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SPECA

GCSE Combined Science (AQA Trilogy) · Biology

Organisation · Worksheet

Digestion and enzymes

1) State the hierarchy of organisation from cells to organism. **[3]**

2) Name the three main types of digestive enzyme, and state what each breaks food down into. **[3]**

3) Use the 'lock and key' model to explain why an enzyme will only break down one particular substrate. **[2]**

4) Describe bile's dual role in digestion. **[2]**

5) An enzyme-catalysed reaction produces 24 cm^3 of gas in 6 minutes. Calculate the rate of the reaction, in cm^3 per minute. **[2]**

The heart, blood and circulation

6) Describe the heart as a double-circulation pump. **[3]**

7) Name three major blood vessels connected to the heart. **[3]**

8) Explain what sets a person's resting heart rate, and how an artificial pacemaker helps if this goes wrong. **[2]**

9) Compare the structure of arteries and veins, and relate each to its function. **[3]**

10) Describe blood as a tissue, naming its four components and the function of each. **[4]**

11) Blood takes 45 seconds to travel 90 cm along an artery. Calculate the speed of blood flow, in cm per second. **[2]**

Health, disease and cancer

12) Describe coronary heart disease and explain how it affects the heart. **[3]**

13) Give one advantage and one disadvantage of using a stent to treat coronary heart disease. **[2]**

14) Explain how statins are used to treat coronary heart disease, and how they differ from a stent. **[2]**

15) Explain the difference between a risk factor with a proven causal mechanism and one that is only statistically associated with a disease. Give one example of each. **[3]**

16) Distinguish a benign tumour from a malignant tumour. **[2]**

17) Explain how a weakened immune system can increase the risk of other types of disease. **[2]**

Plant tissues and transport

18) Name four plant tissues, and state the function of each. **[4]**

19) Describe the structure of a leaf, naming the tissues in the order light passes through them. **[3]**

20) Explain how a root hair cell, xylem, and phloem are each adapted to their function. **[3]**

21) Explain how stomata and guard cells control gas exchange and water loss in a leaf. **[2]**

22) State two factors that affect the rate of transpiration, and explain why each has that effect. **[4]**

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