Year 10 Work Pack
In addition to the work contained in this pack, complete additional work on SPARX

English

Fair is foul and foul is fair
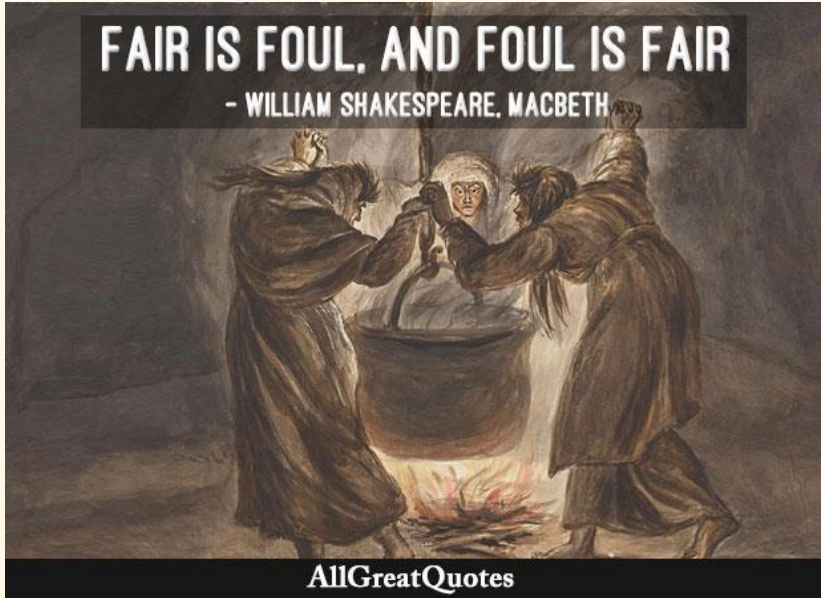
Task 1 – What do the words mean?
Write a short definition for each:
Fair:
Foul:

Task 2: Explain why this is a paradoxical statement (Paradox: two opposite ideas that seem impossible together but actually make sense)

Task 3– Short Answers
Who says this line?
What mood or atmosphere does it create?
What does this hint about the world of the play?
Task 4 – Inference Task (Write 3–4 sentences)
Explain what Shakespeare might be suggesting about **appearance vs reality**.
Use this sentence starter if needed:
Shakespeare uses this paradox to show that things in Macbeth's world are not what they seem because…

Maths

Question 3:   Solve the following equations

(a) $2m + 8 = 15$

(b) $10w - 3 = 45$

(c) $4x + 5 = 7$

(d) $5w + 11 = 19$

(e) $8x + 2 = 30$

(f) $4x + 11 = 3$

(g) $6w + 20 = 2$

(h) $2w - 9 = -6$

(i) $3c + 8 = -13$

(j) $\dfrac{x}{3} + 6 = 1$

(k) $\dfrac{w}{2} + 8 = 3$

(l) $\dfrac{m}{8} + 7 = -1$

(m) $\tfrac{1}{2}x + 3 = 15$

(n) $\tfrac{1}{4}m - 7 = 2$

(o) $\tfrac{1}{3}x - 2 = -6$

Question 4:   Solve the following equations

(a) $\dfrac{x + 1}{2} = 9$

(b) $\dfrac{x - 3}{4} = 8$

(c) $\dfrac{m - 8}{5} = 3$

(d) $\dfrac{2x}{3} = 6$

(e) $\dfrac{3x}{5} = 30$

(f) $\dfrac{5x}{4} = 20$

(g) $\dfrac{2x}{7} + 2 = 12$

(h) $\dfrac{8x}{3} - 9 = 7$

(i) $\dfrac{3x}{10} - 4 = 8$

(j) $\dfrac{10m + 20}{15} = 6$

(k) $\dfrac{2x + 5}{3} = 7$

(l) $\dfrac{7x - 5}{10} = 10$

Question 1:   The equation $9x = 27$ has an answer of $x = 3$.
Write down five different equations with an answer of $x = 3$.

Question 2:   Ronald is x years old.
His friend Colin is 3 years older than than Ronald.
Colin is 19 years old.
    (a) Write down an equation for this information.
    (b) Solve your equation to find how old Ronald is.

