Year 11

Half Term Homework

November 2026

WORK HARD, BE KIND

This homework is to be completed over the half-term break. It has been specifically designed by your teachers to address knowledge gaps identified in your Year 10 end-of-year mock exams, helping you prepare for the upcoming set of mock exams following the break.

Effective revision is **crucial to your chances of success** in your GCSE exams. It is **important that you all revise extensively** and effectively to ensure that they are fully prepared for your exams throughout year 11.

Dos	Don'ts
Work in a silent space.	Simply write out notes or copy from a textbook/exercise book.
Leave your mobile phone in a different room.	Cram revision in the 'final minutes' – this overloads your working memory and can cause stress and anxiety.
Turn off all distractions including the TV and music – if you need music, ensure it is **instrumental.**	Re-read notes and do nothing with the information.
Revise with a family member rather than friends.	Highlight information for the sake of it.
Revise in smaller chunks – 25 minutes at a time and then take a five-minute break.	Work in a loud/busy space – attempting to revise while multi-tasking and doing other things isn't effective.
Space out your revision.	Only focus on **comfort zone revision** – you need to revise the hard stuff!

Use the grid below to plan when you will complete your homework this half term.

	Day / Morning / Afternoon	Completed?
English Literature		☐
English Language		☐
Maths		☐
Science		☐
Option A		☐
Option B		☐
Option C		☐
Option D		☐

	A band	B band
English	Friday 6th November	Friday 6th November
Maths	Wednesday 11th November	Wednesday 11th November
Science	Thursday 5th November	Thursday 5th November
Option A: Art, Geography, Food & nutrition, Business, Health & Social	Monday 19th November	Monday 19th November
Option B: PE, Spanish, Geography, History, Business	Tuesday 3rd November	Tuesday 3rd November
Option C:RE, Geography, French, Food & nutrition, Computer Science, Health & Social	Wednesday 4th November	Wednesday 4th November
Option D: Art, PE, RE, Drama, History	Monday 9th November	Monday 9th November

To identify your option blocks look at your timetable for your class code. For example 11A/Bus1 is option block A business. Whereas 11B/Bus1 is option block B business.

Proposed HW Schedule:

E = English, M = Maths, S=Science, ABCD Options.

	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
AM		E	S	M	E	S	M	E	S
		M	E	S	M	E	S	M	E
PM		A	B	C	D	A	B	C	D
		B	A	D	C	B	A	D	C

English

Language Paper 1

You will complete two papers. You will be provided with guidance for the first which you should follow to help you become familiar with the approaches needed to gain marks. The second, you will have to use the guidance from the first paper to help you approach this independently.

Start by reading the source and completing the table that appears after the text (max 15 min)

Reminder: you will have to draw your own table in the exam as this won't be provided for you

Source A

This extract is from the beginning of a novel by Judith Allnatt, published in 2015. It is set in a house that used to be part of a nineteenth-century silk factory. Rosie and her two children, Sam and Cara, now live in the house.

It was on their first day at the house that Rosie saw the stranger child. Standing at the sink, her hands deep in suds, Rosie was overwhelmed by the tasks that lay ahead of her. Tired after the long drive from London the evening before, she gazed vaguely at the sunlit, overgrown garden where Sam and Cara were playing.

The sash window had old glass that blunted the image, wavering the straightness of fence and washing line, pulling things out of shape. Sam was kneeling beside the patch of earth that Rosie had cleared for him, making hills and valleys for his matchbox cars and trucks by digging with an old tablespoon, and Cara was toddling from bush to bush with a yellow plastic watering can. Through the antique glass, Rosie watched them stretch and shrink as they moved, as if she were looking through ripples. She closed her eyes, glad of a moment of calm after the trauma of the last few days. Letting go of the plate she was holding, she spread her tense fingers, allowing the warmth of the water to soothe her. When she opened her eyes, another child was there.

Rosie had made a quick check of the unfamiliar garden before letting the children go out to play. The bottom half of the garden was an overgrown mess, a muddle of trees and shrubs. An ancient mulberry tree stood at the centre. Its massive twisted branches drooped to the ground in places, its knuckles in the earth like a gigantic malformed hand. The wintry sun hung low in the sky and the gnarled growth threw long twisted shadows across the undergrowth within its cage. The trunk of the tree was snarled with the tangled ivy that grew up through the broken bricks and chunks of cement, choking it. The path that led down towards the fence at the bottom, which marked the garden off from an orchard beyond, disappeared into a mass of nettles and brambles before it reached the padlocked door.

A little girl was sitting back on her heels beside a clump of daisies that grew against the fence. She had her back to Rosie and was holding tight to the handle of a large wicker basket that stood on the ground beside her. Cara seemed unfazed by the girl's presence and continued to move, engrossed, along the row of plants. Rosie bent forward to look through the clearest of the panes and peered closer. The child was small, maybe around eight or nine, although something in the tense hunch of her shoulders made her seem older. Her hair hung down her back in a matted, dusty-looking plait and she was wearing dressing-up clothes: an ankle-length dress and pinafore in washed-out greys and tans, like a home-made Cinderella* costume.

Where on earth had she come from? She must be a neighbour's child but how had she got in? The wooden fences that separated the gardens between each of the houses in the terrace were high – surely too high for a child to climb.

The child glanced over her shoulder, back towards the houses, a quick, furtive movement as if she were scanning the upper windows of the row, afraid of being overlooked. Rosie caught a glimpse of her face, pale and drawn with anxiety, before the girl turned back and reached forward to quickly tuck a piece of trailing white cloth into the basket. Almost unconsciously, Rosie registered that the girl was left-handed like herself, and that there was something animal-like in her movements: quick, like the darting of a mouse or the flit of a sparrow, some small dun creature that moves fast to blend into the background.

Something wasn't right here. She had seen distress in those eyes.

Rosie turned away, dried her hands hurriedly and slipped on her flip-flops. She would go gently, raise no challenge about her being in the garden but say hello and try to find out what was the matter. Maybe if she pointed out that her mother would be worrying where she was, she could persuade the girl to let her take her home.

But when she stepped outside, the child was gone.

Who *is involved?*	**What** *is happening?*	**When** *is it happening?*	**Where** *is it happening?*

Question 2

Follow the to-do list below on how you should approach this question

0 2 Look in detail at this extract, from **lines 14 to 23** of the source:

> Rosie had made a quick check of the unfamiliar garden before letting the children go out to play. The bottom half of the garden was an overgrown mess, a muddle of trees and shrubs. An ancient mulberry tree stood at the centre. Its massive twisted branches drooped to the ground in places, its knuckles in the earth like a gigantic malformed hand. The wintry sun hung low in the sky and the gnarled growth threw long twisted shadows across the undergrowth within its cage. The trunk of the tree was snarled with the tangled ivy that grew up through the broken bricks and chunks of cement, choking it. The path that led down towards the fence at the bottom, which marked the garden off from an orchard beyond, disappeared into a mass of nettles and brambles before it reached the padlocked door.

How does the writer use language here to describe the garden?

You could include the writer's choice of:

- words and phrases
- language features and techniques
- sentence forms.

[8 marks]



- ☐ Identify and highlight the key information
- ☐ Read through the extract and ensure you understand what is happening
- ☐ Brainstorm your initial response to the question
- ☐ Highlight the parts of the extract that best help you to imagine the garden

What does the garden look like?	How do you know?

In your Independent Work Book, write your own response to the question using the model paragraph below to guide you. You are aiming for two PETAL paragraphs in 10 minutes.

Success Criteria	
What is the writer telling us? ❑ **Make a clear point/argument** ❑ **Provide evidence to support this**	*The writer uses language to describe the garden as a potentially dangerous entity when they describe how overgrown it has become.* *This is shown when the writer says, "An ancient mulberry tree stood at the centre."*
How is the writer's method doing this? ❑ **What technique has been used** ❑ **Explain what you can infer based on your analysis**	*The writer's personification of the grand tree may show/suggest/imply/emphasises that it is as though the tree holds authority over the garden as the idea of it "standing" implies that it is above and more powerful than the other plants in the garden, while the adjective "ancient" gives it a sense of age and permanence, making it seem as though it has dominated the garden for a very long time.*
Why might the writer tell us this? ❑ **Link back to your point/argument**	*This shows that the hyena tree appears powerful and almost controlling, as though the garden belongs to it rather than the humans who might normally control it which creates the impression that the garden is an untamed and potentially threatening place where nature has taken control.*

Highlight where you have completed analysis in your own answer (broken something down and considered each part to understand a bigger picture).

Question 3

Follow the to-do list below on how you should approach this question

0 3 You now need to think about the structure of the source as a whole.

This text is from the beginning of a novel.

How has the writer structured the text to create a sense of mystery?

You could write about:

- how mystery is developed throughout the source
- how the writer uses structure to create an effect
- the writer's use of any other structural features, such as changes in mood, tone or perspective.

[8 marks]



☐ Identify and highlight the key information

☐ Read through the extract and ensure you understand what is happening

☐ Identify what the focus is at each point of the extract and make note of this in the margin - *tip: if you were watching it as a film, what would the camera be focused on at each point?*

Complete the table below to help plan your written answer.

When	Focus	Evidence	Effect
Beginning			
Middle			

End			

In your Independent Work Book, write your own response to the question using the model paragraph below to guide you. You are aiming for three PEA paragraphs in 10 minutes.

