



The John of Gaunt School  
A Community Academy

*Year 10*

*Knowledge Organisers*

*Term 4 - 2024*

## Year 10 Term 4 Quizzing Homework - Question Bank

<b>Business Studies</b>	<b>Child Care</b>
<p><b>Marketing</b></p> <p>Identifying and understanding customers and segmentation</p> <ol style="list-style-type: none"> <li>1. What is market segmentation?</li> <li>2. Give 2 examples of segments in the car market</li> <li>3. What is meant by the 'size of the market'?</li> <li>4. State 2 benefits of market segmentation</li> <li>5. State 2 drawbacks of market segmentation</li> </ol> <p>The purpose and methods of market research</p> <ol style="list-style-type: none"> <li>1. What is market research?</li> <li>2. Research that we collect ourselves, first hand is called <u>P</u> _____</li> <li>3. Research that someone else has conducted is called <u>S</u> _____</li> <li>4. Data that is numerical/can be counted is <u>Q</u> _____ <u>Quantitative</u> Data</li> <li>5. Data that is descriptive and cannot be counted is called <u>Q</u> _____ <u>Qualitative</u> Data</li> </ol> <p>The Marketing Mix</p> <ol style="list-style-type: none"> <li>1. State 2 channels of distribution a business can use</li> <li>2. State one benefit of selling direct from producer to consumer</li> <li>3. State one reason that businesses promote their products or services</li> <li>4. State 2 methods of promotion</li> <li>5. Setting a higher price when a new product is launched is called _____</li> <li>6. Setting a lower price than the competition for a short time is known as _____ _____</li> <li>7. What is one benefit of having a unique selling point?</li> <li>8. On the Product Life Cycle, at which stage are sales highest?</li> <li>9. At what stage of the product life cycle are costs more than revenue?</li> <li>10. On the Boston Matrix, products with high market share and high market growth are known as _____</li> </ol>	<ol style="list-style-type: none"> <li>1. Year 11 Child development questions</li> <li>2. What is the role of the placenta?</li> <li>3. What is the role of the umbilical cord?</li> <li>4. What is the role of amniotic fluid?</li> <li>5. What is the role of the ovaries?</li> <li>6. What is the role of the fallopian tubes/oviducts?</li> <li>7. What is the role of the uterus?</li> <li>8. What is the role of the testicles/testes?</li> <li>9. What is the function of the sperm duct?</li> <li>10. What is ovulation?</li> <li>11. What is fertilisation?</li> <li>12. What is contraception?</li> <li>13. What is an embryo?</li> <li>14. On what day of the menstrual cycle is an egg released?</li> <li>15. On what day of the menstrual cycle does bleeding/a period start?</li> <li>16. State 2 reasons why a couple may find it hard to get pregnant</li> <li>17. Name a barrier method of contraception</li> <li>18. Name a chemical method of contraception</li> <li>19. What is testosterone?</li> <li>20. What is oestrogen?</li> <li>21. Name another word to describe the endometrium or womb</li> </ol>

Computer Science	Drama
<ol style="list-style-type: none"><li>1. What will 23 DIV 4 return?</li><li>2. What is a syntax error?</li><li>3. What is a logic error?</li><li>4. This comparative operator != means what?</li><li>5. What is a flow chart?</li><li>6. Which symbol is used in a flow chart for input/output?</li><li>7. Which symbol is the Terminator?</li><li>8. What is pseudocode?</li><li>9. What output would 5/2 give?</li><li>10. What output would 7//2 give?</li><li>11. Write to code to output "Hello World" in python</li><li>12. What is concatenation?</li><li>13. Write an algorithm to concatenate the phrases "Hello my name is" and "Slim Shady"</li><li>14. What does this code do? <code>if name == "Fred":</code></li><li>15. What does this code do? <code>for i in range(0,10):</code></li><li>16. Write the algorithm to store a list of 5 shopping items</li><li>17. Give 2 steps you should use to find errors in code</li><li>18. What does # mean in Python?</li><li>19. Rewrite the code below to perform a floor division</li></ol> <pre>number1 = int(input("Input the first number :")) number2 = int(input("Input the second number :")) answer = number1 + number2 print("The answer is " + str(answer))</pre>	

English	Engineering
<p>Macbeth Quiz Questions</p> <ol style="list-style-type: none"> <li>1. What makes a play a tragedy?</li> <li>2. What is the meaning of 'hamartia'?</li> <li>3. What is Macbeth's hamartia?</li> <li>4. What is the meaning of 'regicide'?</li> <li>5. Why is regicide an example of treason?</li> <li>6. What is the definition of 'Machiavellian'?</li> <li>7. Why can Lady Macbeth's behaviour be called 'Machiavellian'?</li> <li>8. What is the meaning of 'catharsis'?</li> <li>9. What is the meaning of 'pathos'?</li> <li>10. What is the meaning of 'soliloquy'?</li> <li>11. Macbeth is presented as a tyrant in the second half of the play. How does Shakespeare do this?</li> <li>12. What are the three prophecies that the witches (wyrd sisters) give Macbeth and Banquo in Act 1?</li> <li>13. What are the three prophecies that the witches (wyrd sisters) give Macbeth in Act 4?</li> <li>14. Where is King Duncan murdered?</li> <li>15. Who is blamed for King Duncan's murder?</li> <li>16. Why does Macbeth arrange to have Banquo and Fleance assassinated?</li> <li>17. What happens in Act 3 that suggests Macbeth is troubled by his guilt?</li> <li>18. Why does Macbeth want to kill Macduff and his family?</li> <li>19. Who leads an army to rise against Macbeth?</li> <li>20. How does Birnam Wood march to Dunsinane?</li> <li>21. How is Macduff 'not born of a woman'?</li> <li>22. What does Lady Macbeth do which highlights her guilty conscience?</li> <li>23. Complete the quotation: 'Fair is _____ and _____ is _____.'</li> <li>24. What line that Macbeth speaks echoes the witches' comments about the chaotic weather?</li> <li>25. Complete the quotation: 'Out _____.'</li> <li>26. Write a quotation which shows that Macbeth's ambition cannot be controlled.</li> <li>27. Write a quotation which shows that Lady Macbeth wants to get rid of her femininity.</li> <li>28. Complete the quotation: 'This dead _____ and his _____ - _____ queen.'</li> <li>29. Write a quotation which shows Macbeth is a violent warrior.</li> <li>30. Complete the quotation: 'Would all _____ wash this _____ from _____.'</li> </ol> <p>Use these links to read more about Macbeth and Shakespeare:</p> <ul style="list-style-type: none"> <li>➤ Watch an animated version of the play: <a href="https://www.youtube.com/watch?v=qfnUq2_0FOY">https://www.youtube.com/watch?v=qfnUq2_0FOY</a></li> <li>➤ Watch Mr Bruff's playlist of 'Macbeth analysis' videos: <a href="https://www.youtube.com/playlist?list=PLqGFsWf-P-cMpq89C0yaU5scvuYilKuL">https://www.youtube.com/playlist?list=PLqGFsWf-P-cMpq89C0yaU5scvuYilKuL</a></li> </ul>	<p>Term 4 Engineering 20 Quiz questions</p> <ol style="list-style-type: none"> <li>1. What is the opposite force to compression?</li> <li>2. How could you describe a turning force?</li> <li>3. What is the strongest structural shape?</li> <li>4. Why are some materials corrugated?</li> <li>5. What is a composite material?</li> <li>6. Give an example of a composite material and where it could be used?</li> <li>7. How is concrete reinforced?</li> <li>8. What is a smart material?</li> <li>9. Name the smart material that can change colour with heat?</li> <li>10. Name the smart material that can change colour with light?</li> <li>11. What is a thermo plastic?</li> <li>12. What is the recycling symbol for plastics?</li> <li>13. What plastic material is used to make sockets?</li> <li>14. Why can some plastic not be recycled.</li> <li>15. What does sustainability mean?</li> <li>16. Name the industrial process used to form plastics in to a bottle?</li> <li>17. What is the most common plastic used in schools?</li> <li>18. How can you describe the appearance of a plastics?</li> <li>19. What raw material is used to make plastics?</li> <li>20. Name a thermo plastic used for making window frames?</li> </ol>

## Food Tech

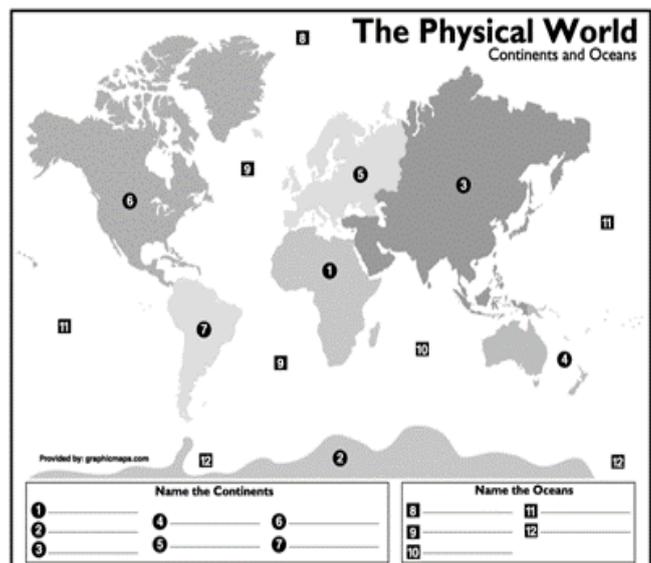
### Year 10 Food Preparation 20 questions – Food Choice

1. Give 3 reasons why a person may decide to become Vegan or Vegetarian.
2. Explain the term – ALLERGY.
3. What is Halal?
4. What is kosher?
5. If you are a vegetarian - what nutrients could you become deficient in?
6. Explain – Lactose Intolerant.
7. What does the term 'Cuisine' mean?
8. Name 3 sensory analysis tests.
9. Why is it important to use codes / symbols when testing food?
10. What does U stand for on food labels?
11. What legal information must be printed onto food labels?
12. Explain the term PAL.
13. How does income and cost of food affect what a person buys?
14. What is meant by food availability?
15. Explain why buying seasonal foods might be important to some consumers?
16. Why are food miles important to the production of food?
17. What 4 things make British food distinctive?
18. State which nutrients may be missing from a vegan diet.
19. Explain 6 ways the traffic light labelling system helps the consumer to make good food choices.
20. Give 4 factors that may influence a persons food choice.

## Geography

### Urban Issues and Challenges Quiz Questions

1. What is a megacity?
2. Define urbanisation
3. Identify four push factors that are resulting in rural to urban migration
4. Name your LIC/NEE city case study example
5. What are the opportunities in this city?
6. What are the challenges in this city?
7. Name an urban redevelopment scheme in this city
8. Describe 4 features of this scheme
9. What is urban greening?
10. How might urban greening improve quality of life?
11. Define sustainable development
12. List four ways that deforestation in the rainforests can be managed
13. Identify 4 ways that water supplies can be increased
14. Identify four ways that water can be managed in a sustainable way
15. Define water security
16. How might poor water security affect quality of life?
17. Describe the distribution of the rainforests



IMedia and ICT	Music									
<p>Year 10, term 4, creative imedia quizzes</p> <ol style="list-style-type: none"> <li>1. What is an asset?</li> <li>2. What does it mean to create an asset?</li> <li>3. What does it mean to source an asset?</li> <li>4. What does it mean to repurpose an asset?</li> <li>5. What does it mean to prepare an asset?</li> <li>6. Why might someone repurpose an asset?</li> <li>7. How might someone prepare an image asset for use on the web?</li> <li>8. How might someone prepare an image asset that will be printed out?</li> <li>9. What does it mean to be in the public domain?</li> <li>10. What would you write in an assets table about the legal requirements of an asset that is copyright protected?</li> <li>11. What would you write in an assets table about the legal requirements of an asset that you created yourself?</li> <li>12. What would you write in an assets table about the legal requirements of a photograph that you took yourself but has private property in the background?</li> <li>13. What would you write in an assets table about the legal requirements of a photograph that you took yourself but has other people in it?</li> <li>14. What do the following Creative Commons licences allow you to do: BY BY – SA BY – ND BY – NC BY – NC – SA BY – NC - ND</li> <li>15. What does creative commons zero mean?</li> </ol>	<ol style="list-style-type: none"> <li>1. What is the structure of Badinerie?</li> <li>2. What key does Badinerie begin in?</li> <li>3. Who composed Badinerie?</li> <li>4. What era was Badinerie composed in?</li> <li>5. What is the main texture of Badinerie?</li> <li>6. What are the dynamics like in Badinerie?</li> <li>7. What rhythmic device is used at the start of Badinerie?</li> <li>8. What is the time signature of Badinerie?</li> <li>9. Name the instruments used in Badinerie</li> <li>10. The harmony in Badinerie is diatonic throughout – true or false?</li> <li>11. Name the four voice types and what they sound like</li> <li>12. What instruments would you usually find in a Popular/Rock band?</li> <li>13. What is the typical structure of a Popular song?</li> <li>14. What is a riff?</li> <li>15. What is the musical word for how the music is organised?</li> <li>16. What is the musical word for the main tune?</li> <li>17. What is the musical word for how loud or quiet the music is?</li> <li>18. What is the musical word for how fast or slow the music is?</li> <li>19. What is the musical word for how many layers there are in a piece?</li> <li>20. What are the two main types of tonality?</li> </ol> <p>Also recognising images of the following instruments:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 33%;">Violin</td> <td style="width: 33%;">Viola</td> <td style="width: 33%;">Cello</td> </tr> <tr> <td></td> <td>Double Bass</td> <td></td> </tr> <tr> <td>Flute</td> <td></td> <td>Harpsichord</td> </tr> </table>	Violin	Viola	Cello		Double Bass		Flute		Harpsichord
Violin	Viola	Cello								
	Double Bass									
Flute		Harpsichord								

