

Name:.....

Tutor:.....



Exam Preparation Homework Booklet 2025

Term 4 Week 6 Easter Extra Edition

Hand in Date Thursday 24th April



Student Instructions

- Set aside plenty of time to complete this booklet
- Let other people at home know so that they can support you
- Complete the tasks for all subjects you take in Yr11
- Research answers if necessary using books/internet
- Review your effort and progress in the student review section
- Remember to return my booklet to school by the deadline

Parent Information

- Try and provide a quiet place for your child to complete this booklet
- Advise them to avoid distractions such as social media & gaming
- Encourage them to complete as much work as possible
- Monitor them and ensure they take regular rest breaks and are not stressed
- Support them with tasks if they are struggling to complete them
- Review their effort, progress and successes by completing the review section
- Ensure that they return this booklet to school by the deadline

<u>Please sign the most appropriate box</u>	Successful	Knowledgeable	Aspiring	Acquiring
	All sections completed to a high standard and student gained significant knowledge	All sections completed to a good standard and student has gained knowledge in all subjects	All subjects attempted and student has worked as hard as possible to gain knowledge in most subjects	Most subjects attempted and student has improved their knowledge in some subjects
Student				
Parent				
Form Tutor				



How to Revise?

Your teacher has assigned a specific topic for you to revise in preparation for your exams. We recommend using the **Look/Cover/Write/Check** method for revision. Here is how it works:

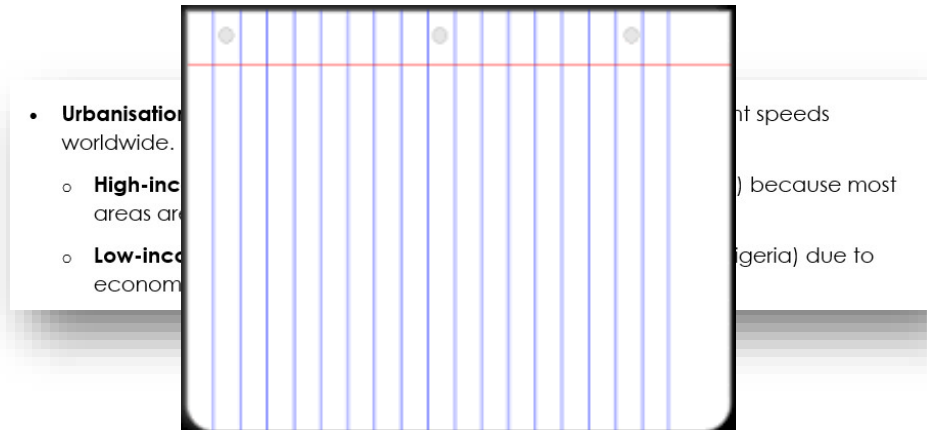
Step 1: Look

- Look at the first bullet points or sentences
- Read through it three to five times

- **Urbanisation:** More people moving to cities, happening at different speeds worldwide.
 - **High-income countries (HICs):** Slower urbanisation (e.g. UK, US) because most areas are already urbanised, and birth rates are lower.
 - **Low-income countries (LICs):** Faster urbanisation (e.g. India, Nigeria) due to economic, industrial, and trade improvements.

Step 2: Cover

- Cover it with a piece of paper.



Step 3: Write

- Write it out as it was in your booklet

- *urbanisation:* More people moving to cities, happening at different speeds worldwide.
 - *High-income countries (HICs):* Slower urbanisation (e.g. UK, US) because most areas are already urbanised and birth rates are lower.
 - *Low-income countries (LICs):* Faster urbanisation (e.g. India, Nigeria) due to economic, industrial, and trade improvements.



Step 4: Check

- Remove the piece of paper and grab your red pen
- Check what you wrote and tick if correct
- Make corrections in red pen to match your booklet
- Repeat
- Once you have it correct, move on to the next chunk of information

In addition, your teacher has given you 10 questions to assess your knowledge and understanding after you have reviewed the entire topic.

We suggest doing it in the following way:

1. Cover up the answers, answer all the questions on a sheet of paper.
2. Check your answers.
3. Repeat if necessary.
4. Once you have answered all questions correctly, move on to the next subject.





Focus on:

English Language, Paper 2

Let's think about questions 2 and 4 and understand their differences.

Question 2 ALWAYS asks you to compare and summarise two things.

Question 4 ALWAYS asks you to compare the two writers' perspectives.

Question 2

Question 2 ALWAYS asks you to compare and summarise two things.

Make sure you read the question properly and compare the correct things the question is asking you for.

This question is worth 8 marks.

Look at the two images.

Compare the structures in the different structures:

Image a



Image b



Question 4

Question 4 ALWAYS wants you to compare viewpoints – what does the writer feel about the topic they are writing about?

TOP TIP:

Annotate the extract as you read highlighting feelings and writing notes about the writer's feelings in the margin.

This question is worth 16 marks, so requires more detail in your answer.

Use your notes to help you answer the question.

Question: Compare the writers' similar attitudes towards the places they visit.

Source a

"Today, I stood before the pyramids of Giza, and words cannot describe the sheer awe that washed over me. These colossal structures, built of massive stone blocks, rise from the desert like mountains carved by the hands of gods. Each side, perfectly aligned, seemed to stretch endlessly into the scorching sun, their triangular faces casting long shadows across the sand. The sheer scale of it all was humbling, a testament to the incredible engineering prowess of the ancient Egyptians. As I walked around the base, I could almost imagine the thousands of workers hauling stones, their labor echoing through the ages. It was a moment of profound connection to the past, a glimpse into a civilization long gone, yet still so vividly present in these magnificent pyramids."

Source b

Manhattan Bridge Pedestrian Path

This is the iconic New York that so many visitors imagine before they visit—spectacular skyscrapers like the Chrysler Building and Empire State Building, iconic public buildings like Grand Central Terminal and the New York Public Library, and the non-stop hustle and bustle of the city streets. Fifth Avenue is a shopper's heaven where you can find every kind of store imaginable, with fashion brands ranging from the affordable to the ultra-fancy. Visit the Rockefeller Center to experience towering Art Deco grandeur, and foodies will love the busy restaurants that stay open late in Koreatown. After dark, Midtown calms down a bit, but at any time of day or night it



Question 5 can ask you to write a letter, an article, or a speech. It will ask you to argue, persuade, explain, or advise.

We are going to look at a question:

'Scientists say that teenagers are not like adults; they learn and socialise differently and need sleep at different times. Education needs a radical re-think to meet the needs of students.'

Write a letter to the Minister for Education explaining your point of view on this statement.

(24 marks for content and organisation)

16 marks for technical accuracy)

[40 marks]

Thinking about Structure

- A formal letter has a conventional structure. The sender's postal address goes in the top right-hand corner. The recipient's postal address is written to the left and slightly below this with the date underneath.
- A letter then opens with the greeting 'Dear...' If you do not know the name of the person you are writing to (for example if you were emailing a company about a product, rather than a particular person that works there), the convention is to start your letter with: 'Dear Sir/Madam'.
- The initial paragraph usually outlines the overall aim of the letter, and the conclusion summarises the main points.
- Conventionally, there are different ways to end a letter, depending on the addressee.
- If you have named the recipient at the start, (eg Dear Mr Banks/Dear Freya) your letter ends with 'Yours sincerely'.
- If you haven't named the recipient at the start (eg Dear Sir/Madam) your letter ends with 'Yours faithfully'.

Planning

- Make sure you plan your answer first.
- Think of the topic of your letter
- Think of three main points
- Use your main points to form your topic sentences

Once you have planned your letter, it will help you write your introductory paragraph. Once you have written your points, you will sum up your ideas in your concluding paragraph.

Top Tip

List the rhetorical techniques you are going to include: rhetorical questions, exaggeration, facts, opinions, triplets



Rhetorical Devices

Persuasive language is used for many reasons, for example, to help to sell products or services, or to convince people to accept a view or idea. Politicians often use rhetorical devices in their speeches. These techniques can be powerful tools for getting what you want.

Looking for rhetorical devices and using them in your own work

In the reading section of your paper, you might be able to spot some in the inserts. You can often use these ideas in your own writing.