Success Criteria	
What is the writer focussing on? ❑ **Make a clear point/argument** ❑ **Provide evidence to support this** **How does this build tension?** ❑ **Explain how tension is either built/reduced** **Why has the writer focused on this at this moment?** ❑ **Consider why the writer has focused on this as this specific point**	*At the beginning of the extract, the writer focuses on Pi's memory of what his father told him about hyenas* *This is shown when the writer says, "I had not forgotten Father's words" where he recalls that hyenas are "hardy attackers" and "clever".* *This builds tension because we are made aware from the start of the text that the hyena poses a threat to Pi which/so causes us to become immediately invested in the boy's safety and wellbeing* *By focusing on this at the beginning, the writer establishes the hyena as a dangerous presence before Pi is forced to confront it, meaning that we already understand the potential consequences of its behaviour and anticipate that it may attack him.*

Question 4
Follow the to-do list below on how you should approach this question

0 4	For this question focus on the second part of the source, from **line 24 to the end**. The reader is not at all surprised by the disappearance of the stranger child at the end of the extract. The writer has left us in no doubt that she is just part of Rosie's imagination. To what extent do you agree and/or disagree with this statement? In your response, you could: • consider the disappearance of the stranger child • comment on the methods the writer uses to present the stranger child • support your response with references to the text. **[20 marks]**

Step 1

- ☐ Identify and highlight key information (line numbers, focus)
- ☐ Mark out the correct line numbers in the text
- ☐ Draw your planning table (completed below for you)
- ☐ Identify the two parts of the statement; add them to your planning table

Step 2

- ☐ Read back through the source and decide to what extent you agree with each part of the statement
- ☐ Mark how much you agree on your table
- ☐ Give two reasons as to why you have that opinion - this may be two reasons to agree, one reason you agree and one reason you do not, or two reasons you disagree

Step 3

- ☐ Find quotations that support each part of your evaluation (4 quotations)
- ☐ Double check these quotations have techniques that you can talk about
- ☐ Highlight the quotations you will use

Completely / mostly / somewhat / mostly disagree / disagree	Completely / mostly / somewhat / mostly disagree / disagree

In your Independent Work Book, write your own response to the question using the model paragraph (based on a different text) below to guide you. You are aiming for 3-4 PETAL paragraphs in 20 minutes.

Success Criteria	
What is the writer telling us? ☐ **Make a clear point/argument** ☐ **Provide evidence to support this** **How is the writer's method**	*I somewhat agree that the situation is funny rather than threatening because at the end the hyena is shown as laying pitifully in its own vomit presenting it as weak rather than threatening.* *This is shown when the writer says, "It stayed there, shaking and whining and turning around on itself, exploring the furthest confines of animal anguish."*

doing this? ☐ **What technique has been used** ☐ **Explain what you can infer based on your analysis** **Why might the writer tell us this?** ☐ **Link back to your point/argument**	The writer's metaphor of the hyena "exploring" its own pain and reaching the extreme limits of its distress which may show/suggest/imply/emphasise how vulnerable and pathetic the hyena has become, as "exploring" usually suggests deliberately investigating or discovering something, but here it is used to describe the animal experiencing extreme suffering which makes its distress seem almost absurdly exaggerated. This shows that the situation is presented as funny and almost comical as the hyena is shown to be weak and pitiful rather than the dangerous predator we might initially expect it to be because its shaking, whining and exaggerated suffering undermine the threatening image established earlier in the extract which makes the writer's presentation particularly effective because the contrast between the hyena's potential for violence and its pitiful behaviour makes the situation seem more humorous and ridiculous than genuinely frightening.

Question 5

Either

Write a description of a mysterious place from your imagination. You may choose to use the picture provided for ideas:



or

Write the opening of a story about an event that cannot be explained.

(24 marks for content and organisation
16 marks for technical accuracy)
[40 marks]

First, brainstorm your ideas for this question:

Choose whether you will write a description or the opening of a story and plan it using one of the structures below (5-10 min)

Write a description...		
Structure	***Plan***	***Tone***
Exposition	***What can you see? What can you hear? What can you smell? What can you feel? Put yourself in the scene: imagine you are there.***	***How do you feel about the scene? For example, are you happy to be there, or does it perhaps make you anxious?***
Shift	***What causes a shift in the tone of your setting? Something should happen or change, for example, someone may arrive, the weather may change, there may be a power outage, you might hear something, you may receive some news.***	***How do you feel in this moment? How does the change make you feel?***
Setting development	***How has the setting changed as a result of your shift? Think about how your ideas in 'exposition' can be manipulated to show a change without becoming fully changed.***	***How do you feel about the scene now? Ensure this change is made clear through your description plan.***
Zoom in	***What is something in your setting that you could go into great detail about? It could be an object, a person, a place, etc. Think about what this object looks like, but also how it makes you feel.***	***How do you feel in this moment? How does the change make you feel?***
Something changes - one line paragraph.	***To finish, you will end with a single line paragraph where something changes, leaving the reader on a cliff hanger.***	***How do you feel about the scene now? Ensure this change is made clear through your description plan.***

Opening of a story...

Structure	***Plan***	***Tone***
Time shift	***You are currently in a taxi - what has led you to this moment? Where are you going? Are you in a rush? Are you going somewhere important? Or is it just a normal day?***	***How do you feel in this moment? This will depend on why you are in the taxi.***
Atmosphere	***What is the inside of the taxi like? This description will vary depending on how you are feeling: if you are anxious then everything may feel too much and overwhelming; if you are relaxed and excited then everything may seem calm and inviting.***	***How do you feel in this moment?***
X-factor	***Something now happens that builds the pace of your story - perhaps the driver takes a wrong turn, gets stuck in traffic, there's a radio announcement or you get a message. This is the moment we start to feel nervous.***	***How do you feel in this moment?***
Imagery	***Turn to the outside of the taxi - perhaps you're getting out, or something relating to the writing prompt is happening outside of the window. Your aim here is to make your reader picture what is happening clearly.***	***How do you feel in this moment? This should be the peak of excitement/anxiety.***

Spend 35 minutes writing your description/opening. Ensure this is timed so you get used to the timings of the exam - this is the biggest struggle people face!

Check your work against the success criteria below -

Narrative Piece (Opening of a story)	Descriptive Piece
Establish the situation – Do we understand where the character is and what they are doing?	**Set the scene** – Where are we? What is the place like?
Introduce the character – Do we learn something about the character, their thoughts or feelings?	**Use the senses** – What can be seen, heard, smelt and felt?
Create an atmosphere – What mood is created at the beginning?	**Create a mood** – What atmosphere is created?
Use the senses – Can you find details showing what can be seen, heard, smelt or felt?	**Change the mood** – Where does the atmosphere change?
Use imagery – Can you find a simile, metaphor or personification that helps us picture the scene?	**Show the setting changing** – How does the setting become different?
Show, don't tell – How does the writer show the character's feelings without simply naming them?	**Zoom in** – What important thing does the writer describe in detail?
Reveal character – What do the character's thoughts, actions or dialogue tell us about them?	**Show feelings** – How are the character's feelings shown rather than simply told?
Create a shift – Where does something change or interrupt the character's situation?	**Choose strong words** – Which interesting verbs or adjectives stand out?
Build tension – How does the writer make us want to know what happens next?	**Use figurative language** – Can you find a simile, metaphor or personification?
Change the focus – Where does the writer move our attention to something new?	**Use paragraphs for a reason** – Where does the focus or idea change?
Introduce the animal – How is the animal introduced to make us interested in it?	**Vary sentences** – Can you find short and longer sentences?
Zoom in – Where does the writer slow down and describe an important moment or detail?	**Control the pace** – Where does the writing slow down or speed up?
Use varied sentence lengths – Can you find examples of short and longer sentences?	**Finish deliberately** – What creates the final impression?
Control the pace – Where does the writing speed up or slow down?	**Create an effect on the reader** – What does the writer make us think or feel?
Use paragraphs deliberately – Why has the writer started a new paragraph at particular points?	
Create a problem or mystery – What makes us want to continue reading?	
End with a hook – What final detail, question, event or piece of information makes us want to know what happens next?	
Use precise vocabulary – Which words have been carefully chosen to create a particular effect?	
Use accurate SPaG – Can you find examples of accurate spelling, punctuation and grammar?	

Literature - Macbeth

	"Fair is foul, and foul is fair" 1.1		
	"Brave Macbeth – for he deserves that name… his sword smoked with bloody execution" 1.2		
	"Stars, hide your fires; Let not light see my black and deep desires" 1.4		
	"Look like the innocent flower, but be the serpent under't" 1.5		
	"Is this a dagger which I see before me?" 2.1		
	"O, full of scorpions is my mind, dear wife!" 3.2		
	"Upon my head they placed a fruitless crown" 3.1		
	"Out, damned spot! Out, I say!" 5.1		
	"Out, out, brief candle!" “Life’s but a walking shadow,” 5.5		
	"This dead butcher and his fiend-like queen" 5.8		

Literature - A Christmas Carol

	"solitary as an oyster" 1		
	"decrease the surplus population" 1/3		
	"mankind was my business" 1		
	"a solitary child, neglected by his friends" 2		
	"a spring time in the haggard winter of his life" 2		
	"he begged like a boy to be allowed to stay" 3		
	"yellow, meagre, ragged, scowling, wolfish" 3		
	"unwatched, unwept, uncared for" [Scrooge] "lighted cheerfully" [Tiny Tim] 4		
	"as light as a feather" 5		
	"make up the fires" 5		

In your Independent Work Book, create a plan for each of the following four questions (5-10 min ea).
Then, choose one question of each text and write a full written response (30 min ea).

Section A
Shakespeare

Read the following extract from Act 3, Scene 4. Banquo's ghost has just appeared at the banquet and everyone has left Macbeth's castle.

MACBETH It will have blood, they say; blood will have blood.
Stones have been known to move, and trees to speak.
Augurs and understood relations have
By maggot pies and choughs and rooks brought forth
The secret'st man of blood.—What is the night?
LADY MACBETH Almost at odds with morning, which is which.
MACBETH How say'st thou that Macduff denies his person
At our great bidding?
LADY MACBETH Did you send to him, sir?
MACBETH I hear it by the way; but I will send.
There's not a one of them but in his house
I keep a servant fee'd. I will tomorrow
(And betimes I will) to the Weird Sisters.
More shall they speak, for now I am bent to know
By the worst means the worst. For mine own good,
All causes shall give way. I am in blood
Stepped in so far that, should I wade no more,
Returning were as tedious as go o'er.
Strange things I have in head that will to hand,
Which must be acted ere they may be scanned.

01 Starting with this extract, explore how Shakespeare presents ideas about how actions have consequences in *Macbeth*.
[30 marks]

Section A
Shakespeare

Read the following extract from Act 5, Scene 2. A group of Scottish thanes are leaving Macbeth to join with Malcolm, Macduff and the English army.

MENTEITH What does the tyrant?
CAITHNESS Great Dunsinane he strongly fortifies.
Some say he's mad; others that lesser hate him
Do call it valiant fury. But for certain
He cannot buckle his distempered cause
Within the belt of rule.
ANGUS Now does he feel
His secret murders sticking on his hands.
Now minutely revolts upbraid his faith-breach.
Those he commands move only in command,
Nothing in love. Now does he feel his title
Hang loose about him, like a giant's robe
Upon a dwarfish thief.
MENTEITH Who, then, shall blame
His pestered senses to recoil and start
When all that is within him does condemn
Itself for being there?
CAITHNESS Well, march we on
To give obedience where 'tis truly owed.

