their size) as they are growing.

Teenagers need more protein for their rapid growth spurts.

| Age | Males | Females | | | |
|-------------|-------|---------|--|--|--|
| 1–3 years | 14.5g | | | | |
| 4–6 years | 19.7g | | | | |
| 7–10 years | 28.3g | | | | |
| 11–14 years | 42.1g | 41.2g | | | |
| 15–18 years | 55.2g | 45g | | | |
| 19–49 years | 55.5g | 45g | | | |
| 50 years+ | 53.3g | 46.5g | | | |

Eating too much protein may be harmful to the kidneys and liver because they have to break down the protein. If you don't use the extra protein consumed for energy, it will be stored as fat, which can lead to weight gain.

Protein **deficiency is very rare** in the developed world as most people eat a wide range of foods.

Kwashiorkor is a deficiency disease caused by a lack of protein. Kwashiorkor can occur in children in developing countries where there is famine or an unstable food supply. Symptoms of kwashiorkor include poor growth rates, water retention, hair loss and infections.



Proteins are made from **amino acids**.

There are about 20 amino acids.

These amino acids combine in different ways to make all the proteins in your body.



high biological value (HBV).

called

desserts.

Foods that contain all of the essential amino acids are

HBV proteins come mainly from animal proteins, for

There are some exceptions to this rule – soya beans and guinoa. These contain all of the essential amino acids. Soya beans have many uses. They may be used in their natural bean form, for example in a soya bean casserole.

Alternatively, soya is used to make many products such as

textured vegetable protein (TVP), tofu, soya milk and soya

Quinoa may be used in the same way as rice in cooking.

example meat, fish, dairy produce and eggs.

Some amino acids can only be obtained from food. These are called essential amino acids. There are eight essential amino acids needed by adults and children. Some extra ones are needed by children because they are growing

| Meat Pulses (peas, beans and lentils) Fish Cereals (e.g. wheat, rice, oats and Eggs barley) Cheese Nuts Yoghurt Seeds Soya beans Mycoprotein (e.g. Quorn™) | High biological value sources of protein | Low biological value sources of protein |
|--|--|---|
| | Meat Fish ggs Cheese Yoghurt Soya beans <u>Mycoprotein (e.g.</u> Quorn™) | Pulses (peas, beans and lentils) Cereals (<u>e.g.</u> wheat, rice, oats and barley) Nuts Seeds |

Foods that lack one or more of the essential amino acids are called low biological value (LBV).

LBV proteins are supplied by plant foods: beans (except soya beans), pulses, nuts, seeds and cereals.





When LBV proteins are eaten together, the biological value will increase. This is because the essential amino acids missing in one LBV food can be supplied by another LBV food.

For example, beans are lacking one essential amino acid and bread is lacking one essential amino acid, but together these foods supply all of the essential amino acids. Combining LBV foods in this way is called **protein** complementation.

Protein complementation examples Beans on toast Lentil dhal and chapattis Rice and peas Hummus and pitta bread







French



Y I French Knowledge Organiser: Unit 1 Mon temps libre



Ma célébrité préférée – *My favourite celebrity*

| | | masculine singular | feminine singular | English |
|---|--------------------|-----------------------|----------------------------|--------------|
| | | arrogant | arrogant <mark>e</mark> | arrogant |
| Ma célébrité préférée s'appelle Je l'aime parce qu'il/elle est | | intelligent | intelligent <mark>e</mark> | intelligent |
| | | laid | laid <mark>e</mark> | ugly |
| | très | méchant | méchante | nasty |
| assez trop vraiment un peu extrêmer | assez | bête | bête | stupid |
| | vraiment un peu | drôle | drôle | funny |
| | | égoïste | égoïste | selfish |
| | | travailleur | travaill <mark>euse</mark> | hard-working |
| Pourtant Il/elle n'est jamais | | généreux | génér <mark>euse</mark> | generous |
| | | sérieux | séri <mark>euse</mark> | serious |
| | | parresseux | parresseuse | lazy |
| | | gentil | gentil <mark>le</mark> | kind |
| | | beau | belle | good-looking |

Les émissions de télé – TV programmes

| Verb | Programme type | Connect. | verb | adjective | |
|---------------|----------------------------------|-----------------------|---------------|----------------|----------------|
| J'aime | les comédies | car | je les trouve | amusantes | (fun) |
| (I like) | (comedies) | because | (I find them) | intéressantes | (interesting) |
| Je | les séries | | ce sont | divertissantes | (entertaining) |
| n'aime pas | (series) | | (they are) | enfantines | (childish) |
| (I don't | les émissions de télé-réalité | | | ennuyeuses | (boring) |
| like) | (reality tv) | | | éducatives | (educational) |
| J'adore | les émissions de sport | | | nulles | (rubbish) |
| (I love) | (sport shows) | | | barbantes | (boring) |
| Je déteste | les émissions de musiques | | | | |
| (Ihate) | (music shows) | | | | |
| | les émissions de cuisine | | | | |
| | (cooking shows) | | | | |
| | les émissions de science-fiction | | | | |
| | les dessins animés | | | amusants | (fun) |
| | (cartoons) | | | intéressants | (interesting) |
| | les jeux télévisés | | | divertissants | (entertaining) |
| | (game shows) | | | enfantins | (childish) |
| | les documentaires | car because | | ennuyeux | (boring) |
| | (documentaries) | | (mey dre) | éducatifs | (educational) |
| | les feuilletons | | | nuls | (rubbish) |
| | (soaps) | | | barbants | (barbants) |

Ma vie numérique – My digital life

| You can ask quest a question word + Avec qui est-ce que Comment est-ce que Qui est-ce que tu . Quand est-ce que Qui est-ce que tu . Pourquoi est-ce que You can ask quest Qui est-ce que tu du What did you wat | ions about a - est-ce que - ue tu? que tu? tu? tu? que tu? tions in other s regardé hie ch yesterday | range of subjects by + the <i>tu</i> form of the With whom do yo How do you? Where do you? When do you? When do you? What do you? Why do you? r tenses in the same er? ? | verb. u? | Use tin detaile d'habit en ce n souven parfois de tem tout le le weel tous le après-n | ne phrases, to d answers: ude noment it ps en temps temps kend s soirs / midi / matins | give r usua at th ofter som from all th at we th ever afi m | nore Illy e moment times time to time e time e time eekends / at e weekend y evening / ternoon / orning |
|---|---|--|--|---|---|--|--|
| D'habitude (Usually) | j'envoie des e- | mails | je joue à des jeux en lign | e | | | ale accente a construction of |
| Souvent (Often) | (I send emails) | sta na Unica | (I play games online) | | | | chouette (excellent) |
| Quelquefois (Sometimes) | (I make purchases | online) | (Lupdate my homepage) | erso | | | intéressant (interesting) |
| | to fair day up al | and a second | to contract of the second of t | inter . | | | in the second se |

De temps en temps (From time to time) Une fois par semaine

(Once a week) Tous les soirs (Every

evening)

Cependant (However (C...)) Pourtant (However (P...)) Mais (But)

| | je fais des achats en ligne | je mets à jour ma page perso | | | génial (great) |
|----------|--|--|-----------|-------------------------|---------------------------|
| | (I make purchases online) | (Lupdate my nomepage) | | | intéressant (interesting) |
| nps | je fais des recherches pour mes devoirs (I do research for my homework) | je vais sur mes sites préférés (I go onto my favourite sites) | | c'est | passionnant (exciting) |
| aine | ie fais des quiz | ie vais sur des blogs | | (it is) | pratique (practical) |
| ane | (I do quízzes) | (I go onto blogs) | je trouve | éducatif (educational) | |
| ery | je fais beaucoup de choses sur Internet | je vais sur des forums | car | ça (I find it) | relaxant (relaxing) |
| | (I do lots of things on the internet) | (I go onto forums) | (as) | à mon avis | |
| III €*, | | III. 71 | parce | c'est | III - |
| | the state of the state of the second | ie ne joue iamais à des ieux en | (because) | opinion it is) | |
| | je n envoie jamais d e-mails (i never send | ligne (I never play games online) | | je pense | |
| | is no fair inmais d'achate an ligne « viele. | je ne mets jamais à jour ma | | que c'est | barbant (boring (b)) |
| ver | purchases online) | page perso (I never update my homepage) | | (i think that it is) | ennuyeux (boring (e)) |
| · (P)) | je ne fais jamais de recherches pour | ie ne vais iamais sur des blogs (| | | stupide (stupid) |
| \$12276# | mes devoirs (I never do research for my homework) | never go onto blogs) | | | une perte de temps |
| | je ne fais jamais de quiz (l never do quizzes) | je ne vais jamais sur des forums | | | (a waste of time) |

Aller au ciné – Going to the cinema

Je vais voir un film d'a (I'm going to see) (an action) Je veux voir un film d'a (I want to see) (an animat (I want to see) (an animat Je voudrais voir un film d'h (I'd like to see) (a horror f un film ror (a romance un film de (a scienceun film de (a superhe

| un film d'action |
|----------------------------|
| (an action film) |
| un film d'animation |
| (an animated film) |
| un film d'horreur |
| (a horror film) |
| un film romantique |
| (a romance film) |
| un film de science-fiction |
| (a science-fiction film) |
| un film de super-héros |
| (a superhero film) |
| une comédie |
| (a comedy) |

| ce matin | this morning |
|-------------------------------------|---|
| ce t après-midi | this afternoon |
| ce soir | this evening |
| demain matin / après-midi / soir | tomorrow morning / afternoon / evening |

Mes passetemps – My hobbies

| Negative expressions go around the verb. | The verb <i>lire</i> (to read) is irregular. |
|--|---|
| Remember, ne shortens to n' in front of a vowel. ne pas (not) Je ne joue pas au foot. ne jamais (never) Je ne vais jamais en ville. ne rien (nothing) Je ne fais rien. | <i>je lis</i> I read <i>tu lis</i> you (singular) read <i>il/elle lit</i> he/she reads <i>on lit</i> we read <i>nous lisons</i> we read |
| After a negative, <i>du, de la, de l'</i> and <i>des</i> change to <u>de</u> : Je ne fais jamais <u>de</u> sport. Page 74 | vous lisez you (plural or polite) read ils/elles lisent they read The -ent in ils/elles lis <u>ent</u> is silent. |

| Après les cours, After lessons, Le samedi, On Saturdays | j'écoute <i>Tlisten</i> je joue | mais pourtant cependant | Je | n' écoute I <u>don't</u> listen ne joue I never play | | pas jamais |
|---|---|-------------------------------|----|---|--|---------------|
| Parfois, Sometimes | je fais I do | but however | | - | lis vais | |
| Souvent, Often De temps en temps, From time to time En été. | s en temps, je regarde me to time I watch je vais | nowever | Je | ne I do I wa | fais nothing regarde tch nothing lis | rien. |
| In summer | Igo | | | l red | d nothing | |