Science	Science Continued
<p><b>Biology</b></p> <ol style="list-style-type: none"> <li>1. What is a communicable disease?</li> <li>2. What is a pathogen?</li> <li>3. What are the four main groups of pathogen?</li> <li>4. How do bacteria reproduce inside the body?</li> <li>5. How do viruses reproduce inside body?</li> <li>6. What are the main ways that pathogens can be spread?</li> <li>7. Give an example of a pathogen that is spread by water</li> <li>8. Give an example of a pathogen that is spread by air</li> <li>9. Give an example of a pathogen that is spread by direct contact.</li> <li>10. How can the transmission of diseases be reduced?</li> <li>11. How does the skin help protect the body?</li> <li>12. How does the nose help protect the body?</li> <li>13. How does the trachea help protect the body?</li> <li>14. How does the bronchi help protect the body?</li> <li>15. How does the stomach help protect the body?</li> <li>16. How do vaccinations work?</li> <li>17. What are the advantages of vaccinations?</li> <li>18. What are the disadvantages of vaccinations?</li> <li>19. What are antibiotics?</li> <li>20. How do antibiotics work?</li> </ol> <p><b>Chemistry</b></p> <ol style="list-style-type: none"> <li>1. Describe what happens when a metal reacts with oxygen.</li> <li>2. List the order of the reactivity series.</li> <li>3. How are unreactive metals found?</li> <li>4. What is reduction?</li> <li>5. What is oxidation?</li> <li>6. What is the pH of a neutral solution?</li> <li>7. What is the pH of the strongest alkali?</li> <li>8. What is the pH of a weak alkali?</li> <li>9. Which ions make solutions acidic?</li> <li>10. Which ions make solutions alkaline?</li> <li>11. Name three common acids.</li> <li>12. Name the salt produced when sulphuric acid neutralises sodium hydroxide.</li> <li>13. Name the salt produced when nitric acid neutralises potassium hydroxide.</li> <li>14. What is formed when hydrochloric acid reacts with potassium hydroxide?</li> <li>15. What is formed when sulphuric acid reacts with sodium hydroxide?</li> <li>16. When do ionic compounds conduct electricity?</li> <li>17. Why do ionic compounds need to molten or dissolved conduct?</li> </ol>	<ol style="list-style-type: none"> <li>18. What are the disadvantages of vaccinations?</li> <li>19. What are antibiotics?</li> <li>20. How do antibiotics work?</li> </ol> <p><b>Physics</b></p> <ol style="list-style-type: none"> <li>1. Draw arrangement of particles in a solid.</li> <li>2. Describe the properties of a solid</li> <li>3. Draw the arrangement of particles in liquid.</li> <li>4. Describe the properties of a liquid</li> <li>5. Draw the arrangement of particles in a gas.</li> <li>6. Describe the properties of a gas</li> <li>7. What is melting?</li> <li>8. What is freezing?</li> <li>9. What is evaporation?</li> <li>10. What is condensing?</li> <li>11. Define density.</li> <li>12. What is the equation linking density, mass and volume?</li> <li>13. What are the units for density?</li> <li>14. What are units the mass?</li> <li>15. What are the units for volume?</li> <li>16. How do you calculate the volume of a regular object?</li> <li>17. How do you calculate the volume of an irregular object?</li> <li>18. When a substance changes state why does the temperature not increase?</li> <li>19. What is specific latent heat?</li> <li>20. What is equation linking energy, mass and specific latent heat?</li> </ol> <p><b>Extra triple science questions:</b></p> <ol style="list-style-type: none"> <li>1. What are monoclonal antibodies?</li> <li>2. What type of cell produces antibodies?</li> <li>3. Give an example of a use of monoclonal antibody</li> <li>4. Write a method for titration</li> <li>5. Why is it important to swirl the flask during a titration?</li> <li>6. What is the function of the indicator in a titration?</li> <li>7. Why do we use a white tile in titrations?</li> <li>8. What happens to gas particles when they are heated up?</li> <li>9. What happens to the pressure of a gas if the volume increases?</li> <li>10. What are the SI units of pressure and volume?</li> </ol>

### **Year 10 Spanish Term 4 Quizzing**

A] On your KO, read and memorise the descriptions of the different festivals at the top and then turn over your KO. Match these key words with the correct festival name, then check on your KO to see how many you got right.

Key words	Correct festival (a-e)	Festival name
1) familias; turrón; regalos; Reyes Magos; 5 de enero		a) La Semana Santa
2) fuegos artificiales; Valencia; desfiles; 19 de marzo		b) La Tomatina
3) nazarenos; religión; capirotos; procesiones; pasos		c) La Navidad
4) Buñol; tomates; batalla; sucio		d) El Día de los Muertos
5) altar; familia; México; noviembre; comida		e) Las Fallas

### **Use your KO to put these sentences into Spanish:**

1. I learnt about the carnival in Cádiz.
2. I visited a mosque in Spain.
3. I went to a bullfight in Málaga.
4. I read an article about the Tomatina.
5. I would like to see a film about The Day of the Dead.
6. If I could, I'd go to La Feria de Abril in Seville.
7. I'm going to love the carnival.
8. In the future, when I'm older, I'm going to go to the festival of San Fermín.
9. I'm not going to like the bullfight.
10. In Spain, Holy Week is moving and fascinating.

# Astronomy GCSE. Term 4 : Exploring the Solar System

The four **Gas Giants**;

**Jupiter diameter**  $143 \times 10^3$  km

**Saturn diameter**  $121 \times 10^3$  km

**Uranus diameter**  $51 \times 10^3$  km

**Neptune diameter**  $50 \times 10^3$  km

They are relatively much larger, with **liquid interiors** and atmospheres of hydrogen and helium with small amounts of methane and ammonia. **See the main section of the diagram for distances from the Sun.**

The four **Terrestrial planets**;

**Mercury diameter**  $4.9 \times 10^3$  km

**Venus diameter**  $12.1 \times 10^3$  km

**Earth diameter**  $12.8 \times 10^3$  km and

**Mars diameter**  $6.9 \times 10^3$  km

These are relatively small planets made of rock surrounding iron cores. They follow nearly circular orbits, roughly in the same plane and travel in the same direction. **See the expanded section of the diagram for distances from the Sun.**

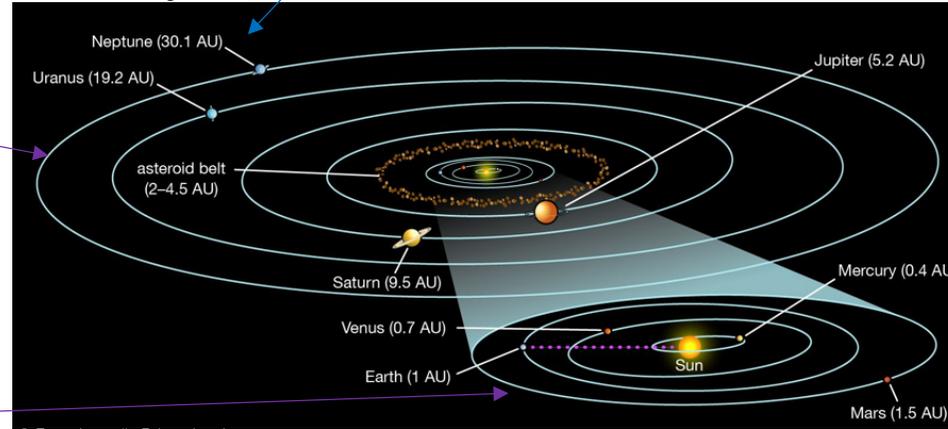
**Space Probes. Four main types of probe:**

- Fly-by** missions where probes may view several targets.
- Orbiters**-a probe enters orbit around a planet or asteroid to map the surface.
- Impactors**-probe deliberately impact the surface of an object to study the internal composition.
- Soft landers**-probe touches down intact with equipment eg a rover, to study the surface and sometimes analyse the materials.

**Key words: ALL words in bold need to be learnt.**

Size of the **Solar System** and **units of measurement**. The units that are used (m and km). **Distances within the Solar System** are stated in **Astronomical Units or AUs**, defined as equal to the mean distance between the Earth and the Sun.

## The Solar System



### Meteoroids:

- Dust, grit-sized rocks, chunks of rock, boulder-sized mixtures of ice, stone and metal in orbit around the sun.
- Speeds range from 20-70 km/s.
- May enter the Earth's atmosphere, where air resistance transfers **KE to thermal energy**. Small particles become **incandescent (emitting light due to being heated)** - called a 'shooting star' or **meteor**.
- When the Earth passes through a **meteoroid stream** (may be left after a comet has passed) and many occur at once, this is a **meteor shower**. It appears to radiate from a point, the **radiant** and is named after the constellation in which the **radiant** lies.

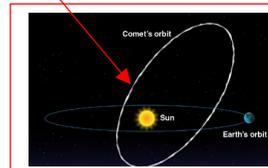
**Fireballs: Very bright meteors** produced by **larger meteoroids**. (May originate from the Asteroid Belt or from the Moon).

**Meteorites:** Meteoroids which are large enough not to be entirely burnt up passing through the atmosphere and actually **reach the surface of the Earth**.

**Short-period comets.** Comets with a period (time for one whole orbit) of <200 y, thought to originate in the **Kuiper Belt**.

A few have periods <20 y and have orbits which do not extend beyond the

**Long-period comets.** Comets with a period of >200 y, may originate in the **Oort Cloud**. Orbits may be **highly-inclined to the plane of the Solar System** and in the opposite direction to the planets.



**Optical Telescopes** are of two basic types;

**Refractors** which use a **convex lens** to capture and focus light.

**Reflectors** which use a **parabolic concave or converging mirror** to capture and focus light.

**Light Grasp** is a measure of how much light is captured by the objective element. **Light grasp**  $\propto$  area  $\propto$   $d^2$  where **d = diameter** of the objective element. Larger = brighter and sharper image.

### Magnification

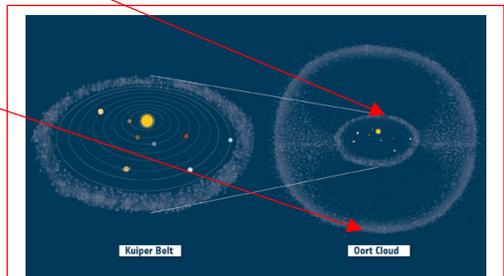
$$= \frac{\text{focal length objective}}{\text{focal length of eyepiece}} = f_o / f_e$$

'Pros and Cons' of different types of **Telescopes**.

**Advantages of Reflectors:**

- Large mirrors are easier to make accurately than large lenses and large lenses do not hold their shape.
- Large mirrors have less mass than large lenses and can be more easily supported.
- Lenses **absorb** some of the light but mirrors reflect with little loss of intensity.
- Lenses cause **chromatic aberration**-they focus different wavelengths of light at slightly different points. This causes **blurring of the image**.

**Note: Cassigrain reflectors** reflect light **up and down the tube** so can be **shorter than Newtonian reflectors** with the same objective element diameter. **(See above for the advantage!)**



**Human resources:** are the people who do the work for a business. They are the employees.

**Human resource plan**

A plan detailing the workers a business will need i.e. how many, when, full time or part time and the skills they need

**Functions**

Different types of work that need to be done in a business i.e. Marketing, production and finance

**3:1 The Role of Human Resources**

**Human resource planning - things for a business to think about**

- The number of workers needed
- The number of workers who will work full-time or part-time
- The number who should be employed on zero-hour contracts
- The number of workers to hire as contractors as and when needed
- When workers will be needed - times of the day, days of the week
- Where the workers will work - finance, production, marketing
- The skills the workers will need to have
- The need to manage and supervise some of the workers
- The age, gender, ethnicity of the workers
- How many staff members the business can afford to employ

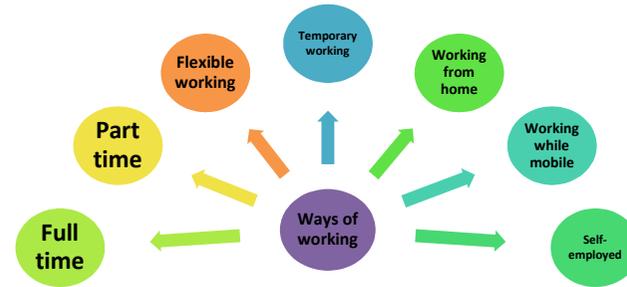
**When might a business need to review its human resource needs?**

- Workers may have to be replaced i.e. because they have left, retired or been promoted
- The business may grow or shrink so may need more or fewer workers
- The business may change its method of production so may need more or fewer skilled workers
- The business may decide to relocate so may have to recruit workers who live nearby - they could still take their current workforce
- The budget available for paying staff. If the budget is decreased they will need fewer staff and vice versa
- Changes in the law may affect employment i.e. Minimum wage which will impact on the budget

**3:2 Organisational Structures**

There are two different types of organisation structure:

Advantages of a tall structure	Advantages of a flat structure
<ul style="list-style-type: none"> <li>▪ The span of control is likely to be narrower meaning that he does not have as many people to look after</li> <li>▪ There will be plenty of opportunities for workers to gain promotion which will motivate them to work harder</li> </ul>	<ul style="list-style-type: none"> <li>▪ Lines of communication are clear - communication will be quicker from top to bottom because there is not as many layers</li> <li>▪ Fewer mistakes in communication will be made because there is fewer levels</li> <li>▪ People at the bottom may be encouraged to share ideas</li> <li>▪ Wider span of control means tht managers can delegate work</li> </ul>



**Organisation chart**

A diagram to show how workers are organised in a business

**Authority**

The power that one person has to make decisions

**Chain of command**

The order of authority from top to bottom

**Span of control**

The number of people a manager is in charge of

**Delegation**

Giving someone else permission to make a decision

**Communication is:** the transmission of a message from a sender to a receiver

**Written communication**

Communication by written words i.e. Text, email, letters

**Verbal communication**

Communication by speaking ie. telephone or meetings

**Formal communication**

Communication using the official channels within a business

**Informal communication**

Communication outside the official channels within business

**3:3 Communication in Business**

	Pros	Cons
Verbal	<ul style="list-style-type: none"> <li>• Can check for understanding</li> <li>• Can emphasise points through tone and body language</li> <li>• Can use diagrams and pictures to help explain</li> </ul>	<ul style="list-style-type: none"> <li>• If lots of people not all may understand</li> <li>• Receiver may disrupt the message if they don't like it</li> <li>• No permanent record of the message</li> <li>• Some forms can be expensive</li> </ul>
Written	<ul style="list-style-type: none"> <li>• There is a record of the message</li> <li>• Receiver can re-read the message multiple times</li> <li>• Can be sent to multiple people at the same time</li> <li>• Can avoid confrontation</li> </ul>	<ul style="list-style-type: none"> <li>• Cant check immediately if the message was understood</li> <li>• The success depends on the clarity of the message</li> <li>• Risk of computer viruses</li> <li>• Emails could go to spam</li> </ul>
Social media	<ul style="list-style-type: none"> <li>• Huge numbers of users</li> <li>• Info can be updated regularly</li> <li>• Visual images can help explain</li> <li>• Can be cheaper to advertise</li> <li>• Customers can be involved by allowing feedback</li> </ul>	<ul style="list-style-type: none"> <li>• There is a cost in managing and updating the information</li> <li>• Can be difficult to measure the effectiveness of the business' use of social media</li> </ul>

**3:4 Recruitment and Selection**

Businesses can recruit internally (from within the business i.e. promote an existing employee) or externally (someone from outside the business)

**Methods of advertising**

Businesses need to think about the costs of advertising for a job but can use the following:

- Websites
- Social media
- Local newspapers
- National newspapers
- Specialist magazines i.e. horse riding
- Job centres
- Word of mouth

**Methods of selection**

Business can use a range of methods to select the best candidate:

- Letter of application
- Application form
- CV
- Interviews
- Tests and presentations
- Group activities
- References

**Selection**

The process of choosing between applicants for a job

**Job description**

Lists the main duties, tasks and responsibilities of a worker

**Person specification**

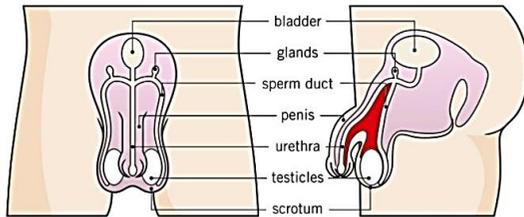
Lists the qualities, qualifications and knowledge that a person should have

**Interviews**

Sessions where the people making the appointment ask questions of the applicants

## Knowledge organiser – 10.2 Human reproduction

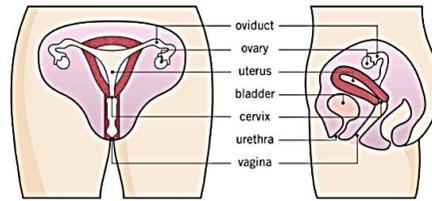
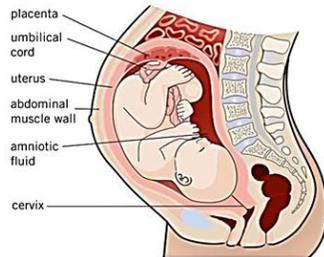
Changes during puberty		
Male	Both	Girls
Voice deepens	Body odour	Breast develop
Testicles and penis develop	Emotional changes	Ovaries start to release eggs
Sperm production starts	Pubic hair & underarm hair grows	Whole body gets curvier
Shoulders widen	Growth spurt	Periods start
Facial and chest hair grows	Sweat glands develop	Hips widen



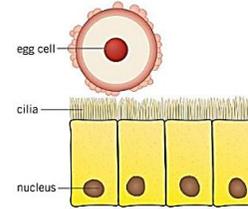
Part	Function
Glands	Produce nutrients for sperm (release semen).
Sperm duct	Tube that carries sperm from the testicles to the penis.
Penis	Carries sperm or urine out of the male's body. It swells with blood and stiffen (erection).
Urethra	Tube that carries urine or sperm out of the body.
Testicles / testes	Where sperm and testosterone are produced.
Scrotum	Skin that contains the testes.

