



The John of Gaunt School
A Community Academy

Name

TG

Year 11

Knowledge Organisers

Term 1 - 2023

Year 11 Term 5 Quizzing Homework - Question Bank

| Business Studies | Child Care |
|---|---|
| <p>Business Operations</p> <p>Production Processes</p> <ol style="list-style-type: none"> 1. What is job production? 2. Give an example of a product made using job production 3. State one advantage of job production 4. State one disadvantage of job production 5. What is batch production? 6. Give an example of a product made using batch production 7. State one advantage of batch production 8. State one disadvantage of batch production 9. What is flow production? 10. Give an example of a product made using flow production 11. State one advantage of flow production 12. State one disadvantage of flow production 13. What is meant by automated production? <p>Working with suppliers</p> <ol style="list-style-type: none"> 1. What is procurement? 2. What is meant by the supply chain? 3. State 2 factors affecting the choice of supplier 4. Is price always the most important factor when choosing a supplier? <p>The concept of quality State 2 factors customers use to judge quality</p> <ol style="list-style-type: none"> 1. What is quality assurance? 2. What is quality control? 3. State one problem for the business, if goods are poor quality 4. State one benefit of high quality to the business <p>Business Location</p> <ol style="list-style-type: none"> 1. A manufacturing business will need easy access to R M 2. A manufacturing business will need skilled L__so being near to skilled workers is important. 3. True or false: A town centre is a good place for a hairdresser to locate 4. State 2 reasons why a town centre is a good place for restaurant to locate 5. State 2 reasons why an out of town industrial estate is a good place for a T shirt designer/manufacturer to locate | <p>Year 11 Child development Term 1 Observations</p> <ol style="list-style-type: none"> 1. Give one reason why a child may be observed by a child care provider. 2. Name one form of observation they might use 3. How would you carry out a snap shot observation? 4. How would you carry out a narrative observation? 5. What is the advantage of using a checklist observation to record if a child is meeting their developmental norms? 6. What is the advantage of using narrative observation to record if a child is meeting it's developmental norms <p>Stage of play</p> <ol style="list-style-type: none"> 7. At what age does solitary play occur? 8. What is solitary play 9. What is associate play? 10. At what age does co-operative play occur? 11. What is co-operative play? 12. What is parallel play? <p>Type of play</p> <ol style="list-style-type: none"> 13. Give an example of manipulative play 14. Give an example of physical play? 15. What is creative play? 16. What is imaginative play? 17. Give an example of imaginative play <p>Methods of recording information</p> <ol style="list-style-type: none"> 18. State 2 ways you might record information when observing a child 19. You are observing a child playing in the sand pit. Name 1 method of recording information that you could use? Why did you choose this method? 20. You are observing a child painting a picture. Name 1 method of recording information that you could use? Why did you choose this method? |

| Computer Science | Drama |
|-------------------------|---|
| | <p data-bbox="746 176 847 208">Term 1:</p> <ol data-bbox="790 255 1465 1122" style="list-style-type: none">1. What does a stage position determine?2. Where is centre stage?3. How can you tell stage left from stage right?4. Why is 'Upstage' referred to as 'Upstage' and 'downstage' as 'downstage'?5. Where can you find 'Backstage'?6. What is In-The-Round staging?7. What is Traverse staging?8. What is Thrust stage?9. What is End-on stage?10. What is Promenade theatre?11. What is the role of a director?12. What is the role of a playwright?13. What is the role of a lighting or sound designer?14. What is the role of a set or costume designer?15. What is the role of a stage manager?16. What is the role of a theatre manager?17. What is the role of a technician?18. What is the role of a performer?19. What is the role of an understudy?20. What is a 'genre'? |

| Food | Geography |
|--|---|
| <p>Year 11 20 Questions – Food Preparation & Nutrition</p> <ol style="list-style-type: none"> 1. Name the 2 water soluble vitamins? 2. Name the 4 fat soluble vitamins. 3. Name 4 minerals 4. Name the 3 macronutrients. 5. Which macronutrient is a secondary energy provider? 6. What does EAR stand for? 7. What does BMR stand for? 8. What nutrients does a teenage girl specifically need? 9. What is the function of vitamin A (retinol). 10. What is the function of Iron? 11. State 4 diet related diseases. 12. If you are suffering from goitre – you are lacking in what? 13. How can you reduce high blood pressure? 14. What is the function of vitamin E? 15. How can you minimise vitamin losses when cooking food? 16. What does fortification mean? 17. State a food which is fortified and with what nutrients? 18. Scurvy is due to a lack of which vitamin? 19. Iron helps to prevent which diet related disease? <p>Explain what is the Eatwell Guide.</p> | <p>11.1 Geography Economic World Quiz Questions</p> <ol style="list-style-type: none"> 1. Define primary, secondary, tertiary and quaternary industry 2. Describe and explain how the UK economy has changed 3. What is deindustrialisation? 4. What is the North South Divide? 5. What is HS2? 6. How will HS2 help to reduce the north south divide? 7. Give three features of the Cambridgeshire Science Park that makes it sustainable 8. Why are people leaving the Outer Hebrides? 9. What impact is a falling population having on the Outer Hebrides? 10. Define urban sprawl 11. Define development 12. How can we measure development? 13. What are the limitations of using GNI per capita as a measure of development? 14. What is the HDI? 15. What is fair trade and how might it reduce the development gap? 16. What is the DTM? 17. Name a stage 2 country of the DTM and explain why birth rates are so high. 18. List 4 causes of the development gap 19. What is the difference between an economic migrant and a refugee? 20. How can we reduce the development gap? 21. What are the advantages and disadvantages of TNC's in LICs? 22. List 3 different types of aid 23. How has the economy of Nigeria changed? |

| Music | Science | | | | | | | | |
|--|----------------------|---------|---------|--|---------|----------|--|---------|--|
| <p>Year 11 Term 1</p> <ol style="list-style-type: none"> 1. What is the structure of Africa by Toto? 2. What key does Africa begin in? 3. Who composed Africa? 4. What date was Africa composed? 5. What is the main texture of Africa? 6. What are the dynamics like in Africa? 7. A riff is used in Africa, what does that mean? 8. What is the time signature of Africa? 9. Name the instruments used in Africa 10. What chords are used in the chorus of Africa? 11. Name the four voice types and what they sound like 12. What instruments would you usually find in a Popular/Rock band? 13. What is the typical structure of a Popular song? 14. How many sharps are in the G major key signature? 15. What is the musical word for how the music is organised? 16. What is the musical word for the main tune? 17. What is the musical word for how loud or quiet the music is? 18. What is the musical word for how fast or slow the music is? 19. What is the musical word for how many layers there are in a piece? 20. What are the two main types of tonality? <p>Also recognising images of the following instruments:</p> <table border="0"> <tr> <td>Rock/Pop instruments</td> <td>Marimba</td> </tr> <tr> <td>Kalimba</td> <td></td> </tr> <tr> <td>Maracas</td> <td>Cow Bell</td> </tr> <tr> <td></td> <td>Conga's</td> </tr> </table> | Rock/Pop instruments | Marimba | Kalimba | | Maracas | Cow Bell | | Conga's | <p>B5 Questions</p> <ol style="list-style-type: none"> 1. What is homeostasis? 2. Which internal conditions are controlled in the human body? 3. Why is it important to control body temperature? 4. How is water lost from the human body? 5. How is blood sugar controlled in the human body? 6. What is a stimulus? 7. Name three stimuli which affect humans 8. What are receptors? 9. Give an example of a receptor in the human body 10. What is an effector? 11. What are the two types of effector and what can they do? 12. What is the role of the Central Nervous System? 13. What makes up the Central Nervous System? 14. Name the three types of neurons and describe what they do 15. What is a reflex? 16. Why are reflexes important? 17. What are the main stages of a reflex arc? 18. What is a negative feedback loop? 19. What is the endocrine system? 20. What are hormones? <p>P6 Waves:</p> <ol style="list-style-type: none"> 1. What are the two types of waves? 2. What is moved by waves? 3. Describe the movement of a longitudinal wave. 4. Give an example of a longitudinal wave 5. What is rarefaction in a wave? 6. What is compression in a wave? 7. Describe the movement of a transverse wave 8. Give an example of a transverse wave 9. Draw and label a transverse wave. 10. What is a wavelength? |
| Rock/Pop instruments | Marimba | | | | | | | | |
| Kalimba | | | | | | | | | |
| Maracas | Cow Bell | | | | | | | | |
| | Conga's | | | | | | | | |

Science continued

C6 Questions

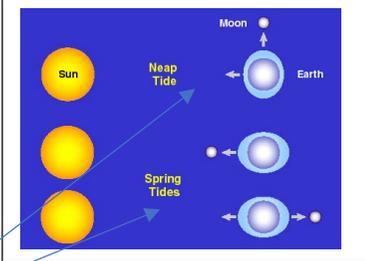
1. How can the rate of a chemical reaction be measured?
2. Give three methods to measure the rate of reaction
3. What are the units for measuring rate of reaction?
4. How is the rate of reaction calculated?
5. What are the 5 factors that can affect the rate of reaction?
6. What is the collision theory?
7. What is activation energy?
8. How does increasing temperature affect the rate of reaction?
9. Why does increasing temperature affect the rate of reaction?
10. How does increasing concentration affect the rate of reaction?
11. Why does increasing concentration affect the rate of reaction?
12. How does increasing pressure affect the rate of reaction?
13. Why does increasing pressure affect the rate of reaction?
14. How does increasing surface area affect the rate of reaction?
15. Why does increasing surface area affect the rate of reaction?
16. How does adding a catalyst affect the rate of reaction?
17. Why does adding a catalyst affect the rate of reaction?
18. What happens to a catalyst during a chemical reaction?
19. Sketch an energy profile for catalysed and an uncatalysed reaction.

| Spanish | Sports Science |
|--|-----------------------|
| <p><u>Year 11 Spanish Term 1 Quizzing</u></p> <p>A] Learn the yellow infinitives section on your KO and then translate these into Spanish :</p> <ol style="list-style-type: none">1. to recycle paper, cans and glass2. to shower instead of taking a bath3. to protect endangered species4. to buy rechargeable batteries5. to use public transport6. to plant more trees7. to turn off the lights8. to avoid overconsumption9. to save electricity10. to waste water <p>B] Use your KO to help you create a list of 5 actions you could take to help the environment, following the example below, then learn your answers and practise writing them from memory:</p> <p>Voy a – I'm going to; Podría – I could; Debería – I should</p> <p>Ejemplo: Podría reciclar las botellas de plástico – I could recycle plastic bottles.</p> | |

Astronomy GCSE. Term 1: The Earth-Sun-Moon system

Why the Sun and the Moon look the same size from the Earth; The Sun is larger but further from the Earth, while the Moon is smaller but closer to the Earth. By coincidence they both have an angular diameter of about 0.5°.

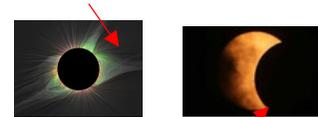
Tides: The **tidal forces** between planets and their moons are gravitational forces. The size of the gravitational pull between two masses depends on the distance between them, so the pull of the Moon on the near side of the Earth is greater than the pull of the Moon on the far side. This creates **tidal bulges** on opposite sides of the Earth. As the Earth rotates, these occur on different parts of the coast as twice daily **high and low tides**. (The moon is in a slightly different position at the same time each day, so the tide times are later (about 1 hour in the UK each day)). The Sun also exerts a gravitational pull on the Earth which contributes to the tidal bulges. When the Sun, Earth and Moon are all aligned, the bulges are larger and **very high and low tides** (large level change) occur called **spring tides**. When the Moon and Sun are furthest from alignment, the tidal variation is smaller and these are **neap tides**.



Precession- also caused by the gravitational forces of the Sun and Moon on the Earth, making the axis of rotation 'wobble'. The axis precesses at 1.4° per century. Evidence includes:

1. Changing Pole Star.
2. Changing positions of the equinoxes.
3. Misalignment of ancient monuments, built to align with particular stars.

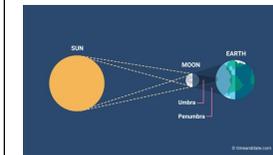
Umbra; the dark shadow area. Observers see a **total solar eclipse** where the sky is darkened, the temperature falls and stars can be seen. With the photosphere covered, the Corona can be seen.



Penumbra; an observer in the lighter shadow sees a partial solar eclipse and the Sun appears to have a chunk taken out.