4. Describing what you did at the shopping centre.

| When le soir (in the evening) le matin (in the morning) le weekend dernier (last weekend) samedi dernier (last Saturday) la semaine dernière (last week) hier (yesterday) | who step 1 &2 j'ai il a /elle a nous avons ils ont/elles ont | Past participle Step 3 joué (played) regardé(watched acheté(bought) mangé(ate) découvert (discovered) fait (did/made) | (activity) au foot un film des bonbons des vêtements un sandwich une balade une promenade des achats les magasins | Extra who with Where opinion: c'était = it was ce n'était pas = it wasn't |
|---|---|---|--|---|
| | je suis | allé(e)s (went) | au café | |
| | il est / elle est | resté(e)s (stayed) | au parc | |
| | nous sommes | | au <u>cinéma</u> | |

5. Talking about activities using 3 tenses

| Present tense | | Past tense | | Future tense | |
|----------------------------|------------------------------|--------------------------------|---|---|------------|
| Normalement (normally) | | Hier (yesterday) | | Demain (tomorrow) | |
| present tense | pe te | erfect nse | | near future tense | 2 |
| <i>je joue</i> I play | <i>j'ai joué</i> I played | | | ie vais jouer I'm going to play | 9. 1 |
| je bois | j'ai bu | | | ie vais boire | |
| je fais I do | j'a | l fait | | ie vais faire I'm going to do | |
| <i>je prends</i> I take | j'a | l took | 1 | ie vais prendre | ng to take |
| je vais | je on | suis allé(e)* est allé(e)s* | | ie vais aller | |



Geography



GOING GLOBAL

KEY WORDS

| Globalisation | The process by which the world becomes more interconnected | | |
|--------------------|--|--|--|
| MNC | Multinational company | | |
| TNC | Transnational company, a MNC or TNC is a company which operates in more than one country | | |
| The Commonwealth | 53 countries, including the UK, that have a historical and some economic and social ties | | |
| The United Nations | An international organisation formed in 1945 to promote international peace, security and co- | | |
| | operation among member nations | | |
| NATO | North Atlantic Treaty Organization is an alliance of 30 countries that border the North Atlantic | | |
| | Ocean | | |
| The EU | A group of 27 countries whose governments work together. There are set laws and rules | | |
| | which they have to follow | | |
| Brexit | Britain's exit from the European Union (EU) | | |
| Homogenisation | The process by which the world becomes the same | | |
| Clone Town | A town where the high street or other major shopping areas are significantly dominated by | | |
| | chain stores | | |

NIKE: CASE STUDY OF A TNC

- * Head office Oregon, USA. 25% of footwear made in Indonesia and other LIDCs/EDCs.
- * Workers are paid \$1.25 per day. Nike made \$19.962 billion profit in 2021.
- * Clothes for consumers in Acs are cheaper because workers are paid so little.
- * Nike burns the excess show rubber in villages which releases CO_2 and other pollutants.

REASONS FOR GLOBALISATION

Containerisation:

From 1970, there was a rapid adoption of the steel transport container. This reduced the costs of inter-modal transport making trade cheaper and more efficient

Improvements of communications:

Since the mid-1990s we have seen the rise of the internet and of the use of mobile communication devices such as mobile phones and tablets. In 2012, more than 2.4 billion (over ½ of the world's human population) have used the services of the internet

Improved transportation:

Transport has greatly improved. For example, air travel is cheaper, more accessible, and more efficient than ever before. You can travel from the UK to the USA in 8 hours or from the UK to France in 1 hour

The introduction of Global Trading Blocs:

These are agreements made between countries that they will reduce barriers to trade such as taxes or quotas. For example, the UK is part of the European Union along with countries such as Spain and France. If you go on holiday to these countries, you can travel freely (without the need for a visa) and can bring products back into the UK

Spatial division of labour:

Labour costs in some areas of the world are cheaper than in others - for example some countries do not have a national minimum wage or strict health and safety procedures

IMPACTS OF BREXIT

| Some estimates suggest the total economic cost of EU | The EU is one of the world's largest markets, accounting for |
|---|--|
| membership was around £200 billion | 25% of global profits |
| The UK had no control over immigration from other EU | EU laws dictates regulated working hours and break times, so |
| member states. Therefore, we could not stop people from EU | people cannot be forced to work more than 48 hours a week |
| countries entering and working in the UK | |
| Our membership of the EU made us a more attractive | EU laws over-ruled British laws. This meant that Britain could |
| destination for foreign investment. In 2012, we received £937 | not pass laws that the EU did not agree with. We also had to |
| billion of foreign investment | obey EU laws, even if we disagreed with them |
| It was estimated that around 3 million jobs in the UK were | The EU was also our biggest trading partner. Over 50% of the |
| reliant on the EU – although it was not known exactly how | UK's imports were to the EU, while 50% of imports were from |
| many would be in jeopardy when we left | the EU. Our exports to the EU in 2021 were 15% of what they |
| | were before |

KNOWLEDGE ORGANISER INTERNATIONAL ORGANISATIONS

- * The Commonwealth: The King is the ceremonial head of the Commonwealth, which currently has 53 member states. Membership is voluntary. The Commonwealth has no power over its members, although it can suspend membership. The Commonwealth is based on the core values of democracy, good government, and the rule of law.
- * The European Union (EU): a group of 27 countries who trade together and share the same laws. Britain voted to leave the EU as part of Brexit.
- * The North Atlantic Treaty Organisation (NATO): The UK is also a member of NATO. NATO is a group of European and North American countries that have agreed to help each other if they come under attack. It also aims to maintain peace between all its members.
- * United Nations (UN): The UK is part of the UN, a peaceful organisation with more than 190 countries as members. The UN was set up after the Second World War and aims to prevent war and promote international peace and security. There are 15 members on the UN Security Council, which recommends actin when there are international crises and threats to peace. The UK is one of 5 permanent members of the UN Security Council

WHY IS THE UK GLOBALLY SIGNIFICANT?

| | Trade is the movement of goods and service It usually involves transport by air, sea, roated The internet is becoming more important findustries. The LIK's main trading links have been with |
|-----------|--|
| Trade | China. Trading links with other countries are set t |
| | Britain's biggest export products by value i oil |
| | The UK shipped US\$459.4 billion worth of |
| | 'Culture' means the values and beliefs of a |
| | Culture can include writing, painting, fashie |
| | Television – one of the UK's most success |
| | Accounted for over £1.28 billion in |
| | Biggest programmes include Atlan |
| | English speaking countries are the |
| | The Chinese market is expanding r |
| Culture | Language – gives the UK strong links work |
| | worldwide have English as their official la |
| | Multi-culturalism – migrants have brough |
| | Food (e.g. China, India, Italy) |
| | Fashion (e.g. France, Italy) |
| | Music (e.g. America, Africa) |
| | Films (e.g. India's Bollywood) |
| | Festivals (e.g. Notting Hill Carnival) |
| | London Heathrow is one of the busiest airplace |
| | It is an important hub where peop |
| Transport | The UK and mainland Europe are linked by |
| Transport | Southampton is a major port for cruise line |
| | There were an estimated 145.1 million passenger a |
| | returning UK residents), a 3% increase compared to |
| | Investment in the UK by individuals and fir |
| | FDI) is significant |
| | The UK has the second largest amount of F |
| | comes from Europe and the Americas. |
| FDI and | Many British companies are transnational |
| TNCs | Shell, Vodaphone, and Barclays Bank. |
| | Many TNCs from other countries have set |
| | McDonalds. |
| | There are over 500 transnational companie |
| | TNCs will pay tax to the UK government fo |
| | |



ces across the world. ad and rail. for trade – in finance, communications and the creative

the EU. Other main trading partners include the USA and

to become more important following Brexit. in 2021 were gold, cars, turbo-jets, medication and crude

goods around the globe in 2021.

society or group of people.

on, architecture and music.

ful exports:

2013-14.

tis, Downton Abbey, Dr Who and Sherlock.

main markets – USA, Australia & New Zealand.

apidly.

dwide through music, books and films. 67 countries nguage

t their own culture to the UK:

ports in the world.

le transfer between flights within Europe and worldwide. the Channel Tunnel and sea ferries.

ers that take tourists around the world.

arrivals in the year ending September 2019 (including o the previous year and the highest number on record. ms from abroad (known as foreign direct investment or

DI in the world after the US, the vast majority of which

corporations (TNCs) with branches all over the world, e.g.

up branches in the UK, like Sony, Coca-Cola, Nike, and

es in the UK, 271 have their headquarters in London. The being here.



History



PART ONE WORLD WAR ONE KNOWLEDGE ORGANISER

KEY WORDS

| A system of government through elected representatives |
|---|
| A system of government ruled by one person with no elections |
| A set of beliefs about how the world is or should be run |
| Murdering someone considered important |
| German King |
| France, Britain and Russia (and Italy from 1915, USA from 1917) |
| Germany, Austria-Hungary and the Ottoman Empire |
| An agreement by both sides to stop fighting |
| Agreement which formally ends a state of war |
| To join the military |
| Heavy weapons used for launching long distances |
| Cut out of land used during WW1 |
| |

CAUSES OF WORLD WAR ONE

LONG TERM CAUSES (M.A.I.N.):

- 1. **M**ilitarism relating to the army and navy
- 2. Alliances friendships between countries, often confirmed in a document
- 3. Imperialism building an empire to extend a country's power
- 4. Nationalism having pride in your country and looking after your own interests

SHORT TERM CAUSES:

- 1. Archduke Franz Ferdinand is shot in Sarajevo
- 2. Russia prepares to help Serbia, an ally
- 3. Austria declares war on Serbia
- 4. Austria declares war on Russia
- 5. Germany, Austria's ally, declares war on Russia
- 6. Germany invades France, then occupies Belgium
- 7. Britain enters the war to help its allies France and Russia



WHY DID MEN JOIN?