Technique	Examples
Flattery - complimenting your audience.	A person of your intelligence deserves much better than this.
Hyperbole - exaggerated language used for effect.	It is simply out of this world strong > – stunning!
Personal pronouns - 'I', 'you' and 'we'.	You are the key to this entire idea succeeding - we will be with you all the way. I can't thank you enough!
Imperatives - instructional language.	Get on board and join us!
Triples - grouping language in threes.	Safer streets means comfort, reassurance and peace of mind for you, your family and your friends .
Emotive language - language that appeals to the emotions.	There are thousands of animals at the mercy of our selfishness .
Statistics and figures - factual data used in a persuasive way.	80% of people agreed that this would change their community for the better.
Rhetorical question - a question which implies its own answer.	Who doesn't want success?



Dear the Minister of Education,

I am writing to you today to propose my well informed and well-thought-out argument of making the school day start at a later time. currently, many schools begin their school day at 8:40 AM, meaning that a large amount of students have to be awake at 6 AM enduring a long day at school with a lack of sleep. To ensure that school children have the best opportunities, it is vital that the school day begin later.

At the age of 15, many students are getting to the point in their life where they may begin to seek new opportunities, especially ones that gain independence. One of these opportunities is a part time job. By having this, it would result in a new found independence, which would benefit their education in a number of ways; increasing confidence, having the courage to seek challenges and providing experience when applying for apprenticeships. However, there is a problem – students do not have enough time to complete this. Therefore, by ensuring that the school day would start later, it would mean that students would have enough time to work and sleep, without damaging their education.

4 in 5 students feel that their is not enough time in the day to socialise with their friends and complete their schoolwork. Therefore, by delaying the start of school, this issue could be solved. Time to socialise with friends is vital, especially in this day and age where children's mental health is a major issue. By communicating and seeing friends more, they are able to share these problems, improving their mindset and consequently changing their attitude towards learning.

These activities that have been discussed are things that many students already participate in, meaning that they have a lack of sleep. This change to the school day would tackle the problems that many teachers try to conquer – tiredness in students.

Many thanks are offered to you for taking the time to read this letter and consider the ideas that have been put forward. The proposal really would be an excellent way to re-engage students in the education system in which you have worked so hard to ensure the best possible opportunities to all.

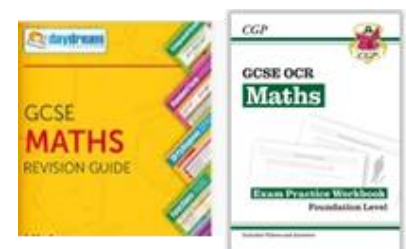
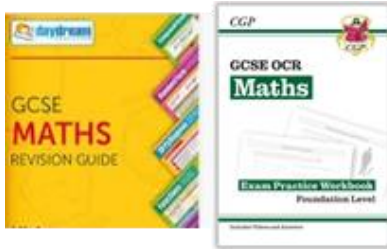
Yours faithfully,

This answer gained 15 marks for A05 and 11 marks for A06



Subject

Maths

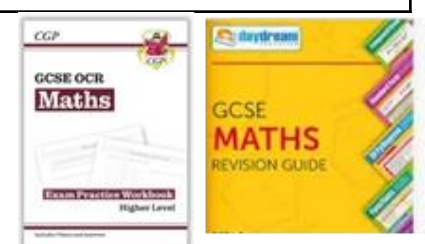
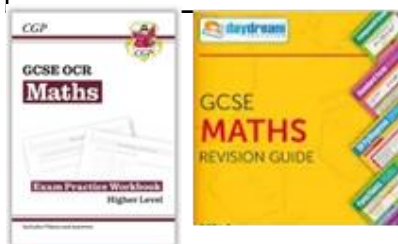


Aiming for Grade 4 (Foundation)

Aiming for Grade 5 (Foundation)

If you are aiming for a Grade 4, please turn to page 16 in the revision guide and use the notes to help you answer the questions on pages 18 to 19 in your exam workbook for practice. The questions on the next page need to be answered to ensure skills are secure.

If you are aiming for a Grade 5, please turn to page 16 in the revision guide and use the notes to help you answer the questions on pages 18 to 19 in your exam workbook for practice. The questions on the next page need to be answered to ensure skills are secure.



Aiming for Grade 6 (Higher)

Aiming for Grade 7+ (Higher)

If you are aiming for a Grade 6, please turn to pages 9 to 11 in the revision guide and use the notes to help you answer the questions on pages 12 to 13 in your exam workbook for practice. The questions on the next page need to be answered to ensure skills are secure.

If you are aiming for a Grade 7, please turn to pages 9 to 11 in the revision guide and use the notes to help you answer the questions on pages 12 to 13 in your exam workbook for practice. The questions on the next page need to be answered to ensure skills are secure.


Subject
Maths
Aiming for Grade 4 (Foundation)

- (a) Round 3925 to the nearest thousand.
- (b) Round 3925 to the nearest hundred.
- (c) Round 3925 to the nearest ten.
- (d) Round 17.89 to the nearest whole number.
- (e) Round the number 7.819 to one decimal place.
- (f) Round the number 7.819 to two decimal places
- (g) At the football match 2156 hot drinks were sold. The caterers round this number to the nearest hundred.

Aiming for Grade 5 (Foundation)

Round each of the following to 1 significant figure

- (b) 22 (c) 83 (d) 68
- (i) 741 (j) 888 (k) 408
- (p) 5400 (q) 4125 (r) 2732

Round each of the following to 2 significant figure

- (a) 844 (b) 665 (c) 129
- (h) 504 (i) 999 (j) 3841
- (o) 1.41 (p) 42.64 (q) 0.3189

Aiming for Grade 6 (Higher)

Write down the lower bound and the upper bound for each of the following:

- (a) 4g measured to the nearest gram
- (b) 12cm correct to the nearest centimetres
- (c) 75 miles given to the nearest mile
- (d) 50kg measured to the nearest 10kg
- (e) 130 seconds given the nearest 10 seconds
- (f) 225km given to the nearest 5km
- (g) 400ml given to the nearest 100ml
- (h) 1900 hours correct to the nearest 10 hours
- (i) 3.8cm measured to the nearest 0.1 centimetre
- (j) 15.2 seconds to the nearest tenth of a second
- (k) 6.4g rounded to one decimal place
- (l) 515.9kg correct to one decimal place

Aiming for Grade 7+ (Higher)

$$v = \frac{s}{t}$$

$$s = 4.15 \text{ correct to 2 decimal places}$$

$$t = 2.516 \text{ correct to 3 decimal places}$$

Work out the upper bound for v .
Give your answer to 3 decimal places.

$$V = IR$$

$$I = 5.92 \text{ correct to 2 decimal places}$$

$$R = 12.356 \text{ correct to 3 decimal places}$$

Work out the upper bound for V .
Give your answer to 3 decimal places.



Aiming for Grade 4 (Foundation) - Solving Equations

TASK 1

$$4(3x + 1) = 28$$

Multiply both terms in the bracket by 4

$$12x + 4 = 28$$

$$\begin{array}{r} -4 \\ -3 \end{array}$$

Subtract 4 from both sides

$$12x = 24$$

$$x = 2$$

Divide both sides by 12

1. $6(2x - 3) = 42$

2. $6(5x - 3) = 132$

3. $4(x + 1) = 16$

4. $2(2x - 1) = 14$

5. $5(5x - 2) = 90$

6. $6(2x + 4) = 108$

7. $5(x - 3) = -5$

8. $4(4x + 1) = 36$

1. $3(2x - 5) = 4x - 23$

2. $2(2x - 1) = 23 - x$

3. $3(3x + 2) = 3(2x + 3)$

4. $4(2x - 3) = 4x - 24$

5. $5(2x + 1) = 8x + 11$

6. $6(5x - 3) = 28x - 26$

7. $2(2x + 5) = 25 - x$

8. $4(3x + 2) = 2x + 13$

TASKS 3 & 4

$$3(2x - 1) = 13 - 2x$$

$$6x - 3 = 13 - 2x$$

$$\begin{array}{r} +2x \\ +2x \end{array}$$

$$8x - 3 = 13$$

$$\begin{array}{r} +3 \\ +3 \end{array}$$

$$8x = 16$$

$$x = 2$$

Multiply both terms in the bracket by 3

Add 2x to both sides

Add 3 to both sides

9. $5(2x + 1) = 13(x - 1)$

10. $2(3x + 2) = 4x + 14$

11. $3(2x + 5) = 17(x - 3)$

12. $4(3x - 2) = 20 - 2x$

Aiming for Grade 5 (Foundation & higher) - Linear Simultaneous equations

TASK 1

Solve simultaneously

$$x + y = 10 \text{ and } 2x - y = 8$$

We have one y in each so we will eliminate the y's

$$\begin{array}{r} x + y = 10 \\ 2x - y = 8 \\ \hline 3x + 0 = 18 \end{array}$$

$y + -y = 0$ so we will add the two equations (Different signs +)