Archeoastronomy: Archeoastronomers can estimate the age of ancient monuments by using the known rate of precession and measuring the misalignment of ancient monuments, with the positions of stars today.

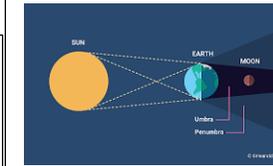
Solar eclipses occur when the Moon passes between the Sun and the Earth and casts a shadow on the Earth.



Annular eclipse- occurs when the Moon is at the apogee of its orbit around Earth and its disc appears smaller. Less of the Sun is covered and it looks like a ring of light called the 'ring of fire'.



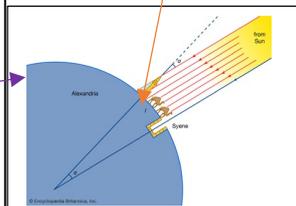
Lunar eclipse occurs when the Moon passes through the Earth's shadow.



Sidereal time: A sidereal day is the time taken for the Earth to spin once on its axis and equals 23h 56min.
Synodic time: A synodic (or solar day) is 24h long, 00, 4 mins longer than a sidereal day.

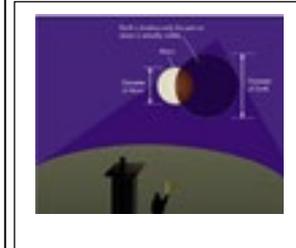
The ancient Greeks, who lived about 2200 years ago applied geometry to estimate sizes and distances for objects in the solar system, notably; **Eratosthenes** who estimated the circumference of the Earth by measuring the difference in the angle of incidence of the Sun's rays at two different places on the Earth's surface and the distance between the two places.

$$\frac{\text{Circumference of Earth}}{\text{Distance } l} = \frac{360^\circ}{\theta^\circ}$$

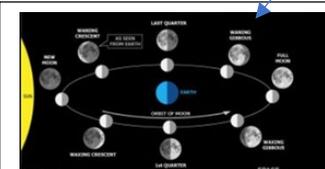


Aristarchus of Samos who determined the relative diameter of the Moon compared with the Earth, by observing a total Lunar eclipse and measuring transit times. He assumed that;

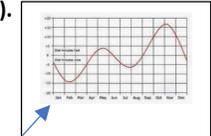
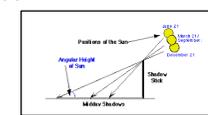
1. a lunar eclipse was produced when the Moon passed into the Earth's umbra.
2. The Sun was so far away that its rays are parallel when they reach the Earth.
3. The Moon's path crosses the centre of the Earth and the diameter of the Earth and its umbra are equal.



Lunar phases- An observer on Earth sees *part* of the half of the Moon which is reflecting sun light. The apparent shape of the moon as seen from Earth changes in a repeating order over a period of one **synodic or solar month**, which is **29.5** days. It takes the Moon only **27.3** days for the 1 Earth orbit, but simultaneously, the Earth-Moon system also moves on along its orbit around the Sun, so it takes an extra 2.2 days before the Moon, Sun and Earth reach the same relative positions as at the start of **solar month**.



Shadow sticks and Sundials; Used to cast shadows to indicate the time as the Sun moved across the sky. This value is the **Apparent Solar Time (AST)**.



A correction has to be made to the **AST** to obtain the **Mean Solar Time (MST)**, using a chart for a particular location. This is called the **Equation of Time (EOT)**. So **EOT=AST-MST**

Longitude and Time Zones; Mean Solar Time is also known as **Local Mean Time**. Greenwich, London is at 0° longitude. Noon is 4 minutes earlier for every 1° East of Greenwich and 4 mins later for every 1° West of Greenwich, as the Earth rotates to East from West. The world is divided into time zones, along lines of longitude. For the UK it is convenient to all work on one time zone, **Greenwich Mean Time (GMT)** in winter and GMT+1 or British Summer Time (BST) in summer.

Production is:
the process of turning raw materials into saleable products and services

Job production

Making products individually

Batch production

Making one type of product then switching to make a different product

Flow production

The production of one product on a continuous assembly line

Automation

Production involving machinery not controlled by a person

Job production

| Advantages | Disadvantages |
|--|---|
| <ul style="list-style-type: none"> Products are usually high-quality Products can be made to meet the needs of individual customers Workers often get more satisfaction | <ul style="list-style-type: none"> Costs of production will be high Labour costs may be high because job production often requires skilled labour |

Technology is being used more and more in the production of goods and services.

Technological development is making it possible for technology to perform skilled work and reducing the need for human resources

4:1 Production Processes

Batch production

| Advantages | Disadvantages |
|---|---|
| <ul style="list-style-type: none"> The needs of different customers can be met by making batches of different goods Batches are made to meet specific orders from customers It may be possible to use specialist machines to automate production | <ul style="list-style-type: none"> It takes time to switch production from one batch to another - costly May have to keep stock of raw materials to be able to switch production Less choice of products for customers Tasks are repetitive for workers |

Flow production

| Advantages | Disadvantages |
|--|--|
| <ul style="list-style-type: none"> Large amounts can be made Costs of production for each unit is low Machinery can be used, helping to reduce costs Technology can be used to change the products slightly to more are available for customers to choose from | <ul style="list-style-type: none"> Goods are mass-produced so quality may be low Expensive to set up a production line Large stocks of materials need to be kept which can be expensive If production stops at any point then production stops everywhere Jobs can be repetitive and boring |

4:2 Quality of Goods and Services

Quality is:
about a product being fit for purpose and working in a way that it is supposed to

Quality control

A system for inspecting the quality of goods and services

Quality assurance

An approach that involves the whole business focusing on quality

Returns

Goods which customers take back to the shop because of problems

Recalls

The business asks for products to be returned because of faults

Importance of providing quality products

It avoids waste

If goods are not of a good quality they may not be able to be sold and so the producer has wasted money

It avoids recalls

If unsatisfactory products are made and sold they will then have to be recalled and the issue resolved at a cost to the manufacturer

Reputation and sales

Customers will not be happy with poor quality products and may shop elsewhere in the future

Disrupted production

Production may be disrupted if quality is poor from the start

4:3 The Sales Process and Customer Service

Businesses are able to use a range of selling methods.
E-commerce:

Pros to the business

Can sell worldwide
Open 24/7
Professional look at little cost
Lower operating costs

Cons to the business

Worldwide competition
Problems with delivering and returning goods
Online security issues
Technology advances rapidly

Pros to the customer

Price comparison available
24/7 availability
Wider range of products

Cons to the customer

Lack of personal contact
Problems returning goods
Only image of goods seen
Security
Cannot pay with cash

E-commerce

Bringing together the buyer and seller electronically

Customer service

What a business does to keep customers happy

Face-to-face selling

Usually completed in a shop where there is direct contact between buyer and seller

Telesales

Sales completed over the telephone

After-sales service

Any help and advice given to customers after they have bought a product

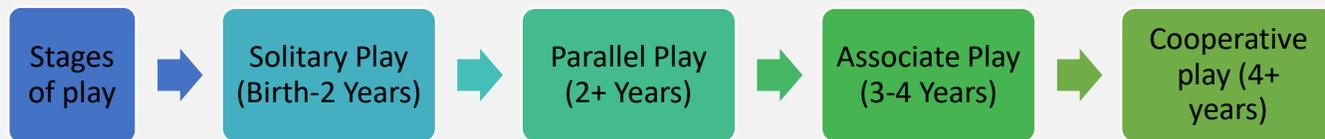
| Method of observation | What the method involves |
|-----------------------|---|
| Narrative | A detailed written description of what is being observed over a short period of time. |
| Checklist | A list of possible skills is produced so that the observer can check off the child's skills as they are observed. |
| Snapshot | A brief note is made about a child to capture something they do or a skill they use. |
| Time sample | Capturing information about what a child is doing at particular times of the day. It could be how they play or how they behave. |

Observations are used to:

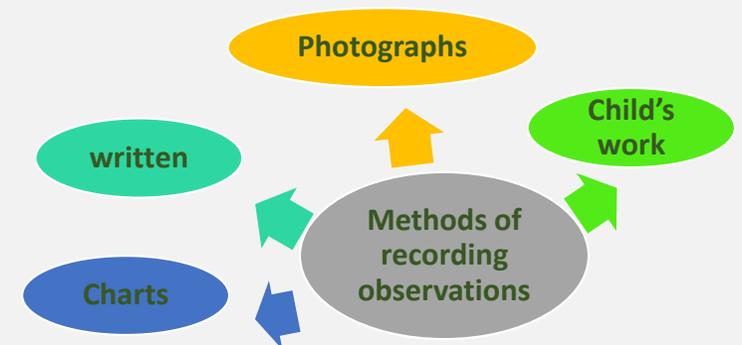
1. Find out if child is meeting an expected developmental norm
2. Understand a child's stage of play and what they enjoy doing
3. Find out what type of play the child likes to take part in

Child Development Year 11 term 1 Observations

| Key word | Definition |
|-------------------|---|
| Solitary Play | When a child plays alone and does not take any notice of how other children are playing, they are at the solitary stage of play |
| Parallel play | Parallel play describes the stage when children play alongside each other but do not talk about or join in the other's play |
| Associate Play | Associate play happens when a child plays with another child but they do not plan their play |
| Co-operative Play | Children who discuss their play and plan what should happen are at the cooperative stage of play |



| Type of play | Definition | Examples of this type of play |
|--------------------------|--|--|
| Creative play | Where children experiment with materials, collage, painting, music, imagination | Collage making, painting, model making, music and dance |
| Physical Play | Play that involves gross motor skills, the muscles and moving around | Playing football, riding a scooter/tricycle, playing on swings/slides/climbing frame |
| Manipulative play | Children use their hands, (fine motor skills) e.g to move or turn things to make them fit. | Threading beads, puzzles, drawing/painting, construction |
| Co-operative play | Play which takes account of others actions within their play together; sharing, group play | Board games, role play, playing tag or football |
| Imaginative play | Children act out their ideas, they may role play certain situations such as shopping or imaginative, such as being in space. | Role play, puppets, small world, plays/drama |



QLA

Create and develop ideas to communicate meaning for theatrical performance (AO1)

Apply theatrical skills to realise artistic intentions in live performance (AO2)

To know and demonstrate knowledge and understanding of how drama and theatre is developed and performed (AO3)

Analyse and evaluate their own work (AO4)

Analyse and evaluate the work of others, professional or peers (AO4)

Devising Process—PERFORMANCE REQUIREMENT

- Combine and apply vocal and physical skills which are highly dynamic and engaging.
- Vocal control - use of clarity, pace, inflection, pitch & projection
- Physical control—use of space, gesture, stillness and stance
- Characterisation— supporting the communication of your performance aim with focus, energy, confidence and commitment. Shows an accomplished level of refinement and range of moods and emotions
- Understanding of style, genre and theatrical conventions. (Brecht, Stanislavski, Physical Theatre,

Physical skills: Body-language, facial expression, eye-contact, gait, demeanour, movement, gesture, posture, spatial relationships, interaction, proxemics.

Vocal skills: pace, pitch, pause, tone, volume, delivery, emphasis, accent, rhythm, timing

Theatrical Conventions

Choral movement/speech: two or more actors doing the same movement at the same time

Canon: two or more actors doing the same movement one after another

Sound-scape: layering sound to create atmosphere

Hot-seating: an actor answering questions in character

Thought-tracking: pausing the action to reveal a characters' innermost secret thoughts and feelings

Direct address: talking directly to the audience e.g. narrator, reporter

Still image: stopping the action to highlight a moment

Slow motion: slowing down the action to highlight a

How to give constructive feedback

I/the actor used the skill [WHAT]

I/the actor used the skill in the following way [HOW]

I/the actor used the skill because... creating the effect of... [WHY]

This means that I/the actor succeeded because... [LINK]

HOWEVER, I/the actor did not use the skill [WHAT]

I/the actor could have used the skill in the following way [HOW]

This would've created the effect that...[WHY]

Section 1: Response to

Stimulus

What do you need to include:

- Initial response to stimuli (pick 3 of the stimulus we looked at, sum up each in a sentence).
- Stimulus you chose, why?
- Research you did, what did you find?
- Style? Technique? Aim?

Section 2: Development and Collabora-

tion

What do you need to include?

- Specific scene: intention of and how you developed it?
- Specific scene: intention of and how you developed it?
- Character you are playing, aim of role, use of physical skill, use of vocal skill, use of technique
- Style chosen, why it's working/not work-

Section 3:

Analysis and Evaluation

What do you need to include?

