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**Knowledge Rich Curriculum Plan**

SCIENCE- Health and Disease



| **Lesson/Learning Sequence** | **Intended Knowledge:**  *Students will know that…* | **Prior Knowledge:**  *In order to know this, students need to already know that…* | **Working Scientifically** | **Tiered Vocabulary and Reading Activity** | **Assessment** | **Support** |
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| **Good and Ill Health** | *Students will learn that people have both physical health and mental health, which can range from good to ill. Health is defined as a state of complete physical, mental and social well-being and not merely (just) the absence of disease". Students will identify factors associated with good and ill physical health in humans, other animals, and plants. These should include: (Lifestyle Factors; Balanced Diet, Exercise, Sleep, Hygiene, Genetic factors; Genetic diseases, Behavioural Factors; Smoking, Alcohol, Drugs, Access to health care. Students will identify factors associated with good and ill mental health in humans. Good; Exercise, Friendships, nutrition, sleep, doing things you are good at, keeping an active mind. Bad; Loss, trauma, health conditions, stress, unkind actions, drugs, poor relationships, social disadvantages.* | *Students will already know that 'germs' make us ill. Student will have heard the terms 'Mental health' & 'Physical Health'. Students will already know that factors like smoking, high fat diet. lack of exercise, poor hygiene can all contribute to poor mental or physical health.* |  | *Health- A state of complete physical, mental and social well-being and not merely the absence of disease.*  ***Merely:***  *Just or only.*  *Physical- The well-being of the body*  *Mental-The psychological and emotional well-being of a person*  *Social- relating to society or its organization* | *Retrieval questions*  *Simple exam questions*  *Homework assessment*  *Summative assessment 3* | *Knowledge organiser (provided on Teams and in class)*  <https://www.bbc.co.uk/bitesize/topics/ztnnb9q> |
| **Disease** | *Students will learn that good health is affected by diseases. Students will learn that there are 4 types of pathogens (microorganisms that cause disease) - Bacteria, Virus, Fungi, Protists. Students will learn that lifestyle factors (smoking, alcohol, drugs, unbalanced diet) have a negative impact on certain organs in the body (Lungs, Liver, nervous system). Students will learn that environmental factors such as pollution, living conditions, social interactions). Students will learn that genetic diseases can be passed down from parents. Students will learn that some diseases are infectious (can spread from person to person) and some are non-infectious (can't spread from person to person).* | *Students will already know that there are diseases which we can catch and diseases we can't catch.* |  | ***Communicable***  *A disease which can spread because it is caused by a pathogen*  ***Pathogen***  *A disease causing microorganism* | *Retrieval questions*  *Simple exam questions*  *Homework assessment*  *Summative assessment 3* | *Knowledge organiser (provided on Teams and in class)*  [*https://www.bbc.co.uk/bitesize/topics/ztnnb9q*](https://www.bbc.co.uk/bitesize/topics/ztnnb9q) |
| ***Antibiotics and Resistance*** | *Students will learn that symptoms are the physical or mental features that indicate you have a particular illness and can be caused by toxins or damage to cells caused by the pathogens. Students will learn that analgesics (paracetamol/Ibuprofen) help to ease symptoms like pain, headaches and high temperatures. Bacterial infections often require treatment with antibiotics which can only be prescribed by a doctor. Antibiotics need to be prescribed cautiously as bacteria can become resistant to them (the bacteria mutate so the antibiotics no longer kill the bacteria) Students will learn that to reduce the chance of bacteria becoming resistant to antibiotics, doctors should only prescribe them if they are absolutely necessary and it is a bacterial infection & the patient should complete the full course even if they start to feel better.* | *Students will have experienced different symptoms when they have been ill. Students will know that Calpol is a medicine for children. Students will know through life experiences that if you feel pain in the body, paracetamol or ibuprofen are medicines which you can take to make you feel better.* | *Communicate: construct explanations of the process of antibiotic resistance* | *antimicrobial : an agent that kills microorganisms or stops their growth*  *Reproducible results: Obtaining the same results when a practical is carried out multiple times* | *Retrieval questions*  *Simple exam questions*  *Homework assessment*  *Summative assessment 3* | *Knowledge organiser (provided on Teams and in class)*  [*https://www.bbc.co.uk/bitesize/topics/ztnnb9q*](https://www.bbc.co.uk/bitesize/topics/ztnnb9q) |