- Self-Motivation * Wanted to defend British ideas of iustice and freedom
- * Men had been taught to worship the British Empire
- * Sense of adventure

✤ Use of white feathers LIFE IN THE TRENCHES

- 1. Trenches were often full of water. This would cause a disease known as trench foot
- 2. Trenches were often infested with rats
- 3. Firing squads were used for misbehaviour such as cowardice or desertion
- 4. Poison gas became a commonly used weapon
- 5. Soldiers suffered from shell shock – a type of PTSD
- 6. Many soldiers lost limbs through amputation or bomb blasts

TRENCH WARFARE

New Weapons:

1. Poison Gas – Usually chlorine or mustard gas, this would attack the respiratory system. Gas was first used extensively in 1915.

- 2. Tanks The first tanks arrived on battlefields in September 1916
- 3. Aviation Aeroplanes were first used for surveillance, but later took part in 'dogfights'

TIMELINE OF WORLD WAR ONE (1914-1916)

28th June 1914 Archduke Franz Ferdinand assassinated

28th July 1914 Austria-Hungary declares war on Serbia

4th August 1914 Britain declares war on Germany

18th Feb 1915 Germany begins naval blocade of Britain

7th May 1915 Germany sinks the Lusitania

23rd May 1915 Italy declares war on Austria-Hungary

1st July 1916 Battle of the Somme begins

Forward Communication stening post trench No Man's Parados for protection from explosions from ind the trench ront-line trench Fireba Company HQ dugout

Persuasion

* Propaganda such as posters and

speeches

✤ Pals Battalions

✤ Peer pressure

WORLD WAR ONE

KEY WORDS

| A set of beliefs about how the world is or should be run | |
|---|--|
| Murdering someone considered important | |
| German King | |
| France, Britain and Russia (and Italy from 1915, USA from 1917) | |
| Germany, Austria-Hungary and the Ottoman Empire | |
| An agreement by both sides to stop fighting | |
| Agreement which formally ends a state of war | |
| Policy of expanding territory and having full political and | |
| economic control of a country | |
| Taking political control of a country, occupying it with settlers | |
| and exploiting it economically – e.g. taking resources | |
| Money paid in compensation | |
| | |

WHY DID GERMANY LOSE?

| Germany's Weaknesses: | Allies' Strengths: |
|---------------------------------------|---|
| 1. German soldiers began to mutiny | 1. The Allies had more advanced |
| 2. By November 1918, all of Germany's | technology and developed faster |
| allies had surrendered | 2. France and Britain had resource-rich |
| 3. Food riots and strikes in Germany | empires |
| forced the Kaiser to flee | 3. Britain had a very powerful Navy |

TREATY OF VERSAILLES

- * People at the time thought that the Treaty of Versailles was unfair
- * Key Terms:
 - * Germany accepts all war guilt
 - * Germany had to return all colonies and land won
 - * Limits placed on German army and navy
 - * Germany had to pay reparations of £6.6 billion
- * People thought the reparations were too high, and the loss of land unfair
- * Some also didn't think it was fair to force Germany to accept all war guilt

KNOWLEDGE ORGANISER



THE HOME FRONT

- * Germans living in Britain were often suspected of being spies due to suspicion
- * The Defence of the Realm Act (1914) limited press freedom and regulated behaviour
- * Rationing was introduced to preserve supplies, rather than limit consumption
- * The Women's Land Army was created in 1916 to help with a shortage of labour

THE BRITISH EMPIRE

- * Troops from countries in the British Empire were used in World War One
- * Men were drafted from India, Canada, Australia, New Zealand and Britain's colonies in Africa and the Caribbean
- Following WW1, many countries began to demand freedom from the British Empire, and the Statute of Westminster prevented any law passed by the British Parliament from automatically applying to the Dominions

BATTLE OF THE SOMME

- * Began on 1st July 1916 as a British and French offensive against the Germans
- * Led by General Haig often given the nickname 'The Butcher'
- * 19,240 British soldiers were killed on the first day of the battle
- * At the end of the battle, after 140 days, the British had advanced 6 miles into German territory their largest gain since 1914

THE UNITED STATES Causes of the US Joining WWI:

- 1. May 1915 German U-Boats sink the Lusitania, a passenger ship carrying US civilians
- 2. January 1917 Germany begins unrestricted submarine warfare, attacking US ships carrying supplies for Britain
- 3. February 1917 The British intercept a telegram sent to Mexico from Germany offering an alliance. This is passed on to the US
- April 1917 7 US cargo ships are sunk by U-Boats. Germany's offer to Mexico is made public. War was declared on 6th April 1917

Consequences of the US Joining WWI:

- * The US supplied France and Britain with food, materials and billions of dollars
- * The arrival of new troops boosted the Allies' morale
- * The increase in manpower was a relief for exhausted troops

TIMELINE OF WORLD WAR ONE (1916-1919)

| 1st July 1916 Battle of the Somme begins 18th December 1917 Battle of Verdun ends | 6th April 1917 US delcares war on Germany | 15th December 1917 Russia signs armastice with Germany | 11th November 1918 Germany signs the Armastice, ending WW1 | 18th January 1919 Peace conference begins in Paris | 28th June 1919 Alled and German representatives sign the Treaty of Versailles | |
|---|---|---|--|--|---|--|
|---|---|---|--|--|---|--|







| Ŋ | Year 9 – Autumn 1, Quadratio | cs & Sequences Knowledge |
|---|---|---|
| Tonic/Skill | Definition/Tins | Fxample |
| Expanding double brackets | Multiply every term in the first bracket by every term in the second bracket. Be careful with negatives! | SMILEY FACE GRID SMILEY FACE e.g. $(x + 2)(x + 7)$ e.g. $(x + 3)(x + 5)$ x $x2$ $+7$ $+7x$ $+7$ $+7x$ $x^2 + 2x + 7x + 14$ $x^2 + 3x + 5x + 15$ $= x^2 + 9x + 14$ $x^2 + 8x + 15$ |
| Factorising quadratics | A quadratic expression is in the form $ax^2 + bx + c$. Find the two numbers that add to give b and multiply to give c . Be careful with negatives! | Factorise $x^2 + 7x + 10$ (x + 5)(x + 2) Because 5 and 2 add to give 7 and also multiply to give 10. |
| Solving quadratic equations by factorising | Factorise the quadratic in the usual way. Solve $= 0$. | x + 5 = 0 $\therefore x = -5$ x + 2 = 0 $\therefore x = -2$ |
| Plotting non- linear graphs | Sketching a non-linear graph is the same as plotting a linear graph. Choose some values for <i>x</i> , work out the <i>y</i> values, and plot the graph. | x -2 -1 0 1 2 y 4 |
| Recognising non-linear graphs | A 'U-shaped' quadratic curve is called a parabola . A parabola can also be upside down. | |
| | Cubic graphs are in the form $ax^3 + bx^2 + cx + d$. | a>0 a<0 |

Year 9 – Autumn 1, Quadratics & Sequences Knowledge Organiser



| | Reciprocal graphs have asymptotes on the <i>x</i> and <i>y</i> -axis. An asymptote is a straight line that a graph approaches but never touches. | y = 1/x |
|--|--|--|
| Solve quadratics graphically | The roots of quadratic graphs are solutions . The roots of a quadratic are the <i>x</i> - intercepts of the quadratic graph. | $ \begin{array}{cccccccccccccccccccccccccccccccccccc$ |
| Trial and improvement | Substituting the unknown with different values, until we find the one that works. | Find the answer to the equation $x^3 - 2x = 25$ to 1 decimal place. Start by guessing what x could be, then refine your answer based on your result. |
| Generating sequences from nth term | A rule which allows you to calculate the term that is in the nth position of the sequence. n refers to the position of a term in a sequence. Substitute n for the term you want in the sequence. | nth term is: $2n$ 100^{th} term is therefore: 2(100) = 200 |
| Nth term of linear sequences | Find the first difference. Substitute to find out what number you need to add or subtract to get to the first number in the sequence. | Find the nth term of: 3, 7, 11, 15, 1. Difference between the terms is 4. 2. The nth term therefore starts 4n. 4(1) = 4. But our first term is not 4, it is 3. Therefore, we need to subtract 1, and the nth term is: 4n - 1. |

Year 9 – Autumn 1, Quadratics & Sequences Knowledge Organiser

| lge | |
|-----|--|
| ser | |

| Nth term of | 1. Find the first and second | Find the nth term of: 4, 7, 14, 25, 40, |
|-------------|-------------------------------------|---|
| quadratic | differences. | |
| sequences | 2. Halve the second difference and | |
| | multiply this by n^2 . | Second difference = +4 |
| | 3. Substitute into your expression | nth term \therefore starts $2n^2$ |
| | so far. | Sequence: 4, 7, 14, 25, 40 |
| | 4. Subtract this set of numbers | 2, 8, 18, 32, 50 |
| | from the corresponding terms in | Difference: 2, -1, -4, -7, -10 |
| | the sequence from the question. | |
| | 5. Find the nth term of this set of | nth term of this set of numbers is: |
| | numbers. | -3n + 5 |
| | 6. Combine the nth terms to find | |
| | the overall nth term of the | So, overall nth term is: |
| | quadratic sequence. | |
| | | $2n^2 - 3n + 5.$ |
| | Substitute values in to check your | |
| | nth term works for the sequence! | |