- EVALUATE success of a scene
- EVALUATE success of a scene
- Physical and vocal skills you used, how this added to the performance?
- Link back to group aims, style, audience reaction, overall success

ENGINEERING YEAR 11 MODULE 1
Risk Assessment

When Engineers work with tools and machinery in a workshop environment, they need to understand the process of being as safe as possible. This is achieved by undertaking a Risk Assessment.



| Sign | Meaning | Shape | Colour |
|------|---|-----------------------|---|
| | Mandatory sign: specific instruction on behaviour | Round | White border, blue background, white pictogram |
| | Warning sign: giving warning of hazard or danger | Triangular | Black border, yellow/orange background, black pictogram |
| | Prohibition sign: prohibiting behaviour and/or actions | Round | Red border, white background, black pictogram |
| | No Danger: information on emergency exits, first aid, emergency stop, etc. | Square or rectangular | White boarder, green background, white pictogram |

Health and Safety within a work space

The Five Steps to Risk Assessment

- Step 1** identify the hazards.
- Step 2** Who may be harmed and why.
- Step 3** Evaluate risk and choose precautionary control measures.
- Step 4** Record (write down) your findings.
- Step 5** Review and update when needed.

| RISK ASSESSMENTS | | | | |
|----------------------------------|-----------------------------|---|--|---------|
| Hazard (low, Medium, High risk). | Who might be harmed and how | Control Measure in place (what should be in place to minimise the hazard from happening | Responsibility to ensure control measures are in place | Checked |
| | | | | |



COSHH: Care Of Substances Hazardous to Health

COSHH
Awareness and training is a needed set of skills that Engineers have to be aware of, in a workshop environment. Engineers will be working with some substances that could be hazardous to your health and would need to be worked with, handled and stored in a safe and secure place,

(<http://www.hse.gov.uk/coshh/basic/substance.htm>)

Drill Speeds

| Drill Dia. (mm) | Drill Speed (rpm) | | | |
|-----------------|-------------------|-----------|------|----------------|
| | Steel | Cast Iron | Iron | Alum. & Copper |
| 3 | 1580 | 2580 | 2580 | 2580 |
| 4 | 1350 | 2180 | 2180 | 2580 |
| 5 | 1290 | 1580 | 1580 | 2580 |
| 6 | 830 | 1350 | 1350 | 2580 |
| 7 | 830 | 1290 | 1290 | 2580 |
| 8 | 830 | 1290 | 1290 | 2580 |
| 9 | 540 | 830 | 830 | 2180 |
| 10 | 500 | 830 | 830 | 2180 |
| 11 | 500 | 830 | 830 | 1580 |
| 12 | 420 | 830 | 540 | 1580 |
| 13 | 420 | 540 | 540 | 1350 |
| 14 | 420 | 540 | 500 | 1350 |
| 16 | 320 | 500 | 500 | 1290 |
| 18 | 320 | 420 | 420 | 1290 |
| 20 | 280 | 320 | 320 | 1290 |
| 22 | 210 | 320 | 280 | 830 |
| 25 | 210 | 280 | 210 | 830 |

Machine Cutting Speeds

$$\text{Cutting Speed (V)} = \frac{\pi \times D \times S}{1,000}$$

$$\text{Spindle Speed (S)} = V \div \pi \div D \times 1,000$$

$$\text{Feed (F)} = S \times f \times N$$

$$\text{feed per Tooth (f)} = \frac{F}{S \times N}$$

V = Cutting Speed
π = The Circular Constant
D = Diameter
S = Spindle Speed
F = Feed
f = Feed per Tooth
N = Number of Flutes

Metric Coarse Tapping Drill Sizes

| Size | Pitch | Drill |
|------|-------|-------|
| M1 | 0.25 | 0.75 |
| M2 | 0.4 | 1.6 |
| M3 | 0.5 | 2.5 |
| M4 | 0.7 | 3.3 |
| M5 | 0.8 | 4.2 |
| M6 | 1 | 5 |
| M7 | 1 | 6 |
| M8 | 1.25 | 6.75 |

Overview of the exam:

- The exam is an hour and 45 minutes.
- Spend 1 hour on section A (10-15 minutes reading time) You will be given two sources from two different time periods - both are non-fiction texts (pre-1900 and post-1900)
- You should spend an hour on section A-Reading Section (Q1-4)). This allows for 10-15 minutes of reading time)
- You should spend 45 minutes on section B-Writing section (Q5)

NB: Section A and B are both worth 40 marks

QUESTION 1 (5 minutes)

'Choose four statements which are TRUE...'

- Refers to Source A.
- Identify EXPLICIT (Things you are told) and IMPLICIT (what you can infer) information referring to part of the text.
- Shade only 4 boxes in.

***Make sure you read the text and question carefully.**

QUESTION 2 (10 minutes)

'Write a summary of the differences between...' 8 marks

- You need to refer to source A and Source B.
- Use quotations from both sources to support your answer.
- You need to COMPARE the CONTENT of the two sources in line with what the question is asking you to look for.

Point – evidence – infer – comparative point – evidence – infer.

*You do not need to analyse the language.

QUESTION 3 (15 minutes)

'How does the writer use LANGUAGE...?' 12 marks

Explain, comment on and analyse the language used. Make sure that you read the question properly Remember to: Include LANGUAGE TERMINOLOGY- if you do not know what these key terms mean – look them up!

- ✓ Imagery-simile, metaphor, personification
- ✓ Symbolism
- ✓ Adjectives, verbs and adverbs
- ✓ Persuasive language devices: AFOREST/FAT HORSE
- ✓ Satire
- ✓ Allusion
- ✓ Plosives
- ✓ Hyperbole
- ✓ Semantic field

Consider the effect on the reader. What does this make the reader THINK/FEEL/IMAGINE/BELIEVE?

QUESTION 4 (20-25 minutes)

'Compare how the two writers convey their similar/different attitudes/ideas/perspectives to...' 16 marks

- Refers to Source A AND Source B – you must address each source equally.
- You need to consider the writers' **point of view** (their feelings) on the subject and compare the ways they **PRESENT** their ideas (what methods do they use?)
- Remember to talk about the methods they use, such as:
 - ✓ Language choices
 - ✓ Imagery and linguistic devices (similes, metaphors etc)
 - ✓ Persuasive techniques (AFOREST/FAT HORSE)
 - ✓ Register that they use – 1st or 3rd person
 - ✓ Tone that they use – humorous, passionate, frustrated etc
 - ✓ The structure and form that they use.

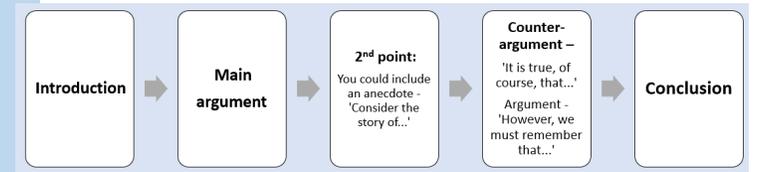
QUESTION 5

Produce your own non-fiction text (based on the theme in Section A)
You could be asked to write any of the different text types in the table below.

- 24 marks for content and organisation
- 16 marks for technical accuracy

Q5 – Example: -'Festivals and fairs should be banned. They encourage bad behaviour and are disruptive to local communities.' -Write a letter to your local newspaper in which you argue for or against this statement. -

How to structure a persuasive text



Remember that different text types = different formats

| | |
|-----------------|---|
| Letter: | Two addresses, date, Dear Sir/Madam, Yours Sincerely |
| Article: | Headline, by-line, subheadings |
| Essay: | Introduction, convincing opinion throughout, conclusion |
| Leaflet: | Title, subheadings, some bullet points |
| Speech: | Address your audience at the start and end, use direct address, |

Revision websites/useful links:

BBC Bitesize:

https://www.youtube.com/watch?v=yKZ_Tr2Y-CE&list=PLqGFsWf-P-cB-GSeqYup7PXld4pbldQVg

Mr Bruff Q1-5 videos on youtube:

https://www.youtube.com/watch?v=yKZ_Tr2Y-CE&list=PLqGFsWf-P-cB-GSeqYup7PXld4pbldQVg

Revision booklet and example paper:

<https://resources.finalseite.net/images/v1553545594/sydenhamlewishamschuk/xdtk0cqr965cxhfyk7/171218-Paper-2-Revision-Booklet.pdf>

English Language Paper 2 - Writers' viewpoints and perspectives

Food Labelling

Food labelling

Manufacturers include a range of information on food labels. Some of which is legally required and some of which is useful to the consumer or supermarket.

Nutrition information helps consumers make healthier choices. Back-of-pack nutrition information is legally required on food packaging.

NUTRITION

When heated according to instructions

| Typical values | Per 100g | Each pack (390g**) |
|--------------------|------------------|--------------------|
| Energy | 457kJ 109kcal | 1781kJ 424kcal |
| Fat | 3.9g | 15.2g |
| of which saturates | 1.9g | 7.5g |
| Carbohydrate | 12.1g | 47.1g |
| of which sugars | 1.6g | 6.2g |
| Fibre | 1.1g | 4.2g |
| Protein | 5.8g | 22.6g |
| Salt | 0.6g | 2.2g |

Legally required information

1. Name of food or drink.
2. List of ingredients (including water and food additives), in descending order of weight.
3. Weight or volume.
4. Date mark (Best-before and use-by).
5. Storage and preparation conditions.
6. Name and address of the manufacturer, packer or seller.
7. Country of origin and place of provenance.
8. Nutrition information.

Additional information may also be provided, such as cooking instructions, serving suggestions or price.

Date marks

Best-before-date: The date after which foods may not be at their best, although probably safe to eat if stored according to instructions.

Use-by-date: The date given to foods that spoil quickly, such as cooked meats. It is unsafe to eat foods beyond their use-by-date.



Beetroot salad

Keep refrigerated. Once opened consume within 24 hours and by the 'use-by' date shown.

Additives

Food additives must be shown clearly in the list of ingredients on food labels, either by the additive's name or **E number**. Additives are added to ensure safety, increase shelf life or improve the taste, texture or appearance of food. Additives need to be approved before they can be used. Additives are given an '**E number**' to show that they have been rigorously tested for safety and have been approved for use in food by the European Commission.

An example is E100 or curcumin, made from turmeric.

Another example is caramel (E150), a synthetic colouring commonly used to colour colas.



Key terms

Additives: Are added to ensure safety, increase shelf life or improve the taste, texture or appearance of food. They must be shown clearly on food labels.

Allergen labelling: Allergens must be clearly shown in **bold**, **highlighted**, **underlined** or in *italics*.

Back-of-pack labelling: Is legally required and can help consumers make healthier choices.

Claim: Any statement about the nutrient content or health benefit of a food product.

Front-of-pack labelling: Is voluntary but must provide certain information and can use red, amber and green colour coding.

Labelling: The term given to the information about the product which is displayed on the packaging.

Nutrition information: Helps consumers make healthier choices.

Front-of-pack labelling

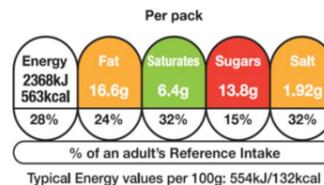
Front-of pack-nutrition information is voluntary but if a food business chooses to provide this, only the following information may be provided:

- energy only;
- energy along with fat, saturates, sugar and salt.

Red, amber and green colours, if used, show at a glance whether a food is high, medium or low for fat, saturates, sugars or salt. The colour coding can be used to compare two products.

| Nutrient | Low | Medium | High |
|----------------|------------|-----------------------|--------------------------|
| Fat | ≤3.0g/100g | >3.0g to ≤17.5g/100g | >17.5g/100g >21g/portion |
| Saturates | ≤1.5g/100g | >1.5g to ≤5.0g/100g | >5.0g/100g >6.0g/portion |
| (Total sugars) | ≤5.0g/100g | >5.0g and ≤22.5g/100g | >22.5g/100g >27g/portion |
| Salt | ≤0.3g/100g | >0.3g to ≤1.5g/100g | >1.5g/100g >1.8g/portion |

Note: Portion size criteria apply to portion sizes/servings greater than 100g.



To find out more, go to: <https://bit.ly/2SPnj1g>

Allergen labelling

An allergic reaction to a food can be described as an inappropriate reaction by the body's immune system to the ingestion of a food.