01 Starting with this extract, explore how Shakespeare presents ideas about what makes a good leader in *Macbeth*.
[30 marks]

Section B
19th Century Novel

Read the following extract stave 1. Scrooge is visited by his nephew, Fred, who wants to invite him to Christmas dinner.

"Uncle!" pleaded the nephew.
"Nephew!" returned the uncle, sternly, "keep Christmas in your own way, and let me keep it in mine."
"Keep it!" repeated Scrooge's nephew. "But you don't keep it."
"Let me leave it alone, then," said Scrooge. "Much good may it do you! Much good it has ever done you!"
"There are many things from which I might have derived good, by which I have not profited, I dare say," returned the nephew. "Christmas among the rest. But I am sure I have always thought of Christmas time, when it has come round -- apart from the veneration due to its sacred name and origin, if anything belonging to it can be apart from that -- as a good time: a kind, forgiving, charitable, pleasant time: the only time I know of, in the long calendar of the year, when men and women seem by one consent to open their shut-up hearts freely, and to think of people below them as if they really were fellow-passengers to the grave, and not another race of creatures bound on other journeys. And therefore, uncle, though it has never put a scrap of gold or silver in my pocket, I believe that it has done me good, and will do me good; and I say, God bless it!"
The clerk in the tank involuntarily applauded: becoming immediately sensible of the impropriety, he poked the fire, and extinguished the last frail spark for ever.
"Let me hear another sound from you," said Scrooge, "and you'll keep your Christmas by losing your situation. You're quite a powerful speaker, sir," he added, turning to his nephew. "I wonder you don't go into Parliament."
"Don't be angry, uncle. Come! Dine with us tomorrow."

07 Starting with this extract, explore how Dickens presents Scrooge's relationships with others in *A Christmas Carol*.
[30 marks]

Section B
19th Century Novel

Read the following extract stave 5. On Christmas day, Scrooge sees the charity collector who visited his counting house on Christmas Eve.

"My dear sir," said Scrooge, quickening his pace, and taking the old gentleman by both his hands. "How do you do. I hope you succeeded yesterday. It was very kind of you. A merry Christmas to you, sir!"
"Mr Scrooge?"
"Yes," said Scrooge. "That is my name, and I fear it may not be pleasant to you. Allow me to ask your pardon. And will you have the goodness" -- here Scrooge whispered in his ear.
"Lord bless me!" cried the gentleman, as if his breath were taken away. "My dear Mr Scrooge, are you serious?"
"If you please," said Scrooge. "Not a farthing less. A great many back-payments are included in it, I assure you. Will you do me that favour?"
"My dear sir," said the other, shaking hands with him. "I don't know what to say to such munificence."
"Don't say anything please," retorted Scrooge. "Come and see me. Will you come and see me?"
"I will!" cried the old gentleman. And it was clear he meant to do it.
"Thank you," said Scrooge. "I am much obliged to you. I thank you fifty times. Bless you!"
He went to church, and walked about the streets, and watched the people hurrying to and fro, and patted children on the head, and questioned beggars, and looked down into the kitchens of houses, and up to the windows, and found that everything could yield him pleasure. He had never dreamed that any walk -- that anything -- could give him so much happiness. In the afternoon he turned his steps towards his nephew's house.
He passed the door a dozen times, before he had the courage to go up and knock. But he made a dash, and did it.

07 Starting with this extract, explore how Dickens presents ideas about social responsibility in *A Christmas Carol*.
[30 marks]

Extension work -

***Research** and create notes pages/mind maps on the following **advanced themes**:*
***Macbeth**: the war on children and lineage; the toxicity or marital intimacy; equivocation and moral dissonance; the destruction of hospitality*
***A Christmas Carol:** the theme of Christmas; the abuse and commodification of time; the multi-generational trauma of child neglect; the dehumanising power of the 'Cash Nexus'*

Science

Respiration

Fold page here

1. Define 'aerobic respiration'.
2. State the equation of aerobic respiration.
3. Is respiration endothermic or exothermic?
4. Where does aerobic respiration occur in the cell?
5. Give one importance of respiration.
6. State one response of the body to exercise.
7. What happens to the glycogen stored in muscles when you exercise?
8. What is anaerobic respiration?
9. Name the toxic substance produced by anaerobic respiration.
0. State an effect on your body after anaerobic respiration.
1. Define 'oxygen debt'.
2. What do plants make in anaerobic respiration?
3. Give one use of yeast doing anaerobic respiration.
4. Give one example of a metabolic reaction in cells.
5. State a function of liver.

1. Exothermic reaction that breaks down glucose to release energy using oxygen
2. Glucose + Oxygen --> Carbon dioxide + Water
3. Exothermic
4. Mitochondria
5. Metabolic reactions (eg. Build)/Muscle contraction/Mainting body temp/Active transport
6. Increase heart rate/breathing rate/Glycogen coverted to glucose/Increase blood flow to muscles
7. Converted into glucose for respiration
8. Breakdown of glucose to release small amount of energy without the use of oxygen
9. Lactic acid
10. Muscle fatigue
11. Amount of oxygen needed to break down lactic acid
12. Ethanol and carbon dioxide
13. Making bread/alcohol
14. Convert glucose to glycogen,starch,cellulose/Make lipids/proteins/Respiration/Photosynthesis/Breakdown of proteins
15. Detoxification/Breakdown of old blood cells/Remove lactic acid (convert to glucose)

Topic	Respiration
Qu	Explain the process of aerobic / anaerobic respiration in the human body
Info	**Oxygen Requirement:** Aerobic respiration requires **oxygen**, whereas anaerobic respiration occurs in the **absence** of oxygen. **Oxidation of Glucose:** In aerobic respiration, glucose is **fully broken down** (oxidized). In anaerobic respiration, glucose is only **partially broken down**. **Energy Yield:** Aerobic respiration releases a **large amount of energy** (high ATP yield), while anaerobic respiration releases a much **smaller amount of energy** per glucose molecule. **End Products: Aerobic:** Carbon dioxide and water ($C_6H_{12}O_6 + 6O_2 \rightarrow 6CO_2 + 6H_2O$). **Anaerobic (in animals):** Lactic acid. **Respiration During Exercise** **Increased Heart & Breathing Rate:** Your heart rate, breathing rate, and breath volume increase. This speeds up the delivery of oxygenated blood to the muscles and the removal of CO_2. **The Switch to Anaerobic:** If you exercise intensely (like sprinting), your body cannot supply oxygen fast enough. Your muscles switch to **anaerobic respiration**, which causes a buildup of **lactic acid**. **Oxygen Debt:** After high-intensity exercise, you keep breathing heavily. This is to "repay" the **oxygen debt**—the extra oxygen needed to react with the accumulated lactic acid and remove it from the cells.
Top Tip	If they give you information in the exam question interpret it and discuss it, but make sure that you use your own knowledge as well. This is important as you won't get many marks (if any) by just repeating what they have given you in the question.
Model Answer	**Compare the processes of aerobic and anaerobic respiration in muscle cells. (4 Marks)**

	Aerobic respiration	**Anaerobic respiration**
Oxygen	Requires oxygen	Does not require oxygen
Glucose	Glucose is broken down in carbon dioxide & Water	Glucose is broken down into lactic acid
Where?	Mitochondria	Cytoplasm
Energy	Releases a large amount of energy	Releases a small amount of energy

Practice	1. Construct your own conclusion for this model answer. 2. Learn and practice the model answer above. 3. It's common for this question to be linked with exercise

Chemical bonding

Fold page here

1. What are the three types of chemical bonds?
2. What is an ionic bond?
3. What is a covalent bond?
4. What is a metallic bond?
5. How does an ionic compound form?
6. What is the charge of an ion from group 1?
7. What is the charge of an ion from group 2?
8. What is the charge of an ion from group 6?
9. What is the charge of an ion from group 7?
10. What is an ionic compound?
11. What are simple molecules?
12. What is the state symbol for a solid?
13. What is the state symbol for a liquid?
14. What is the state symbol for a gas?
15. What is the state symbol for a solution?
16. What are the properties of ionic compounds?
17. Why do ionic compounds have high melting and boiling points?
18. Why can't ionic compounds conduct electricity when solid?
19. Why can ionic compounds conduct electricity when molten or dissolved?
20. What are the properties of simple molecules?
21. Why do simple molecules have low melting and boiling points?
22. What are examples of giant covalent structures?
23. What is the structure of diamond?
24. What is the structure of graphite?
25. Why can graphite conduct electricity?
26. Why do diamond and graphite have high melting and boiling points?
27. What is graphene?
28. What are the properties of graphene?
29. What are fullerenes?

1. Ionic, covalent and metallic bonds.
2. A bond between a metal and non-metal in which electrons have been exchanged.
3. A bond between two non-metals in which electrons are shared.
4. A bond between metal atoms in which electrons are delocalised.
5. The metal loses electrons to get a full outer shell becoming a positively charged ion while the non-metal gains electrons becoming a negatively charged ion. The oppositely charged ions are electrostatically attracted to each other.
6. 1
7. 2
8. -2
9. -1
10. A giant structure of ions which are held together by strong electrostatic forces of attraction between oppositely charged ions.
11. Small molecules such as oxygen and water that contain atoms joined together by covalent bonds.
12. (s)
13. (l)
14. (g)
15. (aq)
16. High melting and boiling point. Don't conduct electricity when solid but do when molten or dissolved.
17. Strong bonds between molecules which takes lots of energy to overcome.
18. Ions are unable to move freely.
19. Ions are free and so are able to move.
20. Low melting and boiling point. Poor conductors.
21. Weak bonds between the molecules and so little energy is needed to overcome these bonds.
22. Diamond and graphite
23. Each carbon atom is covalently bonded to 4 others in a giant structure.
24. Each carbon atom is covalently bonded to 3 others in a giant structure.
25. It has free electrons which are able to move.
26. Strong covalent bonds between atoms which take lots of energy to overcome.
27. A single layer of graphite.
28. Conducts electricity and very strong.
29. Molecules of carbon atoms with hollow shapes.