Year 9 – Autumn 2, Number & Proportion Knowledge **organiser**

| Topic/Skill | Definition/Tips | Example |
|-----------------|--|--|
| Squares, cubes | Square numbers are the product | 49 is a square number; it is the product |
| and higher | of a repeated number. | of 7 repeated. |
| powers and | | |
| roots | Cube numbers are the product of | 512 is a cube number; it is the product |
| | the same number repeated three | of 8 repeated three times. |
| | times. | |
| | | |
| | Square roots - the number that | 10 is the square root of 100 because |
| | was originally multiplied by itself to | $10 \times 10 = 100.$ |
| | make the square number. | -10 is also the square root of 100 |
| | The square root of a number can | because $-10 \times -10 = 100$. |
| | be both positive and negative. | |
| | | |
| | Cube roots - The number that was | 6 is the cube root of 216 because |
| | originally multiplied by itself three | $6 \times 6 \times 6 = 216.$ |
| | times to make the cube number. | |
| Basic laws of | When multiplying with the same | $x^2 \times x^3 = x^5$ |
| indices | base, add the powers. | |
| | | |
| | When dividing with the same base, | $x^2 \div x^3 = x^{-1}$ |
| | subtract the powers. | |
| | | (2) 0.2 |
| | When raising a power to another | $(x^2)^{-3} = x^{-6}$ |
| | power, multiply the powers | |
| | together. | Ordinary Number Standard Form |
| writing large | Standard form is a convenient way | 8400 8.4 x |
| and small | to write very large or small | 35000 |
| numbers in | numbers. | 0.00036 3.6 x 0.0015 |
| Standard form | Standard form is in the format: $a \times 10^{n}$ | |
| | $u \times 10^{+}$ | |
| | or equal to 1 but loss than 10 | |
| Add and | Convert into ordinary numbers | |
| subtract | calculate and then convert | Calculate $(4.5 	imes 10^4) + (6.45 	imes 10^6)$. |
| numbers in | back into standard form | - 45 000 + 6 450 000 |
| standard form | If the power is too difficult to | $=45,000\pm0,450,000$ |
| Standard Torrit | convert into an ordinary number | = 6,495,000 |
| | see if you can change one | 6 107 106 |
| | number into the same form as | $= 6.495 	imes 10^\circ$ |
| | another. | |

Year 9 – Autumn 2, Number & Proportion Knowledge Organiser

| Multiply and divide numbers in standard form Equivalent ratios Simplifying ratios Writing ratios in the form 1:n and n:1 | Multiply: Multiply the numbers and add the powers. Divide: Divide the numbers and subtract the powers. Equivalent ratios are the same ratios when we compare them. Divide all parts of the ratio by a common factor. Divide both parts of the ratio by one of the numbers to make one part equal 1 | Calculate $(3 \times 10^3) \times (3 \times 10^9)$. Multiply the first numbers - which in this case is $3 \times 3 = 9$. Apply the index law on the powers of 10: • $10^3 \times 10^9 = 10^{3+9} = 10^{12}$ • $(3 \times 10^3) \times (3 \times 10^9) = 9 \times 10^{12}$ 1:2 2:4 5 : $10 = 1 : 2$ (divide both by 5) 14 : $21 = 2 : 3$ (divide both by 7) 5 : $7 = 1 : 1.4$ in the form 1 : n |
|--|--|---|
| Sharing a quantity into a ratio, given the total | Add the total parts of the ratio. Divide the amount to be shared by this value to find the value of one part. Multiply this value by each part of the ratio. Use this method only if you know the total. | Share £60 in the ratio 3 : 2 : 1. 3 + 2 + 1 = 6 60 ÷ 6 = 10 3 x 10 = 30, 2 x 10 = 20, 1 x 10 = 10 £30 : £20 : £10 |
| And when the ratio is already shared | Find what one part of the ratio is worth using the unitary method . | Money was shared in the ratio 3:2:5 between Ann, Bob and Cat. Given that Bob had £16, found out the total amount of money shared. £16 = 2 parts So £8 = 1 part 3 + 2 + 5 = 10 parts, so 8 x 10 = £80 |
| Best buys | Find the unit cost by dividing the price by the quantity. The lowest number is the best value . | 8 cakes for £1.28 16p each (÷by 8) 13 cakes for £2.05 15.8p each (÷by 13) Pack of 13 cakes is best value. |
| Direct proportion (higher) | If two quantities are in direct proportion, as one increases, the other increases by the same percentage. | y = kx |

Year 9 – Autumn 2, Number & Proportion Knowledge Organiser







Media Studies



GCSE Media – Media Language

KEY TERMINOLOGY:

Denotation: actual/literal meaning e.g. a candle.

Connotation: deeper meanings e.g. a candle might connote hope or light, or have religious connotations.

Codes and conventions: the elements of media

language that usually occur in particular forms

(e.g. magazines or adverts) or genres (e.g. sitcom).

Narrative: how stories are structured and communicated.

Genre: the type or category of product (e.g. crime, sitcom).

Intertextuality: where a media product refers to another text to communicate meaning to the audience.

KEY CONTENT:

The various forms of media language used to create and communicate meanings in media products, for example:

Visual codes: elements that relate to the look of a product, e.g. mise-en-scène, colour palette, layout and design.

Technical codes: e.g. camera shots/ angles, editing.

Audio codes: e.g. non-diegetic music, effects, dialogue.

Language codes: written or spoken words.

🖄 Apply it... analyse how these elements of media language are **used in the set products e.g.** *the red, white and black colour palette* on the set GQ cover connotes masculine strength and power to appeal to the target audience.

KEY CONTENT:

How choice (selection, combination and exclusion) of elements of media language influences meaning in media products, for example:

- How the selection and combination of camera shots **creates narrative** in the set television episodes or music videos.
- How the written text anchors meanings in the images on the set newspaper front pages to **portray aspects of reality**
- What has been excluded from the set print advertisements and how the **point of view** might be different if alternative elements had been included.
- How the combination of design elements, images and cover lines **conveys messages and values** on the set magazine front covers.

Apply it... analyse how the choices producers make about media language communicates meanings in the set products.

E.g. the combination of images and headline on the front page of The Sun (for assessment from 2021) conveys patriotic values and communicates a point of view that MPs should vote for the Brexit Bill. Give examples to support this point.

WHERE WILL I NEED TO STUDY/ APPLY MEDIA LANGUAGE?

COMPONENT 1: Section A

Question 1 will require analysis of one of the set products detailed on Page 11 of the Specification: magazine front covers, newspaper front pages, film posters and print adverts.

COMPONENT 2: Section A

Question 1 will require analysis of media language or

representation in an extract from the set television crime drama or sitcom.

COMPONENT 2: Section B

Question 3 will require analysis of media language or representation in the set music products detailed on page 19 of the Specification: music videos and online media.

COMPONENT 3

Learners will be assessed on their ability to use media language to communicate meanings in the production work (Non-Exam Assessment).

KEY CONTENT:

Codes and conventions of media language: how they develop and become established as 'styles' or genres, for example:

How the conventions of a genre (e.g. crime drama or sitcom) have developed and solidified.

How they may vary over time, for example:

How the conventions of a form (e.g. print advertising) have changed, due to new technologies and changing social/ cultural contexts.

Apply it... analyse how the contemporary set print advert, film poster, television programme and music videos show developments from the older/ historical set products you have studied.

E.g. The Spectre poster uses digital technology to construct an enigmatic layered main image in contrast to the montage of drawn images depicting narrative scenes in the historical poster.

KEY CONTENT:

Intertextuality, including how inter-relationships between media products can influence meaning:

Several set products use intertextuality, for example the set music videos by Katy Perry and Taylor Swift are constructed as 'mini-films' and show the influence of other texts.

Apply it... identify references to other texts in the set products you have studied and think about how these communicate meanings.

E.g. Roar includes intertextual references to the well known 1969 film, The Jungle Book, in the use of visual codes and elements of narrative. These familiar references can communicate meanings (e.g. about a human 'taming' the jungle) and create humour.

THEORETICAL PERSPECTIVES AND CONTEXTS:

GENRE, including:

The dynamic nature of genre: genres are not 'set in stone', they change and develop over time.

Hybridity (combining elements of two or more genres in a product) and **intertextuality** provide further variation and offer something 'new' to engage audiences.

NARRATIVE theories: narrative.

studied.

CONTEXTS: Historical, Social, Cultural, Political:

How the media language in the set products reflects the contexts of production in terms of:

APPLYING MEDIA LANGUAGE: PRACTICAL TASKS

Art skills not important!



Principles of repetition and variation: products usually include typical genre conventions that audiences recognise, and also different elements to engage the audience/ keep the genre 'fresh'.

Apply it... consider how these ideas apply to the set products you have studied for Component 2.

Propp's theory must be studied: the key character types (hero, villain, 'princess', father, donor, helper, dispatcher, false hero) and their role in the stages of the

😰 Apply it... consider how Propp's character types could apply to the set products you have studied.

Other theories, such as Todorov's theory (equilibrium, disruption, resolution), Levi-Strauss' Binary Oppositions or Barthes' Action and Enigma codes may also be

themes, values, messages, viewpoints

genres, styles, technologies, media producers.

1. Choose a different song by Katy Perry or Taylor Swift: storyboard 20 shots for a new music video. Include some performance and narrative to reflect conventions. Think about the range of camera shots and the mise-en-scène to communicate the meanings in the lyrics to your audience.

2. Design a front cover for a new magazine in a genre of your choice. Sketch the layout and design, paying close attention to the colour palette, the font style and the main image.

Write 5 cover lines, aiming to communicate messages and use language codes.