By law, food, drink and ingredients that are known to contain allergens are required to be in **bold**, **highlighted**, **underlined** or in *italics*.

The most common allergens are present in:

| | |
|---------------------------|-----------------|
| Celery (and celeriac) | Milk |
| Cereals containing gluten | Molluscs |
| Crustaceans | Mustard |
| Eggs | Nuts |
| Fish | Peanuts |
| Lupin | Sesame |
| | Soybeans |
| | Sulphur dioxide |

INGREDIENTS

Water, Carrots, Onions, Red Lentils (4.5%), Potatoes, Cauliflower, Leeks, Peas, Cornflour, **Wheat flour**, Cream (**milk**), Yeast Extract, Concentrated Tomato Paste, Garlic, Sugar, **Celery Seed**, Sunflower Oil, Herb and Spice, White Pepper, Parsley

ALLERGY ADVICE

For allergens, see ingredients in **bold**

Nutrition and health claims

Nutrition and health claims are controlled by European regulations. Claims on a food or drink should have been authorised and listed on the European register of claims and have met certain conditions.

Nutrition claims

A nutrition claim describes what a food contains (or does not contain) or contains in reduced or increased amounts. Examples include:

- Low fat (less than 3g of fat per 100g of food);
- High fibre (at least 6g of fibre per 100g of food);
- Source of vitamin C (at least 15% of the nutrient reference value for vitamin C per 100g of food).

Health claims

A health claim states or suggests there is a relationship between a product and health. In order to make a claim, the amount present of the nutrient, substance or food must fulfil the specific conditions of use of the claim. The types of health claims are:

- 'Function Health Claims';
- 'Risk Reduction Claims';
- Health 'Claims referring to children's development'.

Tasks

1. Find four different packaged food items in your household or online and list the information provided on the packaging. Explain the purpose of each piece of information and identify if it is legally required or consumer information.
2. Explain the importance of date marks and storage instructions, including the consequences of not following them.
3. Find a range of different products and assess the traffic light system on each one – is it a healthy product or not? Explain your answer and make recommendations for improvements.
4. Using your class notes, explain what 'e' means on a package.

Food Preparation & Nutrition

| Economic futures in the UK: | |
|---|--|
| The UK's changing employment structure | |
| How has it changed? | Why has it changed? |
| <p>Primary employment has fallen from 75% in 1800 to 2% today</p> <p>Secondary increased from 15% in 1800 to 55% by 1900 but has since fallen to 15%</p> <p>Tertiary has increased from 10% in 1800 to 74% now</p> <p>Quaternary a new category that accounts for 9% employment now</p> | <ul style="list-style-type: none"> Primary has fallen because of the increased use of machines. We are also reducing our reliance on fossil fuels so many mines have closed. Secondary has fallen because we have deindustrialised. Tertiary has increased because we are richer and have more free time. The UK is a global leader in research and development, the sector employs over 60,000 people |

improvements and new developments in road and rail infrastructure, port and airport capacity (HS2 also helps reduce the north South divide)

- Development of London's Rail Network: Crossrail**
- Aims to improve journey times across London
 - Contributed £42 billion to the UK's economy
 - Provides a 10% increase in London's rail capacity
 - Aims to reduce traffic congestion and air pollution in the city
- The development of HS2**
- The development of HS2 aims to reduce the north south divide by making the north more accessible to commuters and businesses
 - It will bring £92 billion of benefits
 - Creates 25,000 jobs and 70% of these will be outside of London

| impacts of industry on the physical environment. |
|---|
| The impact of Torr Quarry, Somerset |
| Where is it? |
| <ul style="list-style-type: none"> A limestone quarry on the Mendip hill |
| Impacts on the environment |
| <ul style="list-style-type: none"> ❖ Destroys natural habitats ❖ Pollutes waterways ❖ An ugly scar on the landscape ✓ Contributes £15 million to the local economy ✓ Produces 8 million tonnes of limestone every year ✓ It is vital to the construction industry |
| What is the quarry doing to become more sustainable? |
| <ul style="list-style-type: none"> Restoring the quarry and lakes to create a wildlife haven that can be used for water sports and leisure Transport by rail to reduce traffic congestion Monitor and report noise and air pollution |

Unit 2b

The Changing Economic World

An example of how modern industrial development can be more environmentally sustainable: Cambridge Science Park

- Cambridge Science Park is sustainable because....
- 50 % of the timber used in construction is from sustainable sources
 - They use solar energy for part of their power
 - Rainwater is collected and used to flush toilets
 - A car share scheme runs for workers
 - Workers can hire bicycles cheaply to commute to work
 - Extensive planting of native trees enhances the environment
 - The boiler/heater systems is one of the most efficient on the market

social and economic changes in the rural landscape in one area of population growth and one area of population decline

Rural decline in the Outer Hebrides

- A population of just 27,400 people
- Population has fallen by 50% since 1901
- Young people are leaving the area to find work

THIS HAS LEAD TO CHANGE

Local shops and services such as pubs and post offices are closing

Young people with qualification leave the area to find work

The population is ageing

There is an increase in second/holiday homes bought by wealthy city dwellers pricing young locals out of the market

Rural growth in South Cambridgeshire

- Its population of 150,000 is increasing due to migration
- It is a desirable place to live
- Many villages and towns have become commuter settlements

Lack of affordable housing, increased traffic and pollution, urban sprawl

Expansion of Commuter towns: Basildon

Some major cities experience counter urbanisation "When the proportion of people living in cities starts to fall"

| Why are people moving here? | How is it changing? |
|--|--|
| <p>Good schools: Woodlands</p> <p>School rated Good in Ofsted</p> <p>Good shopping facilities e.g Eastgate shopping centre</p> <p>Only ½ hour by train to central London</p> <p>Average house prices just £180,000</p> <p>Just 20 minutes from the sea</p> | <p>No longer rural</p> <p>Population increased from 180,000 to 200,000</p> <p>Houses prices increased by 70% since 2008</p> <p>1000's acres of greenbelt land lost</p> <p>A130 to London is more congested</p> |

The UK's North South Divide

- There is a divide in opportunities and wealth between the north and the south of the UK**
- Life expectancies are lower in the north**
- There is more poverty in the north**
- Education attainment is lower in the north**

| Measuring Development | | Factors Causing Uneven Development | | UK Links | |
|--|--|---|--|---|--|
| Development measures how economically, socially, culturally or technologically advanced a country is. It suggests: advancement, evolution, expansion, growth, improvement, increase, maturity, progress, changes for the better. | | Physical Environment  | | Health  | |
| Development Indicators | | <ul style="list-style-type: none"> Soil erosion, desertification, climate change, overgrazing and infertile soils affect farming. Areas without fertile land: natural resources, water and energy suffer.  Natural hazards make little progress with development e.g. Haiti. | | <ul style="list-style-type: none"> Diseases can make people too weak to work or go to school. 80% of all developing world disease is water-related. 2 million die a year.  LIC's are unable to invest in good quality health care | |
| GNI | Gross national income: the money earned by a country's industry | Trade | | <ul style="list-style-type: none"> UK port industry is the biggest in Europe due to our large coastline 120 ports in UK; Teesport is the 3rd biggest Teesport handles 5000 vessels each year  | |
| HDI | Human development index: a composite measure | History | | <ul style="list-style-type: none"> Heathrow is the UK's busiest airport with 1 plane taking off every 45 secs 300,000 people employed in UK aviation Durham Tees Valley airport is looking to expand  | |
| Infant mortality | The number of babies that die per 1000 live births before their first birthday | <ul style="list-style-type: none"> Trade blocs favour its members. Primary products sold by LIC's are sold for cheap prices that can fluctuate. HICs make more expensive products so earn more.. Poor infrastructure or conflict means some people cannot sell their goods at all. | | <ul style="list-style-type: none"> Colonialism: Many countries in Asia, S. America and Africa have spent a lot of time and money on civil wars and political struggles for power since being made separate from European superpowers. Many LICs haven't had time to develop fully. | |
| Literacy rate | The percentage of adults that can read and write | <p>You need to know the advantages and disadvantages of each of these</p> | | <p>UK Global Links</p> | |
| <p>The development gap</p> <ul style="list-style-type: none"> A HIC has a GNI per capita of over ~\$12,000 A NEE has an economy that is rapidly progressing A LIC has a GNI per capita of below \$800 <p>Many years ago, Dr Brandt classified the world into the rich north and the poor south. He drew this line called the Brandt Line or the North-South Divide.</p> <p>However over time, countries in the south began to develop like Singapore and China and the line became outdated.</p> | | <p>Solutions to Uneven Development</p> | | <p>Commonwealth</p> <ul style="list-style-type: none"> These are 53 states across the world that were part of our colonial history Many expats live there (Brits who live abroad) The Queen is head of state in 16 of these countries promotes democracy, good governance, human rights and economic development as the UK trades with its previous colonies <p>EU</p> <ul style="list-style-type: none"> We joined the EU in 1979 and opted to leave in 2016. About 50% of exports and imports are to the EU It's now a bit confusing as we go through the Brexit process about what will happen to EU laws that we have. | |
| Measuring Population | | TNCs | | <p>Political</p>  | |
| The demographic transition model shows how a country's population changes as it becomes more developed from subsistence farming cultures to HICs. | | Aid | | <p>Trade</p>  <ul style="list-style-type: none"> 49.6% of the UK's exports went to EU countries, and 50.4% went to non-EU countries such as the USA and China. The USA takes the most. A lot of trade is now finance and communications following deindustrialisation. | |
| Population pyramids/structures change over time too – from having a lot of babies and a wide bottom, to good healthcare and more elderly people. | | Industrial Development | | <p>Transport</p>  <ul style="list-style-type: none"> More than 750,000 international flights depart from the UK annually to 400 airports in 114 countries Heathrow is the 4th busiest airport in the world (good seeing as we're not the 4th biggest population!) Eurotunnel links our island to Europe | |
| | | Fair Trade | | <p>Culture</p>  <ul style="list-style-type: none"> English Language has helped us set up strong links Students abroad can sit British exams UK TV productions have a global audience We are a culture of immigration leading to a unique and multicultural society | |
| | | Microfinance | | <p>Technology</p>  <ul style="list-style-type: none"> 90% of population has internet – very connected! We spend more online shopping than anywhere in Europe 18 million businesses run from home | |
| | | Sol/QoL | | | |
| | | <p>Standard of life refers to the economic level of a person's daily life. Quality of life looks at social measures of well being.</p> | | | |

Economic and Industrial Change in Nigeria

Location and Importance



- Nigeria is a country in West Africa. Nigeria borders, Benin, Niger, Chad and Cameroon. It is almost due south of the UK, one hour ahead of Greenwich Mean Time. At latitude 10 degrees north and longitude 8 degrees east it extends from the Gulf of Guinea in the south to the Sahel in the North.
- In 2014 Nigeria's economy became the 21st biggest in the world and Nigeria has one of the biggest economic growth rates in the world
- It supplies 2.7% of the worlds oil (12th largest producer)
- It is the fifth largest contributor to UN peacekeeping missions around the world
- Highest GDP in Africa and the 3rd largest manufacturing sector
- It has the largest farm output in Africa and 70% of its population is employed in Agriculture

TNCs in Nigeria: Shell

- Shell has been in Nigeria since 1937
- The Bonga facility (Nigeria's first deep water facility) produces 200,000 barrels of oil a day
- It operates 90 oil fields and over 1000 oil wells
- Maintains 5,000km pipelines
- Employs 6,000 people



The benefits and problems of TNCs in Nigeria

| Benefits | Problems |
|---|---|
| Employs 6,000 people | The Ogoni lands have been heavily/dangerously polluted |
| Shell provides scholarships for young people to attend university | Shell pays little tax and the profits go the headquarters in Holland and the UK |
| Invests in local health clinics to improve maternal health | Shell has been accused of corruption and bribing the government. Implicated in the death of Ken Saro Wiwa |

Impacts of Development in Nigeria

| Socio-economic | Environmental |
|--|---|
| Although oil from Ogoniland has provided approximately \$30 billion to the economy of Nigeria ¹ , the people of Ogoni see little to nothing from their contribution to Shell's pocketbook | Over 6000 spills had been recorded in the 50 years of oil exploitation in Nigeria, with an average of 150 spills per annum  |

Aid in Nigeria

AID: is help given to countries in the form of a gift or loan. It can be financial, technical or in the form of advise

| | |
|--|---|
| Bilateral aid: aid given from one country to another e.g the UK provides £158 million to Nigeria every year | Emergency aid: aid designed to save lives after a disaster e.g. food, water, tents, blankets and medicines |
| Multilateral aid: aid given to poorer countries from the world bank or IMF (loans) | Long term development aid: aid designed to improve lives in the long term e.g. education and training, funding for a new road or hospital |
| NGO aid: assistance provided by charities | |

NGO AID in Nigeria: improving sanitation

| The problem | The solution: WaterAid |
|--|--|
| <ul style="list-style-type: none"> • 57million people don't have access to safe water • 2/3 of the population don't have access to sanitation • 60,000 children under five years old die every year | <ul style="list-style-type: none"> • Drill borehole for wells • Provide education on hygiene • Provide hygiene facilities • Provide composting latrines • Provide water harvesting technologies  |

Employment in Nigeria

| Employment sector | 1999 | 2012 |
|-------------------|------|------|
| Primary | 70% | 39% |
| Secondary | 10% | 35% |
| Tertiary | 20% | 26% |

Nigeria's changing economy

- Nigeria is now classed as a NEE (newly emerging economy)
- Employment in manufacturing has increased dramatically
- This has dramatically increased export earning for the country
- Nigeria's GDP is increasing

Key Words: Can you define these?

