SB5 Health, Disease and the Development of Medicines

SB5a Health and disease

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| Step | Learning outcome | Had a look | Nearly there | Nailed it! |
| C:\Users\bhuiya_f\Downloads\Steps icons\Steps icons\Progression_icon_L6.jpg | Define the term health. |  |  |  |
| C:\Users\bhuiya_f\Downloads\Steps icons\Steps icons\Progression_icon_L5.jpg | Define the term disease. |  |  |  |
| C:\Users\bhuiya_f\Downloads\Steps icons\Steps icons\Progression_icon_L6.jpg | Describe how communicable and non-communicable diseases differ. |  |  |  |
| C:\Users\bhuiya_f\Downloads\Steps icons\Steps icons\Progression_icon_L7.jpg | Outline the role of the immune system in protecting against disease. |  |  |  |
| C:\Users\bhuiya_f\Downloads\Steps icons\Steps icons\Progression_icon_L8.jpg | Explain how disease can affect the immune system. |  |  |  |

SB5b Non-communicable disease

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| Step | Learning outcome | Had a look | Nearly there | Nailed it! |
| C:\Users\bhuiya_f\Downloads\Steps icons\Steps icons\Progression_icon_L5.jpg | Give examples of non-communicable diseases. |  |  |  |
| C:\Users\bhuiya_f\Downloads\Steps icons\Steps icons\Progression_icon_L4.jpg | Define the term malnutrition. |  |  |  |
| C:\Users\bhuiya_f\Downloads\Steps icons\Steps icons\Progression_icon_L5.jpg | Explain how diet can lead to malnutrition. |  |  |  |
| C:\Users\bhuiya_f\Downloads\Steps icons\Steps icons\Progression_icon_L6.jpg | Describe the link between alcohol and liver disease. |  |  |  |
| C:\Users\bhuiya_f\Downloads\Steps icons\Steps icons\Progression_icon_L7.jpg | Explain the effect of alcohol consumption on liver disease at local, national and global levels. |  |  |  |

SB5c Cardiovascular disease

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| Step | Learning outcome | Had a look | Nearly there | Nailed it! |
| C:\Users\bhuiya_f\Downloads\Steps icons\Steps icons\Progression_icon_L5.jpg | Describe how obesity is measured (BMI and waist : hip calculations). |  |  |  |
| C:\Users\bhuiya_f\Downloads\Steps icons\Steps icons\Progression_icon_L6.jpg | Describe how obesity correlates with cardiovascular disease. |  |  |  |
| C:\Users\bhuiya_f\Downloads\Steps icons\Steps icons\Progression_icon_L6.jpg | Describe how smoking correlates with cardiovascular disease. |  |  |  |
| C:\Users\bhuiya_f\Downloads\Steps icons\Steps icons\Progression_icon_L6.jpg | Explain why exercise and diet affect obesity. |  |  |  |
| C:\Users\bhuiya_f\Downloads\Steps icons\Steps icons\Progression_icon_L8.jpg | Compare how cardiovascular diseases are treated |  |  |  |

SB5d Pathogens

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| Step | Learning outcome | Had a look | Nearly there | Nailed it! |
| C:\Users\bhuiya_f\Downloads\Steps icons\Steps icons\Progression_icon_L5.jpg | Describe some problems and diseases caused by bacteria. |  |  |  |
| C:\Users\bhuiya_f\Downloads\Steps icons\Steps icons\Progression_icon_L5.jpg | Describe a disease caused by a virus. |  |  |  |
| C:\Users\bhuiya_f\Downloads\Steps icons\Steps icons\Progression_icon_L5.jpg | Describe a disease caused by a protist |  |  |  |
| C:\Users\bhuiya_f\Downloads\Steps icons\Steps icons\Progression_icon_L5.jpg | Describe a disease caused by a fungus. |  |  |  |
| C:\Users\bhuiya_f\Downloads\Steps icons\Steps icons\Progression_icon_L7.jpg | Explain how signs of a disease can be used to identify the pathogen. |  |  |  |