### Where does a baby grow?

The blood of the mother and fetus flow closely inside the placenta. Oxygen and nutrients diffuse from the mother to the fetus. Waste substances (carbon dioxide) diffuse from the fetus to the mother.



Part	Function
Oviduct	(fallopian tubes) carry an egg to the uterus.
Ovaries	Contains egg cells.
Uterus	(womb) where the baby develops.
Cervix	Ring of muscle at the entrance to the uterus. Keeps the baby in place.
Vagina	Receives sperm during sexual intercourse. Where the male's penis enters the female body.



▲ Cilia in the oviduct waft the egg towards the uterus.

### How do sperm cells reach the egg cell?

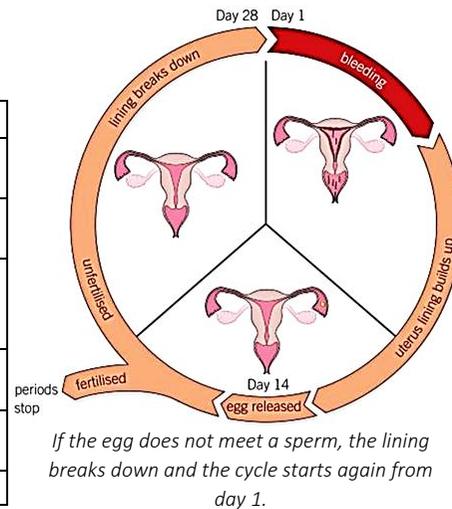
Sperm swims from vagina, through the cervix, into the uterus. Many will die. If it meets an egg, fertilisation can occur. The embryo is then implanted into the uterus lining.

### Why do some couples have difficulty getting pregnant?

- Low sperm count / sperm cannot swim properly
- Egg cells are not released monthly / blocked oviduct.

### MENSTRUAL CYCLE

- Each period lasts between 3-7 days.
- The cycle is 28 days and is controlled by hormones.
- Ovulation occurs on day 14.
- A woman does not have periods during pregnancy.



### What happens during birth?

- At around 40 weeks, the cervix relaxes and uterus wall muscles contract. This pushes the baby out.
- The umbilical cord needs to be cut.
- The placenta is then pushed out.

### CONTRACEPTION

- A condom is a thin layer of latex rubber that fits over an erect penis. It is very effective and protects against STIs.
- The 'pill' is a tablet take a female; it contains hormones. If taken correctly, it is very effective but doesn't protect against STIs.

KEYWORD	DEFINITION
<b>Adolescence</b>	The period of time when a child changes into an adult. It involves emotional and physical changes.
<b>Amniotic fluid</b>	Liquid that surrounds and protects the fetus (shock absorber).
<b>Cilia</b>	Tiny hair on the surface of cells.
<b>Condoms</b>	A barrier method of contraception that prevents semen being released into the vagina.
<b>Contraception</b>	A method of preventing pregnancy.
<b>Contraceptive pill</b>	A chemical method of contraception, which prevents ovulation.
<b>Egg cells</b>	The female sex cell.
<b>Ejaculation</b>	When semen is released from the penis.
<b>Embryo</b>	A ball of cells that forms when the fertilised egg divides.
<b>Fertilisation</b>	Joining of a nucleus from a male and female sex cell.
<b>Fetus</b>	The developing baby during pregnancy (from 8 weeks after fertilisation).
<b>Gametes</b>	(sex cells) The male gamete is a sperm and the female gamete is an egg. Join together to create a new organism.
<b>Gestation</b>	Process where the baby develops during pregnancy.
<b>Menstrual cycle/period</b>	The monthly cycle during which the uterus lining thickens and breaks down.
<b>Menstruation</b>	Loss of the lining of the uterus during the menstrual cycle.
<b>Ovulation</b>	Release of an egg cell during the menstrual cycle.
<b>Placenta</b>	The organ that allows transfer of nutrients and waste products between mother and fetus. It also acts as a barrier, stopping infections and harmful substances reaching the fetus.
<b>Puberty</b>	The physical changes that take place during adolescence.
<b>Reproductive system</b>	All the male and female organs involved in reproduction. The organ systems that produce sperm and egg, also where the fetus develops.
<b>Sex hormones</b>	Hormones that are involved in the reproductive system (e.g. testosterone and oestrogen)
<b>Sexual intercourse</b>	The process where the penis releases semen into the vagina.
<b>Sperm cells</b>	Male sex cell containing male genetic material.
<b>Umbilical cord</b>	Connects fetus to placenta.

## Revision Summary Sheet – National, Local, regional and Devolved Government

<b>House of Commons</b>	Democratically elected Members of Parliament (MPs) form the house of Commons. The House of Lords is the second chamber in this Westminster Parliament	<b>Monarch</b>	The Country's ruler. The UK has a constitutional monarch whose power is limited by the democratic system. The Monarch is the Queen at this moment in time. They have important responsibilities in the British Constitution including inviting the leader of one of the political parties represented in the UK Parliament to form a government.
<b>Prime Minister</b>	The leader of one of the political parties in Parliament – usually the party with the most MPs. They are asked by the Monarch to run the country. The Prime Minister is <b>NOT</b> elected directly by the UK citizens.	<b>Government Ministers</b>	Senior MPs or Members of the House of Lords who have accepted the Prime Minister's invitation to be part of the Government and to lead departments responsible for matters such as defence, health or education. Together with senior civil servants, they form the executive.
<b>Cabinet</b>	The Prime Minister and the senior colleagues he or she has chosen to be part of the Government meet together at 10 Downing Street. They are known as the Cabinet.	<b>Reserved Powers</b>	The issues on which only the UK Parliament can make laws.
<b>Devolved powers</b>	The issues on which the Scottish Parliament, or the assemblies of Wales or Northern Ireland, can make their own laws.	<b>Bureaucracy</b>	Careful, detailed and often time-consuming decision-making and implementation in which nothing is left to chance. Bureaucratic organisation is likely to be fair but it can often be slow and costly.
<b>Centralisation</b>	The development and management of services across a wide area from one central point	<b>Republic</b>	A country with an elected head of state (usually known as a President) rather than a monarch. France and the USA are both republics.

- After a general election, the new MPs form a new **House of Commons**. If a political party has a majority – it will form the Government.
- If no political party has the majority of MPs, the leader of the largest party may try to go into coalition with one or more political party or may attempt to form a minority government.
- The **Monarch** will invite the leader of the largest political party or coalition of parties to become the PM.
- The PM will then choose some of the most experienced, skilled and loyal MPs to help run the country. These then become government ministers with responsibility for running one of 24 ministerial departments such as defence, taxation and immigration.
- The group of senior MPs is known as the **Cabinet**

The UK Government's Powers – In 2016, the UK Government had the following powers over the whole of the UK. These are known as **reserved powers**.

- Defence
- Management of the economy
- Elections
- Employment
- Foreign Policy (international links and relationships)
- Overseas development
- Border control, immigration and asylum
- Benefits and social security
- Taxation (But with major exceptions in Scotland)
- Trade and Industry
- Nuclear energy, oil, coal, gas and electricity
- Data protection
- The Constitution

The UK Government also has responsibility for:-

- All laws, regulations and services that apply to England
- The legal and justice system in England and Wales
- Final say on the powers for which the governments of Scotland, Wales and Northern Ireland will be responsible.
- Granting permission for the Scottish Parliament, and Welsh and Northern Ireland assemblies to make strategic decisions in key areas
- Deciding the size of grants to Scotland, Wales and Northern Ireland from UK taxation.

### **Devolved powers of national governments in Scotland, Wales and Northern Ireland.**

Although the governments of Scotland, Wales and Northern Ireland now have similar **devolved powers** or responsibilities, there are also some key differences:-

- The Scottish Parliament has greater power over the economy, taxation and law-making than either of the Welsh or Northern Ireland assemblies
- The Welsh and Northern Ireland governments have to ask the UK Government for permission to change policy in a greater number of key areas than the Scottish government does
- Although the Welsh Government does have some law-making powers, it shares England's legal and justice system.

## Revision Summary Sheet – National, Local, regional and Devolved Government

**The Scottish Parliament**

**Welsh Assembly**

**Northern Ireland Assembly**

Are responsible for

- Agriculture forests and fisheries
- Culture and sport
- Economic development and tourism
- Education and training
- Environment
- Health and social services
- Housing
- Justice and policing (not Wales)
- Local government
- Roads and transport
- Town and country planning.

### Local and Regional Government

#### Local Authorities

- Local Authorities are also known as councils and make decisions about local services. They are controlled by councillors who are elected by local residents. Some local authorities are run by directly elected mayors supported by councillors.
- Councillors represent a neighbourhood known as a ward.
- Some areas do not have town or parish councils so community responsibilities are taken on by second-tier authorities.

#### Local Government in London

- London co-ordinates transport, housing and policing across the whole city. This work is done by the Greater London Authority with its elected assembly and directly elected Mayor. The Mayor represents London across the world – encouraging business, investment and tourism.

### Debates about the devolution of power

**Devolution** - the transfer or delegation of power to a lower level, especially by central government to local or regional administration.

There is general support for the idea of devolution. It is seen to have the following advantages:-

- Local decision-makers understand the culture and needs of their community and so will make good decisions
- Local decision-makers live in the area, and so are able to check that money is spent well, and that services are delivered on time
- Residents can contact local decision-makers easily and so are able to hold them to account
- Residents develop a stronger sense of identity and so increase their participation in the political process.

Some government responsibilities cannot easily be devolved to a local level. Decisions about matters such as national defence, border control and overall economic policy are made by the UK Government. Such **centralisation** enables decision-makers to consider the interests of the whole country and to achieve a coordinated approach at a national level.

### Scottish Independence

<u>Scotland should be independent of the UK</u>	<u>Scotland should remain in the UK</u>
Decision about Scotland's future should be taken by the people who care most about Scotland.	A strong Scottish Parliament with the UK gives the best of both worlds – real decision-making in Scotland, as well as a key role in a strong and secure UK.
Becoming independent is all about making Scotland a better place to live, with greater prosperity and higher standards of living.	In the future, Scotland could be wealthier by keeping the British connection
Scotland has the people, resources and ingenuity to prosper.	The size, strength and stability of the UK economy is a huge advantage for Scotland's businesses.
They would be able to speak with their own voice, choose their own direction and contribute in their own way.	In an uncertain world, Scotland's security will be strengthened as part of the UK. As part of the UK, we have real power and influence in the UN Security Council and the EU.
They will have a parliament and government just as they do now. But it will take all the decisions for Scotland. It will be elected in the same way, and so the people of Scotland will be able to choose the government they want.	Thousands of Scots and English have made their homes in each others nation. The coming together of family, friends, ideas, institutions and identities is a strength worth celebrating.

## Creative iMedia

A visual identity gives customers a feeling of the brand, product or service. It helps to **visually communicate** the values and personality of the brand with audiences or customers. The visual identity helps **establish a brand**, make it stand out and be **recognised** and **develop brand loyalty**.

When creating a visual identity you need to consider the following components: **logo**, **brand name** and **slogan or strap line**. See illustration below.

A visual identity should reflect **the type of business or organisation it represents**. It should help to **communicate the values** and core principles of the brand.

Much like colour, different typefaces (fonts) evoke different emotions. Sans serif fonts can project modernity and simplicity, while serif fonts convey stability and tradition. Script fonts offer elegance, while display fonts portray a more playful or hand-made feeling. The font you choose for a logo can add or detract from the credibility of your brand. (See the differences between the examples shown below.)

The Kids Zone logo (below) creates a visual identity that communicates feelings of fun, activity and creativity. The use of bright colours, playful font and decorative splat would be appealing to young children.

The Royal Swan logo (below) creates a visual identity that shows an elegance and luxury, as suggested by the gold. The contrasting dark blue colour is chosen to provide reassurance and trust in the brand. It is simple and elegant but also easy to remember. The traditional font communicates a traditional atmosphere.

The elements of visual identity include **typography**, **graphics**, **colour palette** and **layout/complexity**.



**Serif.**  
Traditional, have feet.

**Sans Serif.**  
Modern, feet free.

*Script.*  
Cursive, a bit more decorative.

**DISPLAY**  
Decorative, good as a design focal point.

## R094: Visual identity and digital graphics

### Key vocab

Word	Definition
Typography	The style of text used.
Graphics	This includes photos, images, illustrations, <b>shapes</b> and <b>symbols</b> .
Colour palette	The particular group of colours or colour scheme that is to be used across all products.
Layout and complexity	Layouts may be simple or complex. You will need to consider the audience and purpose of the product to decide which is appropriate.

### More info can be found here:

OCR Creative iMedia Levels 1/2 J834 (R093, R094), PG Online Limited, 2022. Pages 67-69

## Creative iMedia

### Source of image assets and expected requirements for licences and permissions

**Logos** - Clients can permit the use of their own logos. Third-party logos may need permission from the owner. The use of other logos such as in photographs or videos may not be allowed. Some TV shows have logos blurred out (e.g. the drinks cups on the X Factor judges table) and stock libraries cannot accept photographic images that show trademarked logos.

**Websites** - Try to find out who owns the copyright on the website images – the website should own the images or have permission already, but this is not always the case. A website owner cannot permit the use of images where they do not own the copyright themselves – this can only be granted by the owner (not always clear who that would be). Simplest form of permission is by authorised email from a suitable named person at the domain, such as the licensing department. Personal email addresses are generally not suitable for this (e.g. Hotmail, Outlook, Gmail, iCloud).

**Photographs** - Permission most likely needed from two or more people: 1) The photographer who owns the copyright, or 2) The person (or people) in the image, by a model release. If on private land, then a property release may also be needed from the landowner.

**Stock libraries** - Purchase a licence and pay the required fee to use the image. Will need to setup an account to purchase image licences. Check whether the licence fee covers royalty free or rights managed usage.

## R094: Visual identity and digital graphics

Word	Definition
<b>Bitmap</b>	A graphic made up of pixels. E.g. .bmp, .png, .tif, .gif, .jpg, .psd.
<b>Raster</b>	A graphic made up of lines, curves and co-ordinates. E.g. .jpg, .svg, .pdf, .eps.
<b>Pixel dimensions</b>	Pixel dimensions are the horizontal and vertical measurements of an image expressed in pixels. The pixel dimensions may be determined by multiplying both the width and the height by the dpi.
<b>Resolution</b>	The resolution of an image is a way of describing how tightly packed the pixels are within a square inch.

### Calculating Pixel Dimensions

**Size:** Can be setup using **pixel** dimensions (e.g. 3000 × 2400) or **print** dimensions (e.g. 10" × 8").

**Pixel dimensions** refers to the horizontal and vertical measurements of an image in pixels.

The pixel dimensions may be calculated by multiplying both the width and the height by the dpi. For example, an 8" x 10" document that is scanned at 300 dpi has the following pixel dimensions:

(8" x 300) by (10" x 300)  
2400 pixels by 3000 pixels

**You Try it** – What are the pixel dimensions of a 5x7-inch photo scanned at 400dpi? Is it:

- 2000 x 2800 pixels
- 1300 x 1800 pixels

**More info can be found here:** OCR Creative iMedia Levels 1/2 J834 (R093, R094), PG Online Limited, 2022. Pages 67-69 or chapter booklets are available in TC7.