Question 3:   Hannah is n years old.
Her aunt Emily is three times older than Hannah.
Emily is 48 years old.
    (a) Write down an equation for this information.
    (b) Solve your equation to find how old Hannah is.

Question 4:   Sam thinks of a number, n.
He multiplies his number by 7 and then adds 3 to the result.
His final answer is 45.
    (a) Write down an equation for this information.
    (b) Solve your equation to find the number, n.

Question 5:   A rectangular field has a perimeter of 150m.
The field is 15 metres longer than it is wide.
The width of the field is x metres.
    (a) Write down an equation for this information.
    (b) Solve your equation to find the width of the field
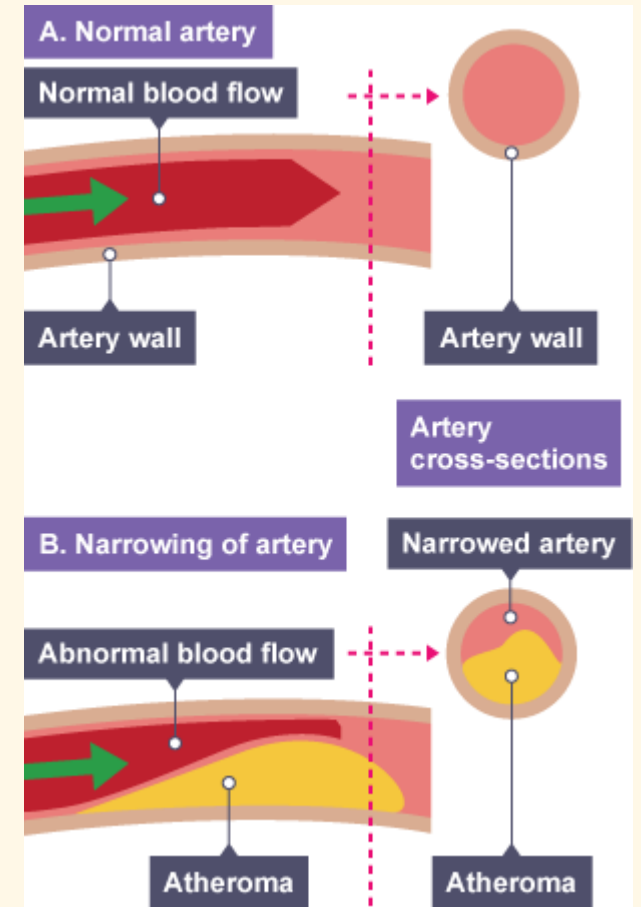   (c) Find the length of the field

Science

There are many **risk factors** for heart disease. Some can be controlled, such as diet, physical activity, smoking, and alcohol consumption. A diet high in saturated fats and salt increases the risk of plaque formation and high blood pressure. Smoking damages blood vessels and reduces oxygen levels in the bloodstream, while lack of physical activity can lead to obesity and increased strain on the heart.

Other risk factors cannot be controlled. These include age, genetics, and gender. For example, the risk of heart disease increases as people get older. Individuals with a family history of heart disease are also more likely to experience heart problems themselves. In addition, men generally have a higher risk than women, particularly before the age of 60. Common **symptoms** of heart disease include chest pain, shortness of breath, fatigue, and dizziness. Sometimes heart disease has **no symptoms at all**, making regular check-ups important. A heart attack occurs when blood flow to part of the heart is completely blocked. This is a medical emergency and must be treated immediately to reduce the chance of long-term damage or death.

Heart disease can be **prevented** or managed through lifestyle choices. Regular exercise strengthens the heart, while a balanced diet reduces plaque build-up. Quitting smoking, reducing stress, and limiting alcohol intake also make a significant difference. In some cases, medication or surgery may be necessary to manage more severe conditions.
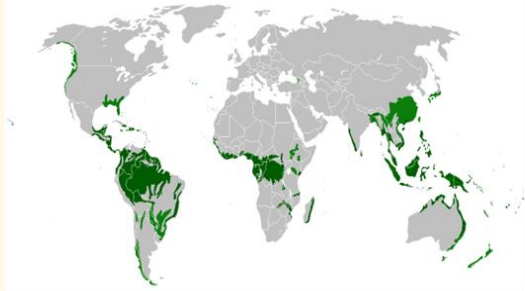
Science