$$3x = 18 \text{ so } x = 6$$

Substituting $x = 6$ into the first equation

$$6 + y = 10 \text{ so } y = 4$$

The solution is $x = 6$ and $y = 4$

1 $x + y = 7$ $2x + y = 9$

1 $2x + 3y = 9$ $3x - 2y = 7$

2 $2x + y = 7$ $x + y = 4$

2 $5x + 3y = 1$ $2x - y = -4$

3 $x + 2y = 3$ $x + 3y = 5$

3 $3x + 2y = 2$ $2x - 3y = 10$

4 $2x - y = 6$ $3x + y = 4$

4 $2x - 3y = 11$ $3x + 5y = 7$

5 $x - y = 4$ $x + y = 2$

5 $3x - 4y = 6$ $2x - 3y = 5$

6 $2x + y = 8$ $x - y = 7$

6 $2x + 3y = -1$ $3x - 2y = 18$

7 $x + 2y = 2$ $x - 2y = 6$

7 $4x + 3y = 23$ $3x - 2y = -4$

TASK 3

Solve simultaneously

$$3x - 2y = 8 \text{ and } 2x - 3y = 7$$

$$9x - 6y = 24$$

$$4x - 6y = 14$$

$$5x + 0 = 10$$

$$x = 2 \quad 6 - 2y = 8$$

$$y = -1$$

To make the y's match multiply the first equation by 2 and the second equation by 3

$-6y - -6y = 0$ so we will subtract (Same signs -)

We could have solved by matching the 'x' by multiplying the first equation by 2 and the second equation by 3



Subject

Maths

Aiming for Grade 6 and above (Higher)

Solve simultaneously

$$x + y = 9 \text{ (a)} \quad y = 3x + 1 \text{ (b)}$$

$$x + (3x + 1) = 9$$

$$4x + 1 = 9$$

$$x = 2 \quad 2 + y = 9 \\ = 7$$

Substitute (b) into (a)

Use (a) to find y

Solve simultaneously

$$y = x^2 - 2x - 1 \quad y = x - 1$$

Equate the two equations

$$x^2 - 2x - 1 = x - 1$$

$$x^2 - 3x = 0$$

$$x(x - 3) = 0$$

$$x = 0 \quad y = -1$$

$$x = 3 \quad y = 2$$

If necessary, rearrange so both equations are $y =$

Rearrange and solve

Solve simultaneously

$$1. \quad y = x + 3 \\ y = 4 + 2x$$

$$2. \quad x + y = 5 \\ y = 2x - 4$$

$$3. \quad x + y = 2 \\ 2y + x = 7$$

$$4. \quad x + y = 5 \\ y = 3x + 1$$

$$5. \quad y = 2x - 12 \\ x - y = 9$$

Solve simultaneously

$$1. \quad xy = -12 \\ y = 1 - x$$

$$2. \quad xy = 2 \\ x = y + 1$$

$$3. \quad xy = 20 \\ 2x + y = 14$$

$$4. \quad xy = -4 \\ 2y = x + 6$$

$$5. \quad 2xy = 20 \\ 2y - x = 1$$

Solve simultaneously

$$1. \quad y = x^2 - x - 1 \\ x + y = 3$$

$$2. \quad y = x^2 - 2x - 5 \\ y = x - 1$$

$$3. \quad y = x^2 - 3x + 4 \\ y - x = 1$$

$$4. \quad y = x^2 + 2x - 3 \\ y = 2x + 1$$

$$5. \quad y = x^2 - 2x - 11 \\ y = 10 + 2x$$

Solve simultaneously

$$1. \quad x^2 + y^2 = 5 \\ y = x + 1$$

$$2. \quad x^2 + y^2 = 29 \\ y - x = 3$$

$$3. \quad x^2 + y^2 = 40 \\ y + x = 4$$

$$4. \quad x^2 + y^2 = 13 \\ 5x + y = 13$$

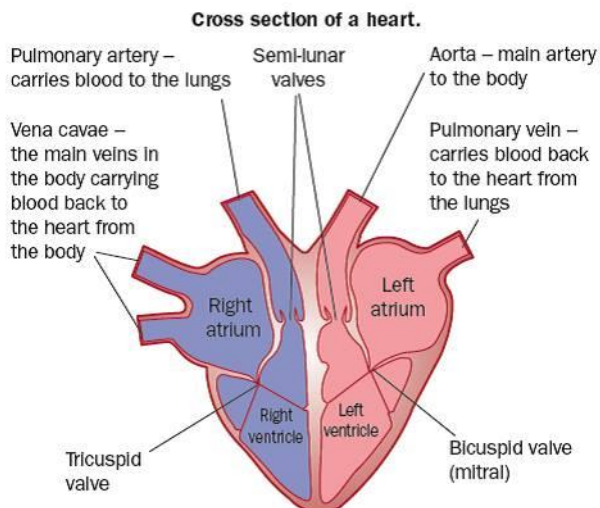
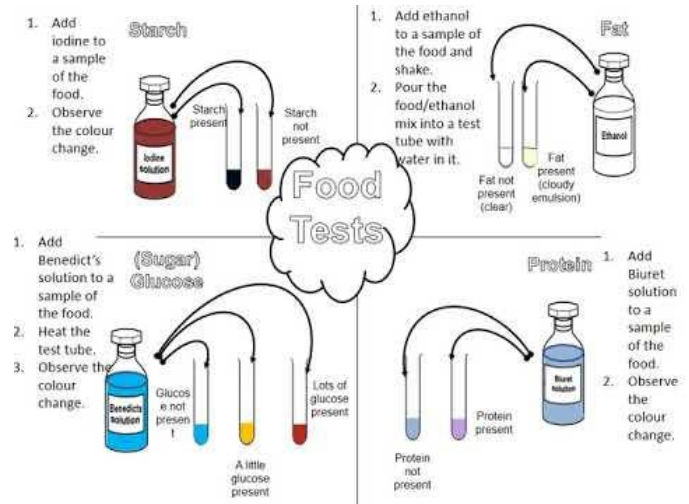
$$5. \quad x^2 + y^2 = 10 \\ y - 2x = 5$$



Biology Paper 1 Revision

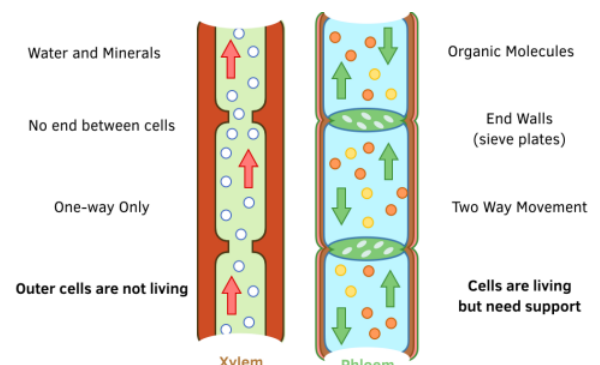
Organ systems you should know are the digestive system (digests and absorbs food) and circulatory system (transports oxygenated blood around the body).

- The digestive system relies heavily on enzymes which are biological catalysts that speed up chemical reactions. They have an optimal pH and temperature where they are most effective and can denature (stop working) if temperature too high or pH changes too much. Enzymes use the lock and key model – molecules they react with fit perfectly inside their active site (locks in a key). Examples include proteases, lipases and carbohydrases. Enzymes break down food into smaller, soluble molecules that can be absorbed into blood.
- Required practical:** We carried out food tests. Benedict's for sugar (turns blue to red), iodine for starch (turns blue/black), biuret for proteins (turns purple).
- Required practical:** We investigated the effect of changing either pH or temperature on the enzyme activity – testing for whether starch had been broken down or not, using the iodine starch test to determine the time taken for amylase to work.