SB5e Spreading pathogens

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| Step | Learning outcome | Had a look | Nearly there | Nailed it! |
| C:\Users\bhuiya_f\Downloads\Steps icons\Steps icons\Progression_icon_L5.jpg | State the ways in which pathogens can be spread. |  |  |  |
| C:\Users\bhuiya_f\Downloads\Steps icons\Steps icons\Progression_icon_L6.jpg | Give examples of pathogens that are spread in different ways (e.g. cholera bacteria by water, tuberculosis bacteria and chalara dieback fungi by air, malaria protist by vector, *Helicobacter* by mouth, Ebola by body fluids). |  |  |  |
| C:\Users\bhuiya_f\Downloads\Steps icons\Steps icons\Progression_icon_L7.jpg | Explain how the spread of different pathogens can be reduced or prevented. |  |  |  |

SB5f Virus life cycles

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| Step | Learning outcome | Had a look | Nearly there | Nailed it! |
| C:\Users\bhuiya_f\Downloads\Steps icons\Steps icons\Progression_icon_L5.jpg | Describe the structure of a virus. |  |  |  |
| C:\Users\bhuiya_f\Downloads\Steps icons\Steps icons\Progression_icon_L6.jpg | Explain how viruses differ from cells. |  |  |  |
| C:\Users\bhuiya_f\Downloads\Steps icons\Steps icons\Progression_icon_L7.jpg | Describe the lytic pathway of a virus life cycle. |  |  |  |
| C:\Users\bhuiya_f\Downloads\Steps icons\Steps icons\Progression_icon_L7.jpg | Describe the lysogenic pathway of a virus life cycle. |  |  |  |
|  | Compare and contrast the lytic and lysogenic pathways. |  |  |  |
| C:\Users\bhuiya_f\Downloads\Steps icons\Steps icons\Progression_icon_L7.jpg | Calculate the cross-sectional area of viral cultures and clear agar jelly. |  |  |  |

SB5g Plant defences

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| Step | Learning outcome | Had a look | Nearly there | Nailed it! |
| C:\Users\bhuiya_f\Downloads\Steps icons\Steps icons\Progression_icon_L5.jpg | Describe some physical barriers of plants to pests and pathogens. |  |  |  |
| C:\Users\bhuiya_f\Downloads\Steps icons\Steps icons\Progression_icon_L5.jpg | Describe some chemical defences of plants to pests and pathogens. |  |  |  |
| C:\Users\bhuiya_f\Downloads\Steps icons\Steps icons\Progression_icon_L6.jpg | Describe how plant protective chemicals are used to treat human diseases or symptoms. |  |  |  |
| C:\Users\bhuiya_f\Downloads\Steps icons\Steps icons\Progression_icon_L6.jpg | Describe examples of aseptic technique. |  |  |  |
| C:\Users\bhuiya_f\Downloads\Steps icons\Steps icons\Progression_icon_L7.jpg | Explain why aseptic technique is used during the culture of microorganisms. |  |  |  |

SB5h Plant diseases

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| Step | Learning outcome | Had a look | Nearly there | Nailed it! |
| C:\Users\bhuiya_f\Downloads\Steps icons\Steps icons\Progression_icon_L6.jpg | H Describe how plant diseases are detected using visible symptoms. |  |  |  |
| C:\Users\bhuiya_f\Downloads\Steps icons\Steps icons\Progression_icon_L6.jpg | H Describe how environmental causes of plant problems are eliminated when identifying disease. |  |  |  |
| C:\Users\bhuiya_f\Downloads\Steps icons\Steps icons\Progression_icon_L6.jpg | H Describe how distribution analysis can help identify a plant disease. |  |  |  |
| C:\Users\bhuiya_f\Downloads\Steps icons\Steps icons\Progression_icon_L6.jpg | H Describe how plant pathogens are diagnosed in the lab. |  |  |  |

SB5i Physical and chemical barriers

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| Step | Learning outcome | Had a look | Nearly there | Nailed it! |
| C:\Users\bhuiya_f\Downloads\Steps icons\Steps icons\Progression_icon_L8.jpg | Explain how the spread of the STIs Chlamydia and HIV can be reduced or prevented. |  |  |  |
| C:\Users\bhuiya_f\Downloads\Steps icons\Steps icons\Progression_icon_L5.jpg | Give examples of physical barriers. |  |  |  |
| C:\Users\bhuiya_f\Downloads\Steps icons\Steps icons\Progression_icon_L5.jpg | Give examples of chemical barriers. |  |  |  |
| C:\Users\bhuiya_f\Downloads\Steps icons\Steps icons\Progression_icon_L6.jpg | Describe how physical barriers protect the body (e.g. skin, mucus and cilia). |  |  |  |
| C:\Users\bhuiya_f\Downloads\Steps icons\Steps icons\Progression_icon_L6.jpg | Describe how chemical barriers protect the body (e.g. lysozymes, hydrochloric acid). |  |  |  |