Music



MUSIC KNOWLEDGE ORGANISER

| М | Α | | D | Т | S | | Н | I | | R | Т |
|---|-----------------|-------------------|-------------------------|-----------------------|------------------------------|--------------|---------------------|---------------------------------------|----------|---------------------|---|
| Melody | Articulat | ion Dynam | ics Text | ure | Structure | Har | rmony | Instruments | Rhythn | n | Тетро |
| The tune | How not | es are The vol | ume of Laye | rs of sound | How musi | ic is Cho | ords used | Types of | The use | e of different | The speed of music |
| | played | music | | <i>.</i> . | organised | 1 | | instruments/ sounds | duratio | ns of notes | |
| | <i>c</i> , , , | | Osti | nato/loop a | | Tor | nality refers | used | | | |
| Treble Clef notes | Staccato | ; Forte (j | JLoud repe | ated pattern | Iernary F | orm to I | Wajor, | Orchastra, Strings | differen | nt duration | Puise -The underlying beat of the music. |
| Bass Clej holes Octava – The distr | aetached | a ;Plano Mazzo | p soft; used | n the | ABA Variation | IVIII Chr | nor, romatic atc | Urchestra; Strings, Woodwind Brass | notes o | one after the | to be able to bear it in your head! |
| between a note a | nd the smoothly | Moder: | accontering accontering | one performer or | Form \triangle \triangle | | Uniulic ell. | Percussion | rhythm | nattern | We use Italian in music to describe the |
| next one that has | the Accented | d > ^ :Mezzo | Piano the r | performer that is | A2 etc. | , | | 1 21003510111 | Dotted | notes-a dot | tempo so :- |
| same letter name | E.g. SFz-Sfort | zando (mp) m | noderately the r | main focus | Rondo Fo | rm; | | Acoustic/Electric | after a | note increases | Presto -very fast |
| C3-C4. Remember | Forced a | ccent soft; Fo | rtissimo (ff) Ense | mble any group | ABACAD e | etc. | | | its dura | tion by half as | Allegro-fast |
| 'Oct'=8 (Octagon- | 8 sides; | Very lo | ud ; of m | usicians | Arch From | n | | Samba Instruments | much a | gain | <i>Moderato</i> -moderately |
| Octave-8notes) | | Pianiss | imo (pp) Lead | ler call and | ABCBA | | | Surdo; Tambourin; | Syncop | ation; music | Andante-at a walking pace |
| Stave The five line | es and | Very so | ft Resp | onse a passage | Song Forn | n; | | Agogo Bells; Guiro; | that ha | s the emphasis | Largo-Slow |
| 4 spaces used for | pitch | Cresece | endo-getting of m | usic where a | Chorus Ou | se | | Ganza | on off t | s of tigd notos | <i>Grave</i> -really slowly |
| Leans <i>I disjunct</i> | | Diminu | endo nhra | se that is | | | | | Tiau IOL | s of tied notes | Accelerando-getting faster |
| Leaps , aisjunct | | aettina | <i>quieter</i> ansv | vered by others | | | | | | | Rallentando-getting gradually slower |
| | | 99 | 4 | | | | | | | | |
| REST | REST | REST | NOTE | | time | beat | | division | | | |
| NAME | SYMBOL | LENGTH | SYMBOL | | signature | unit | | of the beat | - | Metre refers | s to the basic count-how many beats |
| Whole Note (Soni- | | 4 beats | | Structure Provide | 2 | | | | | each bar and | is describes as either Simple or |
| breve) | | 1 | 0 | Simple Duple | 4 | • • | • • | | | Compound | is describes us cruter simple of |
| Half Note (Minim) | | a bears | - | | 6 | | | | | | |
| | • | - treated | 0 | Compound Duple | 8 | de de l | | d ddd | | In simple ti | me each beat can be divided into two |
| Ourstan Nata | | | 1 | - | 2 | | | | 7 | quavers | |
| (Cratchet) | ŧ | TDeat | | Simple Triple | 4 | 1 d d | | | | | |
| 100mate | | | | - | | 1 1 1 | | | - | In compoun | d time each beat can be divided into |
| 8th Note (Qyaver) | 7 | ½ beat | | Compound Triple | 8 | di di d | | | | quavers | |
| | | | | | 0 | | | | _ | | |
| 16th Note Gemigua- | 7 | 14 beat | <u>د</u> | Simple Quadrunie | 4 | | | | | The rule is if | you can divide the top figure by 3 ar |
| 'Der) | | | - | ombie Sanadre | 4 | | | | | an answer of | f 2 or more then the music has to be |
| 32nd Note (Dowis- | Ì | 1/6 beat | h | Comment Constants | . 12 | | | | | compound ti | ime! |
| emiquaver) | 7 | | * | Compound Quidrups | 8 | * * * | | | | | |
| | | | 9 | | | <u>r f f</u> | | Troble Clof N | latas | | Space Notes |
| | | F | C D E F | GABCDE | - G A B | CDE | F A | Trable Claf | lotes | | 9 0 |
| (\mathbf{b}) | | GBU | | | - | 6 | | | 100 | - 0 0 | \bigcirc \circ \circ |
| | | E | Spaces: • | | | - | 1 | | 0 | 0 0 | |
| < | c | | | | | 1 | $(\bigcirc$ | <u> </u> | 1 39 h | | |
| | A | | | G B I | D _I F | A | | 0 0 | | | |
| () | DF | | Lines: ᠫ | | P | | | EFGAB | C | DEF | 6 |
| G B | | | | | 1 | | | ामण भये। उद्य उत्तर विद्य | 107700 | 1997 - 1997 - 1997 | EGBDE |
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MUSIC KNOWLEDGE ORGANISER

| М | | А | | | D | Т | S | | Н | | | R | Т |
|-----------------------------|----------|------------|--------|-------------------|--------------------------------|-----------------------------|-----------|--------|-------------------|---------------|---------------------|---------------------------------|---|
| Melody | | Articulati | ion | Dynamic | s Text | ure | Structur | e | Harmony | , | Instruments | Rhythm | Тетро |
| The tune | | How note | es are | The volu | me of Laye | rs of sound | How mu | sic is | Chords us | sed | Types of | The use of different | The speed of music |
| | | played | | music | | | organise | ed | | | instruments/ sounds | durations of notes | |
| Octave – The dist | ance | | | | Hom | ophonic-typically | | | Cadences | 5:- | used | | |
| between a note a | nd the | Staccato; | ; | Forte (f) | Loud mus | ic based on | Ternary | Form | Perfect-V | ′-1 | | different duration | Presto -very fast |
| next one that has | the | detachea | 1 | ;Piano (p |) soft; chor | ds with a melody | ABA | | Plagal-IV | -1 | Orchestra; Strings, | notes one after the | Allegro-fast |
| same letter name | E.g. | Legato; | | Mezzo Fo | o rte (mf) on te | ор | Variatio | n | Imperfec | t -/-V | Woodwind, Brass, | other to creates a | <i>Moderato</i> -moderately |
| C3-C4. | | smoothly | / | Moderat | ely loud Poly | phonic -where | Form A, | A1, | Interrupt | ed-V- | Percussion. | rhythm pattern. | Andante-at a walking pace |
| Stepwise/conjunc | t | Accented | >^ | ;Mezzo P | Piano two | or more melodies | A2 etc. | | VI | | | Dotted notes-a dot | Largo-Slow |
| Leaps /disjunct | | SFz-Sfort | zando | (<i>mp)</i> mc | oderately are i | nterwoven to | Rondo F | orm; | Diatonic- | а | Acoustic/Electric | after a note increases | Lento-very slow |
| Semitone-smalles | st steps | Forced ad | ccent | soft; Fort | tissimo (ff) <mark>crea</mark> | te complex- | ABACAD | etc. | piece of r | nusic | | its duration by half as | Grave-really slowly |
| possible on a keyb | board | | | Very loud | d; sour | ding passages | Arch Fro | m | using not | es | | much again | Accelerando-getting faster |
| Tone-distance of a | two | | | Pianissin | no (pp) Albe | rti Bass -an | ABCBA | | from a m | ajor | | Syncopation; music | Railentando-getting gradually slower |
| semitones | | | | Very soft | : ассо | mpaniment | Song Fo | rm; | or minor | scale | | that has the emphasis | |
| Major Scale-TTST | TTS | | | Cresecen | do- getting tech | nique where the | Intro Ve | rse | Pedal (pe | dal | | on off beats and often | |
| Minor Scale-TSTT. | S(Sx3)S | | | louder | root | is played then the | Chorus (| Dutro | note)- a n | ote | | had lots of tied notes | |
| #-sharp-semitone | higher | | | Diminue | ndo 5 th ti | hen the 3 rd and | Binary F | orm | held or | | | Baroque Period- 160 | 0-1785 Music typified by diatonic harmony in |
| b- fla t-semitone lo | ower | | | getting q | uieter <mark>then</mark> | the 5 th again | AB | | repeated | in the | | either a homophonic o | r polyphonic style, often highly technical and |
| | | | | | | | | | bass whil | st | | can be complex sound | ing with lots of ornaments (decoration) in the |
| | | | | | | | | | chords ch | ange | | Classical Pariod -175 | Clude J.S. Bach, Handel, Purcell |
| | | | | | | | | | | | | nolyphonic Baroque M | lusic. Music is more often homophonic with a |
| REST | R r | as m | RE | 18 T | NOTE | | | h | | | distation | clear melody over the | top. The emphasis is on balance and a grace |
| NAME | SVN | 1001 | I.P.N | 6TH | SYMBOL | | signature | 1 | nit | | of the beat | and beauty of melodic | lines. The invention of the Piano at this time |
| 1136361 | 011 | | | 011 | | | | 1 | | | | greatly influenced the | style. Harmony is still diatonic but may contain |
| Whole Note (Semi- | | | 4 b | cats | 0 | Simple Duple | - 2 | | | | | some chromaticism. C | omposers include Mozart, Haydn and |
| breve) | | | | | | | 4 | | • | | •• | Beethoven. | 20, 1000 Very expressive music dealing with |
| Half Note (Minim) | | | a be | eats | | | 6 | | | | | contrasts of human en | options or influenced by nature paintings and |
| | | | | | 0 | Compound Duple | 8 | ø∹ e | | | | literature. Music is oft | en programme music-music that tells a story. |
| | | | | | | - | | 1 | 1 1 | | | Huge increase in the si | ize of orchestras and piano music became much |
| Quarter Note | | ż I | тр | eat | | Simple Triple | ų į | | | | | more dramatic and co | ntrasting. Composers included Tchaikovsky, |
| (Crotchet) | | ` | | | • | | 4 | | | | | Brahms and Chopin. B | eethoven spanned the Classical and Romantic |
| 8th Note (Durwer) | | 7 | 16.1 | beat | K | | 9 | | | | | Periods. | |
| | | · | | | • | Compound Triple | Š | et e | e e e | | | 20 th Century-1900-2 | DOU An age of much experimentation starting |
| - 64 M - 61 - 1 | | | | | b | | - | 1 | | _ | | where all 12 notes are | given equal importance so music is often |
| 10th Ivote Oswayar. | | 7 | 54.8 | Deat | _N | Simple Quadruple | 4 | | | | | atonal. Composers su | ch as Schoenberg and Berg used this. |
| (1967) | | | | | | confre Annahre | 4 | • • | | | | Stravinsky also tried | this before inventing Neo- Classicism that used |
| 32nd Note (Demis- | | , | 561 | beat | k | | 12 | | | | | classical ideals in a new | w and very different way. Later experimental |
| emignature) | | 7 | | | 1 | Compound Quadruple | 15 | d - 6 | de de de | | | and electronic music | (e.g. Stockhausen) came to be as well as |
| | | | | | | | 1 1 | | . £ £ | | | Minimalism (E.g. Stev | re Reich) |
| ^ | | | | | 9:111 | | | 11 | | | Treble Clef N | lotes | Space Notes |