- Your heart pumps blood around the body through arteries (away from the heart), capillaries (connects arteries and veins), and veins (back in to the heart).
- Arteries are thicker because the blood is pumped at higher pressure, veins have valves to prevent backflow and capillaries have very thin walls to speed up diffusion.
- Blood contains plasma (the liquid part), red blood cells (carry oxygen), white blood cells (fight infection) and platelets (help clot at scabs).

Plants are organised in a complicated system like us, with the main organs being roots, stem, leaves and flowers. Water is transported around the plant, carrying dissolved ions, through the xylem. It is transported from the roots to the leaves in a process called transpiration. Phloem transports the glucose.





Your lifestyle can increase your risk of **non-communicable diseases** like coronary heart disease, diabetes, cancer (diet, smoking, obesity, alcohol, etc.).

Cancer is the uncontrollable growth of cells. Benign tumours are contained and don't spread round body, malignant tumours spread around the body and form secondary tumours.

Diseases can be spread (**communicable diseases**) by pathogens. They can be spread by direct contact, by water or by air.

- Bacteria (e.g. salmonella and gonorrhoea) reproduce inside the body, producing toxins but can be treated with antibiotics – antibiotic resistance is a serious concern for the future.
- Viruses (e.g. measles, HIV, tobacco mosaic virus) also reproduce inside the body – using human cells to produce copies of themselves which can cause cell damage.
- Fungi (e.g. rose black spot) can be treated with fungicide.
- Protists (e.g. malaria) are also pathogens.

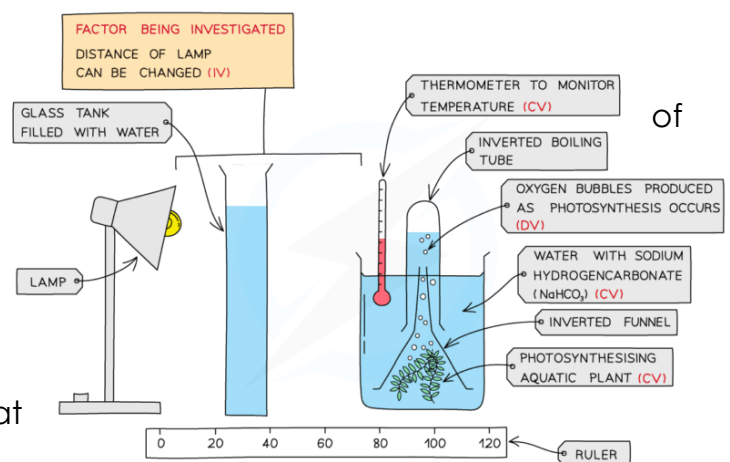
Your body has defences against disease. Non-specific defences include skin, nose, trachea, and stomach. Immune system (white blood cells) defends through phagocytosis (engulfing and destroying cells), antibody production and antitoxin production.

Antibiotics can be used to treat bacterial infections, whereas painkillers only mask symptoms. Viruses are hard to treat with drugs because they hide in body cells. New drugs take time and money to develop and must be tested for effectiveness and safety – double blind trials mean doctors and patients don't know who has real drugs and who has placebo (fake drug). Vaccines can be used to protect against infection by exposing immune system to dead or inactive forms of pathogen so body can prepare antibodies for future infections.

There are two fundamental reactions that happen in plant and animal cells: respiration and photosynthesis (plants only).

- Photosynthesis reaction: carbon dioxide + water → glucose + oxygen (in the presence of light)
- Photosynthesis is affected by temperature, light intensity, carbon dioxide concentration and amount chlorophyll. One of these will always limit the rate of photosynthesis.

- **Required practical:** We investigated the effect of light intensity on photosynthesis by measuring bubbles produced by pondweed with a lamp at different distances (to change light intensity).



- Aerobic (with oxygen) respiration: $\text{GLUCOSE} + \text{OXYGEN} \rightarrow \text{CARBON DIOXIDE} + \text{WATER}$
- Anaerobic (without oxygen) respiration: $\text{GLUCOSE} \rightarrow \text{LACTIC ACID}$



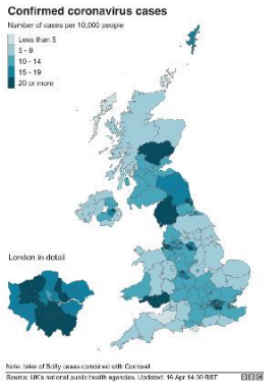
What type of circulatory system do humans have?	
What blood vessel takes blood from the heart to the lungs?	
What blood vessel takes blood from the heart to the body?	
Blood is a tissue; what does it consist of?	
In coronary heart disease, what happens to the coronary arteries?	
What can faulty heart valves be replaced with?	
What does the Xylem carry?	
What four things affect the rate of transpiration?	
What is the role of stomata?	
What do you call a disease causing microorganism?	
Name the four different types of disease causing microorganism.	
What type of microorganism do antibiotics kill?	
What is a non-communicable disease?	
What type of cells make up our immune system?	
What are the three ways our immune system defends us against infection?	
What non specific defence systems do we have (name 3)?	
What type of microorganism causes measles in humans?	
What type of microorganism causes rose black spot disease in plants?	
What is inside a vaccine?	
Why is vaccination important?	
What is herd immunity?	
What is the first stage of new drug testing?	
What is the second stage of new drug testing?	



What is a placebo?	
What are painkillers used to treat?	
Where does the painkiller aspirin originate from?	
What drug was found in mould?	
What fungus causes a disease in roses?	
How do you treat tobacco mosaic virus?	
What is the word equation for photosynthesis?	
What factors affect the rate of photosynthesis?	
In what part of a leaf cell does photosynthesis take place?	
What green chemical is found inside this organelle?	
Other than counting bubbles, what other method could you collect Oxygen in the Photosynthesis RP?	
What do plants store glucose as?	
What do plants use glucose for?	
What is the word equation for aerobic respiration?	
Where in the cell does aerobic respiration take place?	
What does anaerobic mean?	
What is the word equation for anaerobic respiration in humans?	
What is the word equation for anaerobic respiration in plant and yeast cells?	
What is anaerobic respiration in yeast cells called?	
What in the human body, increases during exercise to allow an increase in respiration?	
What is the cause of ache and fatigue during exercise?	
What is a metabolism?	
What happens to excess proteins once they are broken down?	



Choropleth Maps (not Chloropeth)



Think colour by numbers.

They split a geographical area into different regions which are then shaded.

The darker the shading the higher the frequency for that area.

Each map has a key to show what the shading represents.

Interpreting:

The area of the map which is shaded darkest has the highest proportion/percentage.

Look at the key for the shading to read off percentages/numbers.

The diagram represents a children's playground that has been divided into 20 squares of equal area.

In the playground there are some children and some play equipment only.

The number of children in each square at 11 am one Saturday is shown below.

Number of children

11	10	7	5	0
9	7	6	3	1
8	4	3	1	1
5	4	2	0	1

Key:

9	means 9 children in this square.
---	----------------------------------

(a) Use the information above to complete this choropleth map.



Key:

Number of children

	9 or more
	6-8
	3-5
●	0-2

(2)

Grace concludes that there is likely to be more play equipment in that part of the playground represented by the squares in the top left hand corner of the choropleth map than elsewhere in the playground.

(b) Assess the validity of Grace's conclusion with reference to the choropleth map.

.....

.....

(1)



Population Pyramids

Shows distribution of ages in a population, in numbers or proportion/percentages.