Development, TNC, LIC, NEE, GNI, HDI, primary industry, secondary industry, tertiary industry, quaternary industry, deindustrialisation, aid, bilateral, multilateral, emergency aid, long term aid, sanitation, colonialism, famine, drought,

Health and Social Care

Key content

| | explanation | Extra notes |
|-----------------|---|--|
| Confidentiality | <i>Confidentiality</i> is the ability to ensure that private and personal information is kept safe and cannot be accessed by other people, except on a 'need-to-know' basis, when other care workers need to know as it will affect the care given. Information about service users should not be <i>disclosed</i> with out the service users permission. | When can you break confidentiality? 1. There is a need to know basis with other colleagues 2. When the service user is at risk of harming themselves (eg suicide) 3. Protection of an individual from abuse /harm 4. When the service user is at risk of harming others (mental health) 5. When there is risk that there will be a serious crime (drug dealing) |
| Rights | You have a right to: 1. have choice (e.g. joining in activities, food options, GP) 2. have confidentiality (e.g. having personal notes stored securely, not being spoken about so others can hear) 3. have protection (e.g. from abuse, from harm) 4. have equal and fair treatment (e.g. being treated for the needs the individual has) 5. have a consultation (e.g. what type of care the individual would like if it were possible, views being sought). | <u>Why is it important to maintain individuals rights?</u> 1. Feel valued 2. Raise self esteem 3. Empower and give them control over their lives 4. Instil confidence and trust in care services and care workers 5. Feel safe 6. Provide equability of access to services and treatments 7. Ensure individual needs are met. |
| Legislation | The Equality Act - <i>protects individuals from unfair treatment and promotes a fair and more equal society.</i> Health and Safety at Work Act 1974 provides the legal framework to promote, stimulate and encourage high standards of health and safety in places of work. It protects employees and the public from work activities | The Data Protection Act 1998 (DPA) CONTROLS how PERSONAL information relating to living people is DEALT with. It lays down detailed conditions for the PROCESSING of personal data. Children Act 2004 To protect children at risk |

Key vocab

R021 Essential values of Care

| Word | Definition |
|-----------------------|--|
| Choice | This means you decide what and if you would like to do something |
| Confidentially | To keep all personal documents / information to themselves unless it is a harm to you or others around them |
| abuse | There are lots of different types of abuse such as physical abuse, sexual abuse, emotional abuse, neglect, discriminatory, institutional. These forms of abuse can apply to children, older adults, vulnerable adults – everybody! |
| Equality | It is where everybody is equal no matter what. |
| Consultation | Means that you have a meeting with a consultant that specializes in your illness, for example. You may discuss options of medication or rehabilitation. |
| Diversity | Recognising and valuing differences such as faith, ethnicity and customs |
| Rights | Principles that all are entitled to protected by law |
| Disclosure | means passing on personal information that has been given by a service user in confidence and which was considered to be a secret between the service user and the care worker |

More info can be found here: Cambridge Nationals Health and Social Care text book

Paper 2: Period study and British depth study: Superpower relations and the Cold War, 1941–91 & Henry VIII and his ministers, 1509–40 (40% of the qualification)

Superpower relations and the Cold War, 1941–91

Key topic 1: The origins of the Cold War, 1941–58

1 Early tension between East and West

- The Grand Alliance. The outcomes of the Tehran, Yalta and Potsdam conferences.
- The ideological differences between the superpowers and the attitudes of Stalin, Truman and Churchill.
- The impact on US-Soviet relations of the development of the atomic bomb, the Long and Novikov telegrams and the creation of Soviet satellite states in Eastern Europe.

2 The development of the Cold War

- The impact on US-Soviet relations of the Truman Doctrine and the Marshall Plan, 1947.
- The significance of Cominform (1947), Comecon (1949) and the formation of NATO (1949).
- Berlin: its division into zones. The Berlin Crisis (blockade and airlift) and its impact. The formation of the Federal Republic of Germany and German Democratic Republic.

3 The Cold War intensifies

- The significance of the arms race and the formation of the Warsaw Pact.
- Events in 1956 leading to the Hungarian Uprising, and Khrushchev's response.
- The international reaction to the Soviet invasion of Hungary.

Key topic 2: Cold War crises, 1958–70

1 Increased tension between East and West

- The refugee problem in Berlin, Khrushchev's Berlin ultimatum (1958), and the summit meetings of 1959–61.
- Soviet relations with Cuba, the Cuban Revolution and the refusal of the USA to recognise Castro's government. The significance of the Bay of Pigs incident.
- Opposition in Czechoslovakia to Soviet control: the Prague Spring.

2 Cold War crises

- The construction of the Berlin Wall, 1961.
- The events of the Cuban Missile Crisis.
- The Brezhnev Doctrine and the re-establishment of Soviet control in Czechoslovakia.

3 Reaction to crisis

- Impact of the construction of the Berlin Wall on US-Soviet relations. Kennedy's visit to Berlin in 1963.
- The consequences of the Cuban Missile Crisis: the 'hotline', the Limited Test Ban Treaty 1963; the Outer Space Treaty 1967; and the Nuclear Non-Proliferation Treaty 1968.
- International reaction to Soviet measures in Czechoslovakia.

Key topic 3: The end of the Cold War, 1970–91

1 Attempts to reduce tension between East and West

- Détente in the 1970s, SALT 1, Helsinki, and SALT 2.
- The significance of Reagan and Gorbachev's changing attitudes.
- Gorbachev's 'new thinking' and the Intermediate-Range Nuclear Force (INF) Treaty 1987.

2 Flashpoints

- The significance of the Soviet invasion of Afghanistan, the Carter Doctrine and the Olympic boycotts.
- Reagan and the 'Second Cold War', the Strategic Defence Initiative.

3 The collapse of Soviet control of Eastern Europe

- The impact of Gorbachev's 'new thinking' on Eastern Europe: the loosening Soviet grip on Eastern Europe.
- The significance of the fall of the Berlin Wall.
- The collapse of the Soviet Union and its significance in bringing about the end of the Warsaw Pact.

Cold War – The origins of the Cold War 1941-58

Key Facts

Early tension between East and West

The Grand Alliance – USA (Roosevelt), Soviet Union (Stalin), GB (Churchill) during WW2. Formed June 1941.

Leaders met 3 times:

Tehran, Nov 1943: Aim – To plan winning strategy to WW2.

Agreements: 1. USA & GB open 2nd Front in Western Europe to ease pressure on Eastern Front. 2. Stalin to declare war on Japan once European war over. 3. Germany to remain weak after war and give land to Poland. Soviet Union to keep land seized from Poland. 4. International body should be set up in future to settle disputes.

Disagreements: 1. Churchill wanted to open 2nd Front in Balkans not the West. Meant they could contain Communism. FDR sided with Stalin.

Yalta, February 1945: Aim – To discuss winning war and planning for post-war Europe. Agreements: 1. Post-war Germany to be split into 4 zones, pay \$20 billion reparations, Nazi party banned and war criminals prosecuted. 2. UN to be set up. 3. Stalin to join war against Japan. 4.. Eastern European governments to be decided by free elections. 4. Polish borders returned to 1921.

Problem: Stalin expected elections in Poland to result in Communist government.

Potsdam, July-August 1945: Context - Truman replaced FDR; Atlee replaced Churchill.. Germany had surrendered and atomic bomb had been developed by USA.

Agreements: Germany and Berlin to be divided into 4 zones. Each country would take reparations from its own zone. Soviets could take ¼ of industrial equipment from other zones as its zone was poor.

Disagreements: Truman objected to Soviet control over Eastern Europe but didn't want to start a war. Also objected to Polish agreements reached at Yalta.

Differences

Ideological: USA & GB: Capitalist. Soviet Union: Communist.

Attitudes: FDR – Believed in democracy but also need for Soviet Union to be a partner in peace.

Churchill – Suspicious of Stalin. March 1946 – Gave 'iron curtain' speech making it clear Soviets were a threat to freedom and peace. Stalin – Believed West was trying to destroy communism. After use of A-bomb on Hiroshima, Stalin more determined to make Soviet Union secure through a buffer zone.

Truman – Tough on Communism. As a result of A-bomb, more confident at Potsdam. Hoped it would be easier to persuade Stalin to allow Eastern Europe more freedom. W. Europe more confident about being under U.S protection rather than Soviet agreement.

George Kennan's Long Telegram: Moscow ambassador warned that Stalin wanted to destroy Capitalism and felt West wanted to destroy Communism. However, Stalin would back down if faced with strong resistance.

Novikov Telegram: Soviet diplomat in Washington. Warned that USA wanted to dominate the world and did not want to cooperate. American public would support government in war.

Soviet satellite states: Stalin wanted a buffer zone against Germany. Truman saw this as evidence of spreading communism. Czechoslovakia, Poland, Hungary, Romania, Romania and Bulgaria all had communist governments installed.

The development of the Cold War

The Truman doctrine: 12 March 1947 in a speech to US Congress Truman announced \$400 million to aid Greece and Turkey in fight against communism. He also said communism should not be allowed to grow and that the USA was prepared to send troops and economic aid to stop it. Policy of isolationism was not replaced with containment.

The Marshall Plan (1947): Provided economic aid to help war-torn countries to contain communism. Gave \$12.7 billion in aid between 1948-52. Gave \$13 billion prior to Marshall Plan. Soviets called this 'dollar imperialism' and Stalin said it was an attempt to spread American influence and undermined UN.

Cominform (September 22nd 1947): Members – Communist parties of the Soviet Union, Bulgaria, Czechoslovakia, Hungary, Poland, Romania, Yugoslavia, France & Italy. Yugoslavia expelled in June 1948. Enabled Stalin to direct & control satellite states, encouraged trade between members and contact with non-communist countries discouraged. Rejected Marshall Plan at first meeting and spread anti-American propaganda.

Comecon, 1949: Provided aid in line with communist principles. Membership - Soviet Union, Bulgaria, Czechoslovakia, Hungary, Poland, Romania, East Germany. Albania joined 1950. Organised trade & credit agreements and from 1953 industrial planning across all satellite states with 5 year plans on industry and collectivised agriculture.

Berlin Blockade: Causes - 4 zones of occupation. Soviets wanted to take as much out of its zone – others wanted Germany to recover. Talks broke down in December 1947. 'Bizonia' had already been created (GB & US zones), French now joined to make 'Trizonia'. Single currency, the Deutschmark, was created for Trizonia. Stalin believed this was a way of forcing the Soviet zone into poverty. **Events:** Stalin shut off the land routes across Soviet zone into Berlin to show divided Germany wouldn't work. Western Allies launched the Berlin Airlift (Operation Vittles). Food, coal, necessities flew in to Allied zones. 1,000 tonnes of supplies a day. Jan 1949 – 170,000 tonnes. Stalin gave in after nearly a year. **Consequences:** Federal Republic of Germany (West Germany) formed with capital in Bonn. Stalin responded by creating the German Democratic Republic (East Germany). GDR refused to recognise split until 1970s.

NATO: April 1949, USA, Britain, France and 9 other Western countries joined together to protect themselves from the Soviet Union. If any member was attacked, all members would come to their assistance. Resulted in an on-going American military presence in Europe.