## Creative iMedia R094: Visual identity and digital graphics

### Asset table legislation comments

#### If you created the asset yourself and all of it is original:

You do not need permission to use the work in the project as you created it yourself so you would say as much in your assets table. For example, "I created this asset from scratch and it is original so I do not need any permission to use it within the product".

#### Assets from websites:

You need to know what the permissions are. Unless you have specifically looked for copyright free images or images that have a creative commons licence, you must assume that the asset is copyright protected and that you need permission. You would write for example, "I need to ask the owner of the copyright for this asset for their permission before I use this asset in my work. If I do not receive written permission, then I cannot use it at all."

#### Assets with a Creative Commons licence:

You must follow the licence rules exactly. The four rules are rights to freely copy, freely distribute, freely transform or freely use the work. These rules are mixed and matched to create 6 different combinations. Make sure you know what they are so that you can describe what you are able to do. See the image to the right.

#### Assets you created but with people in them or on private land:

You will need permission from the land owner or the people in the asset to use it in your product. For example, you might state: "I need permission from the person (or people) in the image, by using a model release that they will sign, before I can use the asset in my product". Or, if on private land, then a property release will be needed from the landowner.

Word	Explanation of what you are doing to the asset
Asset	The 'object' you need for your project. E.g., an asset could be an image, animation, sound, video or text.
Create	You are making all elements of the asset yourself, from scratch, if you're <b>creating</b> it.
Source	You are looking elsewhere (probably online) to use an asset that someone else has made if you are <b>sourcing</b> the asset.
Prepare	You are changing one or more properties of the asset to make it suitable for use within a project if you are <b>preparing</b> an asset. E.g. saving in a different format or reducing the quality and therefore the file size.
Repurpose	You are making changes to an asset that may have been created by you, or sourced from elsewhere if you are <b>repurposing</b> an asset. E.g. you may be resizing it for use in a different project and saving in a different format so it is suitable for a different medium.

 <p><b>BY</b></p> <p>You can use the work and do whatever you like with it as long as you give attribution.</p>	 <p><b>BY-SA</b></p> <p>If you add to or change the work, you must share it with the same BY-SA license.</p>	 <p><b>BY-NC</b></p> <p>You can use the work and add to it or change it but you can't make money from it.</p>	 <p><b>BY-NC-SA</b></p> <p>If you change the work, you must share it with the same license and you can't make money from it.</p>	 <p><b>BY-NC-ND</b></p> <p>You can use and share the work but you can't change it or sell it.</p>
Least restrictive			Most restrictive	
 <p><b>PUBLIC DOMAIN</b></p> <p>You can use the work however you like without permission or attribution; the copyright has expired.</p>			 <p><b>CREATIVE COMMONS ZERO</b></p> <p>You can use the work however you like without permission or attribution; the creator has released it to the public.</p>	

Key content

Programming Standards

- Code should follow agreed conventions (EG Lowercase for variable names, schemes to be followed).
- Functions used to tidy up repeated code.
- Comments explain the code clearly.
- Correct use of indentation.
- Useful identifiers (File names & Variable names)
- Code should follow agreed conventions

The use of records to store data

OCR Exam Reference Language

<pre>array people[5] people[0]="Sir Robin" people[1]="Brave" people[2]="chicken" people[3]="ran away"</pre>	Arrays will be 0 based and declared with the keyword <code>array</code> .
---	---

Python

<pre>&gt;&gt;&gt; spam = ["Sir Robin", "Brave", "chicken", "ran away"] &gt;&gt;&gt; print(spam[0]) Sir Robin</pre>	In Python we can store records using lists or dictionaries. The record "spam" has four properties that can be indexed by position in the list.
--	--

Key vocab

Combinations of techniques

Inputs, variables, random integers and outputs in a function

Python

<pre>import random def findName(name):     print('Hello ' + name)     print('What is your favorite colour?')     colour = input()     if colour == 'yellow':         print('You shall pass')     else:         num = random.randint(0,99)         while num &lt; 99:             print('aaarrghhh')             num = num + 1         print('Splat, you are splatted ' + name) name = input('What is your name?') findName(name)</pre>	This example starts by importing the random set of functions that we will use to generate a random number. We then create a function called <code>findName</code> that's expects an argument called <code>name</code> . The argument is provided by the input and variable ( <code>name</code> ). The user is then asked what their favorite <code>colour</code> is and a logical test is performed where if they type yellow they get one answer and if they type anything else they get a random amount of 'aaargh' generated by the <code>random.randint</code> and this is used to print the string a random amount of times depending on whether it is less than 99 or not using a while loop. Note how nothing actually happens until the last two lines are interpreted where the input for <code>name</code> is taken and then the <code>findName</code> function is called.
--	--

<pre>import random</pre>	Here is another example where a user is prompted to make a choice. Note the use of <code>=</code>
--------------------------	---

<pre>def intro():     print('You find yourself in a room for a red and blue door')     print('On the wall it says \ "One door leads to cake the other to certain death\ ')  def choice():     door = ''     while door != '1' and door != '2':         print('Which door do you choose? (1 or 2)')         door = input()      return door  def checkDoor(chosenDoor):     print('you turn the handle and the door opens...')     print('The light in the room turns on and you see...')      niceRoom = random.randint(1,2)      if chosenDoor == str(niceRoom):         print('an empty plate, the cake was a lie!')     else:         print('a wafer thin mint...')  intro() doorNumber = choice() checkDoor(doorNumber)</pre>	in choice (not equal to). Also note how all the functions refer to each other in the correct order and separate out the process sensibly.
---	---

The use of arrays

OCR Exam Reference Language

<pre>array names[5] names[0]="Ahmad" names[1]="Ben" names[2]="Catherine" names[3]="Dana" names[4]="Elijah"  print(names[3])  array board[8,8] board[0,0]="rook"</pre>	Arrays will be 0 based and declared with the keyword <code>array</code> .  Example of a 2D array.
---	---

Python

<pre>&gt;&gt;&gt; spam = ["Sir Robin", "Brave", "chicken", "ran away"] &gt;&gt;&gt; print(spam[0]) Sir Robin</pre>	In this example we create a list called <code>spam</code> and then print the first element (0).
<pre>&gt;&gt;&gt; lol = [     [1,2,3,4]     [2,3,4,5]     [3,4,5,6]     [4,5,6,7] ]</pre>	Here we have a nested list of 3 lists of length 4.

How to use sub programs (functions and procedures)

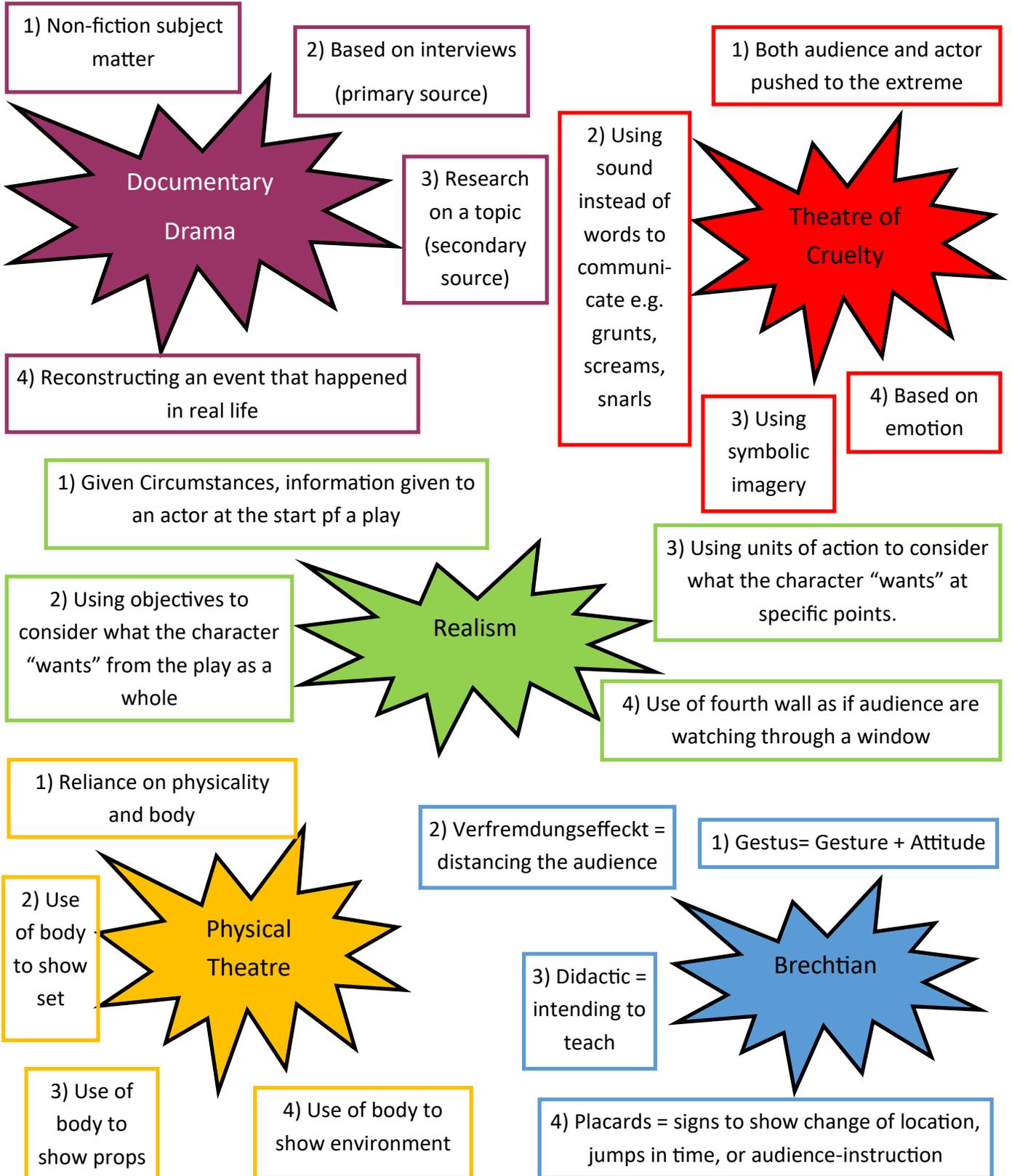
OCR Exam Reference Language

<pre>function triple(number)     cubedNumber=number*3     return cubedNumber endfunction  y= triple(7)  procedure greeting(name)     print("hello"+name) endprocedure  greeting("Gemma")</pre>	Here we define a function with a name that takes an argument ( <code>number</code> ). The calculation is then performed and the function is ended.  Here we can see the argument for the procedure called from main program to print a string including the argument.
--	---

Python

<pre>def addNum(x):     return(x+1) y = addNum(3) #call it print(y) #print it</pre>	A function is like a mini program within your program. In the example we define a function ( <code>addNum</code> ) and it takes an argument, 3 in the example and then assigns that to a variable and then prints it  You can then call the function to carry out its function. See the 'Combinations of techniques' section below to see more functions with other techniques within them.
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1. To know and understand the theatrical conventions of various styles and genres within drama (AO3)
2. To know and understand the effect of practical performance skills (AO3)
3. To have demonstrated the theatrical conventions of various styles and genres within drama (AO2)
4. To have demonstrated the effect of practical performance skills (AO1)
5. Analyse and evaluate their own work and the work of others (AO4)



Year 10 Drama

**KEY WORDS**

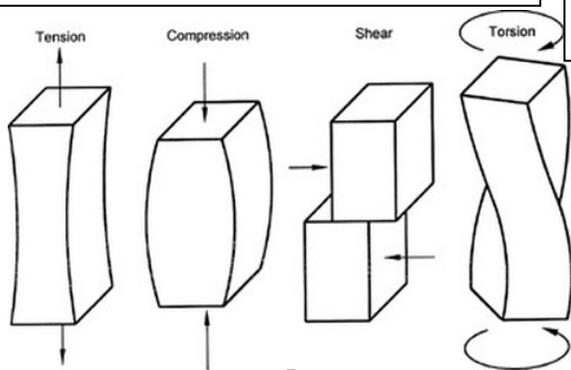
**Tension** this is a pulling force that causes an object to be stretched or pulled apart.

**Compression** this is a pushing force that squeeze and object. An example might be when you stand on a drinks can and squash it.

**Shear** this force acts across a material. The shear force cuts the object by pushing it sideways in opposite directions.

**Bending** this is the forces that act on an object to make it bend. This is usually a mixture of a number of forces acting at once.

**Torsion** this is a twisting force that is applied to an object. Twisting off the top of a bottle.



**Enhancing Materials**

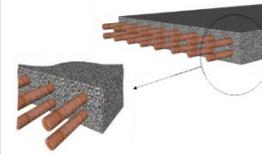
Many materials can be enhanced to resist and work with forces and stresses to improve functionality.

Ropes are design to withstand tensile strength and are normally made from any long stringy fibrous material. Linen, cotton and synthetic fibres like nylon or polypropylene make very good ropes.

Concrete is a material that is very good at resisting compressive forces. However it is not good at resisting tension. Concrete is normally reinforced with steel bars which are embedded into it before it sets. This allows concrete to be used on buildings and bridges that need both resistance to high compressive and tensile forces.

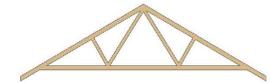
Fabrics can be woven to give it greater tensile strength such as car seat belts.

Timber can be stiffened by the process of laminating. Thin layers, or 'plies; of timber which are glued together to shape and stiffen the material.

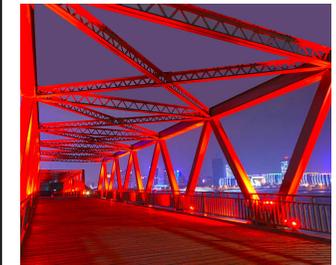


**Triangulation**

This is a technique that engineers use to reinforce structures. Triangles are very strong shapes so if you can use them within a structure you can create a very strong shape.



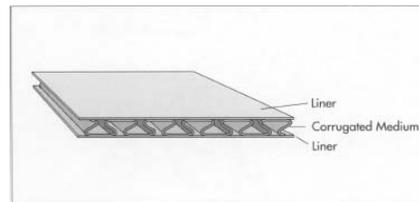
**Roof Truss**



**Bridge Truss**

**Corrugated card**

Is a good material as it has a good strength-to-weight ratio. It is also relatively environmentally friendly. Used for packaging and some furniture making.