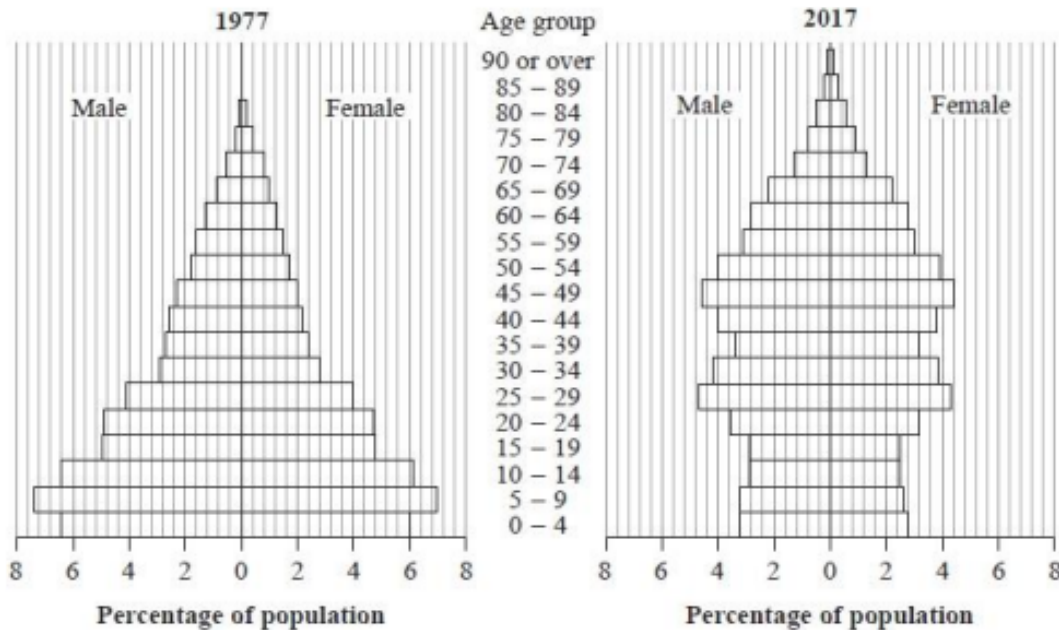
They are used to compare two sets of data, usually genders or two geographical areas.

When comparing the data look at the shape of the distribution.

- If it looks like a pyramid with smaller bars at the top that means there is a higher proportion of younger people in the population and less older people. This could be because of short life expectancy (how long people live), high birth rates or high death rates.
- If the diagram looks more or less straight that means there is a similar proportion of older and younger people in the population which could be because of lower birth/death rates or that the life expectancy is increasing.
- An upside-down pyramid with larger bars at the top and smaller bars at the bottom shows that the population has a larger proportion of older people compared to younger people. This could be because of low birth/death rates, longer life expectancy or the location might be far from the city or a coastal area where older people are retiring to.

The two population pyramids show the percentages of males and females in each age group in China for the years 1977 and 2017

Each percentage is based on the total population of China for that year.



(Source: populationpyramid.net/China)

(a) For the year 1977, write down the percentage of the population who are female in the age group 0–4 years.

..... %

(b) For the year 2017, write down the age group that has the greatest percentage of females.

.....
(1)

Eric says that more than 25% of the population of China is aged 9 or under in 1977

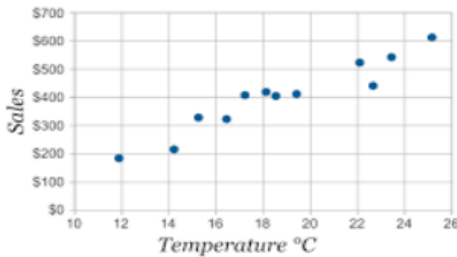
(c) Determine whether or not Eric is correct.

You must show your working.

(3)



Scatter Diagrams



Used for **bivariate** data to show if there is a relationship between two variables.

Explanatory variable (independent – the one that you are changing) is plotted on the x-axis.

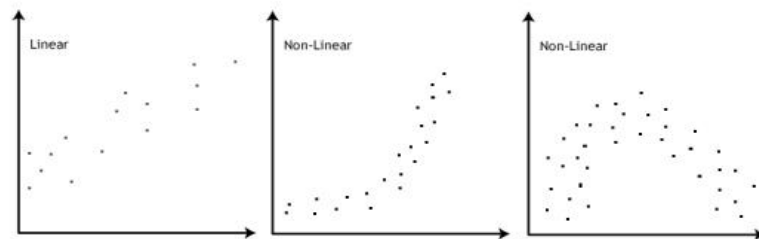
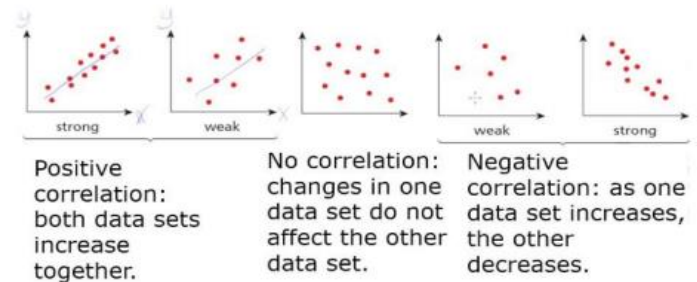
Response Variable (dependent – the one you are measuring) is plotted on the y-axis.

Plot the points with crosses. Do not join them up.

Correlation

The relationship between two variables.

- **Positive Correlation** – As one variable increases, so does the other.
- **Negative Correlation** – As one variable increases, the other decreases.
- **Zero Correlation** – The points are randomly scattered.
- **Linear Correlation** – When the points lie close together near a straight line.
- **Non-Linear Correlation** – When the points lie close together but the pattern formed by them is a curve.



Causal Relationships

Causation – When one variable causes a change in another.

Correlation shows that there may be a link between two variables. Correlation does not imply causation.

Example:

Causal Relationship – increase in temperature = Increase in ice cream sales

Correlation only – Sales of chocolate and sales of clothes having a positive correlation.

Multiple Factors – In real life situations there are usually multiple factors interacting to cause variables to change.

Example: A positive correlation between fat in liver and reaction time does not mean one causes the other. There could be a third variable, such as amount of alcohol consumed, which both variables depend on.

Interpolation and Extrapolation

Using the LOBF to make predictions of unknown values.

Interpolation – When the LOBF is used to make predictions **within the range of data** given (you don't need to extend your LOBF more).

Tends to be **reliable** provided the LOBF is correct.

Extrapolation – When the LOBF is used to predict values **outside of the range of values** given (you may need to extend your LOBF for this).

Not always reliable as trends may change.

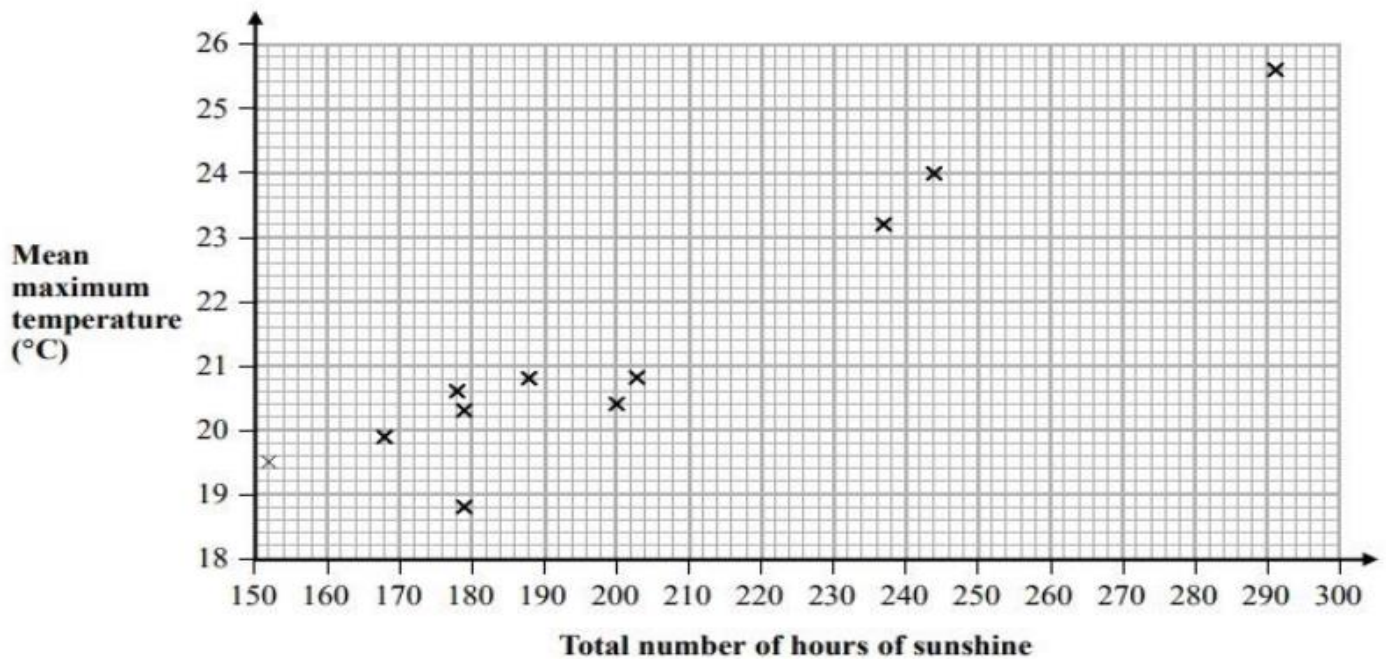
Values estimated from extrapolation are less reliable the further they are from the range of data.