KS4- Year 9

Term 1 (2)







Components of Fitness & Fitness Tests

| Component of Fitness | <u>Definition</u> | | Sporting E | Examples | <u>Fitness Tests</u> | |
|--------------------------------------|---|---|---------------------------|-----------------------|---|--|
| cv | The ability to work the whole body for a prolonged time without tiring | Maratho | n runners, Triathlon, Tou | ur De France cyclists | Multi-stage fitness test (Bleep test) or 12 Minute Cooper run | |
| Flexibility | The range of movement at a joint | Stretching | g to form a shape eg c | a Pike in Gymnastics | Sit and Reach test | |
| Muscular Strength | Amount of force a muscle can generate when it contracts to overcome resistance | Weight Li | fter | | 1 rep Max or Hand Grip Dynamometer | |
| Muscular Endurance | The ability to repeat a movement with the same muscle without tiring | Swimmin | g, rowing | | Press ups in 1 min, Sit ups in 1 min | |
| Power | The ability to perform strength exercises quickly | Throwing | a Javelin | | Vertical jump or Standing Long Jump | |
| Balance | The ability to keep your centre of mass over your base of support | Holding a shape in Gymnastics or Dance | | | Standing Stork Test | |
| Reaction Time | The time taken to respond to a stimulus | The start of a sprint race | | | Ruler drop test | |
| Coordination | Ability to move two or more body parts together | Jumping and hitting a Smash shot in Badminton | | | Alternate wall throw test | |
| Speed | The rate at which your body, or part of your body is able to perform a movement | 100m | | | 30m Sprint | |
| Agility | The ability to change direction quickly and in control | Side step | in Football or Rugby | | Illinois Agility Run | |
| | · | | A01 | Knowledge | | |
| | | | AO2 Application | | | |
| Woldgate | | | AO3 | Evaluation/Analysis | | |
| O prints micrie, character and solar | GCSE PE KNO | DV | VLE | DGE O | RGANISER | |

| BEGINNEKS BEGINNER | #betute ELIE |
|---|--|
| Best to avoid outcome goals as they rely on factors that cannot be controlled (other performers) | Outcome goals can increase motivation to succeed and win, for example win a gold medal, the best performers will persevere even after losing |
| Performance goals are suited to this performer as they can concentrate on trying to better themselves rather than others | Performance goals can help these athletes to work and refine their technique in order to assist them with winning |

BEAULIERA

Tille

GOAL SETTING

| S | Specific | They must be specific to the sport, skill or muscles used | A netball team looking to improve the goals scored per game from 22 to 30 |
|--------------|------------|---|--|
| М | Measurable | It must be possible to measure what has been achieved | Monitoring the percentage of first serves that are in during training, |
| \mathbf{A} | Achievable | It must be an goal which can be reached by the performer | A sprinter aiming to improve their 100m time buy 0.6 of a second. |
| R | Recorded | It must be written down and recorded as evidence of the goal | Recording the number of set and reps at each weight to ensure progression. |
| T | Timed | It must be set over a fixed period of time | A four week training programme to improve the sprint start technique |

GCSE PE

Goal Setting

HOW SMART ARE YOU?

| Goal Setting Principle | Description | Example |
|---------------------------|---|---|
| Specific | Stating exactly what you want to achieve | Wanting to run 13.5 secs in the 100m |
| Measurable | Having a way to test if you have achieved your goal | Wanting to run 13.5 secs in the 100m |
| Achievable | The goal should be within your capabilities and not too hard | Wanting to win the hockey league because you came 2nd last year |
| Recorded | The goal should be written down so you tick it off when achieved | Writing in your diary "I want to be a top goal scorer in our football club" |
| Timed | You should say when you want to achieve the goal by, and might have short term goals as stepping stones towards a longer term goal | Wanting to win today's tennis game |

| AO1 | Knowledge |
|-----|---------------------|
| AO2 | Application |
| AO3 | Evaluation/Analysis |
The Structure and Function of the Skeletal System



1 Mental Rehearsal

Mental Rehearsal is a tool used to relax the performer and comes in two forms:

- Internal Rehearsal where you imagine yourself performing the activity in your head. This can stimulate the feelings of the activity, for example the bobsleigh
- External Rehearsal where you picture yourself from outside your body, like watching your performance on a video.



Type of Technique

Cognitive 3 Selective Attention

When learning a skill or performing a skill in sport, it is often difficult to distinguish between information that is relevant and information that is unimportant in the execution of the skill.

For example a badminton player may play too much attention to the movement of the opposition rather than the flight of the shuttle. It is therefore important when performing/learning a skill that needs more concentration that the performer concentrates on what is relevant and ignores irrelevant distractions.

This is known as selective attention.





GCSE PE

Type of Technique Cognitive

Many helps perfo

4 Imagery

Mental Preparation

Imagery is where a performer pictures themselves "somewhere else" in order to improve their concentration. Many performers try to capture the feeling of movement or an emotion like happiness or success.

This technique is sometimes called "self

talk". This involves the performer being

talking to themselves of how successful they can be. This in turn boosts their

confidence. This technique has proven to

raise aspirations of sports performers and

how successful they are within their sport.

positive about past experiences by

For example a performer who is feeling nervous or stressed may "go to another place" in their minds to try and calm themselves down.

| sports performers claim that this technique | |
|---|--|
| to reduce stress and anxiety when | |
| rming, it also blocks out distractions. | |



Type of Technique Somatic



Type of Technique Cognitive

| A01 | Knowledge |
|-----|---------------------|
| AO2 | Application |
| AO3 | Evaluation/Analysis |



Religious Studies



Year 9 : Unit 9:1 Building Bridges

What is the future of religion ?

KEY WORDS

| Equality | The state of being equal, rights, status, opportunities | |
|---------------|---|--|
| Denominations | For example: Protestant, Catholic, Methodist | |
| Interfaith | When different religions work together – e.g on an | |
| | environmental issue (pollution) | |
| Collaboration | Working as a unit together to produce something | |
| Unity | The state of being united or joined as a whole | |
| Diversity | Different groups of people – gender/race/faith | |
| Worldviews | How people see with world/ their view. | |
| Dialogue | A conversation between two or more people | |
| respect | Treating someone with care and kindness | |
| Controversy | A lot of disagreement or argument about something | |
| Ethics | What is morally good/bad or right or wrong | |
| Ecumenical | Promoting or tending towards worldwide Christian unity | |
| numinous | Feeling there is a sense of God/supernatural/mysterious | |
| Ten Moral | 10 rules to live by in Buddhism. For example, do not | |
| Precepts | steal, do not take life | |
| Ahmadadiya | A Muslim group that believes that peace is important | |
| | | |

WHAT IS INTERFAITH ?



Interfaith week increases people's awareness of different faith communities in the UK and to celebrate the contribution that their members make to their neighbourhood and to wider society.

Humanists believe in equality. People should be treated with dignity and respect.

KNOWLEDGE ORGANISER

Religious views about equality

Christians believe equality is very important. "Love your neighbour" and "There is neither Jew nor Greek. Male nor female, slave nor free, for you are all one in Christi Jesus.



Jews believe in tzedakah. This means charity, but more, it means justice. Through charity there is justice. Genesis says humans were made in his image, so Jews believe

they should strive to bring equality to the world.



Muslims believe that inequalities of the world are a test from Allah. The Qur'an tells Muslims to give to charity. "They ask thee what they should spend in charity, Say,

"Whatever ye spend, that is good" Surah 2



Buddhists believe that everyone has the potential to achieve enlightenment. They will follow the Five Precepts, which tells them to not hurt others and to speak with

kindness. Buddhists are encouraged to treat people equally.



Sikhs are bound to fight for justice when they see oppression. Inequality leads to oppression and injustice, so Sikh's have a duty to fight for

this. Everyone is created by God and carry a divine spark.



A Hindu believes that everyone has part of Brahman(God) within them. This means that everyone has a right to be treated fairly

and deserves respect. Charity, compassion and fairness are Hindu virtues.

WHAT ARE THE 10 **COMMANDMENTS?**





What does the Baha'l faith say about equality ?

*Everyone should have an education.

*All people are equal and should have equal rights.

*No one should be extremely rich or extremely poor.







Photosynthesis

| Keyword | Definition | |
|-----------------------|---|--|
| Photosynthesis | Process carried out where plants make their own food. | |
| | Carbon Dioxide + Water \rightarrow Glucose + Oxygen | |
| Chlorophyll | Green pigment in chloroplasts of plant cells. It enables photosynthesis to take place. | |
| Chloroplasts | Contain the green pigment chlorophyll; the site of photosynthesis. | |
| Waxy Cuticle | Waxy layer, prevents water loss. | |
| Upper Epidermis | Thin and transparent allowing light to pass through. | |
| Palisade Mesophyll | Main region for photosynthesis. Lots of palisade cells containing lots of chloroplasts. | |
| Spongy Mesophyll | Cells are more loosely packed. Contains air spaces between cells allowing gas exchange. | |
| Lower Epidermis | Contains stomata to regulate the loss of water vapour (transpiration) | |
| Stomata | Each stomata surrounded by a pair of guard cells. Guard cells control whether they're open or closed. | |
| Petals | Brightly coloured to attract insects. | |
| Stamen | The male part of the flower (each consist of an anther held up on a filament) | |
| Stigma | The top of the female part of the flower which attracts pollen. | |
| Anthers | Produce make sex cells (pollen grains) | |
| Ovary | Produces the female sex cells (contained in the ovules) | |
| Nectary | Produce a sugary solution called nectar, which attracts insects. | |

Green plants and algae do not eat food to get their energy, Instead they make their own food by a process called photosynthesis.

Photosynthesis takes place inside plant cells within the chloroplasts.