Topic	Chemical bonding
Qu	Explain why X has a high / low melting or boiling point Explain why X is a good conductor of heat / electricity
Top Tip	Identify the type of bonding that is in the question Covalent – Non-metals Metallic – Metals Ionic – Metals & Non-metals Anything that has a high melting or boiling point requires lots of energy to overcome to forces of attraction (ionic / metallic) or intermolecular forces (covalent) Conduction: Metals conduct electricity because they have delocalized **electrons** Ionic bonds conduct electricity because they have delocalized **Ions**
Model Answers	Explain why diamond has a high melting points • Each carbon has 4 strong covalent bonds • Requires lots of energy to overcome • The covalent bonds Explain why molten or dissolved ionic compounds can conduct electricity - Ions are free to move around - A charge can move through the structure / mixture Explain why alloys of metals are stronger than pure metals - Different atoms have different sizes - This disrupts the layers of atoms - Layers cannot slide over each other easily Explain why Metals have a high melting point - Requires lots of energy - To overcome forces of attraction / Metallic bonds Explain why oxygen is a gas at room temperature - Little energy is required - To overcome the intermolecular forces - Between molecules of oxygen
Practice	1. Construct your own conclusion for this model answer. 2. Learn and practice the model answers above.

P6: Particles and Matter

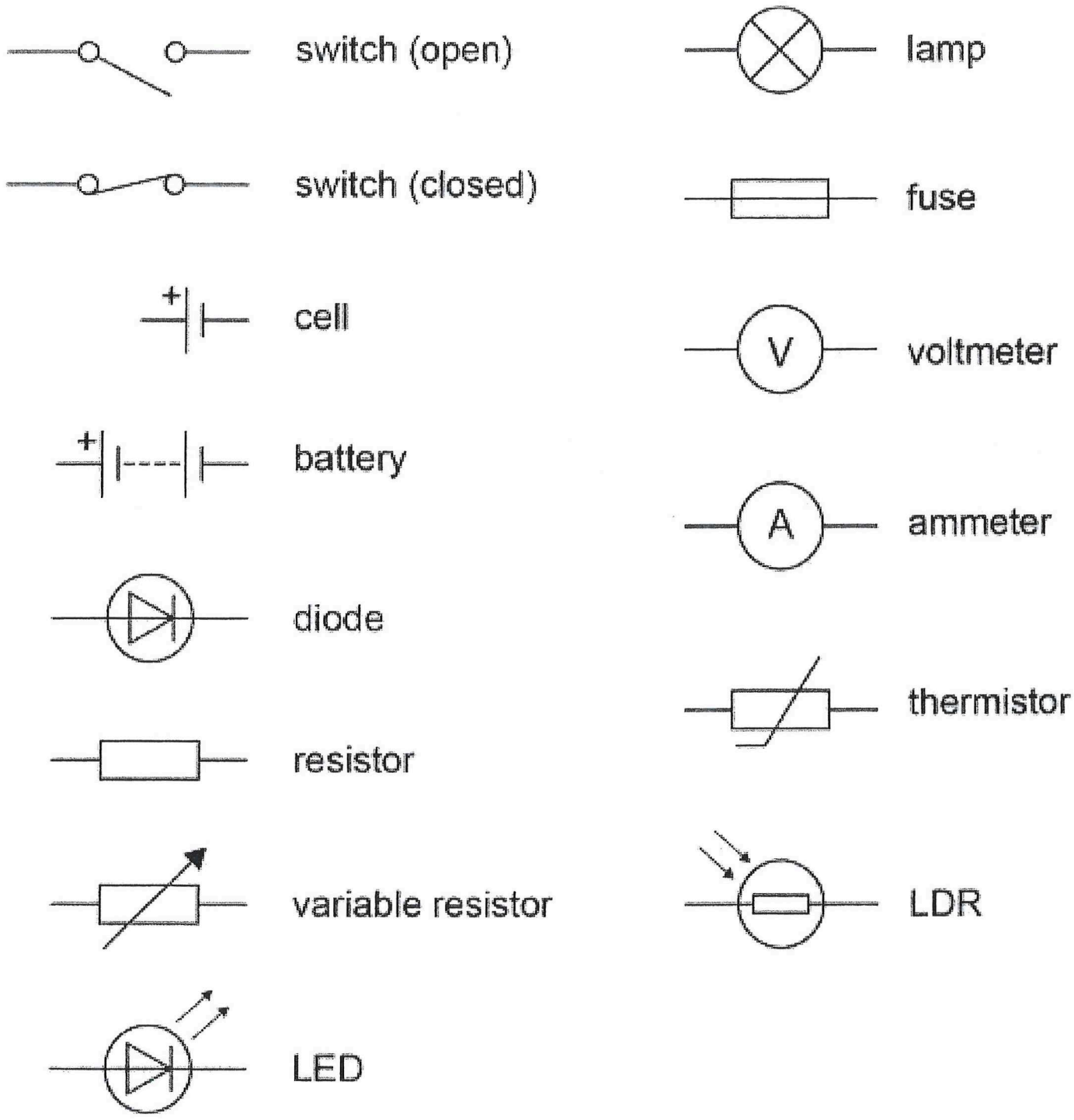
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1. What is the equation for density?
2. What are the units for density?
3. What are the units for mass?
4. What are the units for volume?
5. How are the particles in a solid arranged?
6. How are the particles in a liquid arranged?
7. How are the particles in a gas arranged?
8. How are changes in state different to chemical changes?
9. Which state of matter is most dense?
0. What are the names of the five state changes?

1. How do you measure the volume of a regular solid.
2. How do you measure the volume of an irregular solid.
3. How do the molecules in a gas move?
4. What happens to the speed of particles in a gas as the gas is heated?
5. What happens to pressure if the size of a container is reduced?

1. $\rho = m \div V$
2. kg/m^3
3. kg
4. m^3
5. The particles are touching and vibrate around a fixed pattern.
6. Particles are touching but not in fixed positions. They are free to flow around.
7. Particles are far apart and move around quickly and randomly.
8. The material recovers its original properties if the change is reversed.
9. Solid.
10. Melting (solid → liquid), evaporating (liquid → gas), freezing (liquid → solid), condensing (gas → liquid), sublimating (solid → gas/gas → solid).
11. Measure the length of the three sides and multiply together.
12. Place the irregular solid in water in a measuring cylinder. Measure how much the water level has gone up by.
13. In random motion.
14. The speed of the particles increases as the gas is heated.
15. The pressure would increase as particles would hit the walls of the container more often.

Topic	P6 Particles and Matter
Qu	Identify and explain the properties of _____
Info	You could be asked this question for solids, liquids and gases. To answer this question, you need to: 1. Describe its shape and if it can flow 2. Link the state of matters shape and ability to flow to the forces of attraction between the particles. 3. Describe its density and if it can be squashed or compressed. 4. Link the density and ability to be compressed of the state of matter to the closeness of the particles.
Top Tip	Link the properties of the states of matter to the arrangement of particles.
Model Answer	**Identify and explain the properties of a gas.** *1. A gas can flow and will completely fill a container that they are in.* *2. This is because there are very little forces of attraction between the molecules and so they are able to move freely.* *3. A gas has a very low density and can be squashed and compressed.* *4. This is because the particles are very far apart and so there is lots of space between them.*
Practice	1. Learn and practice the model answer above. 2. Prepare and learn model answers to identify and explain the properties of solids and gases.



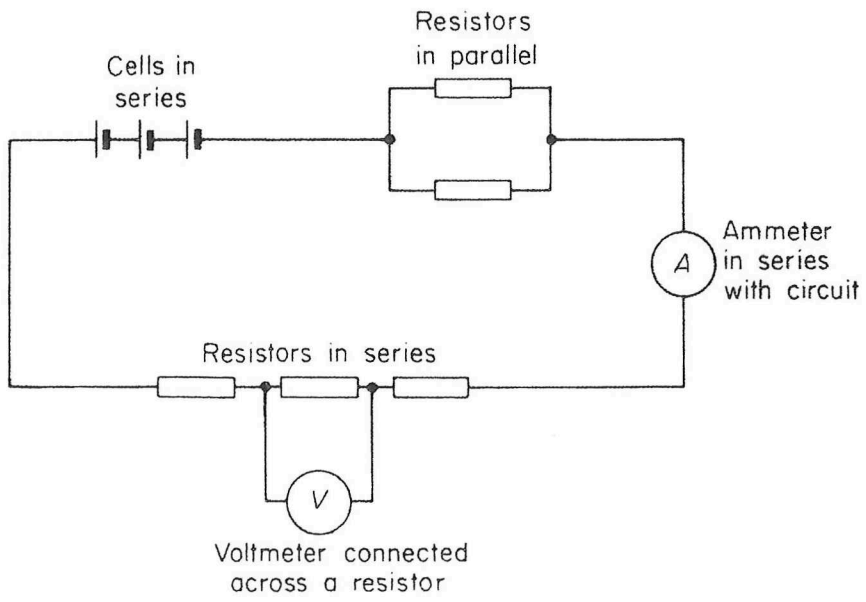


Fig. 35.4. Use of symbols in an electric circuit

Business

Q1.

Identify **two** consequences for a business of producing poor quality goods.

1 _____

_____

2 _____

_____

(Total 2 marks)

Q2.

Explain **one** cost of maintaining quality during the production of a product.

_____

_____

_____

_____

(Total 2 marks)

Q3.

Sunny Rooms Ltd

Sunny Rooms Ltd is a family-run chain of four small seaside hotels in Cornwall. The hotels' customers are mainly families looking for a low-cost holiday by the sea. Each hotel is managed by one of the four family members who own the business.

Staff at the hotels are often young and new to this type of work. Wages are low and there is a high turnover of staff. Recent feedback from some guests on social media suggests that their holidays were let down by rude hotel staff and poor-quality service. Sunny Rooms' owners believe they need to improve the induction training that new employees receive.

More families are choosing to take their holiday in the UK. This is because foreign holidays have increased in price and people are becoming worried about travelling abroad. There has been an increase in the number of wealthier visitors coming to Cornwall. Sunny Rooms' owners believe that the market is changing and want to target wealthier customers. They are unsure if it would be better for their future profits to buy two higher-quality hotels, or to upgrade the existing four hotels by improving the facilities that they offer.

Identify **two** items of induction training that Sunny Rooms could use and state how each would help improve the quality of the service provided by new employees.

Item 1 _____

_____

_____

Item 2 _____

(Total 4 marks)

Q4.

Cupcake Joy

Cupcake Joy was started by housewife Vanessa Naylor in 2005, with the objective of earning a profit of £3000 per year by working part-time. Based at home, Vanessa has been successfully supplying high-quality cupcakes to local customers for weddings and birthday parties. As Vanessa has gained customers, it has been increasingly difficult to actually produce enough cupcakes at home. With ingredients and packaging piled up around Vanessa's house, production is becoming very inefficient.