The maximum temperature ($^{\circ}\text{C}$) and the number of hours of sunshine were recorded in Sheffield each day in July for 11 successive years.

For each July, the mean maximum temperature and the total number of hours of sunshine were calculated.

The scatter diagram shows this information.



(Source: Metoffice)

In one of these years there was a total of 244 hours of sunshine in July.

(a) For this year, write down the mean maximum temperature.

..... $^{\circ}\text{C}$
(1)

(b) For the year with the lowest total number of hours of sunshine in July, write down the mean maximum temperature.

..... $^{\circ}\text{C}$
(1)

(c) Draw a line of best fit on the scatter diagram.

(1)

(d) Describe and interpret the type of correlation shown by the scatter diagram.

.....

For a different year in Sheffield, there was a total of 220 hours of sunshine in July.

(e) (i) Estimate the mean maximum temperature for July that year.



Timeline

- **August 1202:**
 - Arthur's forces advance in Poitou.
 - Eleanor of Aquitaine is trapped at Mirebeau.
 - John and his army rescue Eleanor and capture Arthur.
- **Easter 1203:**
 - Arthur disappears (believed to be murdered by John).
 - French barons who had supported John switch allegiance to Philip.
- **Summer 1203:**
 - Philip takes major towns in Normandy and advances south.
 - John is without enough support and retreats to England.
- **September 1203:**
 - Philip besieges Chateau Gaillard.
- **December 1203:**
 - John returns to England.
- **6 March 1204:**
 - Philip takes Chateau Gaillard.
- **24 June 1204:**
 - Rouen surrenders to Philip.
 - Normandy is completely under Philip's control.



Why War Restarted

- Isabella of Angouleme had been promised to Hugh de Lusignan.
- John married her instead, angering Lusignan.
- John didn't offer compensation.
- Lusignan appealed to Philip (John's overlord in France).
- Philip summoned John to court; John refused.
- Philip declared John's French lands forfeited and attacked.
- John declared war and went to defend his lands in France.

The Fall of Chateau Gaillard

- John's first attack to stop the French failed.
- He tried persuasion instead—encouraging English support.
- Despite strong defense, the castle fell after 6 months.
- Its strength delayed Philip, but Normandy fell in June 1204.



John's Death and the Succession

- John died in **October 1216**.
- He named his **nine-year-old son Henry** as his successor.
- England had been weakened by civil war.

The Problem of the Succession

- John had **13 loyal barons** who acted as a **council**.
- A child as king usually led to **instability**, but:
 - **William Marshal** led the council and took control.
 - Marshal had great military and diplomatic skill.
- **Henry crowned in Gloucester** in October 1216.
- In **November 1216**, William Marshal was **elected as Protector and regent**.
- Many rebel barons returned to the royalist side.



The Role of William Marshal as Protector

- Took Henry and royal court to **Bristol**.
- **Reissued Magna Carta** with approval from Church.
- Removed barons' reasons for rebelling.
- Rebels began to **rejoin** the royalists.
- In **early 1217**, war resumed but rebels lacked resources.
- Royalists gained strength.
- By **September 1217**, **peace was made** and **Prince Louis gave up claim to the throne**.

Advantages of the Rebels and Prince Louis

- Controlled a large **section of the country**.
- Rebels held **London** (key for trade and influence).
- **South and West** borders held by Llywelyn of Wales and Alexander II of Scotland (supporters of rebels).
- **French help**: More men than royalists.
- **English economy weak**, almost bankrupt.

Advantages of the Royalists

- Henry was young—**rebels couldn't blame him** for past issues.
- William Marshal as **Protector**: respected and powerful.
- **Church support**: Papal legate arrived in **November 1216**, supporting Henry.
- Henry was **English**, unlike Louis (a French prince).
- Henry had **strong English navy**.

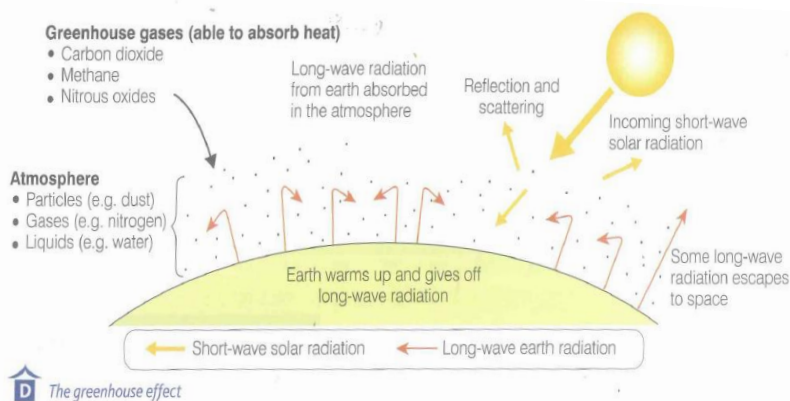


Climate Change

Climate change is the result of natural and human factors and has a range of effects.

The Natural Greenhouse Effect

The Sun warms the Earth's surface with short-wave radiation. Some of this heat goes back into space as long-wave radiation. However, greenhouse gases like carbon dioxide and methane in the atmosphere trap some of this long-wave heat. This helps keep the Earth warm enough for life to exist, or else it would be too cold.



The Enhanced Greenhouse Effect

happens when there are more greenhouse gases in the air, mostly because of human activities like burning fuel and cutting down trees. These gases trap more heat, making the Earth warmer than it should be.

Possible natural causes of climate change

The **Sun's output** changes in cycles of 11 years. When averaged out these changes have **no long-term** effect on climate change. The number of dark patches, **sunspots**, have caused a slight increase in the Sun's output during the first half of the **20th century**. However this does not account for global warming since **1970**

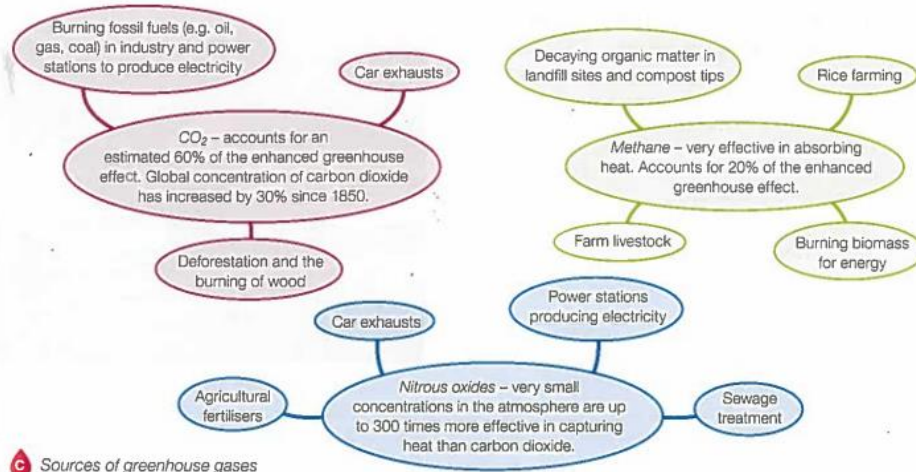
Volcanoes give off carbon dioxide, but less than **1%** of the carbon dioxide emitted by human activity. Volcanic eruptions can **cool** the global temperatures due to large amounts of **ash** blocking the Sun's rays.

The Earth's orbit changes. As the position of Earth changes sometimes it is closer to the sun so it is warmer. The Earth spins on a axis at 23.5 degrees. The tilt changes every 41000 years and the tilt can be closer to the sun

Possible human causes of climate change

The human impact

In recent years, the amounts of greenhouse gases in the atmosphere have increased. Scientists believe that this is due to human activities (diagram C).





