Biology year 10 Spring 1

Chapter and topic	Outcomes
B5.1 Health and disease & B5.2 Pathogens and disease	1. Explain the difference between a communicable and non-communicable disease. 2. Distinguish between different types of pathogens in terms of their features. 3. Demonstrate the methods of pathogen transmission
B5.4 Viral diseases, B5.5 Bacterial diseases, B5.6 Diseases caused by fungi and protists	1. Name some diseases that are caused by viruses, bacteria or fungi (G4). 2. Describe how diseases affect the infected organism (G6). 3. Explain methods used to control the pathogens (G8)
B5.3 Growing bacteria in the lab - theory	1. State that bacteria reproduce by cell division and this is called binary fission. (G4) 2. Explain why it is important to use an uncontaminated culture to investigate bacterial growth. (G6) 3. Plan a detailed investigation to find out how a variable affects the growth of bacteria. (G8)
B5.3 Growing bacteria in the lab - practical	1. Prepare a bacterial culture on agar gel. (G4) 2. Follow the rules needed to prepare an uncontaminated culture. (G4) 3. Suggest how to measure the growth of bacteria and discuss uncertainty. (G8)
Practical analysis and revision	1. Explain why numbers of bacteria on an agar plate will eventually stop growing. (G6) 2. Describe and explain why each safety rule is needed in order to safely prepare, incubate, and dispose of a culture. (G6) 3. Explain why it is important to use an uncontaminated culture to investigate bacterial growth. (G6) 4. Explain what is meant by exponential growth and analyse a graph showing it. (G8)

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B6.1 Vaccination	State that vaccines contain dead or inactive forms of a pathogen (G4). Explain how vaccination works (G6). Describe what an antibody and an antigen are (G6). Explain why, if a large proportion of the population is vaccinated, the spread of the pathogen is reduced (G8).

B6.2 Antibiotics and painkillers	Describe what an antibiotic is (G4) 2: Explain what is meant by antibiotic-resistant bacteria (G6) 3: Suggest a reasoned explanation for a pattern in data (G8)
B6.3 Discovering drugs	1: Order the events that led to the production of penicillin. (G4) 2: Discuss the advantages and disadvantages of looking for new drugs from living organisms (G6) 3: Analyse data to evaluate the effectiveness of new antibiotics and make a reasoned decision which one to develop further (G8)
B6.3 Developing drugs	Describe what is meant by a placebo (G4) 2: Explain why each procedure in drug testing and trialling is used. (G6) 3: Critically analyse the results from a double blind trial. (G8)