1. What is the most common type of heart disease?

2. What causes the arteries to narrow or become blocked?

3. Name two risk factors for heart disease that **can** be controlled.

4. Name two risk factors that **cannot** be controlled.

5. What happens during a heart attack?

6. Why might regular check-ups be important, even for people who feel healthy?

7. Why is physical activity important for heart health?

8. Why might men have a higher risk of heart disease before age 60?

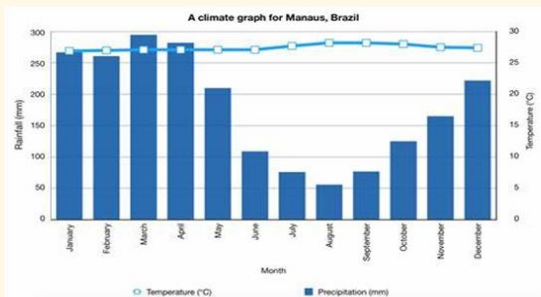9. Explain how lifestyle choices can both increase and decrease the risk of heart disease.
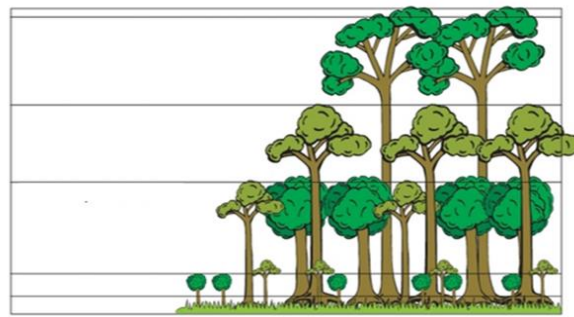
Geography

Tropical Rainforest Distribution

Tropical Rainforests are located around the E_____ in between the Tropic of C_____ and the Tropic of C_____. Tropical rainforests can be found mainly in S_____ A_____, A_____ and A_____.

Tropical Rainforest Climate

The rainforest climate is…

Tropical Rainforest Layers
(label the layers of the rainforest)

Tropical Rainforest Adaptations
(complete the sentence)

Drip tips help to…

Butress roots are useful because…

Vines are adapted because…

Causes of Deforestation
(match the cause to the correct statement)

Mining	Tropical rainforests are cut down so that valuable trees like mahogany can be accessed and sold.
Farming	population growth has resulted in the loss of tropical rainforest as land is cleared to build houses and infrastructure.
Population	the Amazon Basin is rich in natural resources such as iron ore, copper, tin, aluminium, manganese and gold.
Logging	The creation of HEP stations in the Amazon Basin has resulted in large areas of forest being flooded to create the reservoirs and dams
HEP	Large areas are cleared for pastoral farming.

Impacts of Deforestation
(highlight whether the impacts are Social, Economic, or Environmental)

Soil erosion Once the land is cleared of rainforest vegetation the soil is left bare.	Many different species of plants and animals die because of deforestation	If there are fewer trees and plants, due to deforestation, then less carbon dioxide is removed from the atmosphere.
Reduction in the number of tribes people, a decrease by 96%. Land taken from them.	The money created from these enterprises allows a country to generate foreign income, which can then be used to pay off debts or be invested in further development projects.	The creation of mines, farms and roads - which caused deforestation - has also led to economic development.

Sustainable Management
(explain how they manage the rainforest)

 Replanting and reforestation

 Ecotourism

 International Agreements

History

TASK: Stick in the sheet on the power of the king.
1. Match the duties of the people to the powers of the King.
2. Colour code the following powers:
Law-making
Money
Landownership
Military power
Taxation

Challenge – Which area was the most significant for the power of the King?

Powers of the king	Duties of the people
The king created new laws and made sure they were enforced throughout the country.	Land carried with it obligations to the king. The main two obligations were payment of tax and military service.
The king had the ability to raise a national army and fleet	To use the king's coins. Forging coins was a very serious crime.
The king controlled the production of the silver pennies used as money.	Landholders had to pay their taxes, otherwise they were fined and lost land.
The king owned large estates and could grant land out to his followers. He could also take land away from those who had acted against him.	To obey the law as it was passed down through the king's local representatives.
The king decided when taxes should be paid and a national taxation system delivered this tax to him.	Landholders had to provide and equip fighters for the army fleet; otherwise they were fined or lost their land.