- 1. What is the main source of heat that warms the Earth's surface?**
 - A) Long-wave radiation
 - B) Greenhouse gases
 - C) Short-wave radiation from the Sun
 - D) The Earth's core

- 2. What role do greenhouse gases like carbon dioxide and methane play in the atmosphere?**
 - A) They release heat into space
 - B) They trap some of the heat, keeping Earth warm
 - C) They block sunlight from reaching Earth
 - D) They cause the Earth's surface to cool

- 3. What does the enhanced greenhouse effect result from?**
 - A) More volcanic eruptions
 - B) Human activities like burning fuel and cutting down trees
 - C) A decrease in the Sun's energy output
 - D) Changes in Earth's orbit

- 4. What is one of the problems caused by the enhanced greenhouse effect?**
 - A) Cooling of the Earth's surface
 - B) Reduced solar radiation
 - C) Rising sea levels
 - D) Decreased frequency of storms

- 5. How long does the Sun's output change in cycles?**
 - A) 1 year
 - B) 11 years
 - C) 100 years
 - D) 1000 years

- 6. What is the effect of volcanic eruptions on the Earth's temperature?**
 - A) They cause long-term warming
 - B) They have no effect on the temperature
 - C) They can cool the Earth's temperature
 - D) They increase the amount of sunlight reaching the Earth

- 7. How much carbon dioxide do volcanoes emit compared to human activities?**
 - A) More than human activities
 - B) Less than 1% of human emissions
 - C) The same amount as human activities
 - D) Volcanoes do not emit carbon dioxide

- 8. What human activity contributes to the release of methane?**
 - A) Burning fossil fuels
 - B) Deforestation
 - C) Agriculture, especially livestock farming
 - D) Industrial manufacturing

- 9. What happens when trees are cut down in deforestation?**
 - A) More CO₂ is absorbed by the atmosphere
 - B) More oxygen is produced
 - C) Less CO₂ is absorbed, leading to higher CO₂ levels in the atmosphere
 - D) Greenhouse gases are reduced in the atmosphere



Possible Effects of Climate Change

Agriculture

- *Crop yields* are expected to decrease for all major world crops.
- Agricultural land on the edge of deserts becomes unusable, through the process of *desertification*.
- Crops could be wiped out in low-lying areas that suffer from flooding. With less crops available on the world market, prices are likely to increase.
- The growing season in some areas will increase. This is a benefit to places such as the UK as more crops could be grown.

Sea level changes

- Coastal land is at risk, especially land on *deltas*.
- Sea defences are under more stress.
- Low-lying land is threatened so the lives of 80 million people across the globe are threatened.

Water and ice

- More *mass movement* can occur as glaciers melt.
- Communities that use the melt water from glaciers may see this supply decrease. This is especially the case in Asia.
- Economies that rely on skiing as a form of income may suffer as the skiing season is reduced or disappears through lack of snow.
- Locations suffering from *water stress* will increase in number.
- Less fresh water will be available in coastal areas as it will mix with sea water, which is salty.

Population

- People will migrate from areas suffering drought. Any that remain will be in danger of dying from starvation and lack of water.
- 17 million people in Bangladesh alone will be threatened by flooding.
- As the world population increases, more people will be living in cities located on the coast. More people will be affected by coastal flooding as a result.

Managing climate change involves both mitigation (reducing causes) and adaptation (responding to change).

Managing involves both;

Mitigating (reducing the causes)

- Alternative energy production, carbon capture, planting trees, international agreements.

Adaptation (responding to change)

- Change in agricultural systems, managing water supply, reducing risk from rising sea levels.



Match the key word with the correct definition

Desertification	Adjusting to the changes caused by climate change, such as modifying agricultural practices, managing water resources, and implementing measures to protect against rising sea levels
Mitigation	The flooding of low-lying coastal land, especially in areas like deltas, which puts millions of people at risk and puts pressure on sea defences
Adaptation	The process by which agricultural land on the edge of deserts becomes unusable due to climate change, turning it into desert-like conditions, which can negatively affect crop production.
Coastal Flooding	The condition in which a region faces insufficient fresh water, often due to overuse or contamination, making it difficult for communities to meet their water needs. Climate change can increase the number of regions facing water stress
Water Stress	Efforts to reduce the causes of climate change, such as adopting alternative energy sources, using carbon capture technology, planting trees, and creating international agreements to cut down greenhouse gas emissions

Describe the potential effects of climate change on agriculture and water availability.

(4marks)

(In your answer, refer to how crop yields, water supplies, and locations suffering from water stress may be affected.)



There is some key information you need to be able to recall and explain. You can use your information sheet and PE classroom to support you if needed.

Complete the following:

EXTRINSIC FACTORS (Outside of your control)

	Factor Name	What is included in the factor?
1		
2		
3		
4		

INTRINSIC FACTORS

	Factor Name	List what is included in this factor .
1		(SPAWFAGNEM)
2		



SALTAPS is an on-field injury assessment routine – to check what treatment is required for the injured person. You need to be able to state what each letter stands for and what it means:

	Name	What happens at this part?
S		
A		
L		
T		
A		
P		
S		

DRABC – is how you would respond to a serious injury.

	Name	What happens at this point?
D		
R		
A		
B		
C		



1. Circle the two words used in PRICE therapy.

Personnel	Protection
Recovery	Rehabilitation
Immobilisation	Injection
Compress	Cause
Equipment	Environment

2. Which **one** of the following is a common symptom of diabetes?

Tick (✓) the correct answer.

- A Body temperature of 38°C
- B Extreme tiredness
- C Urinating less frequently
- D Wheezing

3. Which **one** of the following can be a treatment for epilepsy?

Tick (✓) the correct answer.

- (a) Inhaler
- (b) Ketogenic diet
- (c) Nebuliser
- (d) Rehydration sachets

4. Which **one** of the following can be a treatment for sudden cardiac arrest (SCA)?

Tick (✓) the correct answer.

- (a) Insulin injections
- (b) Lifestyle changes
- (c) Nebulisers
- (d) Wrap in blankets



Free-time activities – Film/TV/Music

Vous décrivez vos opinions sur la musique et les concerts pour votre blog.

Décrivez :

- le genre de musique que vous aimez
- un concert récent
- comment et où vous écoutez de la musique normalement
- votre opinion sur la musique française.

Écrivez environ **90** mots en **français**. Répondez à chaque aspect de la question.

VERBS; PAST PRESENT FUTURE	OPINIONS/JUSTIFICATIONS	COMPARITIVES/SUPERLATIVES
NEGATIVES	KEY VOCAB	NOTES



Describing the photo card

To start off:

Dans l'image ...	In the image
Dans la photo...	In the photo
Il y a...	There is/ are
Je vois...	I see
Je peux voir...	You can see
La photo montre...	The photo shows...

Be specific!

Au premier plan...	In the foreground
Au deuxième plan...	In the background
À gauche...	to the left
À droite...	to the right
Près de..	close to
Devant..	In front of

Weather

Il y a du soleil	it's sunny
Il fait beau	it's nice weather
Il fait mauvais	It's bad weather
Il pleut	it's raining
Il y a du vent	it's windy

What's there?

Un homme/une femme	a man/woman
Des personnes	some people
Beaucoup de personnes	lots of people
Des bâtiments	some buildings
Des arbres	some trees
Une scène de...	a scene of

Describing people

Il/elle a l'air ...	he/she seems...
Ils/elles ont l'air...	they seem..
Content(e)(s)	happy
Triste(s)	sad
Fatigué(e)(s)	tired
Énervé(e)(s)	angry

What are they doing?

Il/elle est en train de	He/she is...
Ils/elles sont en train de	They are...

parler (talking), **sourire** (smiling), **rire** (laughing),
se disputer (arguing), **marcher** (walking),
travailler (working), **jouer** (playing)

Opinion phrases

Je crois que...

I think that

Je pense que...

I think that...

J'imagine que...

I imagine that...

Je suppose que...

I suppose that...

Je suppose que...

I suppose that...

Je dirais que...

I would say that

Il me semble que..

It seems to me
that..

Cela me rappelle...

It reminds me of...

Do you like it?