**KEY POINTS**

- There are five main types of forces that can act upon any object or structure: Tension, compression, shear, bending and torsion.
- Some materials are better at resisting certain forces.
- Materials can be reinforced and stiffened in order to resist certain forces

The Tragedy of  
**MACBETH**  
By WILLIAM SHAKESPEARE

Plot Summary		
<b>Act 1</b>	 	The play opens with three ' <b>wyrd sisters</b> ' ( <b>witches</b> ) on a moor. We then hear that a soldier named <b>Macbeth</b> bravely fought in a battle to defend Scotland. Macbeth, with another general named <b>Banquo</b> , meets the three witches. They tell Macbeth he will be promoted to be Thane of Cawdor and then King of Scotland and tell Banquo that his descendants will be kings. Soon after, <b>King Duncan</b> names Macbeth Thane of Cawdor as a reward for his success. The King plans to visit Macbeth's castle. <b>Lady Macbeth</b> receives news from her husband about the prophecy. She vows to help him become king.
<b>Act 2</b>	 	Macbeth returns to his castle. Lady Macbeth persuades him to seize the crown. They plot together to murder King Duncan, who arrives shortly after. When everyone is asleep, Lady Macbeth gives the guards drugged wine so Macbeth can kill Duncan. Macbeth regrets it immediately. Lady Macbeth returns the bloody daggers to Duncan's room before <b>Macduff</b> arrives. When Macduff discovers the murder, Duncan's sons - <b>Malcolm</b> and <b>Donalbain</b> - flee, fearing for their own lives. They are blamed.
<b>Act 3</b>		Macbeth becomes King of Scotland but is plagued by insecurity and paranoia. He remembers the prophecy that Banquo's descendants will be kings and arranges for Banquo and his son <b>Fleance</b> to be killed. Banquo is murdered, but his son escapes. At a banquet that night, Macbeth sees the ghost of Banquo and worries everyone with his strange behaviour.
<b>Act 4</b>	 	Macbeth visits the witches. They make three more prophecies: <ol style="list-style-type: none"> <li>1. Macbeth will be safe until Birnam Wood marches to Dunsinane.</li> <li>2. No man born of a woman will harm Macbeth.</li> <li>3. Macbeth should beware Macduff.</li> </ol> Macbeth becomes tyrannical, slaughtering anyone who threatens him, including Macduff's family. Macduff has already gone to seek Malcolm in England. Malcolm is unsure but Macduff persuades him to lead an army against Macbeth.
<b>Act 5</b>	 	Macbeth feels safe in his castle at Dunsinane until he is told that Birnam Wood is moving towards him. Malcolm's army is carrying branches from the forest as camouflage. Meanwhile, Lady Macbeth feels so guilty that she sleepwalks, trying to wash imagined blood off her hands, before committing suicide. In the middle of battle, Macduff challenges Macbeth. Macbeth learns Macduff was born by caesarean and realises he is doomed. Macduff kills Macbeth and brings his head to Malcolm. Malcolm declares peace and is crowned King of Scotland.

Themes	
<b>Ambition</b>	Macbeth is unable to resist the power of his ambition. It is his <b>hamartia</b> . Lady Macbeth is also ambitious. Both characters commit <b>treason</b> to fulfil their ambitions – ultimately leading to their downfalls.
<b>Appearance and reality</b>	Shakespeare introduces this theme when the witches chant 'Fair is foul and foul is fair' in the first scene. This is a play where appearances cannot be trusted. What might appear good, often turns out to be evil.
<b>Power</b>	The play is filled with power struggles. Lady Macbeth and the witches have the power to <b>manipulate</b> Macbeth. Shakespeare also questions if fate is more powerful than free will, through the prophecies. The power of God cannot be ignored as it seems Macbeth and Lady Macbeth are punished for committing <b>regicide</b> (a sin against God).
<b>Chaos and Disorder</b>	At the beginning of the play, everything is in order. However, when Duncan is murdered, the natural order is upset. From that point, there is chaos and disorder. This is shown through the disturbed mental states of Macbeth and Lady Macbeth, the unhappy state of Scotland and even the weather.
<b>Guilt</b>	Macbeth and Lady Macbeth are plagued by guilt after killing Duncan. Their guilt drives them each mad, in different ways. In the play the <b>motif</b> of blood represents guilt.

Key Vocabulary	
tragedy	A play which deals with the downfall of a character and ends unhappily.
hamartia	The fatal flaw of a tragic hero
ambition	A strong desire to achieve something.
tyrant	A cruel and oppressive ruler.
treason	The crime of betraying one's country, especially by trying to get rid of an existing ruler
regicide	Killing the monarch (king or queen)
Machiavellian	Cunning, scheming and showing no moral principles – especially plotting to gain power
pathos	Something which makes an audience feel pity and fear
catharsis	The process of releasing strong emotions
soliloquy	Lines spoken by a character on stage directly to the audience

Quotations to Learn			
"Fair is foul and foul is fair" <i>(The Witches)</i>	"A little water clears us of this deed" <i>(Lady Macbeth)</i>	"I am in blood, stepped in so far" <i>(Macbeth)</i>	"come you spirits, unsex me here" <i>(Lady Macbeth)</i>
"Look like th' innocent flower, But be the serpent under it" <i>(Lady Macbeth)</i>	"Would all great Neptune's ocean wash this blood from my hands?" <i>(Macbeth)</i>	"I have no spur to prick the sides of my intent, Only vaulting ambition" <i>(Macbeth)</i>	"This dead butcher and his fiend-like queen" <i>(Malcolm)</i>
"So foul and fair a day I have not seen" <i>(Macbeth)</i>	"Out, damned spot" <i>(Lady Macbeth)</i>	"Unseam'd him from the nave to the chaps" <i>(Messenger – about Macbeth)</i>	"Macbeth has murdered sleep" <i>(Macbeth)</i>

# Food choice



**Food choice**  
Food choices for a balanced diet depend on many factors, such as:

- advertising and other point of sale information;
- cost and economic considerations;
- cultural or religious practices;
- environmental and ethical considerations;
- food availability;
- food preferences;
- food provenance;
- health concerns;
- individual energy and nutrient needs;
- portion size;
- social considerations.

**Consumer information**  
Information can help consumers make informed choices, including:

- advertising and marketing;
- media, online blogs/forums;
- packaging, nutrition and health claims;
- point of purchase information and product placement;
- recipe ideas.

**Cost and economic considerations**  
The cost of food and money available will influence people's food choices. If money is limited, people may choose to buy more basic items. Luxury items might then be selected for special occasions.

**Food prices**  
Food prices can and do change throughout the year and over time. This may be due to a variety of reasons, including:

- climate and weather patterns;
- crop failure;
- crop disease;
- seasonality;
- consumer demand;
- agricultural costs increase;
- fuel prices go up;
- increased use of bio fuels.

**Budgeting**  
There are many things that we can do to spend money wisely on food. Examples can include:

- eating the seasons;
- stocking up on food with a long shelf-life;
- taking time to plan meals and write a shopping list;
- cooking using one pot;
- making fake-aways rather than buying takeaways;
- using leftovers;
- replacing branded items with cheaper items;
- comparing prices and shop around to find the cheapest items;
- growing your own food.

**Cultural or religious practices**  
People around the world choose to eat or avoid certain food due to their cultural or religious practices.

Religion	Pork	Beef	Lamb	Chicken	Fish
Islam	x	Halal only	Halal only	Halal only	✓
Hinduism	x	x	✓	✓	✓
Judaism	x	Kosher only	Kosher only	Kosher only	✓
Sikhism	x	x	✓	✓	✓
Buddhism (strict)	x	x	x	x	x
Seventh-day Adventist Church	x	x	x	✓	✓
Rastafari movement	x	x	x	x	x

**Environmental and ethical considerations**  
Some considerations when buying food might be:

- fair trade;
- local food;
- genetically modified (GM) food;
- organic food;
- free range.

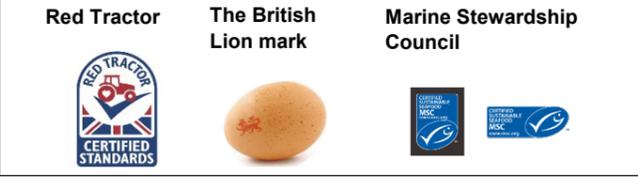
**Food availability**  
Buying food when it is in season will often mean that the price is lower. Technology and the importation of food has allowed food to be available all year round.

To find out more, go to: <https://bit.ly/3dpC9Fj>  
<https://www.foodafactoflife.org.uk/14-16-years/consumer-awareness/> - Food a Fact of Life

**Personal preferences**  
A number of factors can influence personal preferences, including:

- colour, size and shape of crockery and cutlery used;
- portion size;
- serving style;
- taste, aroma, texture, appearance, shape and colour of food.

**Food provenance**  
Food provenance is about where food is grown, caught or reared, and how it was produced. Food certification and assurance schemes guarantee defined standards of food safety or animal welfare. There are many in the UK, including:



**Health concerns**  
People may choose their food based on their own or their family's health and wellbeing:

- allergy and intolerance, e.g. lactose intolerance, coeliac disease, wheat allergy, dairy allergy;
- body image;
- health issues, e.g. coronary heart disease, type 2 diabetes, inflammatory bowel disease, over or under malnutrition;
- mental health.

**Individual energy and nutrient needs**  
The amount of energy and nutrients needed differs between different age groups and between males and females. Energy needs also depend on activity levels. For example, athletes will have much higher energy requirements due to their high level of physical activity.

- Tasks**
1. Consider your own household and create a mind map of the social and economic considerations that affect your food choice. Explain how different this might be to your grandparents at your age.
  2. Explain why food provenance is important to some consumers. Include examples of UK food certification and assurance schemes.
  3. Looking at the food logos above, create a Mind Map of information to fully explain each one and how this impacts our food choice.
  4. Explain in detail how religion impacts food production.
  5. Explain why you think food prices are rising.

**Key terms**  
**Advertising:** Advertising is a form of communication for marketing and used to encourage, persuade, or manipulate an audience to continue or take some new action.  
**Ethical:** Relating to personal beliefs about what is morally right and wrong.  
**Food certification and assurance schemes:** Defined standards of food safety, quality or animal welfare.  
**Food provenance:** Knowing where food was grown, caught or reared and how it was produced.  
**Marketing:** Promoting and selling products or services, including market research and advertising.  
**Religion:** A particular system of faith and worship.  
**Seasonal food:** Food grown at a particular time of year.

**Portion size**  
Having a healthy, balanced diet is about getting the right types of foods and drinks in the right amounts.



**Social considerations**

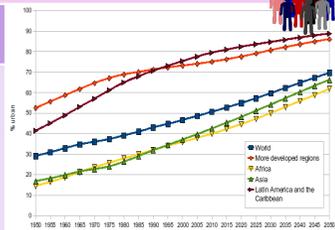
- Body image and peer pressure.
- Development of ready meals and a wider range of convenience foods.
- Development of labour saving devices.
- Lack of competence and confidence in the kitchen.
- Lack of time.
- Living arrangement (e.g. living alone).

## What is Urbanisation?

This is an increase in the amount of people living in urban areas such as towns or cities. In 2007, the UN announced that for the first time, more than 50 % of the world's population live in urban areas.

### Where is Urbanisation happening?

Urbanisation is happening all over the world but in LICs and NEEs rates are much faster than HICs. This is mostly because of the rapid economic growth they are experiencing.



## Causes of Urbanisation

### Rural - urban migration (1)

The movement of people from rural to urban areas.



#### Push

- Natural disasters
- War and Conflict
- Mechanisation
  - Drought
- Lack of employment



#### Pull

- More Jobs
- Better education & healthcare
- Increased quality of life.
- Following family members.

### Natural Increase (2)

When the birth rate exceeds the death rate.

#### Increase in birth rate (BR)

- High percentage of population are child-bearing age which leads to high fertility rate.
- Lack of contraception or education about family planning.

#### Lower death rate (DR)

- Higher life expectancy due to better living conditions and diet.
- Improved medical facilities helps lower infant mortality rate.

## Types of Cities

### Megacity

An urban area with over 10 million people living there.



More than two thirds of current megacities are located in either NEEs (Brazil) and LICs (Nigeria). The amount of megacities are predicted to increase from 28 to 41 by 2030.

## Sustainable Urban Living

Sustainable urban living means being able to live in cities in ways that do not pollute the environment and using resources in ways that ensure future generations also can use them.

### Water Conservation

This is about reducing the amount of water used.

- Collecting rainwater for gardens and flushing toilets.
- Installing water meters and toilets that flush less water.
- Educating people on using less water.

### Energy Conservation

Using less fossil fuels can reduce the rate of climate change.

- Promoting renewable energy sources.
- Making homes more energy efficient.
- Encouraging people to use energy.

### Creating Green Space

Creating green spaces in urban areas can improve places for people who want to live there.

- Provide natural cooler areas for people to relax in.
- Encourages people to exercise.
- Reduces the risk of flooding from surface runoff.

### Waste Recycling

More recycling means fewer resources are used. Less waste reduces the amount that eventually goes to landfill.

- Collection of household waste.
- More local recycling facilities.
- Greater awareness of the benefits in recycling.

## Unit 2a



# Urban Issues & Challenges

## Sustainable Urban Living Example: Freiburg

### Background & Location

Freiburg is in west Germany. The city has a population of about 220,000. In 1970 it set the goal of focusing on social, economic and environmental sustainability.



### Sustainable Strategies

- The city's waste water allows for rainwater to be retained.
- The use of sustainable energy such as solar and wind is becoming more important.
- 40% of the city is forested with many open spaces for recreation, clean air and reducing flood risk.

## Integrated Transport System

This is the linking of different forms of public and private transport within a city and the surrounding area.

## Brownfield Site

Brownfield sites is an area of land or premises that has been previously used, but has subsequently become vacant, derelict or contaminated.

## Traffic Management

Urban areas are busy places with many people travelling by different modes of transport. This has caused urban areas to experience different traffic congestion that can lead to various problems.

### Environmental problems

- Traffic increases air pollution which releases greenhouse gases that is leading to climate change.

### Economic problems

- Congestion can make people late for work and business deliveries take longer. This can cause companies to loose money.

### Social Problems

- There is a greater risk of accidents and congestion is a cause of frustration. Traffic can also lead to health issues for pedestrians.

## Congestion Solutions

- Widen roads to allow more traffic to flow easily.
- Build ring roads and bypasses to keep through traffic out of city centres.
- Introduce park and ride schemes to reduce car use.
- Encourage car-sharing schemes in work places.
- Have public transport, cycle lanes & cycle hire schemes.
- Having congestion charges discourages drivers from entering the busy city centres.

## Traffic Management Example: Bristol

In 2012 Bristol was the most congested city in the UK. Now the city aims to develop it's integrated transport system to encourage more people to use the public transport. The city has also invested in cycle routes and hiring schemes.

## Greenbelt Area

This is a zone of land surrounding a city where new building is strictly controlled to try to prevent cities growing too much and too fast.

## Urban Regeneration

The investment in the revival of old, urban areas by either improving what is there or clearing it away and rebuilding.

