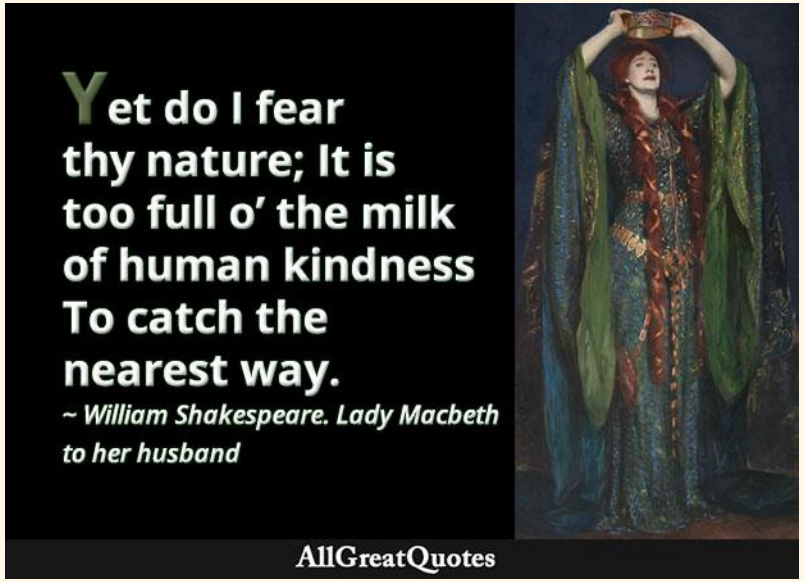
Year 10 Work Pack

In addition to the work contained in this pack, complete additional work on SPARX

English



Task 1 – Key Vocabulary
Write short definitions:
- **Nature (in this context):**
- **Kindness:**
- **Milk (symbolic meaning):**

Task 2: Exlpain why this is a metaphor.

Task 3 – Short Answers
1. Who is speaking this line?
2. Who are they talking about?
3. What is Lady Macbeth worried Macbeth will NOT do?
4. What does this line suggest about Macbeth's character at this point in the play?

Task 4– Inference Task (3–4 sentences)
Explain what Shakespeare is showing about Macbeth's personality.
Use this starter if needed:
Shakespeare presents Macbeth as surprisingly gentle and moral, because Lady Macbeth believes…