The Cold War intensifies

The Warsaw Pact: Following West German's joining of NATO in May 1955, Stalin's fears of a powerful Germany on Soviet-controlled Eastern Europe borders were increased. Within a week the Soviet-led Warsaw Pact was formed. A Soviet equivalent of NATO. Members were Soviet Union, Poland, Czechoslovakia, Hungary, Romania, Bulgaria and East Germany. Members became known as the 'Eastern bloc'

The arms race: Both sides developed more deadly weapons. Soviets developed Atomic bomb in 1949. Hydrogen bombs and ICBM's developed by both sides. Weapons were being developed to act as a deterrent.

The Hungarian Uprising, 1956: Causes: Protests due to fuel shortages and poor harvest led to riots. Order restored by Soviets but Khrushchev replaced Rakosi as leader with Nagy. Nagy announced reforms ending one-party state in Hungary, release of political prisoners and end to Soviet troops in Hungary.

Events: Nagy announced Hungary's withdrawal from Warsaw Pact. Khrushchev couldn't allow this as threatened Soviet security. 4 Nov – 1,000 tanks sent into Budapest and up to 20,000 Hungarians killed in fighting. A new pro-Communist government set up under Kadar. Nagy promised safe passage but kidnapped after leaving Yugoslav embassy, tried and executed.

International impact: USA sympathetic but would not militarily interfere in existing communist country as feared nuclear war. Khrushchev's position made more secure but West had not backed up words of encouragement with action. Superpower relations became strained again.

Cold War – The origins of the Cold War 1941-58

Key dates

June 1941 – Formation of the Grand Alliance

November 1943 – Tehran Conference

February 1945 – Yalta Conference

July 1945 – Potsdam Conference

August 1945 – Atomic bomb dropped on Japan

February 1946 – Kennan's Long Telegram

March 1946 – Churchill's 'iron curtain' speech

September 1946 – Novikov telegram

March 1947 Truman Doctrine announced

June 1947 – Marshall Aid announced

September 1947 – First Cominform meeting

June 1948 – Berlin blockade is set up

January 1949 – Comecon established

April 1949 – NATO formed

May 1949 – Berlin blockade ended

August 1949 – Soviet Union successfully test atomic bomb

September 1949 – Federal Republic of Germany officially founded (West Germany)

October 1949 – German Democratic Republic founded (East Germany)

November 1952 – USA successfully tests hydrogen bomb

August 1953 – Soviet Union successfully test hydrogen bomb

May 1955 – Warsaw Pact formed

November 1956 – Hungarian uprising is crushed

June 1957 – USA launches first ICBM

August 1957 – Soviet Union tests ICBM

Key terms

Capitalism – Capitalists believe everyone should be free to own property and businesses and make money.

Communism – Communists believe that all property, including homes and businesses should belong to the state, to ensure that every member of society has a fair share. The political system is one-party rule.

Containment – Limiting the spread of something.

Democracy – A political system in which a nation's leaders are chosen in free elections.

Ideology – A set of shared beliefs.

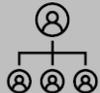
Isolationism – Not getting involved in the affairs of others.

Reparations – Payment in money or goods after losing a war.

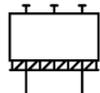
Satellite state – A nation that was once independent but is now under the control of another.

Soviet Union – The Union of Soviet Socialist Republics (also USSR).

Creative iMedia

| Types of job role | | Creative roles | Technical Roles | Senior Roles |
|----------------------|--|---|---|---|
| | |  |  |  |
| | | Job which are focussed on coming up with and developing ideas to help create a product for a target audience. Predominantly works in the pre-production and production phases. | Jobs which involve the use of technology and operating equipment to develop, improve and finalise media products. Needed in the production and post-production phases. | Jobs which involve overseeing the creation and development of products and projects. Supports and manages some or all of the technical and creative roles. Required at all phases. |
| Job Roles | | <ul style="list-style-type: none"> • Animator • Content creator • Copy writer • Graphic designer • Illustrator/graphic artist • Script Writer • Web Designer • Photographer | <ul style="list-style-type: none"> • Camera operator • Games developer • Sound editor • Audio technician • Video editor • Web developer | <ul style="list-style-type: none"> • Campaign manager • Creative director • Director • Editor • Production Manager |
| Job Responsibilities | | <ul style="list-style-type: none"> • Prepare drafts and models of products • Communicate ideas to members of creative team • Tailor ideas to ensure target audience needs are met • Research target audience • Create visually appealing ore interesting media content • Liaise with client about production of products and action feedback • Produce professional, original media content to meet client requirements. | <ul style="list-style-type: none"> • Communicate with lighting and sound specialists • Work with creatives to produce the media content • Test and check equipment • Use equipment to create content • Assemble and set up equipment before use • Find solutions through problem solving • Use software to create media content • Follow planning documents to produce media content. | <ul style="list-style-type: none"> • Quality control • Advise and guide creative & technical colleagues • Evaluate success of projects • Formulae and run projects • Understand the target audience • Decide how to promote and market media products • Check final product against original client brief • Hire and brief colleagues • Ensure health and safety is met. |

| Key Terminology | |
|---|--|
| Demographic + Segmentation = Target Audience | |
| Demographic | The characteristics of a population. Including age, income, gender, race, ethnicity, marital status, education & employment. |
| Segmentation | The ways in which audiences can be broken down based on their characteristics. |
| Influence | The capacity to have an effect on the character, development, or behaviour of someone or something. |

| Linking style, content, and layout to purpose | |
|--|--|
| Advertise/Promote  | <ul style="list-style-type: none"> - Use of persuasive language - Products or services look good or come across to the audience well. - Positive visuals and sound - Lead to an action |
| Educate  | <ul style="list-style-type: none"> - Combines visual and text - Content is accessible to the target audience - Formal structure - Contains detailed and accurate information |
| Entertain  | <ul style="list-style-type: none"> - Hook the audience in through interesting, surprising or shocking use of images, text, video and/or audio. - Evoke emotions |
| Inform  | <ul style="list-style-type: none"> - Do not require emotional investment or enjoyment by the audience - Contain facts and information - May not include visual content - Serious tone - Simple message |
| Influence  | <ul style="list-style-type: none"> - Persuasive language, images, video and text to convince an audience of the message - Humour used as appropriate - Provoke strong emotional reaction - Deeper message or meaning embedded within |

| Segmentation Categories | | | |
|--|---|--|--|
| Age  | Gender  | | |
| Location  | Education  | | |

| | |
|---|--|
| Income  | Interests  |
| Ethnicity  | Occupation  |

Blumler and Katz's Uses and Gratifications Theory:

The theory suggests that media audiences play an **ACTIVE** role in using the media. The theory considers **WHY** people seek out specific media forms to fulfil their needs.

- **USE** = How the audience engage with the media/ 'use' the media for their own needs/wants.
- **GRATIFICATIONS** = Pleasure/fulfilment
 - Entertainment
 - Information/Education
 - Social Interaction
 - Escapism
 - Personal Identity

Psychographics: A way to measure individuals' beliefs, opinions, and interests.

Psychological information could include: music tastes, religious views, values, attitudes, personality traits, lifestyles, interests.

The Aspirers = Seek status. Materialistic, orientated to image, appearance and fashion. Attractive packaging is more important than the contents. Typically younger people.

The Mainstreamers = Seek security. Tend to be domestic, conformist, conventional, sentimental, favours value for money - family brands. Nearly always the largest group.

The Resigned = Seek survival. Rigid and authoritarian values. Tradition, familiarity, safety. Typically older people.

The Explorers = Seek discovery. Energy, individualism and experience. Values difference and adventure. The first to try new brands. Younger demographic.

The Succeeders = Seek control. Strong goals, confident, work ethic, and organised. Typically higher management and professionals.

The Reformers = Seeks enlightenment. Freedom of restrictions and personal growth. Social awareness and independent judgement. Anti-materialistic but aware of good taste.

The Strugglers = Seeks escape. Alienated and disorganised.

Demographics: A way to measure individuals through statistical information.

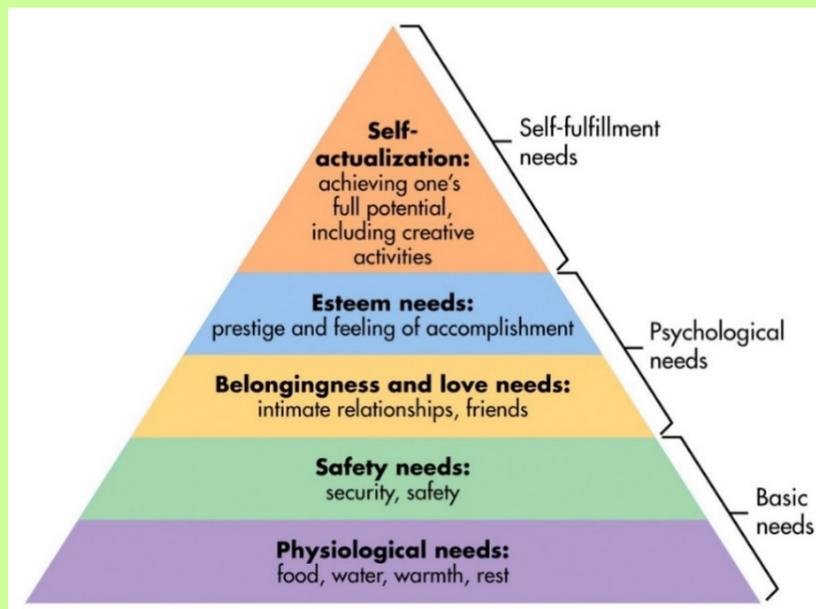
Demographic information could include: age, gender, social class, sexuality, ethnicity, income, geography, occupation, education, marital status.

It is important to always give an age bracket when classifying age, as products are targeted at specific age groups- never use the words 'universal', 'everyone' or 'any age'.

- (16-25) (11-19) (35-50)
- (0-5) (20-35) (50-90)

| Grade | Social Class | Chief Income Earner's Occupation |
|-------|-----------------------|--|
| A | upper middle class | Lawyers, doctors, university professors. |
| B | middle class | Teachers, graphic designers, business managers |
| C1 | lower middle class | Supervisors, Nurses |
| C2 | skilled working class | Skilled manual workers, builders, plumbers |
| D | working class | Semi skilled/ Unskilled manual workers |
| E | underclass | Unemployed, students |

Maslow's Hierarchy of Needs



- Maslow's Hierarchy of Needs suggests that we all have different layers of needs. Only once people have their basic needs met like housing, food, safety, and a job, they can then go on to satisfy successively 'higher needs'.
- Basic needs are at the bottom of the pyramid, and at the top something called 'self actualisation'.

Stuart Hall – Reception Theory:

- This theory suggests an **active** relationship between producers, message and audience.
- Hall suggested that every media text has a preferred message which a producer wants *to get across* (**encode**).
- There are three ways in which the audience might be positioned to receive (**decode**) that reading:

These are:

- **Dominant reading** = how the producer wants the audience to view the media text.
- **Negotiated reading** = a compromise between the dominant and oppositional readings, where the audience accepts parts of the producer's views, but has their own views on parts as well
- **Oppositional reading** = when the audience rejects the preferred reading, and creates their own meaning for the text.

All media products seek to position their audience, some more explicitly than others, and understanding what the preferred reading is can be an essential part of understanding why a product is designed in a particular way and why a varied audience response might be a result.

Audience:

The people who consume a media product by watching, listening and reading it.

Audience positioning:

The technique used to persuade the audience to interpret a media product in a particular way.

Active audience:

The theory that media audiences do not just consume a text passively, they actively engage with it because of personal and social contexts.

Passive audience:

A passive audience is one that simply observes and takes in a media text without interacting or responding to it.

Moral panic:

The way that the media stirs up intense feelings because of the way it covers a news event or issue.

Mass audience: A large, group of people with mainstream views.

Niche audience:

A relatively small segment of an audience with specific tastes and interests.

User-generated content:

User generated content (UGC) is any form of content, such as images, videos, texts and audio, that have been posted by users on online platforms (e.g. social media)

Audience decoding

Media products are deconstructed as audiences 'read' media material and determine their associated messages.

Instruments/Line Up

Rock Band:
Drum kit
Additional percussion – cow bell, gong, shakers, conga,
Lead electric guitar
Bass guitar
Synthesizers
Male lead vocals – tenor voice
Male backing vocals.

Texture

The texture is homophonic. This is typical of rock and pop music.