**Urban Change in a Major UK City: London Case Study**



Location and Background	City's Importance
<ul style="list-style-type: none"> <li>A population of 8.8 million</li> <li>Located in the SE along the River Thames</li> </ul> 	<ul style="list-style-type: none"> <li>London is classed as a world city, coming second to New York</li> <li>The London Stock exchange is a leader of the global markets.</li> <li>Many TNCs have their headquarters in London e.g HSBC</li> <li>It is an important cultural centre with many leading museums and gallery e.g The Tate Modern</li> </ul>

**Migration to London**      **City's Opportunities**

<p>During the industrial revolution, the population dramatically increased with people migrating from nearby rural communities. With the attraction of working in the large docks along the river Thames, international migrants from Ireland, Pakistan and the Caribbean came to work in London from 1900-1960. Nearly 40% of the population was born overseas. More recently, refugees have arrived from Syria and Iraq. Also London has attracted thousands of students from the UK &amp; abroad.</p> 	<p><b>Social:</b> London has various cultural attractions such as the Lyceum theatre &amp; museums. Oxford street is very popular with shoppers.</p> <p><b>Economic:</b> London wages are above the national average. Major employers such as HSBC have their headquarters there. The financial sector is particularly important</p> <p><b>Environmental:</b> London is the 5<sup>th</sup> most sustainable city in the world. The congestion charge aims to reduce pollution</p>
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**City Challenges in Southwark, London**      **The Regeneration of the Aylesbury Estate**

<p><b>Social:</b> 13% have no qualifications (London average 12%). 41% of children are in one parent households and child poverty is a key issue in Southwark.</p> <p><b>Economic:</b> 8.7% of people are unemployed (UK 4%) 22% of the population received low pay. Heavy industry has left the area due to deindustrialisation.</p> <p><b>Environmental:</b> inner city flats are run down, an Economist article states that the old estate is polluted and stinks of vomit and urine</p>	<ul style="list-style-type: none"> <li>L and Q housing association funded a £300 million regeneration scheme</li> <li>Flats were knocked down and rebuilt</li> <li>Two parks and a public square were part of the design</li> <li>1400 local people were employed by the project</li> <li>3500 new homes built</li> <li>State of the art medical centre</li> <li>All flats have A rated white goods</li> <li>A mix of social and private housing</li> <li>CCTV and security key fobs used</li> </ul>
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**Urban Change in a Major NEE City: RIO DE JANEIRO Case Study**



Location and Background	City's Importance
<p>Rio is a coastal city situated in the South East region of Brazil within the continent of South America. It is the second most populated city in the country (6.5 million) after Sao Paulo.</p> 	<ul style="list-style-type: none"> <li>Has the second largest GDP in Brazil It is headquarters to many of Brazil's main companies, particularly with Oil and Gas.</li> <li>Sugar Loaf mountain is one of the seven wonders of the world.</li> <li>One of the most visited places in the Southern Hemisphere.</li> <li>Hosted the 2014 World Cup and 2016 Summer Olympics.</li> </ul>

**Migration to Rio De Janeiro**      **City's Opportunities**

<p>The city began when Portuguese settlers with slaves arrived in 1502. Since then, Rio has become home to various ethnic groups.</p> <p>However, more recently, millions of people have migrated from rural areas that have suffered from drought, lack of services and unemployment to Rio. People do this to search for a better quality of life.</p> <p>This expanding population has resulted in the rapid urbanisation of Rio de Janeiro.</p> 	<p><b>Social:</b> Standards of living are gradually improving. The Rio Carnival is an important cultural event for traditional dancing and music.</p> <p><b>Economic:</b> Rio has one of the highest incomes per person in the country. The city has various types of employment including oil, retail and manufacturing. (15000 employed in Nissan</p> <p><b>Environmental:</b> The hosting of the major sporting events encouraged more investment in sewage works and public transport systems.</p>
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**City Challenges**      **Self-help schemes - Rocinha, Bairro Project**

<p><b>Social:</b> There is a severe shortage of housing, schools and healthcare centres available. Large scale social inequality, is creating tensions between the rich and poor.</p> <p><b>Economic:</b> The rise of informal jobs with low pay and no tax contributions. There is high employment in shanty towns called Favelas</p> <p><b>Environmental:</b> Shanty towns called Favelas are established around the city, typically on unfavourable land, such as hills.</p>	<ul style="list-style-type: none"> <li>The authorities have provided basic materials to improve peoples homes with safe electricity and sewage pipes.</li> <li>Government has demolished houses and created new estates.</li> <li>Community policing has been established, along with a tougher stance on gangs with military backed police.</li> <li>Greater investment in new road and rail network to reduce pollution and increase connections between rich and poor areas.</li> </ul>
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# THE VIETNAM WAR KNOWLEDGE ORGANISER

## Overview

The Vietnam War, also known as the Second Indochina War, was a conflict that took place in Vietnam, Laos, and Cambodia between 1st November 1955 and 30<sup>th</sup> April 1975.

It was officially fought between North Vietnam and the government of South Vietnam. However North Vietnam was supported by the Soviet Union, China, and other communist nations, whilst South Vietnam was aided by the United States, South Korea, and other anti-communist allies.

The war resulted in Vietnam, Laos and Cambodia all becoming communist countries by 1975.



The Geneva Accords had previously established North and South Vietnam the 17<sup>th</sup> parallel as the dividing line.

Both sides, assisted by their allies, fought with the aim of unifying Vietnam in accord with their own political ideals.

The Vietnam War is considered a proxy war of the Cold War. Although the USA and USSR did not directly go to war, they each supported a different side.

## Main Combatants



NORTH VIETNAM



SOVIET UNION



SOUTH VIETNAM



SOUTH KOREA



VIET CONG



CHINA



UNITED STATES



KINGDOM OF LAOS

## Key People

**Ho Chi Minh** – (1890-1969) was a Vietnamese Communist revolutionary leader who was President of the Democratic Republic of Vietnam (North Vietnam) between 1945 and 1969. He led the Viet Minh independence movement from 1941 onwards, establishing the Democratic Republic of Vietnam, before defeating the French Union in 1954. Knowing that Minh would likely win the elections (resulting from the Geneva Accord) to unify Vietnam, the south refused to participate, triggering the events leading to the war. Minh died in 1969 after several health problems. After the war, Saigon was renamed as Ho Chi Minh City.



**Ngo Dinh Diem** – (1901-1963) was a strongly anti-communist Vietnamese politician, who refused to ally with Ho Chi Minh after the defeat of the French imperialists. With the support of the United States government, Diem led the South Vietnamese government between 1954 and 1963. He refused to hold the unification elections as stipulated in the Geneva Accords, as he would have almost certainly have lost power to Ho Chi Minh. He was an unpopular leader - owing to his (minority) Catholic stance and his ruthlessness - which contributed to the rise of the Viet Cong. Diem was executed by his own generals in November 1963.



**Vo Nguyen Giap** – (1912-2013) was a Vietnamese military commander who is particularly known for his leading role in liberating Vietnam from French colonial rule, and for leading the armies of north Vietnam against the south and their allies. After the Fall of Saigon, he served as Vietnam's Minister of Defence and Deputy Prime Minister. Some of his most notable battles include the crushing of the French colonial forces at Dien Bien Phu, The 1972 Easter Offensive (gaining considerable territory) and the final Ho Chi Minh campaign - leading to the Fall of Saigon.



**Dwight D. Eisenhower** – (1890-1969) Eisenhower was a popular American President, who served between 1953 and 1961. Prior to becoming President, he had been a military man, who led the D-Day invasions in France in World War II. In February 1954, he refused to commit American troops to aiding France in Vietnam, instead authorizing military aid such as training the Vietnamese troops. After France surrendered to the Viet Minh, the Eisenhower administration provided aid to Ngo Dinh Diem's anti-communist regime, as he attempted to secure power in Saigon.



**John F. Kennedy** – (1917-1963) John F. Kennedy (often known as JFK) was the 35<sup>th</sup> President of the United States. During his years as President, JFK tripled American military and economic aid to South Vietnam, however he only marginally increased the number of US troops physically sent to the region. In return, he requested that the Diem government liberalised their regime, in order to win more popular approval. Many have suggested that if Kennedy not been assassinated in November 1963, he would have pulled US troops out of Vietnam subsequent to the 1964 elections.



**Lyndon B. Johnson** – (1908-1973) Lyndon B. Johnson assumed the White House office after the assassination of John F. Kennedy - he had previously been JFK's Vice President. He inherited the escalating crisis in Vietnam, and sought to bring a swift end to American involvement. He increased US forces in an attempt to quickly win the war before withdrawing troops. However, North Vietnam and the Viet Cong proved far more resolute than foreseen, leading to increasing American deaths and Johnson's plummeting approval rating. He did not seek re-election.



## Major Events

Event	Image	Description	Date/s	Fact
<b>Battle of Dien Bien Phu</b>		The Battle of Dien Bien Phu signalled the climax of the First Indochina War, in which the Viet Minh communist revolutionary nationalists comprehensively defeated forces from Imperial France. Led by General Vo Nguyen Giap, the Vietnamese forces surrounded and besieged the French, using the mountainous terrain to their advantage. The Battle was over within 2 months.	13 <sup>th</sup> March – 7 <sup>th</sup> May 1954	Powerless against the Vietnamese, the French commander, Charles Piroth, committed suicide.
<b>Geneva Accords</b>		The Geneva Accords served to temporarily split Vietnam along the 17 <sup>th</sup> parallel, with North Vietnam being governed by Ho Chi Minh's rebels, and South Vietnam governed by the state of Vietnam. General elections were agreed, to be held by July 1956, to unify the country.	26 <sup>th</sup> April – July 20 <sup>th</sup> 1954	Despite helping to create the pacts, neither south Vietnam nor USA signed them.
<b>Ho Chi Minh Trail</b>		The Ho Chi Minh trail was a logistical system that provided manpower and materials from North Vietnam to the Viet Cong in South Vietnam, via Laos and Cambodia. The trail effectively supplied troops in the south - a great feat considering the bombing campaign.	From May 1959 onwards	The trail is considered one of the greatest feats of engineering of the 20 <sup>th</sup> C.
<b>Guerilla Warfare</b>		Guerilla Warfare is an unconventional form of warfare in which combatants use the element of surprise in order to gain an advantage over the opponent. The Viet Cong, more familiar and adapted to the terrain and climate of the vast forests, were able to use this understanding to their advantage. The forests were a perfect environment for them to camouflage themselves, and their anonymity also allowed them to pose as farmers and citizens, before attacking. Attacks were often quick and precise, with before they escaped amongst the forest, evading capture.	Throughout the war (although particularly in the early parts).	The Viet Cong were skilled in scavenging American mines and arms, in order to create their own bombs and booby traps.
<b>The use of Agent Orange</b>		Frustrated with the covert tactics of the Viet Cong amongst the forests of Vietnam, the USA began to drop defoliants to strip vegetation - Agent Orange was principal amongst these. It also starved the Viet Cong of food and left many veterans with horrific scarring.	From 12 <sup>th</sup> January 1962 onwards	The chemical, a carcinogen, caused cancer to thousands involved.
<b>Operation Rolling Thunder</b>		This was the title given to a gradual, sustained aerial bombardment campaign conducted by the US and South Vietnam air forces against North Vietnam. It was the most difficult air campaign the US faced since WWII.	2 <sup>nd</sup> March 1965 - 2 <sup>nd</sup> Nov 1968	Foreign aid made the NV air defences extremely tough.
<b>Tet Offensive</b>		The Tet Offensive was one of the largest military attacks of the war. It was a campaign of surprise attacks against military and civilian control centres across South Vietnam. Although South Vietnam recovered, the Offensive turned the tide of opinion against the war in the US.	30 <sup>th</sup> January- 23 <sup>rd</sup> September 1968	More than 80,000 troops struck more than 100 targets.
<b>American Withdrawal</b>		Extensive casualties and the involvement of US soldiers in war crimes created discord amongst Americans in relation to the war effort. As protests mounted, the US signed the Paris Peace Treaty and removed all forces from Vietnam.	12 <sup>th</sup> February 1972 onwards	North Vietnam violated the ceasefire almost immediately.
<b>Easter Offensive</b>		The Easter Offensive was a major North Vietnamese campaign that aimed to gain as much territory and destroy as many units as possible, in order to gain the best negotiating position in the Paris Peace Accords. The size of the offensive caught the opposition off guard.	30 <sup>th</sup> March – 22 <sup>nd</sup> October 1972	The attack took place on 3 fronts, using the bulk of the N. Vietnam army.
<b>Fall of Saigon</b>		The Fall of Saigon was the capture of the Southern Vietnamese capital, Saigon, by the People's Army of Vietnam (North Vietnam) and the Viet Cong. The event marked the end of the Vietnam War, and the start of the Vietnamese reunification process. Led by General Nguyen Van Toan, the PAVN launched a heavy bombardment on 29 <sup>th</sup> April, and by the afternoon of the next day had raised their flag over the Presidential Palace.	30 <sup>th</sup> April 1975	After the Fall of Saigon, the city was renamed Ho Chi Minh city, after the late north Vietnamese President.

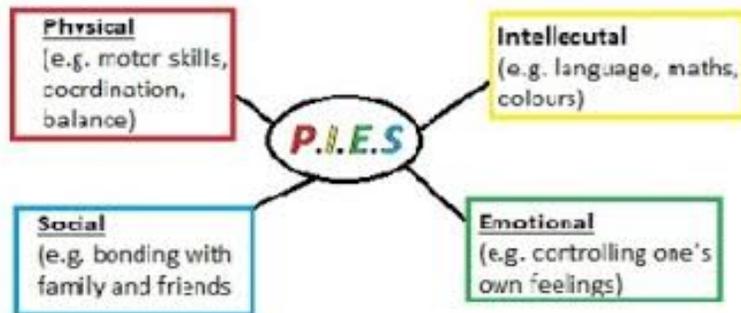
## Timeline of Major Events

May 1954 – French are defeated by Viet Minh forces – the end of colonial rule.      July 1954 – Geneva Accords split Vietnam into north and south, along 17<sup>th</sup> parallel.      November 1955 – The Vietnam War officially begins between the north and south armies.      May 1959 – North fund guerilla attacks against the south, through Ho Chi Minh trail.      December 1961 – US military advisors begin to take a direct role in the war.      August 1964 – The Gulf of Tonkin resolution allows US troops to use armed force in the area.      March 1965 – The first US combat troops arrive. Operation Rolling Thunder begins.      January 1968 – North Vietnam launches the Tet Offensive, attacking around 100 South Vietnamese cities.      July 1969 – Nixon begins the withdrawal of US troops.      March 1972 – North Vietnam attack across the border in the Easter Offensive.      30<sup>th</sup> April 1975 – The Fall of Saigon.

## Health and Social Care

### Key content physical development

	Development of the body and Physical appearance	Gross and fine motor development
Childhood	Body grows taller and gains weight. Muscles and bones become stronger. Strength and muscle coordination improves rapidly. Children lose baby teeth replaced with adult teeth. They look taller and slimmer. Facial features look more adult	Both GMS & FMS develop rapidly. By 5 most children can hop, skip, jump, stand on one foot. They can throw and catch a ball. FMS skills develop allowing clearer handwriting and detailed artwork.
Adolescence	May have acne, have a growth spurt, develop arm pit and pubic hair. Girls hips widen, menstruation begins and breasts develop. Boys develop Facial and chest hair, ability to ejaculate, broader shoulders, deeper voice and enlargement of the penis, scrotum and testes. They begin to look like adults	By the age of 10 most children have developed their fine and gross motor skills, by may develop them further by practice e.g. playing sport.
Adulthood	They have reached full height and stopped growing. During this stage they may experience symptoms of aging e.g. grey hair, wrinkles, long sightedness. They may experience illness such as heart disease and cancer. Women go through the menopause (45-55 years usually), posture may slump	As people age they may have difficulty with FMS due to arthritis, muscle strength decreases and reactions become slower.



