YEAR 10 SCIENCE: BIOLOGY

Half Term 3

MAGHULL HIGH SCHOOL – CURRICULUM MAP

Unit: **Infection & Response** **LESSONS**	1. Communicable diseases 2. Viral diseases 3. Bacterial diseases 4. Fungal diseases 5. Protest diseases	6. Human defence systems 7. Vaccination 8. Antibiotics & painkillers 9. Drug discovery & development	10. **Monoclonal antibodies** 11. **Uses of monoclonal antibodies** 12. **Plant disease** 13. **Plant defence responses**
Knowledge & Skills Development	• Definition of a communicable disease. • Examples of viral diseases; Measles, HIV and TMV • Examples of bacterial diseases: Salmonella and Gonorrhoea • Black Rose Spot as an example of a fungal disease. • Malaria as an example of a protist disease. • Treatment of these diseases using different drugs. • Details of vaccination and what effect this has on the immune system including graph reading. • The difference between an antibiotic and a painkiller. • Outline the stages in drug discovery and explain what each stage is tested for.	• **Define monoclonal antibodies, outline how they are made including advantages.** • **Detail how monoclonal antibodies are used in pregnancy tests, measuring levels of hormones in labs, research to locate molecules, cancer treatment.** • **How to detect plant diseases including how to identify the disease the plant is suffering from.** • **Physical and chemical responses of a plant to infection.** • **Mechanical adaptations of plants.**	
Assessment / Feedback Opportunities	**Formative Assessment** Teacher questioning Quizzes Exam style questions	**Summative assessment** End of topic assessment Exam questions in future end of topic assessments to assess recall	
Key Vocabulary	Independent Variable, Dependent Variable, Control Variables, Method, Conclusion, Precaution, Evaluation, Reliable, Precision, Valid, Anomaly, Describe, Explain, Compare, Analyse, Calculate, Suggest Communicable, Immune system, Phagocytes, Antibody, Antigen, Antitoxin, Immunity, Vaccination, Pathogen, Vector, Toxin, Salmonella, **monoclonal, hormones, pregnancy tests, hybridoma cell, lymphocytes**, Gonorrhoea, condoms, Protists, Rose black spot, Antibiotics. MRSA, Aspirin, Penicillin, Double blind trial, Placebo, sexually transmitted, malaria,		
Literacy/Reading Opportunities	Subject specific vocabulary introduced before reading of related texts Word etymology from Latin and Greek roots Reading of simple and complex sentences, paragraphs, articles Scientific writing including structuring methods, comparisons and evaluations		
Cross Curricular Themes	Numeracy/Maths – averages (means), reading scales, graph plotting, lines of best fit, using and rearranging equations, using scientific calculators		
Personal	RSE Curriculum - How the different sexually transmitted infections (STIs), including HIV and AIDs, are transmitted (I9)		

Development (Including British Values, RSE, Citizenship)	
Career Opportunities	Medicine, Nursing, Public Health England, Drug Development Scientist, Quality Assurance, Sexual Health Worker