J'aime/j'adore la photo



**parce que
car**



c'est (it is...)



e.g. **beau** (beautiful)

Je n'aime pas/je déteste la photo

car








c'est plein de... (it is full of)

e.g. **couleur** (colour)



1.2.2 Customer Requirements

Highlights

-  **Customer Categories:** Customers are classified into business, leisure, and local residents.
-  **Customer Rights:** Legal requirements mandate that all customers are treated equally, regardless of personal characteristics.
-  **Business Needs:** Business customers often require specific catering and conference facilities to support their professional activities.
-  **Leisure Preferences:** Leisure customers seek an enjoyable experience, valuing both budget options and luxury treatments.
-  **Local Engagement:** Local residents utilise services without needing overnight accommodation, emphasising the importance of addressing community concerns.
-  **Inclusive Offerings:** Hospitality businesses must provide inclusive options that cater to diverse customer needs.
-  **Service Variety:** Different accommodations and catering services are necessary to meet the diverse preferences and requirements of customers.

Key Insights

Diverse Customer Segmentation:

- Understanding the segmentation of customers into business, leisure, and local residents is crucial for hospitality and catering providers.
- This segmentation allows businesses to tailor their offerings appropriately, ensuring customer satisfaction across various demographics.
- For instance, recognising the different utility of facilities for business meetings versus leisure trips can enhance service delivery and customer loyalty.

Professional Amenities for Business Customers:

- There is a distinct emphasis on the specific amenities sought by business customers.
- The need for facilities like free Wi-Fi, projectors, whiteboards, and express check-ins underscores the importance of operational efficiency and professionalism within business contexts.
- Catering like early breakfast services and 24-hour room service further enhances the convenience factor, prompting businesses to meet the demands of a fast-paced work environment and ensure a seamless experience for their clientele.

Variability in Leisure Customer Needs:

- Leisure customers exhibit a broader variety of expectations and requirements, which are often influenced by the purpose of their travel.
- This could range from seeking economical accommodation options to desiring more lavish experiences.
- By segmenting leisure services into categories such as budget-friendly and luxury, hospitality providers can better attract different types of leisure customers, leading to enhanced sales and consumer happiness.

Local Residents' Usage of Facilities:

- The mention of local residents utilising hospitality services without the need for accommodation signifies an opportunity for businesses to engage with the community.
- Addressing local issues, such as noise and parking complaints when services are located in residential areas, can aid in fostering positive relationships, leading to repeat business and community support.

Legal Obligations on Inclusion:

- The legal requirement to accommodate diverse customer needs acts as a vital framework for hospitality businesses.
- The obligation to not discriminate based on age, gender, disability, ethnicity, and other characteristics ensures a wider customer base is engaged and appreciated.
- Hospitality providers that genuinely embrace inclusivity can enjoy a competitive edge, driving customer retention and enhancing their brand image.

Catering Flexibility for Diverse Needs:

- The varied catering needs of business and leisure customers highlight an essential point—the flexibility of services.
- For example, business customers require specific catering for meetings, while leisure customers prefer deluxe options that might include special dietary arrangements.
- By offering a flexible menu and nuanced understanding of dietary needs, businesses can cater effectively to both groups, securing a loyal customer base.





Importance of Comprehensive Accommodation Services:

- Ultimately, the text points out that accommodation offerings must be comprehensive to cater to varied customer bases.
- Features such as en-suite facilities, disability access, varying room sizes, and additional services like concierge help create a welcoming atmosphere.
- Different guests value different amenities, and whether it's a family needing larger rooms or a business traveller needing quiet space to work, understanding and responding to these needs can significantly boost occupancy rates and customer satisfaction.


1.2.3 Hospitality and Catering Provision to Meet Specific Requirements

Highlights

 **Understanding Customer Needs:** Recognizing and adapting to customer lifestyles is key to attracting clientele in hospitality.


 **Nutritional and Dietary Options:** Menus must cater to various nutritional requirements, including special diets.

 **Customer Time Preferences:** Different customers have varying preferences regarding meal speed, from quick service to a leisurely dining experience.

 **Demographic Insights:** Age, income, and location are crucial metrics in determining customer expectations and preferences.

 **Exceptional Service:** Regardless of the establishment type, polite and efficient service remains a cornerstone of customer satisfaction.

 **Emphasis on Trends:** It is vital for hospitality provisions to stay relevant by adopting trends such as mobile ordering.

 **Focus on Sustainability:** Increasingly, customers prefer eco-friendly options, prompting the need for sustainable practices in food provision.

Key Insights

Customer Analysis is Crucial:

- Understanding the diverse range of customer needs—such as lifestyle choices, eating habits, and financial situations—can greatly enhance service offerings.
- Since customer preferences are dynamic, ongoing research and adaptation are essential for businesses to remain competitive.

Diverse Menu Offerings:

- It is increasingly important for menus to reflect a variety of nutritional and dietary needs, such as vegetarian, vegan, or gluten-free options.
- The availability of nutritional information can empower customers to make choices aligned with their dietary concerns.

Varied Dining Preferences:

- The speed at which dining occurs is highly variable among customers; some individuals seek fast service while others look for an extended dining experience.
- Catering to both types can be a differentiator for establishments.

Demographics and Spending Power:

- Recognising the socio-economic backgrounds of potential customers helps businesses create a unique selling proposition (USP) that meets specific needs.

Expectations of Service Quality:

- Customers expect not just good food but also quality service, which plays a critical role in shaping their overall experience.
- Training staff to deliver polite and efficient service, regardless of the establishment type, can lead to repeat business and positive word-of-mouth referrals.

Adaptation to Trends:

- With rapidly evolving technology, customers now anticipate modern conveniences like mobile ordering and payments.
- Adapting quickly to such trends can enhance customer experience and satisfaction while also attracting a tech-savvy demographic that values speed and efficiency.

Environmental Responsibility:

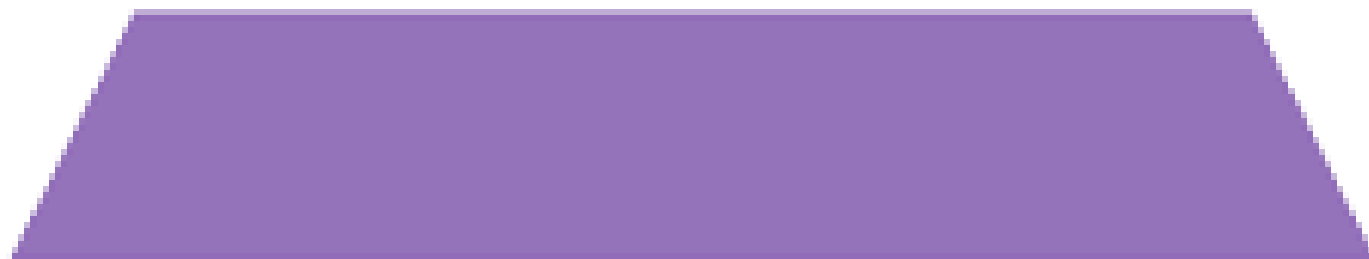
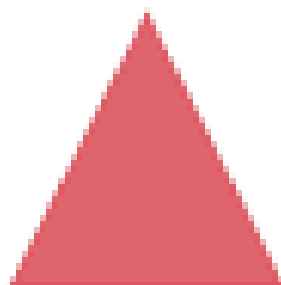
- Today's customers are increasingly aware of environmental issues and favour businesses that practise sustainability.
- This includes sourcing local ingredients and applying eco-friendly practices.



The Thinking Harder Model

Take a section of text and for the following:

- Prioritise
 1. Write the three most important sentences in the box below.
 2. Rank them 1-3
 3. Briefly explain number 1.
 4. Cross out the least important sentence.
 5. Fill out the pyramid at the bottom of this page with the most important information at the top and the least important at the bottom.





The Thinking Harder Model

Take a section of text and for the following:

- Reduce
 1. Reduce the key information into 12 words.

- Transform
 1. Transform this information into four pictures or images (no words allowed)

- Categorise
 1. Sort this information into three categories.
 2. Highlight and think of a suitable title for each category.

- Extend
 1. Write down three questions you'd like to ask an expert in this subject.

















Subject Knowledge Check



Subject Knowledge Check



Subject Knowledge Check



Subject Knowledge Check