Below shows a diagram of a plant cell.



Chloroplasts contain a green pigment called chlorophyll. This absorbs light energy needed for photosynthesis to occur.

Plants use the raw materials; Carbon Dioxide and Water. With the presence of light energy from the sun, the raw materials are converted into Glucose and Oxygen.



The Leaf Structure





This plant is deficient in nitrate ions. There is poor grown and yellow leaves. Nitrate ions are needed to build proteins and to help the plant grow.



This plant is deficient in phosphate ions. Phosphate ions are needed to ensure good root growth.

The leaves are starting to turn purple.



This plant is deficient in Magnesium ions. Yellow leaves start to form, so rate of photosynthesis is reduced. Magnesium ions are needed for photosynthesis.



This plant is deficient in Potassium ions. Potassium ions are needed for making flowers and fruit.

The leaves are turning yellow, with dead spots.



Photosynthesis

Pollination

Feature

Petals

During plant reproduction, pollen grains need to move from the anther of one flower to the stigma of another flower. This is called pollination. Pollination can occur by either insects or the wind.



| ent and nectar | Usually scented and with nectar - to attract insects | No scent or nectar – no need to attract insects |
|-----------------------|---|---|
| mber of pollen grains | Moderate - insects transfer pollen grains efficiently | Large amounts – most pollen grains are not transferred to another flower |
| llen grains | Sticky or spiky - sticks to insects well | Smooth and light – easily carried by the wind without clumping together |
| thers | Inside flower, stiff and firmly attached - to brush against insects | Outside flower, loose on long filaments – to release pollen grains easily |
| gma | Inside flower, sticky - pollen grains stick to it when an insect brushes past | Outside flower, feathery – form a network to catch drifting pollen grains |

Fertilisation

After pollination the pollen makes a pollen tube down the style to the ovary. The nucleus of the pollen cell travels down the tube to the ovum – when the cell join, this is fertilisation. The cell made when the pollen and ovum fuse will become the seed, which can become a new plant. Plants then form fruits, often from the ovary walls.



Further Reading:





Seed Dispersal

Plants compete with each other for factors including light, water, space, minerals in the soil. Seeds must be dispersed or spread away from each other and from the parent plant. This is to reduce competition between parent plant and new plants.

| Method | Detail | Examples | 6 |
|----------------------|--|-----------------------------------|--------------|
| Wind | Seeds have lightweight parts, wings or parachutes | Dandelion, sycamore | |
| Animals (inside) | Brightly coloured and tasty fruits contain seeds with indigestible coats, so that the seeds pass through the animal's digestive system undamaged | Tomato, plum, raspberry, grape | and a second |
| Animals (outside) | Fruits have hooks that attach them to the fur of passing animals | Goose grass, burdock | Contra Comp |
| Self- propelled | Have a pod that bursts open when ripe, throwing the seeds away from the plant | Pea pod | 1 |

Food Webs & Interdependence

The organisms in a food chain are dependent on each other.



For example, grass is eaten by the caterpillar, which eaten by the frog, which is eaten by the snake, which in turn is hunted by the bird.

The grass is the producer in this food chain, and producers are at the start of all food chains. The grass captures the energy from the sunlight to photosynthesise and make glucose. The glucose provides energy for the grass to grow. When the caterpillar eats the grass, some of the energy left in the grass is transferred to the caterpillar. This energy is passed down the food chain.

Changes in the number of one organism in an area – its population can affect other organisms in the same food chain.

The number of plants in an area can be affected by the amount of rain, sunlight, minerals and space available to grow. The number of animals can be affected by the availability of food habitats, mates, water and disease.



If the population of mice caught a disease, then there would be more competition between the Hawk and Snake to catch the Rabbit. This could then cause the number of Rabbits to decrease.

The Periodic Table

| Keyword | Definition | The periodic table is arranged in rows called periods and columns called groups. Groups contain elements with similar chemical | Group 7 – The Halogens |
|-----------------|---|---|---|
| Periodic Table | A tabular representation of all known elements in order based on atomic number. | properties. Group 1 – Alkali Metals | Group 7 elements become less reactive when you move down the group. This can be shown as a displacement reaction. |
| Atomic Number | The number of protons in the nucleus of an atom. Also called the proton number. | Group 1 metals are very soft metals which can be cut with a knife. They have very low melting and boiling points and are very reactive compared to other metals. The elements become more reactive as | Group 0 – The Noble Gases |
| Periods | A horizontal row in the periodic table. | you go down group 1. When the group 1 metals react in water they produce a metal | Group 0 elements are not reactive. This is because the atoms have full outer shells. |
| Groups | A vertical column in the periodic table containing elements with similar chemical properties. | hydroxide and hydrogen gas. E.g. Lithium + Water → Lithium Hydroxide + Hydrogen | oup 1 oup 2 up 3 up 5 up 6 up 7 up 0 |
| Element | A substance made of only one type of atom. | Group 2 – Alkali Earth Metals | ँ उँ उँ हैं है |
| Compound | A Substance where two or more elements have chemically joined together. | elements. Group 2 metals react with acids to produce a salt and hydrogen. The | Period 2 Li Be Bit Co No Mode Period 3 Na Mag Ait Si P Si Co Ait Si P Si Co Ait Si P Si Co Ait Si P Si Ait Si Si |
| Mixture | Two or more substances that are not joined together. The substances can be elements, compounds or both. | Hydrochloric Acid – Chloride Sulfuric Acid – Sulfate Nitric Acid - Nitrate | Period 4 K Co SC Ti V Cr Mn Fe Co Ni Cu Zi Ga Ga As Si Si <th< th=""></th<> |
| Reactive | The tendency of a substance to undergo a chemical reaction. | E.g. Magnesium + Hydrochloric Acid → Magnesium Chloride + Hydrogen Magnesium + Sulfuric Acid → Magnesium Sulfate + Hydrogen | Period 6 CS B3 La HT Ia W Re OS Ir Pt Au I PD B H PO At Control (In the Contro) (In the Control (In the Control (In the Control (In t |
| Further Reading |]: om/bitesize/guides/z3vwxnb/revision/5 om/bitesize/guides/z84wixs/revision/1 | Magnesium + Nitric Acid \rightarrow Magnesium Nitrate + Hydrogen Group 2 metals become more reactive when you go down group 2. | The Part Mod Pern Smill Eur (504 Tb) (by Ho LET Thr Vb Lut and the set least of the control (set least least 100 PB Part Am Com Bit (Cf Es Fmill Md No LT Three sets least |

| Group 1 | Group 2 | Group 3 | Group 4 | Group 5 | Group 6 | Group 7 | Group 8 |
|--|--|---|--|--|--|---|--|
| Lithium - Li Sodium - Na Potassium - K | Beryllium – Be Magnesium – Mg Calcium - Ca | Boron – B Aluminium – Al Gallium – Ga | Carbon – C Silicon – Si Germanium – Ge | Nitrogen – N Phosphorus – P Arsenic – As | Oxygen – O Sulfur – S Selenium - S | Fluorine – F Chlorine – Cl Bromine - Br | Helium – He Neon – Ne Argon - Ar |
| × | Be | В | C | Z | | ** | ** Ne ** |

Electricity

| Keyword | Definition |
|-------------------------|--|
| Ammeter | A device used to measure electric charge. |
| Ampere | Unit of current. E.g. The current in the bulb is 4 amps or amperes (A). |
| Cell | A store of internal energy that can be transferred as an electric current in a circuit. |
| Conductor | A material which allows charge to move easily through it. |
| Electron | Sub atomic particle which flows in a circuit carrying a negative charge. |
| Series Circuit | A circuit connected in a way that the same current flows through each component in turn. |
| Parallel Circuit | In a parallel circuit, the current divides into two or more paths before recombining to complete the circuit. |
| Insulator | A material that does not allow charge or heat to pass through it easily. |
| Ohms | The unit of electrical resistance. Unit is ${oldsymbol \Omega}$ |
| Resistance | The opposition in an electrical component to the movement of electrical charge through it. Resistance is measured in ohms. |
| Potential Difference | The potential difference (or voltage) of a supply is a measure of the energy given to the charge carries in a circuit. |
| Volt | Unit of voltage. E.g. the voltage across the lamp was 6 volts (V). |
| Voltmeter | A device used to measure potential difference or voltage. |

Circuit Symbols Switch Cel Battery Voltmeter Ammeter M Resistor Variable resistor Motor

Electric Charge

Some particles carry an electric charge. In electric wires these particles are called electrons. An electric current is a flow of charge, and in a wire this will be a flow of electrons.

For an electric current to flow we need:

- Something to transfer the energy to the electrons, such as a cell, battery or power pack.
- A complete path for the electrons to flow through (a complete circuit).

Current

Current is measured in amperes (A). 20A is a bigger current that 10A. An ammeter is used to measure the current. The ammeter must be connected in series.

\otimes

Equations To Remember

Current

Current = Charge

I = Q

Current in Amps (A), Charge in Coulombs (C), Time in Seconds (s).

Potential Difference:

Potential Difference = Current x Resistance $V = I \times R$

Potential difference in Volts (V), Resistance in Ohms (Ω), Current in Amps (A)

Potential Difference Potential difference is a measure of the difference in energy between two parts of a circuit. The bigger the difference in energy, the bigger the potential difference. Potential difference is measured in volts. A 230V is a bigger potential difference than 12V. A voltmeter is used to measure the

(A) 0.5 A



0.5 A (A)

Series Circuit

parallel.

- In series circuits:
- You get several components one after another.
- If a component breaks, the circuit is broken and all the other components stop working.

potential difference, and must be in

The current is the same everywhere in a series circuit no matter where you put the ammeter - it will give the same reading.

Parallel Circuit

- In parallel circuits:
- Different components are connected on different braches.
- If a component breaks, the components on the different braches keep working.
- Unlike series, the lamps stay bright If you add more lamps in parallel.
- Current is shared between the components.



Resistance

The wires and other components in a circuit reduce the flow of charge through them - this is resistance.

The resistance increases when you add more components in series. The resistance of two lamps is greater than the resistance of one lamp, so less current will flow through them.