Dynamics

Most of the song is mezzo-forte whilst the choruses are forte.

Rhythm

This song has some rhythmic variety. It uses ostinato rhythms, consisting almost totally of quavers, with constant use of syncopation.

BACKGROUND

- Africa is a song recorded by the American rock band Toto in 1981
- It is a soft-rock love song with features of African music.
- The song was written by band members David Paich (born 1954) and Jeff Porcaro (born 1954, died 1992).



Africa by TOTO Popular Music Set Work

Tonality

The majority of the song is in B major whilst the choruses are all in A major

Melody

The melody is mostly conjunct and includes occasional use of the pentatonic scale. The pitch range of the vocal line is just less than two octaves on the printed score, but it is wider on the recording with the vocal improvisations towards the end of the song.

Structure

The song is verse-chorus in structure (another description for this is strophic). The overall structure of *Africa* is:

| | | |
|--------------|--------------|----------------|
| Introduction | Bars 1 – 4 | (4 bars long) |
| Verse 1 | Bars 5 – 39 | (35 bars long) |
| Chorus 1 | Bars 40 – 57 | (18 bars long) |
| Link 1 | Bars 58 – 65 | (8 bars long) |
| Verse 2 | Bars 14 – 39 | (26 bars long) |
| Chorus 2 | Bars 40 – 57 | (18 bars long) |
| Link 2 | Bars 58 – 65 | (8 bars long) |
| Instrumental | Bars 66 – 82 | (17 bars long) |
| Chorus 3 | Bars 40 – 92 | (22 bars long) |
| Outro | Bars 93 – 96 | (4 bars long) |

Tempo and Time Signature

The tempo is described as a moderately fast. What is moderately fast?

The time signature (beats in a bar) is 2/2 (Split Common Time). It is a metre with 4 Quaver note beats.

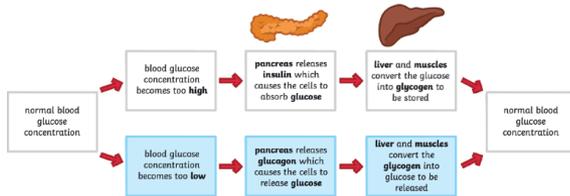
Harmony

The harmony can be described as diatonic.

Control of blood glucose:

The pancreas is the organ and gland which monitors and regulates the blood glucose concentration.

If blood glucose becomes too low, the pancreas releases glucagon which causes the stored glycogen to be converted back into glucose.

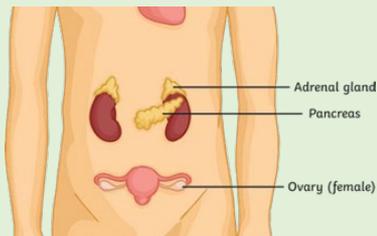


Diabetes

There are two types of diabetes: type 1 and type 2.

Type 1 diabetes is a disorder affecting the pancreas. In type 1 diabetes, the pancreas does not produce enough insulin to control the blood sugar level and so the levels become higher than normal. Type 1 diabetes is usually treated by injections of insulin.

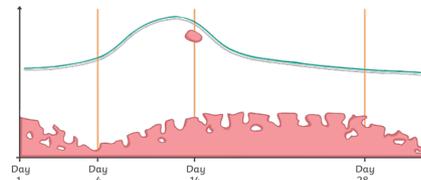
Type 2 diabetes is a disorder of effector cells which no longer respond to the hormones released from the pancreas. Type 2 diabetes can usually be managed through lifestyle choices such as maintaining a carbohydrate-controlled diet and regular exercise.



The risk of developing type 2 diabetes is higher in people who are obese (have a BMI >30).

The Menstrual Cycle

The menstrual cycle occurs in females, approximately every 28 days. It is a cyclical process of the building of the lining of the uterus and ovulation. If the egg become fertilised by a sperm, then pregnancy follows. If the egg is not fertilised, then the lining of the uterus is shed away and leaves the body as the menstruation.



Depending on the reason for the infertility, there are different methods of treatment and technologies to help women become pregnant.

The hormones FSH and LH can be given in a 'fertility drug' to help stimulate the normal cyclic processes and enable the woman to become pregnant naturally.

In Vitro Fertilisation (IVF) is a treatment which involves several stages:

The woman is given FSH and LH to stimulate the ovaries to mature and release several eggs.

The eggs are then collected from the woman and fertilised using sperm collected from the man. This is done in the lab (in vitro means "outside the living organism").

The fertilised eggs develop into embryos. At the early stage of development (blastocyst), one or two embryos are inserted into the woman's uterus for implantation.

Fertility treatments offer couples the chance to have their own baby. However, the processes are often very stressful and emotional. The success rates are low. The underlying causes of the infertility are not usually being treated. Fertility treatments can carry a higher chance of multiple births (twins, triplets or more), which carries a risk to both the mother and the unborn babies.

| Word | Definition |
|-------------|---|
| Homeostasis | is the regulation of a constant internal environment to ensure that conditions are optimum for metabolism. |
| Neurone | They use electrical impulses and chemical signals to transmit information between different areas of the brain, and between the brain and the rest of the nervous system. |
| Regulation | is the controlling of an activity or process, usually by means of rules. |
| Hormone | are your body's chemical messengers. They travel in your bloodstream to tissues or organs. They work slowly, over time, and affect many different processes. |



Combined science
HT – biology –
homeostasis

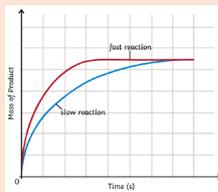
Calculating rates of reaction:

Reactions take place at varying rates. The rate of a chemical reaction tells us how quickly a product is formed or how quickly a reactant is used up.

$$\text{mean rate of reaction} = \frac{\text{quantity of reactant used}}{\text{time taken}}$$

$$\text{mean rate of reaction} = \frac{\text{quantity of product formed}}{\text{time taken}}$$

The red line represents a fast reaction and the blue line a slow reaction.



We know the fast reaction occurs at a faster rate as the line is steep.

1. Concentration and pressure:

If the number of particles in a given space is doubled, there will be more frequent successful collisions between reactant particles, therefore the rate of reaction will increase.

2. Catalyst:

A catalyst speeds up a chemical reaction by offering an alternative pathway at a lower activation energy.

The frequency of collisions is unchanged by a catalyst. Particles have more energy thus more are able to react. This increases the rate of successful collisions.

4. Temperature:

When the temperature of the reaction mixture increases, the particles gain kinetic energy and move quicker. This results in more frequent collisions, therefore, the rate of reaction increases.

Factors that affect a chemical reaction:

1. Concentration and pressure
2. Catalyst
3. Surface area
4. Temperature

3. Surface area:

Smaller lumps have a larger surface area to volume ratio. This means that a larger area of the solid is exposed to other reactant particles. This increases the frequency of successful collisions thus increasing the rate of reaction.

Dynamic equilibrium:

In a closed system (this means nothing can get in or out), a reversible reaction can reach dynamic equilibrium. This is where the forward and reverse reactions are occurring at the same rate and the concentrations of all the substances that are reacting remain constant.

Reversible reactions:

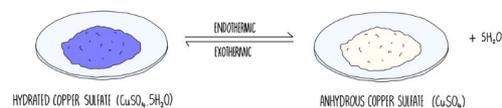
A reversible reaction is one in which the reactants form products. The products are then able to react together to reform the reactants.

The double arrow symbol represents a reversible reaction.



The forward reaction goes to the left and the backwards reaction goes to the right. The amount of energy that is transferred is the same for both the forward and reverse reaction.

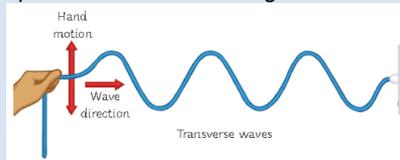
| Word | Definition |
|---------------------|---|
| Rate | the speed at which a chemical reaction takes place |
| Catalyst | the process of increasing the rate of a chemical reaction by adding a substance known as a catalyst. Catalysts are not consumed in the reaction and remain unchanged after it. |
| Surface area | the area of the chemical substances used in a chemical reaction |
| Reversible reaction | A reversible reaction is a reaction in which the conversion of reactants to products and the conversion of products to reactants occur simultaneously. |
| Equilibrium | chemical equilibrium is the state in which both the reactants and products are present in concentrations which have no further tendency to change with time, so that there is no observable change in the properties of the system. |



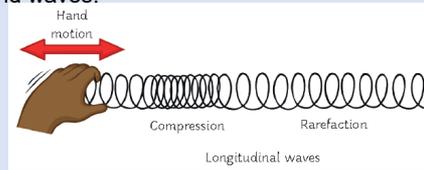
Combined
science HT –
chemistry -
rates

Transverse and Longitudinal Waves

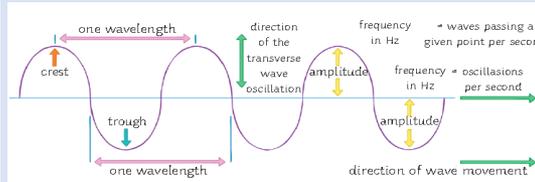
In a transverse wave, the vibrations are at a right angle (perpendicular) to the direction of the energy transfer. The wave has peaks and troughs. Examples include water and light waves.



In a longitudinal wave, the vibrations are in the same direction (parallel) as the energy transfer. The wave has areas of compression and rarefaction. Examples of this type of wave are sound waves.



Properties of waves:



The frequency of a wave is the number of waves which pass a point every second.

Time period (s) = 1 ÷ frequency (Hz)

The wave speed is how quickly the energy is transferred through a medium

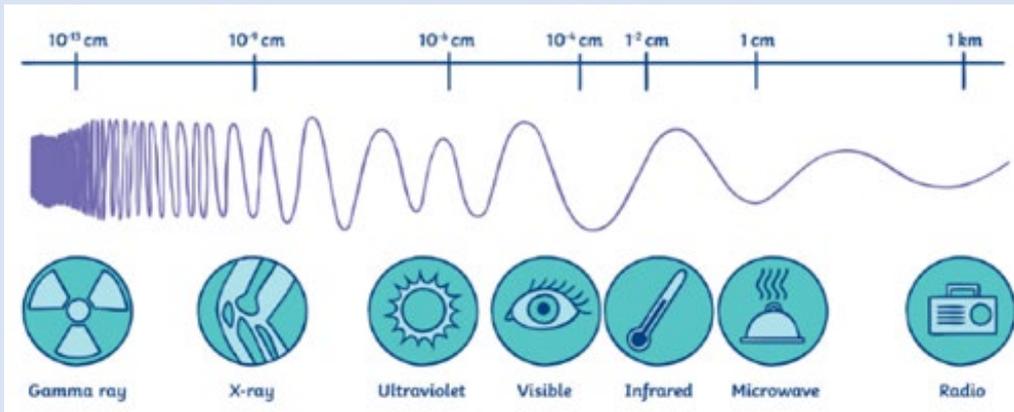
Wave speed (m/s) = frequency (Hz) x wavelength (m)

V = f x λ

Speed = distance x time

Electromagnetic spectrum:

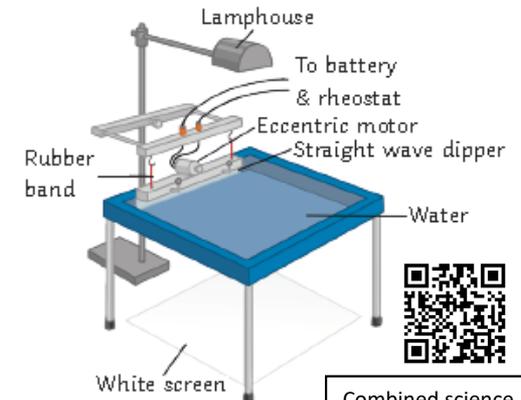
Electromagnetic waves transfer energy from a source to an absorber as transverse waves. The different waves are grouped depending on their frequency and form a continuous spectrum known as the electromagnetic spectrum.



| Word | Definition |
|--------------|--|
| Compression | is the part of the wave (or Slinky) that is pressed together |
| Rarefaction | is the part of the wave (or Slinky) that is spread apart. |
| Oscillations | occurs when a system or object goes back and forth repeatedly between two states or positions. |
| Frequency | the number of waves that pass a fixed point in unit time |
| Wave length | the distance between successive crests of a wave |

Required practical

Aim: make observations and identify the suitability of apparatus to measure the frequency, wavelength and speed of waves in a ripple tank and waves in a solid, and take appropriate measurements.