Now that her husband has retired, Vanessa wants to expand her business and has decided to hire a small local industrial unit where she plans to bake and decorate her cakes. She will form a private limited company and take on a school leaver to help, full-time, with the production of the cakes. Vanessa plans to pay her trainee the minimum wage because she needs to keep her costs as low as possible. However, since the work will be fairly simple and very repetitive, Vanessa is worried about how to motivate the trainee.

Explain **one** benefit to Cupcake Joy of improving its efficiency in producing its cupcakes.

(Total 4 marks)

Q5.

Dotis Ltd

Dotis Ltd is a long-established glassware business that makes luxury crystal glasses and bowls. The company, which is based in an area of high unemployment, employs about 200 local people. Many of the workers have been at *Dotis Ltd* all their working lives and their

parents and grandparents also worked there. Currently, many of *Dotis Ltd's* employees are over 50.

The quality of the glassware is checked at the end of the production process. *Dotis Ltd* has noticed recently that the percentage of glassware items rejected for being below standard has risen from 5% to 13%. The manager believes that some of the older employees are not as skilled as they used to be. The below-standard items are sold to wholesalers at about a third of the normal price, or scrapped if they are very poorly made.

Dotis Ltd is thinking of opening a shop at the factory to sell its products directly to the public. The shop would sell both quality and below-standard glassware. This factory shop would need a manager to supervise the 16 employees who would be working there. The plan is to use older employees as shop assistants.

Explain how *Dotis Ltd* might reduce the percentage of below-standard glassware that it produces.

(Total 4 marks)

Q6.

Budget Signs Ltd

Budget Signs Ltd has recently set up as a sign making business. It uses batch production to make a large range of standard signs for hotels and restaurants. It also specialises in producing other individual advertising signs and badges. These are used by local businesses to promote themselves. *Budget Signs Ltd* has purchased the latest computer technology to help it to design and produce the signs and badges.

Budget Signs Ltd has been trading for only six months but a problem has recently happened. Its biggest customer has complained that the items it has received are incorrect. It says that the signs are the wrong size, the wrong colour and contain spelling mistakes, making them impossible to use.

Cash flow is already difficult for *Budget Signs Ltd*. Its customers often do not pay until six to eight weeks after the work has been completed. Its suppliers, however, expect to be paid on delivery. Its workers are also paid weekly. *Budget Signs Ltd* is considering what action it could take to improve its cash flow.

Explain the benefits to *Budget Signs Ltd* of producing quality products.

(Total 4 marks)

Q7.

Krispy Kreme

Since opening in 2003 Krispy Kreme has expanded steadily in the UK. There are now 45 stores and coffee shops with another 35 planned for the next few years. Quality is an important part of Krispy Kreme's business as all doughnuts have to be made with quality ingredients to the original secret recipe from America.

To ensure perfection every doughnut is made in one of only 13 larger stores. They are then delivered to local outlets. To make sure they are fresh each doughnut has a shelf life of only one day.

All new employees follow an induction programme. These covers understanding the importance of quality and health & safety procedures. Krispy Kreme aims to keep the top hygiene rating of 5 at all its stores.

Krispy Kreme wants staff to enjoy their work and take pride in their job. Employees focus on:

- being passionate about their work, and believing in the quality products
- demonstrating initiative, creativity and problem-solving skills.

Incentive schemes and a national annual awards ceremony are organised to celebrate successes.

There are formal training sessions as well as support from line managers, peers and trainers. Additionally, Skills Workshops and Talent Workshops offer support for those keen to further their careers. There are many career opportunities and internal promotions are frequent. Krispy Kreme is proud that over 60% of senior positions are recruited internally.

A Krispy Kreme app is available to customers in the USA. Other major coffee shop chains in the UK have apps for customers to use that include a store locator, offers, loyalty bonuses and menus. App developers have quoted £30 000–40 000 to create an app.

Analyse the effects that the growth of Krispy Kreme may have on maintaining the quality of their doughnuts.

(Total 6 marks)

Q8.

Greengrass Mowers

Greengrass Mowers prides itself on the quality of its products and its high standard of customer service. The company aims to ensure that very few lawnmowers are returned as faulty after they are sold. The lawnmowers are designed to give customers at least 20 years of use. Other lawnmower manufacturers work on having a maximum 10 year working life.

The high quality of the product makes it more expensive to manufacture. To help reduce costs, Greengrass Mowers managers are thinking of introducing Just In Time (JIT) stock control. The business receives parts for the lawnmowers from about 40 suppliers, including some in China.

Interest rates in the UK have been at a low level for many years. Greengrass Mowers' managers believe that it is likely interest rates will start to rise before long. The managers realise that if interest rates do go up this will affect the business. Higher interest rates will make it more expensive for Greengrass Mowers to pay for its overdraft and any loans it takes out to invest in the company.

Greengrass Mowers is known for its high quality. The company wishes to reduce its costs to make it more competitive with foreign lawnmower manufacturers. It has been suggested that Greengrass Mowers could reduce costs by not having such a high-quality product.

Recommend whether Greengrass Mowers should continue to produce high quality lawnmowers. Give reasons for your recommendation

(Total 9 marks)

Q9.

Sunny Rooms Ltd

Sunny Rooms Ltd is a family-run chain of four small seaside hotels in Cornwall. The hotels' customers are mainly families looking for a low-cost holiday by the sea. Each hotel is managed by one of the four family members who own the business.

Staff at the hotels are often young and new to this type of work. Wages are low and there is a high turnover of staff. Recent feedback from some guests on social media suggests that their holidays were let down by rude hotel staff and poor-quality service. Sunny Rooms' owners believe they need to improve the induction training that new employee receive.

More families are choosing to take their holiday in the UK. This is because foreign holidays have increased in price and people are becoming worried about travelling abroad. There has been an increase in the number of wealthier visitors coming to Cornwall. Sunny Rooms' owners believe that the market is changing and want to target wealthier customers. They are unsure if it would be better for their future profits to buy two higher-quality hotels, or to upgrade the existing four hotels by improving the facilities that they offer.

More families are choosing to stay in the UK for their holidays. Sunny Rooms' owners want to attract some of the wealthier visitors to Cornwall who would have normally gone abroad. They are considering two options to achieve this:

- buying two more higher-quality hotels to add to their chain, or
- spending money on improving the facilities in their existing four hotels.

Recommend to the owners of Sunny Rooms which option would be better for them.
Use the text above to support your answer.

(Total 9 marks)

EXTRA SPACE

Geography

Revision Summary

Hurrah, you've reached the end of Unit 2B — time to see what you know.

- Try these questions and tick off each one when you get it right.
- When you're completely happy with a subtopic, tick it off.

For even more practice, try the Retrieval Quiz for Unit 2B — just scan this QR code!

Unit 2B Quiz

Development (p.111-113) ☐

1) What is development?
2) What is meant by the development gap?
3) List five measures of development.
4) Give one way countries can be classified.
5) What do HIC, LIC and NEE stand for?
6) Describe the five stages of the demographic transition model.
7) How is a country's level of development linked to the different stages of the DTM?

Uneven Development (p.114-117) ☐

8) How can climate result in uneven development?
9) Explain how debt can cause uneven development.
10) Give two historical factors that can affect how developed a country is.
11) What are the consequences of uneven development?
12) a) Explain how debt relief can reduce the global development gap.
    b) Give four other strategies to reduce the global development gap.
13) a) Name one country that is trying to grow tourism to close the development gap.
    b) Give one positive and one negative effect for the country of this increase in tourism.

Economic Development in India (p.120-123) ☐

If you've learned about a different country, try answering these questions for the country you've studied instead.

Do Nigeria here!

14) What is India's current level of development?
15) How is India's industrial structure changing?
16) What is a TNC?
17) Explain how India's trading relationship with the wider world is changing.
18) What is the difference between short-term and long-term aid?
19) Explain the difference between top-down and bottom-up aid.
20) Describe the impact of India's economic development on quality of life.
21) Describe the environmental impacts of India's economic development.

Economic Development in the UK (p.124-128) ☐

22) What sort of industry has become more important as the UK becomes post-industrial?
23) Why has there been an increase in the number of science parks in the UK?
24) What are the main causes of economic change in the UK?
25) How can the effect of industry on the environment be reduced?
26) Why is it important that the UK continues to improve its transport networks? How is it doing so?
27) Give three examples of the UK's strong links with other countries.
28) Give two contrasting ways that changes in the UK's economy are affecting rural areas.
29) a) What is the north-south divide?
    b) How is the UK government trying to reduce the north-south divide?

Revision Summary

That's it for Resource Management and Food. Remember, you only have to study one topic out of Food, Water and Energy, so if you haven't studied Food, you only have to answer half a page of questions before moving on.

- Try these questions and tick off each one when you get it right.
- When you're completely happy with a subtopic, tick it off.

For even more practice, try the Retrieval Quiz for Unit 2C — just scan this QR code!

Unit 2C Quiz

Global Distribution of Resources (p.132) ☐

1) Give two ways that food is important to people's social well-being.
2) Give two ways that energy is important to people's economic well-being.
3) How might a lack of access to water affect the economic development of a country?
4) Which category of country consumes the most resources?

Resources in the UK (p.133-136) ☐

5) Describe how demand for seasonal food has changed in the UK.
6) Why has demand for organic food increased in the UK?
7) What are food miles?
8) Describe three ways that farming in the UK has changed.
9) Which areas in the UK have a high demand for water?
10) Why is the demand for water increasing in the UK?
11) Why does water pollution need managing?
12) Give one solution to problems of water deficit.
13) Describe how the UK's energy mix has changed since 1970.
14) Why has coal production in the UK declined?
15) Give two environmental issues caused by the exploitation of energy resources.

Food Demand, Supply and Insecurity (p.139-141) ☐

16) Give a definition of food security.
17) Explain why global food consumption is increasing.
18) Give two physical factors that affect the availability of food.
19) Explain how conflict can affect food security.
20) List five impacts of food insecurity.

Increasing Food Supplies (p.142-145) ☐

21) Explain how irrigation can increase food production.
22) What is hydroponics?
23) Give two ways that biotechnology can increase food production.
24) What is the new green revolution?
25) How can appropriate technology be used to increase food production?
26) Explain why a named large-scale agricultural development was necessary.
27) Describe three different methods of sustainable farming.
28) How does eating food that is in season help to make food supplies more sustainable?
29) a) Give an example of a local scheme in an LIC or an NEE to increase sustainable supplies of food.
    b) Explain how the scheme works.

