## KS4 Science: Health Disease and Development of Medicines CB5: Health Disease and Development of Medicines (Paper 1)

|                                       | •  | Date    | l know    | I need to do         |
|---------------------------------------|--|---------|-----------|----------------------|
| Lesson                                | Objectives Tracker Sheet   | covered | this well | more work<br>on this |
| CB5a Health and<br>disease            | B5.1 Describe health as a state of<br>complete physical, mental and<br>social well-being and not merely  |         |           |                      |
|                                       | the absence of disease or infirmity,<br>as defined by the World Health<br>Organization (WHO)   |         |           |                      |
|                                       | B5.2 Describe the difference between communicable and non-communicable diseases.   |         |           |                      |
|                                       | B5.3 Explain why the presence of<br>one disease can lead to a higher<br>susceptibility to other diseases   |         |           |                      |
| CB5b Non-<br>communicable<br>diseases | B5.23 Describe that many non-<br>communicable human diseases are<br>caused by the interaction of a<br>number of factors including<br>cardiovascular diseases, many<br>forms of cancer, some lung and<br>liver diseases and diseases<br>influenced by nutrition.  |         |           |                      |
|                                       | B5.24 Explain the effect of lifestyle<br>factors on non-communicable<br>diseases at local, national and<br>global levels, including: diet on<br>malnutrition, alcohol on liver<br>diseases.  |         |           |                      |
| CB5c<br>Cardiovascular<br>diseases    | <ul> <li>B5.24 Explain the effect of lifestyle factors on non-communicable diseases at local, national and global levels, including: exercise and diet on obesity, including BMI and waist : hip calculations smoking on cardiovascular diseases.</li> <li>B5.25 Evaluate some different treatments for cardiovascular disease including:</li> <li>life-long medication</li> <li>surgical procedures</li> </ul>    |         |           |                      |
| CB5d Pathogens                        | <ul> <li>lifestyle changes.</li> <li>B5.4 Describe a pathogen as a disease-causing organism including viruses, bacteria, fungi and protists.</li> <li>B5.5 Describe some common infections, including: cholera (bacteria) causes diarrhoea tuberculosis (bacteria) causes lung damage chalara ash dieback (fungi) causes leaf loss and bark lesions malaria (protists) causes damage to blood and liver</li> </ul> |         |           |                      |

|                           |                                      | aitii Discuse |   | ment of Medicines |
|---------------------------|--------------------------------------|---------------|---|-------------------|
|                           | HIV (virus) destroys white blood     |               |   |                   |
|                           | cells, leading to the onset of AIDS. |               |   |                   |
|                           |                                      |               |   |                   |
| CB5e Spreading pathogens  | B5.6 Explain how pathogens are       |               |   |                   |
|                           | spread and how this spread can be    |               |   |                   |
|                           | reduced or prevented, including:     |               |   |                   |
|                           | cholera (bacteria) – water           |               |   |                   |
|                           | tuberculosis (bacteria) – airborne   |               |   |                   |
|                           | chalara ash dieback (fungi) -        |               |   |                   |
|                           | airborne                             |               |   |                   |
|                           | malaria (protists) – animal vectors. |               |   |                   |
|                           | B5.8 Explain how sexually            |               |   |                   |
|                           | transmitted infections (STIs) are    |               |   |                   |
|                           | spread and how this spread can be    |               |   |                   |
|                           | reduced or prevented, including:     |               |   |                   |
|                           |                                      |               |   |                   |
|                           | Chlamydia (bacteria)                 |               |   |                   |
| CREF Developed and        | HIV (virus).                         |               |   |                   |
| CB5f Physical and         | B5.12 Describe how the physical      |               |   |                   |
| chemical barriers         | barriers and chemical defences of    |               |   |                   |
|                           | the human body provide protection    |               |   |                   |
|                           | from pathogens, including:           |               |   |                   |
|                           | physical barriers including mucus,   |               |   |                   |
|                           | cilia and skin                       |               |   |                   |
|                           | chemical defence including           |               |   |                   |
|                           | lysozymes and hydrochloric acid.     |               |   |                   |
|                           | B5.13 Explain the role of the        |               |   |                   |
|                           | specific immune system of the        |               |   |                   |
|                           | human body in defence against        |               |   |                   |
| CB5g The immune<br>system | disease, including:                  |               |   |                   |
|                           | exposure to pathogen                 |               |   |                   |
|                           | the antigens trigger an immune       |               |   |                   |
|                           | response which causes the            |               |   |                   |
|                           | production of antibodies             |               |   |                   |
|                           | the antigens also trigger production |               |   |                   |
|                           | of memory lymphocytes                |               |   |                   |
|                           |                                      |               |   |                   |
|                           | the role of memory lymphocytes in    |               |   |                   |
|                           | the secondary response to the        |               |   |                   |
|                           | antigen.                             |               |   |                   |
|                           | B5.14 Explain the body's response    |               |   |                   |
|                           | to immunisation using an inactive    |               |   |                   |
|                           | form of a pathogen.                  |               |   |                   |
| CB5h Antibiotics          | B5.16 Explain that antibiotics can   |               |   |                   |
|                           | only be used to treat bacterial      |               |   |                   |
|                           | infections because they inhibit cell |               |   |                   |
|                           | processes in the bacterium but not   |               |   |                   |
|                           | the host organism.                   |               |   |                   |
|                           | B5.20 Describe that the process of   |               | 1 |                   |
|                           | developing new medicines,            |               |   |                   |
|                           | including antibiotics, has many      |               |   |                   |
|                           | stages including discovery,          |               |   |                   |
|                           | development, preclinical and         |               |   |                   |
|                           | clinical testing.                    |               |   |                   |
|                           | cinnear testing.                     |               |   |                   |