## R025 Understanding life changes

### Key vocab

Word	Definition
<b>Childhood</b>	Age 5-10 years
<b>Adolescence</b>	Age 10-18 years.
<b>Adulthood</b>	Age 18-65 years
<b>Puberty</b>	The process of physical change through which a child's body matures into an adult body capable of sexual reproduction
<b>Peer group</b>	A group of people (usually of a similar age, social status, background) with whom a person associates, and who are likely to influence their behaviour.
<b>Gross motor skills</b>	The larger movements of arms, legs, feet, or the entire body. (for walking, running, skipping and jumping)
<b>Fine motor skills</b>	Smaller actions, such as grasping an object between thumb and finger when holding a pencil. Include manipulation of objects and hand eye coordination.
<b>Arthritis</b>	Disorder leading to knuckles and joints swelling causing pain
<b>Menopause</b>	Usually occurs in women between 45-55. Their periods stop and they are unable to have children

More info can be found here:

<https://www.nhs.uk/live-well/sexual-health/stages-of-puberty-what-happens-to-boys-and-girls/>

<https://www.nhs.uk/conditions/menopause/>

<https://www.ageuk.org.uk/information-advice/health-wellbeing/conditions-illnesses/>

# GCSE Media Studies – Knowledge Organiser - REPRESENTATION

Key Words/Terminology	Relevant Close Study Products	Relevant Theories
<p><b>Archetype:</b> an often- repeated character type or representation which is instantly recognisable to an audience</p> <p><b>Composition:</b> the arrangement fee of visual elements within the frame, for clarity, balance or aesthetic judgement.</p> <p><b>Countertype</b> - a positive stereotype, or a stereotype that was created to cancel out/counteract a negative stereotype.</p> <p><b>Dominant Ideology:</b> the belief system that serves the interests of the dominant ruling elite within a society, generally accepted as common sense by the majority and reproduced in mainstream media texts.</p> <p><b>Gender:</b> psychological and cultural aspects of behaviour associated with masculinity and femininity.</p> <p><b>Hegemony</b> - in the writings of Gramsci, hegemony refers to the dominance of one social class over others.</p> <p><b>Ideology:</b> <i>key concept</i> of a set of <i>attitudes, beliefs and values</i> held in common by a group of people and culturally reproduced within that community to sustain its particular way of life.</p> <p><b>Mediation:</b> the means by which, through the use of representation, a media organisation and its employees stand between an event and the public's perception of that event.</p> <p><b>Pastiche:</b> a media text made up of pieces from other texts or of imitations of other styles.</p> <p><b>Patriarchy:</b> male domination of the political, cultural and socioeconomic system.</p> <p><b>Racism:</b> practices and behaviour involving social and economic discrimination, based on the false assumption that one particular ethnic group or race is culturally and biologically inferior to another.</p> <p><b>Realism:</b> a film and television style that attempts to represent the real world.</p> <p><b>Representation:</b> <i>key concept</i> of the process whereby the media construct versions of people, places and events in images, words or sound for transmission through media texts to an audience.</p> <p><b>Sexism:</b> representations that discriminate on the basis of sex, especially against women, which is seen to derive from an sustain <i>patriarchy</i>.</p> <p><b>Social Realism:</b> the representation of characters and issues in film and television drama in such a way as to race serious underlying social and political issues.</p> <p><b>Stereotype:</b> the social classification of a group of people by identifying common characteristics and universally applying them in an often oversimplified and generalised way, such that the classification represents value judgements and assumptions about the group concerned.</p> <p><b>Transgressive:</b> a practice which transcends conventional approaches and either subverts these existing ways of working or challenges their value.</p> <p><b>Verisimilitude:</b> seeming to be like or to be connected to the real.</p>	<p><b><i>The following CSPs may test your knowledge of media representation in the exam(s):</i></b></p> <p><b><u>TV PROGRAMS:</u></b>  <b>Doctor Who – An Unearthly Child (1963)</b>  <i>The first instalment of the TV program Doctor Who.</i>  <b>His Dark Materials – City of Magpies (2019)</b>                      available on demand.</p> <p><b><u>ONLINE, SOCIAL AND PARTICIPATORY:</u></b>  <b>Marcus Rashford.</b>  <b>Kim Kardashian: Hollywood</b>                      Video game aimed at obtaining celebrity status.  <b>Lara Croft Go (2015)</b>                      Turn based video game based on the Tomb Raider franchise.</p> <p><b><u>NEWSPAPERS:</u></b>  <b>Daily Mail</b>                      Popular daily British tabloid newspaper.  <b>The Times</b>                      Popular daily British broadsheet newspaper.</p> <p><b><u>ADVERTISING AND MARKETING:</u></b>  <b>Audrey Hepburn – Galaxy TV Advert</b>                      A chocolate bar advert featuring Audrey Hepburn.  <b>NHS Represent – Lady Leshurr</b>                      An advert requesting that members of the BAME community give blood.  <b>OMO (1955)</b>                      An advert for washing powder produced in 1955.</p> <p><b><u>MAGAZINES:</u></b>  <b>Tatler Magazine</b>                      A high-end magazine targeted at the upper classes.  <b>Reveal Magazine</b>                      A daily celebrity gossip magazine targeted at the working class.</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p><b><u>MEDIA ONE (EXAM): 1 HOUR 30 MINUTES</u></b>  <b>Section A will focus on Media Language and Media Representations.</b>  <b>Questions in this section can test any two of the following forms:</b></p> <ul style="list-style-type: none"> <li>✓ magazines</li> <li>✓ advertising and marketing</li> <li>✓ newspapers</li> <li>✓ online, social and participatory media and video games.</li> </ul> <p><b><u>MEDIA TWO (EXAM): 1 HOUR 30 MINUTES</u></b>  <b>Section A will be based on a screening from an extract of one of the television Close Study Products and can test any area of the theoretical framework.</b></p> <p><b>Section B will be based on either newspapers or online, social and participatory media and video games and can test any area of the framework.</b></p> </div>	<p><b>Laura Mulvey – Virgin/Whore Dichotomy</b> - Laura Mulvey is a feminist theorist who believes that women in the media are treated as objects. She thinks there are only two main roles for women in the media and she calls this the “Virgin / Whore Dichotomy”. These are the two roles she thinks women are offered in media products:  <b>Virgin</b> – represented as innocent, weak, subservient to men, sweet, virginal, an object to be cared for etc..  <b>Whore</b> – represented as sexually promiscuous, sexually strong, provocative, a sex object etc</p> <p><b>Angela McRobbie’s Gender theories</b> - McRobbie is a feminist theorist who believes that women are manipulated by the media into believing they should act a certain way. She believes that the media try and socialise women into particular gender roles. For example, when she examined women’s magazines she found that most of the stories were about finding a boyfriend, shopping, looking beautiful etc. Men’s magazines portrayed the ideal man as being strong, powerful, aggressive, misogynistic towards women. She also believes that some women’s magazines do portray more positive role models for women. For example some articles showed women as being powerful, dominant and strong.</p> <p><b>Alvarado’s Four key Racial Themes</b> - Alvarado believes there are only 4 main roles for ethnic minorities in the media and these are:</p> <ul style="list-style-type: none"> <li>• Exotic</li> <li>• Humorous</li> <li>• Dangerous</li> <li>• Pitied</li> </ul> <p><b>Colonialist Theory</b> - Colonialism is a theory which suggests that media companies tend to represent people and places through the eyes of western people. So western people / places will be represented as more positive / strong / education / heroic / good than non-western people / places.</p> <p><b>Gauntlett – Identity Theory</b> - We have seen various ways in which identification has been perspective over the years. Stereotypes have varied a lot over the past 20/30 years. The mass media is a force for change, the traditional view of woman being has wives or low-status workers is no longer in the picture. There are now successful female power icons. Meanwhile the masculine ideals of; toughness, stubborn self-reliance, and emotional silence have been shaken by a new emphasis of; men emotions, need for advice, and problems of masculinity. Although gender categories haven't been shattered, these alternative ideas and images have at least created a space for diversity of identities.</p> <p><b>Stuart Hall’s ‘Representation theory’</b> – Stuart Hall believes that representations are constructed in one of three ways, within media texts:</p> <ol style="list-style-type: none"> <li>1. <b>Reflective representation</b> – This suggests that the representations we see in the media are reflective of real life, and have been portrayed in exactly the same way as they are in the real world.</li> <li>2. <b>Intentional representation</b> – This suggests that the representations we see in the media have been created by producers to adhere to their intentions. In order to make an audience share their opinions and values.</li> <li>3. <b>Constructional representation</b> – This is a mixture of the two, and suggests that the previous two modes are too simplistic. Here, Hall suggests that it is the audience who determine the effectiveness of representations in the media and that representations are a combination of the producers intent, the audiences interpretation and the values of the society we live in.</li> </ol>

# KNOWLEDGE ORGANISER

MADTSHIRT	BADINERIE – BACH
<p><b>Melody</b></p> <ul style="list-style-type: none"> <li>- Direction (rising or falling)</li> <li>- Type of movement (steps or leaps)</li> <li>- Range (high or low, large or small)</li> <li>- Ornaments (trills, mordents etc.)</li> <li>- Repetition (of notes, motifs or phrases, riffs)</li> <li>- devices</li> </ul>	<p>The movement is based on two short musical ideas called <u>motifs</u> (X and Y). Motif X is a descending B minor arpeggio/broken chord and motif Y is an ascending semiquaver figure consisting of both arpeggios/broken chords and conjunct movement</p> <p>The flute part has a two-octave pitch range.</p> <p>The movement includes ornaments and compositional devices typical of the Baroque era (trills, appoggiaturas &amp; sequences)</p>
<p><b>Articulation</b></p> <ul style="list-style-type: none"> <li>- Staccato (spiky) / legato (smooth)</li> <li>- Accents (suddenly loud notes)</li> <li>- Arco / Pizzicato / Tremolo (on string instruments)</li> <li>- Tongued or slurred (on wind and brass instruments)</li> </ul>	<p>Arco.</p> <p>Staccato and legato.</p> <p>Accompanying instruments (violins/viola/cello) mainly staccato.</p> <p>Mostly staccato (tongued) and legato (slurred) in parts.</p>
<p><b>Dynamics</b></p> <ul style="list-style-type: none"> <li>- Fortissimo down to pianissimo</li> <li>- Crescendo / diminuendo</li> <li>- Sforzando</li> </ul>	<p>Mostly forte, including use of <u>terraced dynamics</u> (although very few markings appear on the score, which was typical of the period).</p>
<p><b>Textures</b></p> <ul style="list-style-type: none"> <li>- Homophonic, polyphonic, melody and accompaniment, heterophonic, canon...</li> <li>- What roles are instruments/parts playing (e.g. melody, accompaniment, continuo, countermelody)</li> <li>- What relationships can you hear? (octaves, sixths, unison, call and response, contrary motion)</li> </ul>	<p>Largely homophonic (melody and accompaniment)</p> <p>The flute and the cello provide the main musical material, but the 1st violin participates occasionally.</p> <p>The 2nd violin and viola provide harmony with less busy musical lines.</p> <p>Examples of Heterophony and imitation.</p>
<p><b>Structure</b></p> <ul style="list-style-type: none"> <li>- Binary (AB – often with both sections repeated)</li> <li>- Ternary (ABA)</li> <li>- Verse-Chorus</li> </ul>	<p><u>BINARY FORM</u> (AB), with each section repeated once (AABB):</p> <p>Section A : Bars 0<sup>2</sup> – 16<sup>1</sup> (16 bars)</p> <p>Section B: Bars 16<sup>2</sup> – 40<sup>1</sup> (24 bars)</p>
<p><b>Harmony &amp; tonality</b></p> <ul style="list-style-type: none"> <li>- Consonant ('nice' intervals) / Dissonant (clashy ones)</li> <li>- Diatonic (notes from scale) / Chromatic (notes not from scale))</li> <li>- Major / Minor</li> <li>- Pentatonic</li> </ul>	<p>Section A begins in <u>B minor</u> and ends in <u>F# minor</u> whilst section B does the opposite, beginning in <u>F# minor</u> and ending in <u>B minor</u>. <i>Section A modulates from the tonic to the dominant minor and Section B does the opposite.</i></p> <p>In section A: Bm &gt; A Major &gt; F#m</p> <p>In section B: F#m &gt; Em &gt; D Maj &gt; G Maj &gt; D Maj &gt; Bm</p> <p>Diatonic throughout.</p> <p>Imperfect and perfect cadences are clearly presented throughout.</p> <p>Chords frequently occur in inversion with occasional use of V7 in third inversion.</p> <p>A Neapolitan sixth chord.</p> <p>Suspensions also occur.</p> <p>Use of pedal (harmonic device)</p> <p>Fast harmonic rhythms</p>
<p><b>Instrumentation</b></p> <p>Writing about what instruments you can hear and what they are doing</p>	<p>Flute, string orchestra and harpsichord (playing the basso continuo)</p>
<p><b>Rhythms</b></p> <p>Tempo / Duration / Upbeat (or anacrusis) / Syncopation / Dotted rhythms / Swung rhythms. / Triplets</p>	<p>STARTS WITH AN ANACRUSIS</p> <p>TEMPO: Allegro (not marked on the score)</p> <p>Mainly quavers and semi-quavers used</p>
<p><b>Time Signature</b></p> <ul style="list-style-type: none"> <li>- How many beats there are in a bar</li> <li>- Whether the beats are divided into two or three</li> </ul>	<p>TIME SIGNATURE: 2/4</p>

Pathogen	Description	Examples
Bacteria	Small cells that can reproduce very quickly in the body. They produce toxins that make you feel ill, damaging your cells and tissues.	Salmonella and gonorrhoea.
Viruses	These are much smaller than bacteria; they can also reproduce quickly in the body. Viruses live inside your cells where they replicate. They then burst out of the cell, releasing new viruses.	Measles, HIV and the tobacco mosaic virus
Protists	Some are parasites which live on or inside other organisms, often carried by a vector	Malaria
Fungi	Sometimes single celled, others have hyphae that grow and penetrate human skin and the surface of plants. They can produce spores which can spread to other plants	Rose black spot

Word	Definition
Pathogen	an organism causing disease to its host
Vector	a living organism that transmits an infectious agent from an infected animal to a human or another animal
Antibodies	a protein produced by the body's immune system when it detects harmful substances
Antigens	any substance that causes your immune system to produce antibodies against it.
Efficacy	Efficacy measures a vaccine's capacity to succeed in ideal condition
Toxicity	How toxic something is.

**Fighting diseases:**

**Defence system:**

The skin acts as a barrier to pathogens  
 Hairs and mucus in your nose trap particles  
 The trachea and bronchi secrete mucus to trap pathogens. They also have cilia which move to transport the mucus towards the throat.  
 The stomach contains hydrochloric acid to kill any pathogens that enter the body.

**Immune system:**

White blood cells produce **antitoxins** to neutralise the **toxins** and **antibodies** that lock on to **antigens** on the pathogen's surface and destroy the pathogens.

**Phagocytosis** is when the white blood cells engulf pathogens and then digest them.

**Developing Drugs**

**There are three main stages in drug testing:**

Pre-clinical testing:

1. Drugs are tested on human cells and tissues.
2. Testing carried out on living animals. Clinical testing:
3. Tested on healthy human volunteers in clinical trials. Starts with a very low dose, then tested on people with the illness to find the optimum dose.

**Placebo** is a substance that is like the drug, but does not do anything.

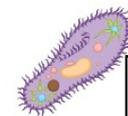
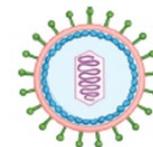
**Placebo effect** is when the patient thinks the treatment will work even though their treatment isn't doing anything.

**Blind trial** is when the patient does not know whether they are getting the drug or the placebo.

**Double-blind trial** is when both the doctor and the patient do not know whether they are getting the drug.

**Vaccinations:**

Vaccinations have been developed to protect us from future infections. A vaccination involves an injection of a **dead or weakened** version of the pathogen. They carry antigens which cause your body to produce antibodies which will attack the pathogen. If you are infected again, the white blood cells can produce antibodies quickly.



Combined science  
 HT – biology –  
 infection and  
 response

**Reactions of metals:**

**Metals with water:**

Metal + water → metal hydroxide + hydrogen

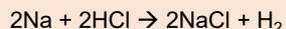
e.g. lithium + water → lithium hydroxide + hydrogen



**Metals with dilute acid:**

Metal + acid → salt + hydrogen

e.g. sodium + hydrochloric acid → sodium chloride + hydrogen



Any metal below hydrogen **does not** react with dilute acids.