4 This question is about your fieldwork enquiry that involved the collection of **physical geography** data.

Give the title of your enquiry that involved the collection of physical geography data.

Title of enquiry: .....

.....

4.1 Identify **one** risk that you needed to manage in your fieldwork location.

.....

.....

[1 mark]

4.2 Justify the statistical techniques you used to analyse your data.

.....

.....

.....

.....

.....

.....

[4 marks]

[Total 5 marks]

5 This question is about your fieldwork enquiry that involved the collection of **human geography** data.

Give the title of your enquiry that involved the collection of human geography data.

Title of enquiry: .....

.....

5.1 Assess the effectiveness of your data collection methods in helping you to answer your original question.

.....

.....

.....

.....

.....

.....

.....

.....

.....

[Total 6 marks]

END OF QUESTIONS

Revision Summary

That's it for River Landscapes. Time to see how much you've soaked up.

- Try these questions and tick off each one when you get it right.
- When you're completely happy with a subtopic, tick it off.

For even more practice, try the Retrieval Quiz for Unit 1C — just scan this QR code!

Unit 1C Quiz

River Valley Profiles and Processes (p.68-69) ☐

1) What does a river's long profile show?
2) Describe the cross profile of a river's lower course.
3) Name the part of the river course where vertical erosion is dominant.
4) What's the difference between abrasion and attrition?
5) Name two processes of transportation.
6) When does deposition occur?

Features of Erosion and Deposition (p.70-72) ☐

7) Where do waterfalls form?
8) How is a gorge formed?
9) What are interlocking spurs?
10) a) Where is the current fastest on a meander?
    b) What feature of a meander is formed where the flow is fastest?
11) Name the landform created when a meander is cut off by deposition.
12) What is a flood plain?
13) Where are estuaries found?
14) Outline the main features of a river estuary.

Evidence for River Landforms (p.73-74) ☐

15) What do the contour lines on a map show?
16) Give two pieces of map evidence for a waterfall.
17) Give two pieces of map evidence for a river's lower course.
18) Suggest what you might look for to identify an estuary on a map.
19) What features would you expect to see in a photo of a flood plain?
20) List the main landforms of a named river landscape.

Flooding and Flood Defences (p.75-79) ☐

21) What is river discharge?
22) What is lag time?
23) Describe two physical factors that can cause floods.
24) Explain how cutting down trees can increase flooding.
25) Define hard engineering.
26) Define soft engineering.
27) Describe how channel straightening reduces the risk of a flood.
28) Describe the disadvantages of flood warnings.
29) Describe the advantages of river restoration.
30) a) Using a named example of a flood management scheme, explain why the scheme was needed.
    b) Give two features of the scheme and explain how they reduce the flood risk.
    c) Describe the social issues caused by the scheme.

RE

Glossary Quiz – Christianity - By topic

Christian Beliefs	
	A historical record of beliefs (doctrines) held by the church of England
	Someone who believes it is not possible to know whether or not god exists
	Going up into heaven
	Someone who does not believe in the existence of god
	The action of restoring a relationship; in Christianity, Jesus' death and resurrection restores the relationship between god and human beings
	Born of
	All-good
	Disrespect towards god or something considered sacred
	The belief that the world was created in a literal six days and that genesis is a scientific/historical account of the beginning of the world
	A statement of firmly held beliefs; for example, the Apostles' Creed or the Nicene Creed
	Being nailed to a cross and left to die
	Time when god assesses a person's life and actions
	An area of Christian theology which is concerned with life after death
	Pardoning a person for a wrong committed against you; in a christian context, forgiveness doesn't always come about because the person deserves to be forgiven but out of love, mercy, and grace
	Having the freedom to choose what to do
	Undeserved love
	Place of eternal perfection, where god dwells and where some Christians believe they will spend the afterlife
	Place of punishment and separation from god
	The spirit of god, which gives the power to understand and worship
	The week before Easter
	A soul that lives on after the death of the physical body
	To take on flesh; god becomes a human being
	The son of god, who came into the world as a human being
	Suffering caused by humans such as war
	The birth of someone
	Suffering caused by natural events, such as earthquakes
	All-powerful
	A message from god in which he communicates his will
	A place where the souls of the dead are cleansed and prepared for heaven
	Restoring peace and friendship between individuals or groups
	To say sorry for, and turn away from, any wrongdoing
	Rising from the dead; also the view that after death god recreates a new body in a heavenly place
	Being saved from sin and the consequences of sin; going to heaven
	'the adversary'; one of god's angels who rebelled against the rule of god
	Anything that prevents a relationship with god, either because the person does something they shouldn't, or neglects to do something they should
	God as one being, in three persons
	The belief that because of the love and mercy of god everyone will go to heaven
	The belief that the right course of action is the one that will produce the greatest happiness of the greatest number of people
	An environment in which human beings can overcome evil by making good choices

Living the Christian life	
	A season of preparation for Christmas
	A course run by churches and local Christian groups which enables people to find out more about the Christian faith in a relaxed setting
	Apply oil to a person's head as a sign of holiness and god's approval
	The Christian ceremony that welcomes a person into the Christian community
	A power given by god, e.g. Inspired teaching
	Protecting something from being damaged or destroyed
	To change from one set of beliefs to another
	The name given to the main groups within the church
	A movement that tries to bring different Christian denominations closer together
	The surroundings in which plants and animals live and on which they depend for life
	A moment of suddenly revealing something surprising or great; in the christian calendar, epiphany is a celebration of the revelation of jesus
	The ceremony commemorating the last supper involving bread and wine; also called Holy Communion or mass
	Preaching the gospel in order to attract new believers
	Prayers for those who are suffering
	A set form of worship, usually following agreed words
	A meeting place for local believers and the community of believers who gather there
	Sending individuals or groups to spread the Christian message
	A person who preaches and invites people to convert to the Christian faith
	A form of worship which is not set
	An activity to provide services to people in need
	A community of local believers within a particular denomination
	A protestant movement that puts special emphasis on a direct and personal relationship with god through the Holy Spirit
	A journey to a religious or holy place prayer a way of communicating with god
	An important Christian ceremony
	A talk or teaching from a church leader
	A holy place
	Gifts given by god to believers, e.g. Speaking in 'tongues' a special language
	Looking after something so it can be passed on to the next generation
	Staying awake at night in order to pray; also the name given to the celebration of a festival on the eve before the festival itself
	Seeing or hearing someone or something holy
	Believers expressing love and respect for, and devotion to, god

Adultery, Advent, Aggressor, Agnostic, Ascension, Atheist, Atonement, Baptism, Benevolence, Blasphemy, Charity, Civil, Conflict, Conscientious objector, Conservation, Convert, Creationism, Creed, Crucifixion, Cybercrime, Day of judgement, Denominations, Deterrence, Disarmament, Environment, Epiphany, Eucharist, Evangelism, Execution, Fair trial, Forgiveness, Freewill, Grace, Heaven, Hell, Holy spirit, Holy war, Holy week, Human rights, Humanist, Humanity, Immortal soul, Incarnation, Jesus Christ, Just war theory, Justice, Law, Liturgical, Local church, Looting, Mediator, Mission, Missionary, Moral evil, Nativity, Natural evil, Non—liturgical, Offender behaviour programme (O.B.P.), Omnipotence, Outreach, Pacifism, Pacifist, Peacemaker, Persecution, Pilgrimage, Prophecy, Protection, Purgatory, Reconcile, Reconciliation, Reformation, Rehabilitate, Reoffend, Repentance, Resurrection, Retaliation, Retribution, Sacrament, Salvation, Satan, Sermon, Shrine, Sin, Situation ethics, Spiritual gifts, Stewardship, Terrorism, Terrorist, Torture, Treason, Trial by jury, Trinity, Violence, Vision, Weapons of mass destruction,

Marriage and Family / Matters of life and death	
	A Church area cared for by a local minister/priest/vicar
	A clear memory of a previous existence
	A family group consisting of one parent and children only
	A family group consisting of parents and children only
	A family group consisting of parents who are the same gender and children only
	A family group including more than the nuclear family e.g. grandparents living together or nearby
	A family group that includes the parents and children from their previous relationships
	A formal declaration that a marriage was not valid
	A method of controlling the amount of children a couple has
	An artificial method of controlling the amount of children a couple has
	An ethical theory that making a decision should be dependent on the set of circumstances it is in
	An ethical theory that making a decision should be dependent on whether it is useful or for the benefit for the majority
	An event that cannot be explained by science
	Animal testing or animal research. The use of non-human animals in experiments
	Another marriage after a previous marriage has ended
	Controlling the amount of children a couple has and when they have them (family planning)
	Generally in favour of a woman's right to choose to have an abortion or not
	Generally opposed to the abortion
	Life is holy
	Living together as partners and having a sexual relationship without being married
	Substances that occur naturally which can be used by humans or exploited for economic gain
	Results in a union - used to refer to marriage
	Results in the production of children
	Sexual attraction to, or activity with, someone of the same sex
	Someone who looks after or manages something for another
	Something that can be bought and sold
	Something that is holy or sacred
	Something that refers to the married relationship of a couple
	Support given to people in the final phase of life focussing on comfort & quality of life
	The act of putting to death painlessly or allowing to die
	The contamination of the environment by substances that are harmful to living organisms
	The deliberate termination of a pregnancy before the foetus can survive
	The idea that animals deserve consideration of what is in their best interests
	The idea that life is thought to have developed from earlier forms
	The idea that life is thought to have developed in order to best suit the environment they are in
	The importance of the world and space for life
	Human induced increase in average temperature of the Earth that causes changes in climate
	The legal ending of a marriage
	The legally and religiously recognised union of two people as partners in a personal relationship
	The responsibility of humanity to manage the world and animals for the next generation
	The way that all of space, matter and time began
	The way that human life began

Abortion, Animal experimentation, Animal rights, Annulment, Artificial contraception, Blended family, Cohabitation, Commodity, Divorce, Euthanasia, Evolution, Extended family, Family planning, Global warming, greenhouse effect, Homosexuality, Hospice care, Marital, Marriage, Nuclear family, Origin of human life, Origin of the Universe, Paranormal, Parish, Pollution, Pro-choice, Procreative, Pro-life, Regulation of births, Remarriage, Remembered lives, Same-sex family, Sanctity, Sanctity of Life, Single parent family, Situation ethics, Stewards, Stewardship, Survival of the fittest, Unitive, Utilitarianism, Value of the Universe,