SB5j The immune system

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| Step | Learning outcome | Had a look | Nearly there | Nailed it! |
| C:\Users\bhuiya_f\Downloads\Steps icons\Steps icons\Progression_icon_L5.jpg | State that the immune system protects the body by attacking pathogens. |  |  |  |
| C:\Users\bhuiya_f\Downloads\Steps icons\Steps icons\Progression_icon_L7.jpg | Describe how antigens trigger the release of antibodies and the production of memory lymphocytes. |  |  |  |
| C:\Users\bhuiya_f\Downloads\Steps icons\Steps icons\Progression_icon_L7.jpg | Describe the role of antibodies in the immune response. |  |  |  |
| C:\Users\bhuiya_f\Downloads\Steps icons\Steps icons\Progression_icon_L7.jpg | Describe the role of memory lymphocytes in triggering a secondary response. |  |  |  |
| C:\Users\bhuiya_f\Downloads\Steps icons\Steps icons\Progression_icon_L8.jpg | Explain how immunisation protects against infection by a pathogen. |  |  |  |
| C:\Users\bhuiya_f\Downloads\Steps icons\Steps icons\Progression_icon_L8.jpg | Discuss advantages and disadvantages of immunisation including herd immunity. |  |  |  |

SB5k Antibiotics

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| Step | Learning outcome | Had a look | Nearly there | Nailed it! |
| C:\Users\bhuiya_f\Downloads\Steps icons\Steps icons\Progression_icon_L5.jpg | Define the term antibiotic (as medicines that inhibit cell processes in bacteria). |  |  |  |
| C:\Users\bhuiya_f\Downloads\Steps icons\Steps icons\Progression_icon_L6.jpg | Explain why antibiotics are useful for treating bacterial infections (because they do not damage human cell processes). |  |  |  |
| C:\Users\bhuiya_f\Downloads\Steps icons\Steps icons\Progression_icon_L6.jpg | Explain why antibiotics cannot be used to treat infections by pathogens other than bacteria. |  |  |  |
| C:\Users\bhuiya_f\Downloads\Steps icons\Steps icons\Progression_icon_L6.jpg | Describe the stages of development of new medicines. |  |  |  |
| C:\Users\bhuiya_f\Downloads\Steps icons\Steps icons\Progression_icon_L7.jpg | Explain why each stage of the development of a new medicine is needed. |  |  |  |

SB5l Monoclonal antibodies

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| Step | Learning outcome | Had a look | Nearly there | Nailed it! |
| C:\Users\bhuiya_f\Downloads\Steps icons\Steps icons\Progression_icon_L6.jpg | H Define the term monoclonal antibody. |  |  |  |
| C:\Users\bhuiya_f\Downloads\Steps icons\Steps icons\Progression_icon_L6.jpg | H Define the term hybridoma cell. |  |  |  |
| C:\Users\bhuiya_f\Downloads\Steps icons\Steps icons\Progression_icon_L7.jpg | H Describe how monoclonal antibodies are produced by lymphocytes. |  |  |  |
| C:\Users\bhuiya_f\Downloads\Steps icons\Steps icons\Progression_icon_L8.jpg | H Explain how monoclonal antibodies are used in pregnancy testing. |  |  |  |
| C:\Users\bhuiya_f\Downloads\Steps icons\Steps icons\Progression_icon_L8.jpg | H Explain how monoclonal antibodies are used in diagnosis of disease (including blood clots and cancer). |  |  |  |
| C:\Users\bhuiya_f\Downloads\Steps icons\Steps icons\Progression_icon_L8.jpg | H Explain the advantages of monoclonal antibodies compared with drug and radiotherapy treatments to target cells. |  |  |  |