Long Term Plan: Applied Human Biology Year 12 (Teacher Two)

ARCHBISHOP SENTAMU ACADEMY
CHURCH OF ENGLAND

Half term	Unit title	Key knowledge/ Content to learn and retain	Essential skills to acquire (subject & generic)	Link to subject ethos and driver (rename)	Anticipated misconceptions	Links to previous KS	Opportunity for stretch for high prior attainers	SMSC & British Values	Cultural Capital	Career Link
One	Pathogens	The structure and classification of: Bacteria Viruses Fungi Protists Prions The virulence factors of the above	Extended writing - including writing full lab reports with references and citations Drawing and labelling scientific diagrams Interpreting data presented in tabular and graphical format		Confusion between the different types of pathogen Difference between a pathogen and a microorganism	Students will have studied the basics of communicable diseases at KS4, and so will be familiar with the various types of pathogens and modes of transmission.	Are viruses alive? Evaluation of classification systems	Safe working in a lab, and respecting each other's working space. Ethical issues surrounding the use of biological samples, including the use of live samples.	The ubiquity of biology allows for examples to be taught in a wide variety of familiar and unfamiliar contexts	An A-level in biology opens to doors to a wide range of STEM field careers. The topics covered in this unit would build the foundations for students to study a range of biomedical and healthcare courses or to enter these fields through employment
Two	Human Disease - Case Studies	Classification of diseases	Extended writing - including			Students will have studied the basics of	Evaluation of possible treatment and	Safe working in a lab, and respecting each	The ubiquity of biology allows for examples to	An A-level in biology opens to doors to a

		Methods of disease prevention Students need to study the cause, symptoms/progression and treatment of the following diseases: Tuberculosis Meningitis Chlamydia Cholera HIV Ebola Nora virus Influenza SARS Ring worm Mucormycosis Candidiasis CJD Kuru Malaria Giardia Dysentery Roundworm Pediculosis Current issues in infectious disease, including the rise of antibiotic resistance, hospital	writing full lab reports with references and citations Drawing and labelling scientific diagrams Interpreting data presented in tabular and graphical format			communicable diseases at KS4, and so will be familiar with the various types of pathogens and modes of transmission.	prevention methods	other's working space. Ethical issues surrounding the use of biological samples, including the use of live samples.	be taught in a wide variety of familiar and unfamiliar contexts	wide range of STEM field careers. The topics covered in this unit would build the foundations for students to study a range of biomedical and healthcare courses or to enter these fields through employment

		acquired infections and the use of experimental treatments								
Three	Studying Microorganisms	Aseptic technique, including correct use of PPE and sterilisation equipment Safe culturing of micro organisms, including production of street and spread plates Determining microorganism number including use of haemocytometer and turbidimetric methods Analysing plates using a microscope Staining techniques	Practical microbiology skills - both producing and analysing a variety of plates Extended writing - including writing full lab reports with references and citations Drawing and labelling scientific diagrams Interpreting data presented in tabular and graphical format		Students who studied separate sciences - often known as triple - will be familiar with aseptic technique, which forms the starting point for the deeper study of practical microbiology in this unit.		This unit could be scaffolded up or down depending on how much of the practical work is pre-prepared by technicians Evaluation of different microbiology methods	Safe working in a lab, and respecting each other's working space. Ethical issues surrounding the use of biological samples, including the use of live samples.	The ubiquity of biology allows for examples to be taught in a wide variety of familiar and unfamiliar contexts	An A-level in biology opens to doors to a wide range of STEM field careers. The topics covered in this unit would build the foundations for students to study a range of biomedical and healthcare courses or to enter these fields through employment

Four	Microbiology - Mini Dissertation	In this unit students will use the knowledge they learnt in Half term 3 to plan their own investigation into the effect of various antimicrobial agents on the growth of E. coli bacteria	Practical microbiology skills - both producing and analysing a variety of plates Extended writing - including writing full lab reports with references and citations Drawing and labelling scientific diagrams Interpreting data presented in tabular and graphical format		This unit follows directly on from HT3, and allows students to apply their newly learnt knowledge of practical microbiology to an investigation of their own.		Complexity of investigation	Safe working in a lab, and respecting each other's working space. Ethical issues surrounding the use of biological samples, including the use of live samples.	The ubiquity of biology allows for examples to be taught in a wide variety of familiar and unfamiliar contexts	An A-level in biology opens to doors to a wide range of STEM field careers. The topics covered in this unit would build the foundations for students to study a range of biomedical and healthcare courses or to enter these fields through employment
Five	Revision and preparation for Unit One Exam									
Six	Synoptic Revision of Unit One in preparation for Year 13									