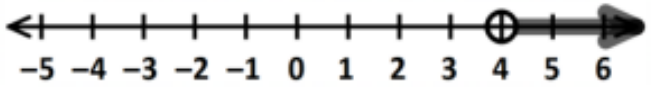
Maths

TASK 1

$x - 3 > 1$

$+3 \quad +3$

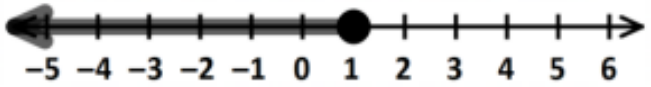
$x > 4$



$x + 2 \leq 3$

$-2 \quad -2$

$x \leq 1$



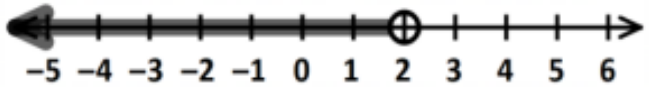
TASK 2

$3x - 2 < 4$

$+2 \quad +2$

$3x < 6$

$x < 2$

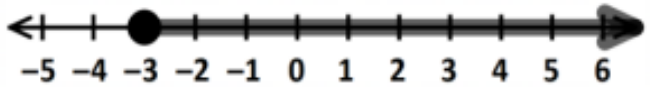


$2x + 5 \geq -1$

$-5 \quad -5$

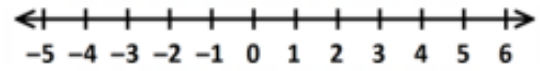
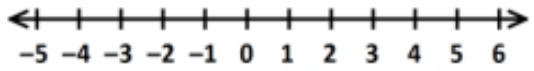
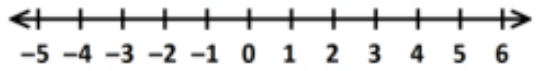
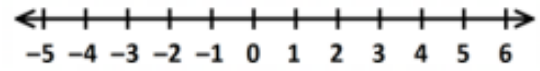
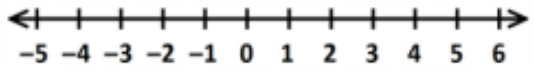
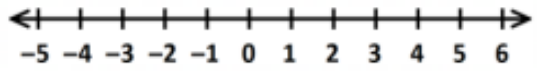
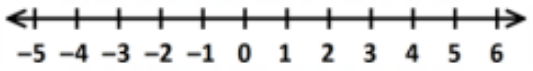
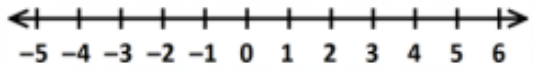
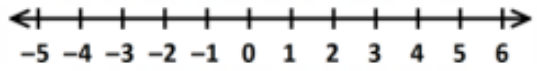
$2x \geq -6$

$x \geq -3$



Maths

TASK 1 Solve the inequalities and represent the solution on the number line

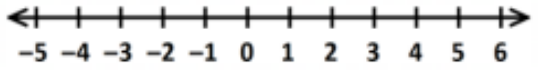
1 $x - 9 < -11$ 	2 $x + 7 < 9$ 	3 $x - 7 \geq -4$ 
4 $x + 18 < 15$ 	5 $x + 9 > 10$ 	6 $x + 9 \geq 8$ 
7 $x - 9 < -11$ 	8 $x + 19 < 18$ 	9 $x + 4 \geq 9$ 

Maths

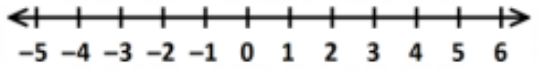
TASK 2

Solve the inequalities and represent the solution on the number line

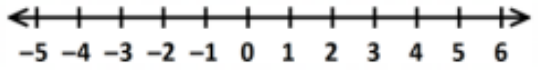
1 $8x + 2 \leq 42$



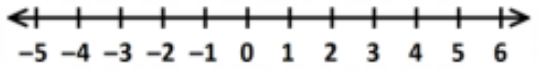
2 $7x + 6 < 13$



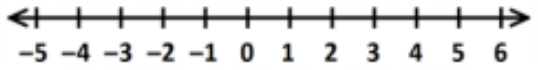
3 $6x + 11 \geq 29$



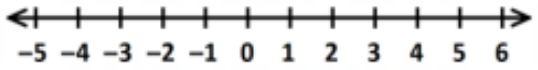
4 $12x + 2 > -34$



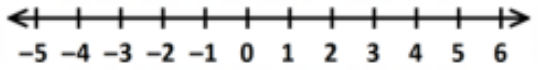
5 $2x - 11 \leq -3$



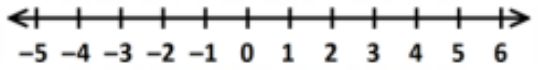
6 $11x + 2 > -9$



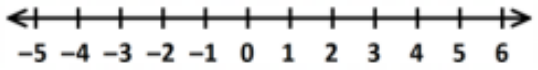
7 $4x - 12 > -4$



8 $12x - 7 \leq -43$



9 $12x + 5 > 53$



Spanish

1. Write down the form of the correct adjective in brackets in Spanish.

1. Me llamo Laura y soy muy _____ (smart).
2. Mis padres son muy _____ (calm).
3. Me encanta salir con mis amigas porque son muy _____ (fun).
4. Yo tengo un perro _____ (black) pero mi hermana tiene dos gatas _____ (white).
5. Mi madre es _____ (Italian) pero mi padre es _____ (Moroccan).
6. Yo vivo en una casa muy _____ (big) pero el año pasado vivía en un piso bastante _____ (small).

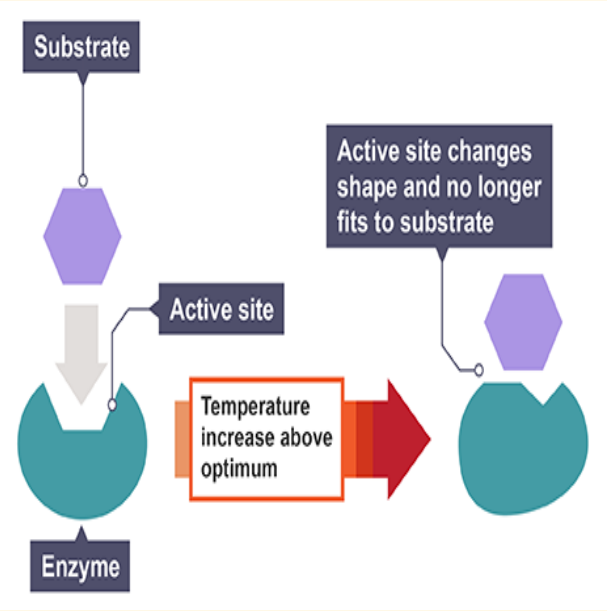
2. Find one mistake on each sentence. Rewrite the sentences correctly.