Combined science
HT – physics -
waves

GCSE Spanish - El medio ambiente – the Environment

los problemas medioambientales a nivel global – environmental problems at a global level

la contaminación del aire = air pollution
 la marea negra mata la vida acuática = oil slicks kill sea life
 el cultivo excesivo = over-farming la pesca excesiva = over-fishing
 los residuos nucleares = nuclear waste
 la sequía = drought la guerra = war
 el calentamiento global destruye las capas de hielo = global warming is destroying the ice caps
 la destrucción de los bosques amenaza el ecosistema = the destruction of forests is threatening the ecosystem
 la sobrepoblación = overpopulation
 la polución atmosférica = air pollution
 el efecto invernadero conduce al calentamiento global = the greenhouse effect leads to global warming
 los combustibles fósiles se agotan = fossil fuels are running out
 el calentamiento del océano causa el blanqueamiento del coral = the warming of the ocean is causing coral bleaching
 la caza y la destrucción de los hábitats producen las especies amenazadas, y finalmente la extinción = hunting and the destruction of habitats produce endangered species and finally extinction



CONNECTIVES

así que = therefore pero = but
 porque / ya que / puesto que = because
 aunque = although dado que = given that
 donde = where como = such as
 cuyo/a/os/as = whose que = what / that
 sin embargo / no obstante = however
 mientras que = whilst gracias a = thanks to
 es la razón por la que = is the reason why
 debido a = due to



Frases para describir lo que (no) hacías en el pasado – phrases to describe what you did(n't) do in the past

Cuando era más pequeño/a = When I was younger / Cuando tenía ocho años = when I was 8 yrs old
 Hace tres años = 3 years ago / Cuando asistía a la escuela primaria = When I attended primary school
 no sólo tiraba basura al suelo = not only did I throw litter on the floor
 sino también no viajaba en transporte público = but also I didn't travel by public transport
 tomaba un baño en vez de ducharme = I used to have a bath instead of a shower
 mi hermano no solía separar la basura = my brother didn't separate the rubbish
 mis padres no consumían alimentos naturales = my parents didn't consume organic food
 desenchufaba los aparatos electrodomésticos = I used to unplug household appliances
 compraba alimentos naturales = I used to buy organic food



Use these expressions before infinitives:

hay que – it's necessary to; se debe – we must; es imprescindible – it's vital; no se debe – we must not; es aconsejable – it's advisable; es una buena idea – it's a good idea; es importante – it's important

INFINITIVES:

estar preocupado/a = to be worried >>> **estoy preocupado/a** = preocupado/a
 reciclar papel, latas y vidrio = to recycle paper, tins and cans
 apagar las luces antes de salir = to switch off the lights before leaving
 desenchufar los aparatos domésticos = to unplug household appliances
 comprar pilas recargables = to buy rechargeable batteries
 ducharse en vez de tomar un baño = to shower instead of taking a bath
 usar el transporte público = to use public transport
 utilizar energía natural (como el sol) = to use natural energy (like the sun)
 plantar más árboles = to plant more trees
 proteger las especies amenazadas = to protect endangered species
 evitar la sobrepesca / el sobreconsumo = to avoid over-fishing/overconsumption
 ahorrar agua, electricidad y gas = to save water, electricity and gas
 malgastar los recursos naturales = to waste natural resources
 consumir alimentos naturales = to consume organic food products
 separar la basura = to separate rubbish
 poner la basura en la papelera / el contenedor = to put litter in the bin



Los problemas medioambientales a nivel local – Environmental problems at a local level:

Vivo en un barrio que se llama desde hace ... años = I've lived in an area called ... for ... years
 donde la calidad de vida es baja a causa de... = ...where the quality of life is low due to...
 donde existe el problema de la contaminación del aire debido al tráfico / a las fábricas = where the problem of air pollution exists due to the traffic / to the factories
 donde la basura que la gente tira en la calle atrae a ratas = where street litter attracts rats
 donde no creo que haya suficiente espacio verde = where I don't think there's enough green spaces
 cuyas calles están llenas de papel y caca canina = whose streets are full of paper and dog poo
 donde hay demasiado ruido / tráfico / grafiti = where there is too much noise/traffic/graffiti
 donde hay demasiada contaminación / basura = where there is too much pollution/litter

Como podemos ayudar al planeta en el futuro – how we can help the planet in future:

Me haré miembro de un grupo ecologista para que pueda.....+ INFINITIVE

I will join an environmental group so that I can...

Pondré la basura en el contenedor adecuado... = I will put litter in the correct container...

Mis padres llevarán sus propias bolsas al supermercado = My parents will take their own bags to the s/market

Intentaré ahorrar agua, electricidad y gas - I will try to save water, electricity and gas...

En mi casa nos ducharemos en vez de tomar un baño = In my house we'll shower instead of taking a bath

Mi familia y yo viajaremos en transporte público = My family and I will travel by public transport

Compraré papel reciclado y no imprimiré mi correo electrónico = I will buy recycled paper and not print e-mails

Mi familia consumirá alimentos naturales, como fruta y verduras, y por eso mejorará su calidad de vida = My family will consume organic food, such as fruit and vegetables, and therefore will improve their quality of life

No sólo reciclaré papel y latas sino también compraré pilas recargables = Not only will I recycle paper and tins, but also I will buy rechargeable batteries.



Frequency and sequencing phrases:

(casi) siempre = (nearly) always
 muchas veces = very often
 a menudo = often
 a veces = sometimes
 frecuentemente = frequently
 de vez en cuando = from time to time
 pocas veces = not very often
 nunca = never
 primero = first(ly) segundo = second(ly)
 luego = next/then después = after
 más tarde = later hoy = today
 ayer = yesterday mañana = tomorrow



Impressive constructions and verbs in other tenses

después de + INFINITIVE = after antes de + INFINITIVE = before
 para que pueda + INFINITIVE = so that I can para + INFINITIVE = in order to
 debería + INFINITIVE = I should deberíamos + INFINITIVE = we should
 suelo + INFINITIVE = I usually solía + INFINITIVE = I used to
 mi familia / hermano suele + INFINITIVE = my family / brother usually (does)
 Cuando era pequeño/a, solía + INFINITIVE = When I was younger, I used to
 Lo único que (no) hago es + INFINITIVE = the only thing that I (don't) do is
 Lo que más me preocupa es + INFINITIVE = What I am most worried about is
 era = it was tenía = it had había = there was / were
 es = it is tiene = it has hay = there is / are
 será = it will be tendrá = it will have habrá = there will be
 sería = it would be tendría = it would have podría + INFINITIVE = I could
 podríamos + INFINITIVE = we could

Phrases using the subjunctive, to impress at Higher level.

Para mí, lo más importante es que = For me, the most important thing is that

tomemos medidas para reducir el calentamiento global = we take measures to reduce global warming

Desde mi punto de vista es imprescindible que = From my point of view it's essential that

reduzcamos el uso del plástico para poner fin a la contaminación de los océanos = we reduce the use of plastic to put an end to the pollution of the oceans

Pienso que es lamentable que no = I think that it's regrettable that we don't

nos aprovechemos de la nueva tecnología para desarrollar la energía natural como el sol y el viento = we take advantage of new technology to develop natural energy such as the sun and the wind



Academic Language

Follow the path from left to right to explore new vocabulary

To **disseminate** is to spread information widely.

disseminate

The information could be made clear in the form of a **vignette**.

vignette

A **vignette** is a brief description or episode used to **elucidate** a concept.

elucidate

This would **elucidate** a concept because this word means to make a point clear.

You might find there is a **paradigm** or pattern of ideas or language in the text or information.

paradigm

Often **paradigms** are a **dichotomy** which means opposites: light & dark or freedom & oppression.

dichotomy

A **dichotomy** can make a point by contrasting opposing ideas. If the idea is developed to be directly opposing or incompatible we can say its **antithetical**.

antithetical

An idea that is the **antithetical** of something, could also be described as a **divergent** interpretation because this means contrasting.

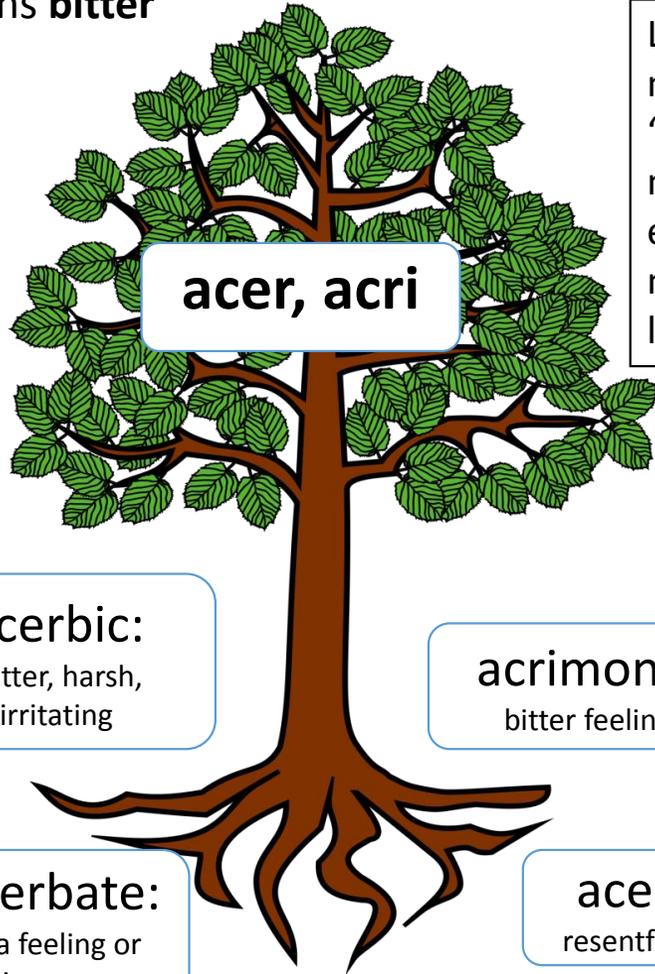
divergent

However an academic idea is presented, you should always aim for it to be **tangible** because this word means clear and definite.

tangible

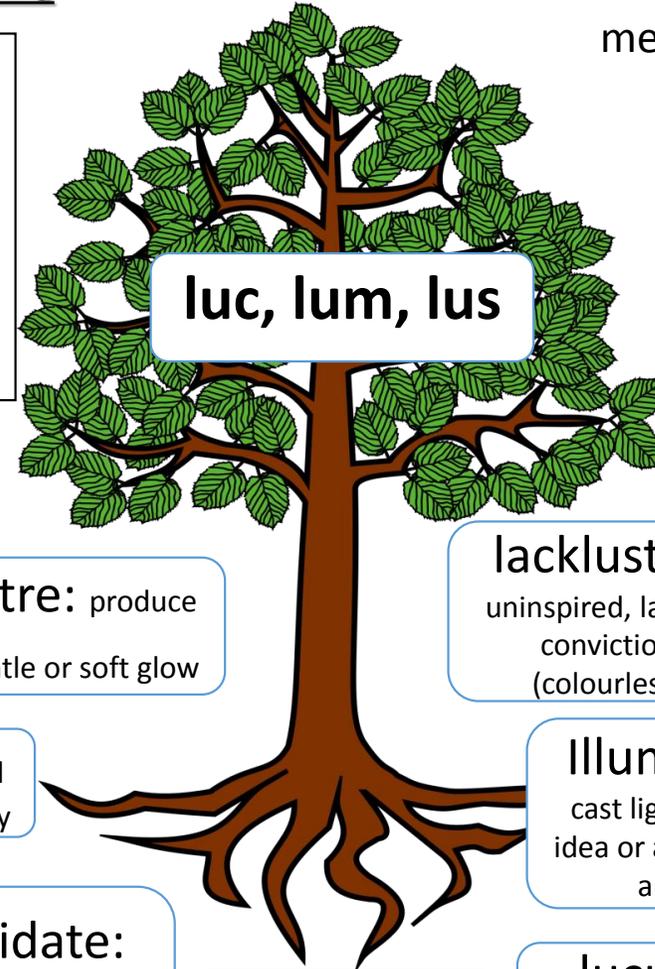
Root word families

The root 'acer' or 'acri' means **bitter**



Learning basic roots and their meanings, will help you to build a 'toolkit' for working out the meaning of unfamiliar language. explore how the roots shape the meaning of new and familiar language.

The root 'luc' or 'lum' means **light**



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