Further Reading:

https://www.bbc.co.uk/bitesize/guides/zsfgr82/revision/1

Use the following link to set up some circuits using the simulation. https://phet.colorado.edu/en/simulation/circuit-construction-kitdc-virtual-lab



Spanish





1. Describing where you go on holiday and how you get there

| I iAtenc | ión! | |
|------------------|---|----------------|
| The verb ir (to | go) is irregular in the present tense | en autocaren l |
| voy | l go | Den D I |
| vas | you (singular) go | |
| va | he/she/it goes | |
| vamos | we go | |
| vais | you (plural) go | |
| van | they go | en barco |
| Ir with prep | ositions d with various prepositions | en motocicle |
| Voy de vac | aciones I go on holiday | |
| a Cuba | to Cuba | |
| con mi fam | <i>ilia</i> with my family | |
| en coche | by car | |
| en avión | by plane | |
| vou a bie | Lao on foot | |

Los países - Countries



C Patrones y reglas

en avión

Many countries are spelt the same or similarly in English and Spanish. However, be careful with your pronunciation – even if a country looks familiar, it is likely to sound very different! Argentina is one example.

en coche

Describing what you usually / like to do on holiday

| Suelo | l usually | leer un libro (read a book) | | |
|--------------------------------------|------------------|--|--|--|
| Sueles | You (s) usually | ver la tele / una película (watch TV / a film) | | |
| Suele | He/She usually | escuchar música (listen to music) | | |
| Solemos | We usually | nadar en el mar / nadar en la piscina | | |
| Soléis | You (pl) usually | (swim in the sea / swim in the pool) | | |
| Suelen | They usually | jugar al fútbol / baloncesto / vóley-playa | | |
| Me chifla | l love | (play football / basketball / beach volleyball) | | |
| Me mola | l love | navegar por Internet (surf the Internet) | | |
| Me interesa | interests me. | pasear por la playa (walk on the beach) | | |
| Me encanta | llove | tomar el sol (sunbathe) | | |
| Me gusta muc | ho I really like | ir al parque / a la playa / al centro de la ciudad | | |
| Me gusta | l like | (go to the park / beach / city centre) | | |
| Prefiero | l prefer | ir de compras (go shopping) | | |
| No me gusta | I don't like | sacar fotos (take photos) | | |
| No me gusta nada I really don't like | | visitar los monumentos (visit the monuments) | | |
| Me aburre | bores me. | comer en restaurantes (eat in restaurants) | | |
| Odio | I hate | | | |
| Detesto | I hate | | | |

p.44; WB p.21

Aa Gramática Soler

The verb *soler* is used to describe what you or others usually do. Choose the appropriate form in the present tense and follow it with an infinitive (e.g. *comprar*).

| suelo | I usually | 1 |
|---------|----------------------|---------------|
| sueles | you (sing.) usually | |
| suele | he/she/it usually | >+ infinitive |
| solemos | s we usually | |
| soléis | you (plural) usually | |
| suelen | they usually - | |

- Suelo ir de vacaciones a Tenerife.
 I usually go to Tenerife on holiday.
- Solemos nadar en el mar.
 We usually swim in the sea.

Aa Gramática

Common expressions and slang

You have already come across the structure *iqué..!* with adjective or noun:

| Qué aburrimiento! | How annoying! |
|-------------------|---------------|
| Qué chulo! | How awesome! |

Some of the expressions in activity 1 can also be used in a way similar to verbs like *gustar:*

| me mola | I love it |
|---------------------|---------------------------------------|
| me aburre | it bores me |
| Add an '-n' to thes | e verbs if followed by a plural noun: |
| me molan | I love them |
| me aburren | they bore me |



Describing a past holiday



| Aa Gra | mática | p.45; WB p.23 |
|--|--|--|
| The preter | ite tense (irregular ver | bs) |
| There are r ense, such some exan same in th | nany key verbs which ar a as <i>tener, ir, ser</i> and <i>hac</i> aples. Note also that <i>ir</i> (t e preterite tense. | e irregular in the preterite cer. Refer to page 148 for o go) and <i>ser</i> (to be) are the |
| fui | I went | I was |
| fuiste | you (singular) went | you were |
| | | |
| fue | he/she/it went | he/she/it was |
| fue fuimos | he/she/it went we went | he/she/it was we were |
| fue fuimos fuisteis | he/she/it went we went you (plural) went | he/she/it was we were you were |

Las actividades - Activities

The preterite tense (regular verbs)

This past tense is used to describe actions completed at a fixed point in time or during a specific period. To form it, remove the -ar, -er or -irof the infinitive and add these endings:

| | -ar | -er/-ir |
|---|----------------|-------------|
| уо | -ė | -l |
| tú | -aste | -iste |
| él/ella | -ó | - <i>iô</i> |
| nosotros/as | -amos | -imos |
| vosotros/as | –asteis | -isteis |
| ellos/as | -aron | -ieron |
| visit ar → visit é | (I visited) | |
| jug ar \rightarrow jug aron | (they played) | |
| beber \rightarrow bebiste | (you drank) | |
| sal ir → sal isteis | (you went out) | |

| | alquilé una bici (I rented a bike) | | conocí a mucha gente (I met a lot of people) | jugu (I play | é al fútbol /ed football) | saqué fotos (I took photos) | | con mi hermana |
|--|--|-------------------------|---|-----------------|---|---|---------------------------|--|
| | comí comida de (Late delicious food | liciosa) | descansé en la playa (I rested on the beach) | nadé (Eswa | é en el mar Im in the sea) | vi un partido de f (I watched a football | iútbol match) | (with my sister) con mi hermano |
| | compré recuerd | os | di un paseo | prob | é platos típicos | visité el castillo | | (with my brother) |
| Durante las | (I bought souvenirs) | | (I went for a walk) | (I trie | d typical dishes) | (I visited the castle) | | con mi madre (with my mother) |
| vacaciones (During the holidays) | hice | buceo | natación | sei | nderismo | turismo | | con mi padre (with my father) |
| El primer día (On the first day) | (I did) | (diving) | (swimming) | (hik | king) | (sightseeing) | III t | |
| El segundo día (On the second day) | fui (I went) | al centro (to the sh | o comercial para compra opping mall to buy things) | ar cosas | a la montaña par senderismo | ra hacer | a la playa mar | a para nadar en el |
| El tercer día | | al centro | o de la ciudad para hace | r | (to the mountains to | do hiking) | (to the bea | ch to swim in the sea) |
| (On the third day) Un día | fuimos (we went) | turismo (to the cit | y centre to do sightseeing) | | al parque para ju (to the park to play t | ıgar al tenis ennis) | a la playa (to the bea | a para tomar el sol ch to sunbathe) |
| (One day) | t, | | | | | | | |
| El último día (On the last day) | hicimos | buceo (o | diving) natación (s | swimming) | sender | rismo (hiking) | turismo | O (sightseeing) |
| Lo mejor fue cuando (The best thing was when) | | | | | | | | |

Describing plans for a future / ideal holiday

| Este verano (This summer) En julio (In July) | voy a ir (I'm going to go) vamos a ir (we're going to go) | de vacaciones (on holiday) | a Argentina (to Argentina) a Chile (to Chile) a Cuba (to Cuba) a España (to Spain) a México (to Mexico) | en autocar (by coach) en avión (by plane) en barco (by boat) en coche (by car) |
|---|--|--|---|---|
| En agosto (In August) | | en la casa de mi familia (in my family's house) | en la capital (in the capital) | del país (of the country) |
| El mes que viene | vov a quedarme | en un camping | en el norte (in the north) | de España (of Spain) |
| FL año que viene | (I'm going to stay) | (on a campsite) | en el sur (in the south) | de Francia (of France) |
| (Next year) | vamos a quedarnos (we're going to stay) | en un hotel barato (in a cheap hotel) | en la casta (en the event) | |
| III †, | III †. | en un hotel de lujo (in a luxury hotel) | en la montaña (in the mountains) | |
| Vov a pasar | una semana (a week) | allí (there) | v creo que será | aburrido (boring) |
| (I'm going to spend) | dos semanas (2 weeks) | con mi familia (with my family) | (and I think it will be) | divertido (fun) |
| Vamos a pasar | un mes (a month) | con mis primos (with my cousins) | y será | genial (great) |
| (We're going to spend) | quince días (15 days) | con mis amigos (with my friends) | (and it will be) | guay (cool) |

| Durante las | | bailar (to dance) | |
|-----------------------|-------------------------------|--|--------------------------------|
| vacaciones | | comer y dormir (to eat and sleep) | |
| (During the holidays) | | comer comida deliciosa (to eat delicious food) | |
| El primer día | | comprar recuerdos (to buy souvenirs) | cada manana (every morning) |
| (On the first day) | | comprar regalos (to buy presents) | cada tarde |
| El segundo día | Voy a (I am going to) | descansar (to rest) | (every afternoon) |
| (On the second day) | Vas a (you are going to) | hacer buceo (to go diving) | cada noche |
| El tercer día | Va a (s/he is going to) | hacer deporte (to do sport) | (every night) |
| (On the third day) | vamos a (we are going to) | hacer natación (to go swimming) | todos los días (every day) |
| Un día | Vals a (you all are going to) | hacer turismo (to go sightseeing) | todos los fines de semana |
| (One day) | van a (they are going to) | ir a la playa (to go to the beach) | (every weekend) |
| El último día | | ir de compras (to go shopping) | todo el día |
| (On the last day) | | ir de marcha (to go clubbing) | (all day long) |
| | | jugar con amigos (to play with friends) | |
| | | montar en bici (to ride a bike) | |
| | | nadar en el mar (to swim in the sea) | |
| | | salir al centro (to go out into town) | |
| | me gustaría (I would like to) | tocar la guitarra (to play the guitar) | |

me gustaría (I would like to) nos gustaría (we would like to)

Aa Gramática

The conditional

The conditional is usually translated as 'would'. To form the conditional, add the following endings to the infinitive form of -ar, -er and -ir verbs.

| I | -ía |
|----------------|--------|
| you (singular) | -ías |
| he/she/it | -ía |
| we | -íamos |
| you (plural) | -íais |
| they | -ían |

si ganara la loteria si fuera millonario/a si pudiera si fuera posible

tomar el sol (sunbathe)

if I were to win the lottery if I were a millionaire if I could if it were possible



Everything we do should be of great merit, character, and value