1. Las amigas de Elena son muy guapa. _____
2. Mis padres son muy estricto. _____
3. En mi opinión, el libro es aburrida. _____
4. Las redes sociales son adictiva. _____
5. El perro de mi hermana es negra. _____
6. Mi familia es muy divertidas. _____
7. Mi mejor amigo es inteligento. _____

Extension: translate the sentences from activity 1 into English.

Science

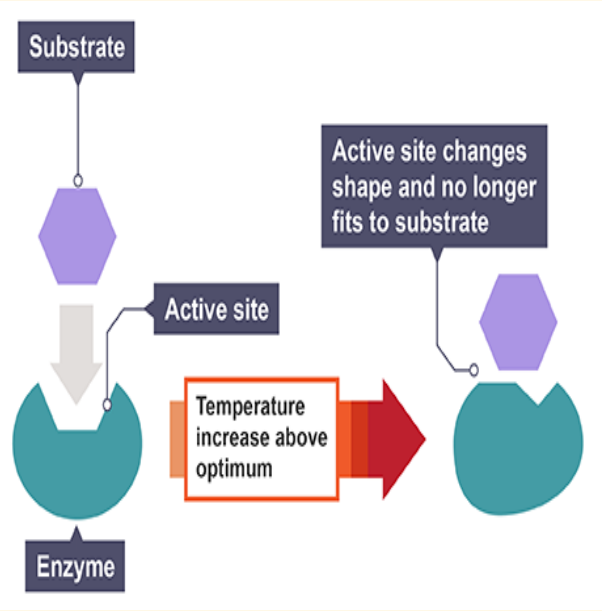
Enzymes are biological catalysts—substances that speed up chemical reactions without being used up in the process. They are usually proteins folded into complex shapes that determine their function. Every enzyme has an **active site**, a specially shaped region that fits a specific substrate. This is often compared to a "lock and key," because only the correct substrate fits the enzyme's active site. Enzymes are essential for many life processes. For example, digestive enzymes like **amylase**, **protease**, and **lipase** break down large food molecules into smaller molecules the body can absorb. Enzymes also help in DNA replication, respiration, and even muscle contraction.



Enzyme activity is affected by **temperature** and **pH**. Each enzyme has an **optimum temperature** at which it works most efficiently. If the temperature is too high, the enzyme can become **denatured**, meaning its active site changes shape and can no longer bind to the substrate. Similarly, enzymes work best at a certain pH level. Extreme pH values can also denature enzymes, reducing or stopping their activity.
Because enzymes are highly specific and efficient, they play a vital role in maintaining life. Without them, most reactions in the body would be far too slow to sustain life.

Science

1. What is an enzyme?
2. What is the role of the active site?
3. Name one digestive enzyme mentioned in the passage.
4. What happens to an enzyme when it becomes denatured?
5. Why are enzymes described as “biological catalysts”?
6. Explain why enzymes are compared to a “lock and key.”
7. Why would life processes slow down or stop without enzymes?
8. A student heats an enzyme solution from 37°C to 80°C. Predict what will happen and explain why.
9. Some enzymes work best in acidic environments (e.g., in the stomach). Explain why changing the pH of the stomach could affect digestion.
10. A scientist adds extra substrate to an enzyme-controlled reaction. Predict how the reaction rate might change and justify your answer.