**Reactions of acids:**

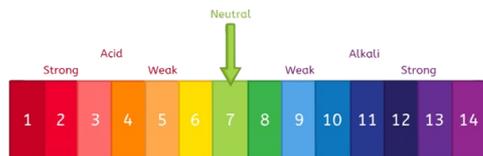
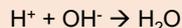
**Acids + alkali → salt + water**

**Acid + carbonate → salt + water + carbon dioxide**

**pH scale:**

In aqueous solutions, acids produce H<sup>+</sup> ions and alkalis produce OH<sup>-</sup> ions.

In neutralisation reactions, hydrogen ions react with hydroxide ions to form water.

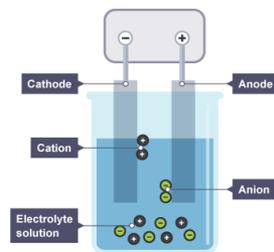


**Electrolysis** is the process of splitting up an ionic substance using electricity.

During electrolysis, the positively charged ions will be attracted towards the negative electrode (cathode). The negatively charged ions will be attracted towards the positive electrode (anode).

**Molten compounds:** they simply split into their elements.

- **Cathode:** metal will form
- **Anode:** non-metal will form
- **Ionic compounds:**
  - **Cathode:** the metal will be produced if it's less reactive than hydrogen. If the metal is more reactive, then hydrogen will form.
  - **Anode:** if there is a halogen, this will be produced. If not, then oxygen is produced instead.

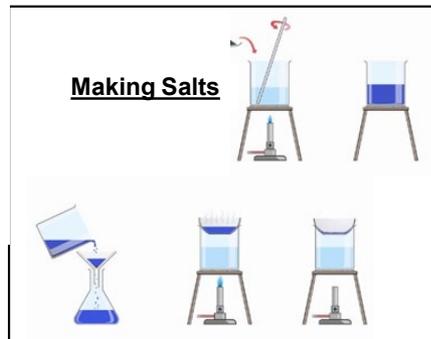


Word	Definition
Concentrated	refers to a relatively large quantity of substance present in a unit amount of a mixture
Strong Acid	Strong acids are acids that are completely or nearly 100% ionized in their solutions
Ionized	a general process in which molecules separate or split into other things such as atoms, ions
Excess	the reactant in a chemical reaction with a greater amount than necessary to react completely

**Reactivity series of metals**

This is a chart showing metals in order of decreasing reactivity. In general, the more reactive a metal is, the more easily it loses its electrons in reactions and the more reactive it is.

potassium
sodium
calcium
magnesium
aluminium
zinc
iron
tin
lead
copper
silver
gold
platinum



Combined science HT – chemistry – chemical changes

**States of matter**

**Solids** have strong forces of attraction between the particles. The particles are held together very closely in a fixed, regular arrangement. The particles do not have much energy and can only vibrate.

**Liquids** have weaker forces of attraction between particles. The particles are close together but can move past each other. They form irregular arrangements. They have more energy than particles in a solid.

**Gases** have almost no forces of attraction between the particles. The particles have the most energy and are free to move in random directions.

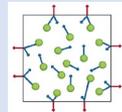


**Motion in gas particles:**

Gas particles move about randomly, at high speed. They intercept other gas particles and anything else that is in the way. When this occurs, a pressure is exerted.

If the gas is within a sealed container, pressure occurs when the gas particles hit the walls of the container.

If the temperature increases, the pressure will also increase.

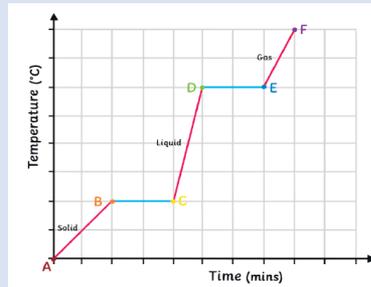


**Internal energy:**

Particles within a system have kinetic energy when they vibrate or move around. The particles also have a potential energy store. The total internal energy of a system is the kinetic and potential energy stores.

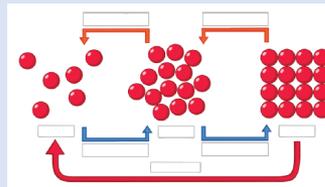
**Specific latent heat:**

When a substance is condensing or freezing, the energy put in is used to form the bonds. This releases energy. The internal energy decreases, but the temperature does not go down. The energy needed to change the state of a substance is called the latent heat.



**Changes of state:**

If a system gains more energy, it can lead to a change in temperature or change of state. If the system is heated enough, then there will be enough energy to break bonds. When something changes state, there is no chemical change, only physical.



Word	Definition
Pressure	is a measure of how much force is acting on an area
Volume	is the amount of space occupied by a substance
Density	mass of a unit volume of a material substance. The formula for density is $d = M/V$
Specific Latent Heat	the amount of energy required to change the state of 1 kilogram (kg) of a material without changing its temperature

**Irregular shaped objects:**

Measure the mass using a balance

Fill a eureka can with water

Place the object in the water – the water displaced by the object will transfer into a measuring cylinder

Measure the volume of the water. This equals the volume of the object.

Use the density equation to calculate density.

**Regular shaped objects:**

1. Measure the mass using a balance
2. Measure the length, width and height using a ruler
3. Calculate the volume
4. Use the density ( $\rho = m/V$ ) equation to calculate density.

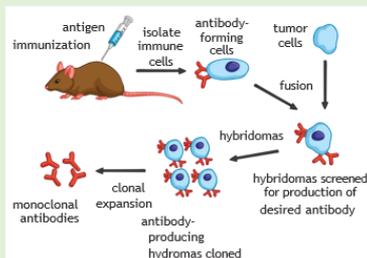


Combined science HT – physics – particle model of matter

**Monoclonal Antibodies**

Monoclonal antibodies are identical antibodies. Antibodies are produced by B lymphocytes.

It is possible to fuse a B lymphocyte from a mouse with a tumour cell to create a cell called a hybridoma - these can be cloned. They will all produce the same antibodies; the antibodies can be collected and purified.



There are many uses of monoclonal antibodies. For example:

**Pregnancy testing:** HCG hormone is found in the urine of women when pregnant. Pregnancy testing sticks detect this hormone. The HCG binds to the antibodies on the stick and changes the colour if you are pregnant. If the woman is not pregnant, there is no HCG. This means there is nothing to stick to the blue beads on the test strip, so it does not go blue.

**Treating diseases:** anti-cancer drugs can be attached to monoclonal antibodies. They can target specific cells (cancer cells) by binding to the cancer marker. This kills the cancer cells, but not the normal body cells.

**Titration**

- Using the pipette and pipette filler, measure 25cm<sup>3</sup> sodium hydroxide solution and pour into a conical flask.
- Add several drops of phenolphthalein to the sodium hydroxide solution.
- Swirl the flask and the mixture should be pink.
- Place the conical flask on a white tile.
- Place the burette into its stand, ensuring the tap is closed. Using the funnel, fill the burette with sulfuric acid to the 0cm<sup>3</sup> line. Should you go above this line, open the tap and allow the excess to run off into a beaker.
- Once the burette is correctly filled, place over the conical flask.
- Carefully open the tap so the acid flows slowly into the conical flask. Swirl the flask and look for the indicator changing from pink to colourless.
- Continue adding the acid to the flask until the indicator is permanently colourless.
- Record the total volume of acid added to the sodium hydroxide in the results table.
- Repeat the experiment twice more.

**Pressure in Gases****Heating**

Heating up the gas particles provides them with more energy to move more quickly. This means they are likely to collide more frequently with other particles. This, in turn, increases the pressure.

**Volume**

If the volume of the container is increased, the number of collisions will decrease. This causes an overall decrease in pressure. The equation for a fixed mass and a constant temperature is as follows (you will be given this in the exam):

$$P \times V = \text{constant}$$

$$P = \text{pressure (Pa)} \quad V = \text{volume (m}^3\text{)}$$

If the volume increases, the pressure decreases.  
If the volume decreases, the pressure increases.

If the pressure of a gas changes, the volume of the gas can also change. A helium-filled balloon, once released, will rise into the atmosphere; the pressure outside of the balloon will decrease. The volume of the balloon will increase (due to less pressure outside the balloon), meaning the pressure inside the balloon will decrease.  
**Work Done on a Gas (Higher Tier Only)**  
Work done on a gas causes it to gain internal energy and so will increase the temperature. Pumping up the tyre of a bicycle involves doing work and this will increase the temperature of the gas inside the bicycle tyre.



Key Spanish & Hispanic Festivals

Las Fallas: Se celebra esta fiesta en Valencia el 19 de marzo. Hay desfiles y fuegos artificiales y queman figuras enormes de celebridades, hechas de madera y papel. This festival is celebrated in Valencia on the 19th March. There are processions and fireworks and they burn huge figures of celebrities made from wood and papier maché)

San Fermín: Se celebra en Pamplona en julio: Los toros corren por las calles llenas de gente antes de morir en una corrida de toros. It is celebrated in Pamplona in July. The bulls run through the streets full of people before dying in a bullfight

La Tomatina: Se celebra en Buñol en agosto: La gente de muchos países del mundo vienen al pueblo de Buñol para participar en una batalla enorme de tomates en las calles. People from many countries of the world come to the town of Buñol to take part in an enormous tomato fight in the streets.

El Día de los Muertos (Day of the Dead). Se celebra a principios de noviembre en México – La gente celebra la vida de sus familiares muertos y en casa hacen un altar con sus fotos y su comida favorita. It is celebrated in Mexico at the start of Nov. People celebrate the lives of their deceased family members and at home they make an altar with their photos & favourite food.

La Feria de Abril: se celebra en Sevilla en abril. Miles de personas llevan trajes tradicionales y bailan en casetas. Además hay una feria y fuegos artificiales. It is celebrated in Sevilla in April. Thousands of people wear traditional outfits and dance in marquees. In addition, there is a fairground and fireworks.

Semana Santa (Holy Week) Es una fiesta religiosa anciana que se celebra en toda España. Hay procesiones con pasos que muestran la vida de Jesús. Los nazarenos llevan trajes especiales, que incluyen capirotos que cubren la cara. It is an ancient religious festival, which is celebrated throughout Spain. There are processions with floats which show the life of Jesus. The penitents wear special outfits, which include conical hoods which cover the face.

La Navidad (Christmas): se celebra el 25 de diciembre. Las familias pasan la fiesta en casa y una de las tradiciones es comer turrón o chocolate. Dan y reciben regalos, pero el 5 de enero es cuando los Reyes Magos vienen y dan caramelos y regalos a todos. It is celebrated on 25th Dec. Families spend the festival at home and one of the traditions is to eat turrón or chocolate. They give and receive gifts, but the 5th Jan is when the 3 kings come and give sweets and gifts to everyone.

Vocab related specifically to fiestas.

vi – I saw participé en – I took part in
fui a – I went to lei – I read visité – I visited
aprendí sobre – I learnt about



una película / un artículo sobre – a film / an article about;
una procesión/ un desfile – a parade / a procession
una batalla / un combate – a fight/battle;
un disfraz – fancy dress outfit el carnaval – the carnival
una mezquita – a mosque un riesgo - a risk
el encierro – bull run; una corrida – bull fight; el toro - bull
las fallas – Huge figures made of papier maché which are burnt.
una tradición – a tradition una costumbre – a custom
los pasos – Huge statues of religious figures that are carried on people's shoulders during Holy Week processions.
unas flores – flowers; unas velas - candles
una tarjeta – a card; un regalo – a gift
unas canciones – some songs; los participantes – the participants
un lugar religioso- a place of worship

Past tense opinions

me gustó – I liked (it)
me encantó – I loved (it)
no me gustó – I didn't like (it)
fue – (it) was + adjective

Present tense opinions

me gusta – I like (it)
me encanta – I love (it)
no me gusta – I don't like (it)
es – (it) is + adjective

subjunctive
phrases – impress
the examiner!



Adjectives to describe festivals (learn those on the year 8 KO)

es – it is; fue - it was; va a ser – it's going to be; sería – it would be

emocionante – exciting; alegre - happy
peligroso – dangerous
raro – strange / different; animado - lively
impresionante – impressive
chulo - cool / great tonto – stupid
hermoso – beautiful
entretenido – entertaining
fascinante – fascinating
conmovedor – moving, emotional



Conditional tense opinions

me gustaría ver – I would like to see
preferiría – I would prefer
si pudiera, iría a – if I could, I'd go to
si tuviera mucho dinero, iría a – if I had lots of money I would go to
sería – (it) would be + adjective

Future tense opinions

me va a gustar – I'm going to like (it)
me va a encantar – I'm going to love (it)
no me va a gustar – I'm not going to like (it)
cuando sea mayor, voy a ir a – When I'm older, I'm going to go to...
cuando tenga 18 años, voy a ir a – When I'm 18, I'm going to go to...
va a ser – (it's) going to be + adjective

Las fiestas en mi país / familia – celebrations in my country / family

Celebramos los cumpleaños / la Navidad / el día de san Valentín / la noche de las hogueras / el día de Pascua / el año nuevo / la Noche de Brujas / el día de la madre / el día del padre – We celebrate birthdays / Christmas / Valentine's Day / bonfire night / Easter day / New Year / Halloween / mothers' day/fathers' day

damos regalos / flores - we give gifts / flowers enviamos tarjetas - we send cards

decoramos la casa / un árbol – we decorate the house / a tree

vamos a casa de mis abuelos – we go to my grandparents' house

nos disfrazamos – we wear a disguise hacemos 'truco o trato' – we do 'trick or treat'

hacemos una hoguera – we make a bonfire vemos fuegos artificiales – we watch fireworks

comemos una cena tradicional – we eat a traditional dinner

gastamos mucho dinero – we spend lots of money sacamos muchas fotos – we take lots of photos

nos acostamos / cenamos muy tarde – we go to bed / we eat very late

llevamos la ropa elegante – we wear smart clothes

comemos mucho chocolate – we eat lots of chocolate



Típico de España – Typical of Spain

En España se suele – in Spain one tends to + infinitive;

Cuando fui a España – when I went to Spain + past tense

desayunar poco – to eat little for breakfast (desayuné)

comer mucho y tarde – to eat a lot for lunch, and late (comí)

cenar poco y tarde – to eat little in the evening, and late (cené)

descansar o dormir la siesta – to rest or sleep a siesta (descansé; dormí)

dormir menos por la noche – to sleep less at night (dormí)

acostarse tarde – to go to bed late (me acosté)

salir a la calle por la tarde – to go out into the street in the evening (salí)

tomar tapas – to have tapas (tomé)



A. Advanced Adjectives: Characteristics		VOCABULARY: KS4 B. Advanced Verbs		C. Advanced Nouns	
16. munificent	generous	16. equate	regard as the same as	16. interlude	pause
17. nefarious	wicked	17. exacerbate	worsen	17. invective	Insulting language
18. ostensible	apparent	18. expedite	speed up	18. lexicon	vocabulary
20. pernicious	malicious	19. extol	praise	19. malevolence	wickedness
20. precipitous	rash	20. fabricate	invent to deceive	20. malice	spite
21. rapacious	aggressively greedy	21. incense	make furious	21. melancholy	sadness
22. risible	laughable	22. inhibit	prevent	22. modicum	little bit
23. Salubrious	wholesome	23. instigate	start	23. myriad	countless
24. Satiated	fully satisfy	24. interrogate	question	24. nadir	lowest point
25. Strident	forceful	25. lambast	criticise	25. nuance	subtle difference
26. Supercilious	haughty	26. mollify	to calm	26. panacea	cure-all
27. Taciturn	untalkative	27. ostracise	alienate	27. paragon	role model
28. Tenacious	determined	28. pacify	calm	28. plethora	lots of
29. ubiquitous	found everywhere	29. repudiate	reject	29. predilection	preference/liking
30. zealous	enthusiastic	30. vivify	make lively	30. zenith	highest point

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