Islam Glossary

	an Islamic calendar which determines sacred months
	a belief that there is only one God
	a classical language, spoken by around 150 million people throughout the Middle East and North Africa.
	a feeling of respect and wonder towards someone or something
	a holy book containing the sayings and actions of the Prophet Muhammad
	a holy state in which Muslims carry out the required rituals to complete Hajj or Umrah
	a mystical Islamic belief in which Muslim's seek to find the truth through direct and personal experience of Allah
	a neighbourhood of Mecca
	a nuclear, biological, or chemical weapon capable of causing death and destruction on a massive scale
	a personal prayer of the heart, often said alongside the set prayers of Salah
	a representative and steward of Allah on earth
	Abraham, the 'father' of Jews and Arabs, and 'friend of God'
	actions that are considered to be immoral and punishable by law
	Allah's final assessment of humanity at the end of the world
	an alcove in the qiblah wall, indicating the direction of Makkah
	an early scripture revealed to Ibrahim
	an event or thing that is unexplainable by natural law
	basic rights and freedoms that are believed to belong to every person
	bearing of emotional or physical pain
	belief that all humans are entitled to the same rights and privileges
	circling Ka'bah seven times on Hajj
	cousin and son-in-law of Muhammad
	declaration of faith, the first pillar of Islam
	dislike or fear of Muslims
	elemental spirits
	execution, the death penalty
	fasting from sunrise to sunset
	feeling of sympathy and concern for other people's suffering
	first human being and prophet on Earth
	five duties that are expected of every Muslim: faith, prayer, charity, fasting and pilgrimage to Makkah
	freedom from war and the fear of violence
	giving away one-fortieth of your savings for Allah's service
	giving more to charity than just Zakah
	having a low value of and confidence in oneself
	hell
	holy war or the struggle to defend Islam
	Holy war; the belief that Muslims may fight to defend their faith, but must not start the war
	Ibrahim's first son
	intention of attending Hajj
	justice which focuses on rehabilitation of offenders through reconciliation with the victim and the wider community

	legal framework of Islamic law
	messengers from Allah; there are 25 prophets mentioned in the Qur'an
	Muslim's believe that Allah is omniscient and knows the fate of every being
	Muslims who believe that Prophet Muhammad designated Ali ibn Abi Talib as his successor
	Muslim's who follow the orthodox way and believe that Prophet Muhammad's first successor was Abu Bakr
	non-violent opposition to something
	obedience and devotion to Allah
	one of the jinn who chose to forever tempt humans to sin; also known as the devil, Shaytan or Satan
	people who believe that their spiritual and emotional needs can be satisfied without following a religion
	people who do not believe in the existence of a God
	personal struggle to follow the teachings of Islam and resist evil
	pilgrimage to Makkah
	prophets who were messengers that conveyed the message of Allah in holy books or scripture
	punishment for crimes that are not as serious as *hadd*, decided by a judge
	punishment for doing something wrong
	religions that trace their roots back to the Prophet Abraham, such as Judaism, Christianity and Islam
	religious holiday which marks the end of Ramadan; also known as 'Eid-al-fitr'
	returning to life, rising from death
	ritual prayer five times daily
	sacred mount where Muslims believe Prophet Muhammed gave his final sermon
	sacred stone built into the outside wall of the Ka'bah in Makkah
	someone who has learned the Qur'an by heart
	something that discourages someone from doing something
	string of prayer beads
	taking preventative measures to reduce the chance of someone re-offending, such as helping the offender to find a job
	the abandonment of your religious or political beliefs
	the act of causing people or groups to be on friendly terms again after a disagreement
	the action of forgiving someone for their actions
	the angel who transmitted revelations to Muhammad
	the Arabic name for Mecca. Islam's holiest city, located in Saudi Arabia
	the belief that Allah knows everything that has happened and everything that is going to happen
	the belief that fighting, violence and war can never be justified
	the call to prayer
	the central sacred text of Islam, believed to be a revelation from Allah
	the communication channel between Allah and humanity
	the concept of Divine Justice, that Allah is fair and just
	the Divine announcement of information, revealed by Allah to a prophet
	the doctrine of flexibility in applying moral laws depending on the situation
	the first month of the Islamic calendar
	the highest government legislature

	the idea that human beings are free to make their own choices
	the Islamic name for heaven, meaning 'the garden'
	the Islamic name for The Book of Faith
	the Islamic name for the oneness of God
	the Islamic term for prophethood
	the Jewish holy book
	the migration from Makkah to Madinah
	the minimum amount of wealth a Muslim must earn before they need to pay Zakah
	the most serious crimes in Islam, including theft and adultery
	the mother of Ishmael and wife of Ibrahim
	the natural instinct to know the difference between good and evil
	the need to find answers and bring to criminal to justice
	the ninth month of the Islamic calendar, in which all Muslims must fast
	the period of waiting between death and judgement in Islam
	the person who does the calls to prayer
	the positive belief in different types of people and cultures belonging to one society
	the practice of compassion and non-violence towards every living creature
	the prophet chosen by Allah to deliver his message
	the prophet David, King of Israel
	the prophet Jesus
	the prophet Moses
	the prophet Noah
	the scripture revealed to King David
	the sequence of movements in ritual prayer
	the ten duties of Shi'a Islam
	the tower from which the call to prayer is given
	the use of extreme violence, often against civilians, to achieve political aims
	the wall at the front of the mosque which Muslims face when praying. It is fixed as the direction of the Kaaba in Mecca
	the way in which a child is treated and educated throughout their childhood
	the worldwide Muslim community, the nation of Islam
	things which cause suffering but have nothing to do with humans, usually as a result of a natural disaster, such as an earthquake
	to be made a holy leader, chosen by God
	to feel regret or remorse for one's actions
	to struggle or strive for Allah. See 'lesser jihad' and 'greater jihad'
	twelfth and final month in the Islamic calendar
	used as the name of God in Islam
	verses of the Qur'an
	wrongful actions done by humans which cause suffering

Answers

Abrahamic, Adalat, Adam, Adhan, Ahimsa, Ali ibn abi talib, al-Jannah, Allah, Apostasy, Arabic, Archangel Jibril, Atheists, Awe, Ayats, Barzakh, Black Stone, capital punishment, closure for the victim's family, compassionate, crimes, Dawud, Day of Judgement, Deterrent, Dhul-hijjah, divinely ordained, du'a, fitrah, Five Pillars of Islam, Forgiveness, free will, greater jihad, hadd, Hadith, hafiz/hafizah, Hajj, Harb al-Maqadis, Hagar, Hijrah, Humanists, human rights, ibadah, ihram, Isa, Isma'il, Islamophobia, Jahannam, Jihad, Jinn, Khalifah, Kitab al-Iman, Iblis, Id-ul-fitr, lesser jihad, low self-esteem, lunar calendar, Makkah, Mina, Mihrab, Minaret, Monotheistic, moral evil, Mount Arafat, Muezzin, Muharram, Musa, natural evil, nisab, niyyah, Nubuwwah, Nuh, Omniscient, Pacifism, Parliament, passive resistance, peace, pluralistic, predestination, prevention of re-offending, Prophet Ibrahim, Prophet Muhammad, Prophets, qiblah, Qur'an, Ramadan, Rakahs, rasuls, reconciliation, repentance, restorative justice, resurrection, retribution, revelation, Risalah, Sadaqah, Sahifah of Ibrahim, Salah, Sawm, Shahadah, Shari'ah law, Shi'as, situation ethics, social justice, subhah, suffering, Sufism, Sunnis, Supernatural, Tawaf, Tawhid, Tawrah, Tazir, Ten Obligatory Acts, Terrorism, ummah, upbringing, weapon of mass destruction (WMD), Zabur, Zakah

French

French Homework

1. Listening practice tasks on Module 5/6 via ActiveHub - check your email

2. Grammar revision - Adjectival agreement and position in the sentence (below) If needed to revise - PPT lesson available on your Google Classroom

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A. Complete this table with all the different forms of the adjectives

Masc. sing	Fem. sing	Masc. plural	Fem. plural	English
intelligent	intelligente			intelligent
	belle	beaux		beautiful
long			longues	long
travailleur	travailleuse			hard-working
mignon			mignonnes	cute
	jeune		jeunes	young
joyeux	joyeuse			happy / joyful
	dernière	derniers		last
sucrés		sucrés		sweet
		bons	bonnes	good
bruyant		bruyants		noisy
gros	grosse			fat
courageux			courageuses	courageous
timide		timides		shy
gentil	gentille			kind
italien			italiennes	Italian
neuf	neuve			new
blanc		blancs		white
créatif			créatives	creative
vieux	vieille			old

B. Complete the sentences with the adjective in brackets - don't forget to do the agreement.

1. Ces maisons sont très. (grand)
2. J'ai les mains. (froid)
3. Êtes-vous, madame? (fatigué)
4. Pierre et Lucie sont . (canadien)
5. Cette voiture est . (blanc)
6. Nous adorons ces fleurs. (beau)
7. Mes amies sont . (créatif)
8. Ma sœur est une élève . (travailleur)
9. Les requins sont très. (dangereux)
10. robes préférez-vous, madame? (quel)
11. Ce restaurant n'est pas . (populaire)
12. Aimes-tu la cuisine ? (vietnamien)

C. Complete the sentences with the adjective in brackets and place it before or after the noun - don't forget to do the agreement.

1. C'est la fois qu'il danse avec elle. (premier)

2. Je veux acheter une montre. (nouveau)

3. M. Martin est un homme parce qu'il mesure plus de six pieds. (grand)

4. Il y a dix enfants qui jouent dans le parc. (actif)

5. Aimes-tu la cuisine ? (français)

6. Voilà une fameuse chanteuse! Elle a une voix !(magnifique).

7. Le chien marche derrière un homme. (vieux)

8. Sa voiture est difficile à voir quand il neige. (blanc)

9. Les jouets de l'enfant sont dans cette boîte . (gros)

10. Je ne peux pas aller à l'école! J'ai un rhume! (mauvais)

11. Ces fourmis sont très actives. (travailleur)

12. Puisqu'elle est imaginative, elle a toujours de idées . (nouveau)

Spanish

GCSE EDEXCEL SPANISH – YEAR 11 HALF TERM HOMEWORK

READING

Task 1 – Read the text and answer the questions in English.