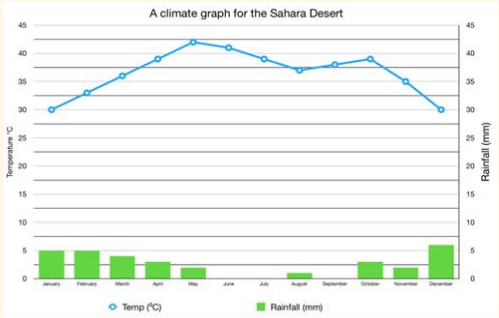
Geography

Hot Desert Distribution
(fill in the gaps)

Figure 7.1 The global distribution of the world's hot desert environments (semi-arid areas or drylands not shown)

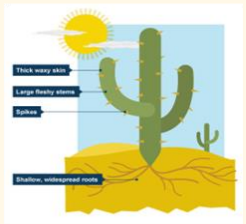
Hot deserts are located around the Tropic of C and Tropic of C . Hot deserts are also located on the following continents S A , N A, A , A and O , with the largest hot desert found in A

Hot Desert Climate
(fill in the gaps)



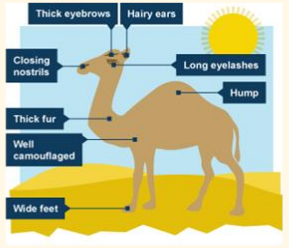
Average annual rainfall in a hot desert is mm
Temperature in a desert ranges from °C to °C.

Plant adaptation
(Complete the sentence)



Cacti have adapted to the desert by

Animal adaptation
(complete sentence)



Camels have adapted to the desert by

Challenges of Development
(Complete the sentence)

Extreme temperatures in deserts can reach 50 °C this provides a challenge for development because

Water supply is an issue, annual rainfall is around 50 mm. This provides a challenge for development because

Desert areas are vast and inaccessible with poor infrastructure. This provides a challenge for development because

Opportunities of Development
(match the opportunity up to the statement)




Tourism
- Rich energy source e.g. solar power from the high amounts of sunlight.

Mineral Extraction
- Oil—oil reserves have been found which is a highly sought after resource
- Most people in the use subsistence farming
- Commercial farming has increased in recent years due to irrigation (the controlled application of water for crops)

Farming
- Many people visit the Sahara desert
- They enjoy camel rides and dune bashing
- This provides employment for the local people as tour guides/chefs

Energy
- The desert has many valuable minerals which are used all over the world
- E.g. Kaolin—whitener in paper
- Phospherite—used for making fertiliser

Causes of Desertification
(Rank the causes from most to least significant)

Climate change – in many regions of the desert, the climate is becoming much drier and there is less rainfall	Increasing population – land is being cleared to build settlements/use the space for grazing animals	Over-grazing – the land is becoming exhausted as it being used too much by cattle/livestock. Land is becoming too dry and infertile
Droughts – not enough rainfall	Soil erosion – when vegetation (trees/plants) are destroyed, the soil is exposed to wind and rain making it more vulnerable to erosion	Over-cultivation – the need to produce more food is causing the soil to become exhausted and infertile.

Desertification Management
(Complete the sentence)

Soil Management - Local farmers are encourages to prevent soil erosion by creating **ponding banks**—areas of land enclose by low walls to store water. **Contour traps**—embankments built along the contours of slopes to prevent soil from being washed down during heavy rainfall. This prevents desertification by

National Parks - In some parts of the world, areas at risk of desertification have been protected by making them national parks. This prevents desertification by

Water Management - Local people have built low stone walls to help stop water from running down slopes after heavy rainfall. This prevents desertification by

Tree planting helps to reduce erosion as the tree roots bind the soil together and the leaves and branches provides shade and grazing for animals. This prevents desertification by

History

TASK:
1. Write 3 features of the Witan and a detail to support each feature.
2. Why was the power of the Witan limited?

Challenge: How did the Witan make the king look like a good ruler?

When kings needed advice on important issues they called a meeting known as the Witanagemot, or **Witan** – an Anglo-Saxon word meaning 'meeting of wise men'. The Witan did not have regular meetings or a regular membership. It met whenever the king decided to hold a meeting and only those he summoned could attend. The men summoned included earls, thegns and senior members of the Church, including archbishops and bishops. Even then the king took the final decisions. However, by consulting the most powerful men in the country, he had shown that he respected their views and they were more likely to support his decisions.

The Witan's most powerful role came if there was doubt about who would be the next king. Then the Witan could meet and make a recommendation or decision, but in most cases the real decision was made by whoever had the most military support. We will return in more detail to the question of how the crown was inherited on page 28.