Hola, me llamo Sergio y tengo dieciséis años. Vivo en una ciudad pequeña en el norte de España con mis padres y mi hermana menor. Durante la semana voy al instituto y estudio muchas asignaturas, pero mis favoritas son inglés y educación física.

En mi tiempo libre me gusta jugar al fútbol con mis amigos y escuchar música. Los sábados normalmente salgo al centro comercial o voy al cine. No me gusta levantarme temprano porque prefiero descansar después de una semana muy ocupada.

El verano pasado fui a Valencia con mi familia. Hicimos mucho turismo, visitamos monumentos y comimos paella todos los días. El próximo año quiero viajar a Londres para mejorar mi inglés.

Questions

1. Where does Sergio live?

2. Which subjects does he prefer?

3. What does he do in his free time?

4. Why does he dislike getting up early?

5. Where did he go last summer?

6. Why does he want to go to London?

Task 2 – Translate into English.

1. Me gusta escuchar música con mis amigos.

2. El sábado pasado fui al cine con mi hermana.

3. El próximo año quiero viajar al extranjero.

4. Mis padres trabajan mucho durante la semana.

5. No me gusta estudiar cuando hace calor.

Task 3 – Translate into Spanish.

1. I usually play football after school.

2. Last weekend I went shopping with my friends.

3. My favourite subject is science because it is interesting.

4. Next summer I am going to visit Spain.

5. I do not like doing homework in the evening.

Task 4 – Writing Task

Write approximately 80–90 words in Spanish.

Tema: Travel and Tourism

You must answer the 4 bullet points:

- Describe where you normally go on holiday and what you do there. *(Present tense)*
- Give your opinions about holidays and travelling. *(Opinions and reasons)*

- Describe a holiday you went on in the past. *(Past tense)*
- Describe where you would like to travel in the future. *(Future tense)*

Task 5 – Read the text and answer the questions.

Actualmente muchos jóvenes pasan demasiado tiempo utilizando las redes sociales. Aunque la tecnología tiene ventajas importantes, también puede afectar negativamente a la salud mental y a las relaciones personales.

Por una parte, las redes sociales permiten mantenerse en contacto con amigos y familiares que viven lejos. Además, algunos estudiantes las utilizan para compartir información sobre sus estudios y ayudarse mutuamente.

Sin embargo, hay jóvenes que se vuelven adictos al móvil y pasan horas mirando la pantalla en lugar de practicar deporte o hablar cara a cara. Según varios expertos, esto puede causar estrés y falta de concentración.

En mi opinión, las redes sociales pueden ser útiles si se usan con moderación. Es esencial encontrar un equilibrio entre la vida virtual y la vida real.

Questions

1. *What is one positive aspect of social media?*

2. *How do some students use social media?*

3. *What problem do some young people develop?*

4. *According to experts, what can excessive use cause?*

5. *What does the writer think is essential?*

Task 6 – Who says it?

Read the texts and write the correct name.

Clara

"Si tuviera más dinero, viajaría por todo el mundo porque me fascina descubrir nuevas culturas."

Javier

"El verano pasado fui de vacaciones a México y lo que más me impresionó fue la comida tradicional."

Sofía

"No me gustan las vacaciones organizadas porque prefiero explorar los lugares de manera independiente."

Diego

"En el futuro quiero trabajar en el sector turístico porque me interesa conocer gente de diferentes países."

Questions:

1. *Who wants to work in tourism?* _____
2. *Who prefers independent holidays?* _____
3. *Who would travel around the world?* _____
4. *Who enjoyed traditional food abroad?* _____

Task 7 – Translate into Spanish.

Last summer I went on holiday to Spain with my family and we stayed in a hotel near the beach. I really enjoyed the experience because the weather was fantastic and the food was delicious. In the future, I would like to travel to South America because I am interested in learning about different cultures and improving my Spanish.

Task 8 – Grammar Practice (present, past, future)

Complete the sentences using the correct tense of the verb in brackets.

1. Normalmente yo _____ (ir) de vacaciones con mi familia en verano.
2. El año pasado nosotros _____ (visitar) Barcelona y _____ (comer) en muchos restaurantes.
3. El próximo verano mis amigos y yo _____ (viajar) a Francia.
4. Cuando era pequeño, siempre _____ (pasar) las vacaciones en la playa.
5. Este fin de semana _____ (hacer) turismo en Londres con mis padres.
6. Todos los días mi hermano _____ (preparar) la maleta en el último momento.
7. El verano pasado mis padres _____ (reservar) un hotel muy moderno.
8. En el futuro yo _____ (querer) trabajar en el sector turístico.
9. Ayer nosotros _____ (volver) del aeropuerto muy tarde.
10. Generalmente mis amigos _____ (preferir) viajar en avión.

**Look at the time phrase to see what tense is used.

Food & Nutrition

HALF TERM HOMEWORK - **KS4 FOOD AND NUTRITION**

GCSE Food Preparation and Nutrition for AQA

Section Four Food Choices (prep knowledge for NEA2 and Mock November 2026)

	Page	Topic - Read - Look Cover Write Check	Question	Mark	Score	Correct
1	Pg 42 - 43	Influences on Food Choice Learn 10 Factors	Q1 pg 43 2 marks Q2 pg 43 3 marks			
	Pg 54	Revision Questions	Q1-5			
2	Pg 44 - 45	Cultural Religious Moral Choices Learn 7 religions - dietary choices	Q1 pg 45 2 marks Q2 pg 45 3 marks			
	Pg 54	Revision Questions	Q 1-5			
3	Pg 48	Influences on Marketing Learn about the scope of advertising	Q1 pg 48 2 marks Q2 pg 48 2 marks			
	Pg 54	Revision Questions	Q 9-13			
4	Pg 49 - 51	British and International Cuisine Learn about the UK Cuisine Learn about International Cuisine	Q1 pg 51 3 marks Q2 pg 51 2 marks Q3 pg 51 3 marks			
	Pg 54	Revision Questions	Q14 - 15			
5	Pg 52 - 53	Sensory Testing	Q1 pg 53 2 marks Q2 pg 53 3 marks			
	Pg 54	Revision Questions	Q16 - 20			

Chapter 1: Applied Anatomy & Physiology

Look at the Question	Cover & Write	Check the Answer
1. What are the 6 functions of the skeleton?		**S**upport, **P**rotection, **M**ovement, **S**hape/Posture, **B**lood cell production, **M**ineral storage (SPMSBM)
2. Which type of bone produces red blood cells?		**Long bones** (e.g., Femur, Humerus)
3. What type of joint is found at the shoulder and hip?		**Ball and socket joint**
4. What component of a synovial joint absorbs shock?		**Cartilage**
5. What connects muscle to bone?		**Tendons**
6. What connects bone to bone?		**Ligaments**
7. In an antagonistic pair, what name is given to the muscle that contracts?		The **Agonist** (or prime mover)
8. When performing a bicep curl, which muscle acts as the antagonist?		The **Triceps**
9. What is the formula for calculating Cardiac Output (Q)?		**Heart Rate (HR) × Stroke Volume (SV)**
10. Which blood vessels contain valves to prevent backflow?		**Veins**
11. Where does gaseous exchange take place in the lungs?		The **Alveoli**
12. Write the word equation for aerobic respiration.		**Glucose + Oxygen → Carbon Dioxide + Water (+ Energy)**

13. What is the fatiguing byproduct of anaerobic respiration?	**Lactic acid**

📐 Chapter 2: Movement Analysis

Look at the Question	Cover & Write	Check the Answer
14. What order are the components in a first-class lever?		**Effort - Fulcrum - Load** (Fulcrum is in the middle, e.g., neck extension)
15. Give an example of a second-class lever in the body.		**The ankle joint** during plantar flexion (calf raise)
16. Which lever system operates at a mechanical disadvantage?		**Third-class lever** (Effort is in the middle, e.g., bicep curl)
17. Which plane divides the body into left and right halves?		The **Sagittal plane**
18. Cartwheels happen along which plane and axis of movement?		**Frontal plane** and **Sagittal axis**
19. What movement decreases the angle at a hinge joint?		**Flexion**
20. What movement moves a limb away from the midline of the body?		**Abduction**

🏃 Chapter 3: Physical Training

Look at the Question	Cover & Write	Check the Answer
21. What are the 4 principles of training represented by the acronym **FITT**?		**F**requency, **I**ntensity, **T**ime, **T**ype
22. What fitness test measures balance?		**Stork Balance Test**

23. What fitness test evaluates power?	**Vertical Jump Test** (or Standing Broad Jump)
24. What fitness component is measured using a Handgrip Dynamometer?	**Muscular Strength**
25. What type of training utilizes varied speeds and terrain types?	**Fartlek training**
26. What does **DOMS** stand for?	**Delayed Onset Muscle Soreness**

*Sarah is an elite marathon runner who is planning to include **altitude training** in her pre-season program to improve her performance. Analyze the long-term adaptations of altitude training on the cardiorespiratory system and evaluate how these adaptations will benefit Sarah during a marathon. (9 marks)*

Model Answer:

Altitude training involves training at high altitudes (usually over 2,000m above sea level) where the partial pressure of oxygen is lower, meaning there is less oxygen available. The cardiorespiratory system adapts to this hypoxic environment over time by releasing the hormone EPO, which stimulates the bone marrow to produce more red blood cells and increase hemoglobin levels.

Long-term cardiorespiratory adaptations also include **cardiac hypertrophy**, which is the thickening of the muscular wall of the heart. This increases Sarah's stroke volume (the volume of blood pumped per beat) and consequently increases her maximum cardiac output. Additionally, her respiratory muscles (diaphragm and intercostals) become stronger, increasing her vital capacity, and capillarization increases around both the alveoli and the skeletal muscles.

In evaluating the benefit to Sarah, the increase in red blood cells and hemoglobin substantially raises her oxygen-carrying capacity. When she returns to sea level to compete in a marathon, her blood can transport oxygen to her working muscles much more efficiently. Combined with an increased stroke volume, her body can deliver oxygenated blood to the quadriceps and hamstrings at a faster rate.

This heavily delays the onset of fatigue and prevents her body from dropping into anaerobic respiration (which produces performance-inhibiting lactic acid). Consequently, Sarah will be able to maintain a higher, more consistent running pace throughout the 26.2 miles, significantly improving her overall marathon time.