

**Biology combined Science and Separate (\*bold is Biology only)**

**Year: 10**

In year 10, pupils have 2 lessons of Biology a week. Lessons are covered in sequence as follows:

Half term 1& 2 Cell Biology	Half term 2 & 3 Principles of Organisation	Half term 3 Infection and Response	Half term 4 Bioenergetics	Half term 4 & 5 Ecology
Looking at cells Size and scale Microscopes Required practical microscopy Microscope development <b>Growing                      microorganisms</b> Cell differentiation and specialisation Cell division Stem cells and therapeutic cloning Transport in cells S:A ratio Osmosis Active Transport	The digestive system Enzymes Food test required practical Enzyme required practical The heart Blood vessels Blood composition Gas exchange Coronary heart disease Cancer Plant tissues Moving water Moving sugar Transpiration	Pathogens Causes of disease Human defence system Immunity Immunity, antibiotics and painkillers Drug trials Monoclonal antibodies Plant disease – rose black spot	Explaining photosynthesis Looking at photosynthesis Required practical light intensity and photosynthesis Increasing photosynthesis Increasing food production Plant minerals and fertilisers Cells at work Living without oxygen	Biotic and abiotic factors Adaptations Food chains Trophic levels <b>Pyramids of biomass</b> <b>Biomass transfer</b> Using quadrats Transects The water cycle The carbon cycle Impact of environmental change Biodiversity and waste management Deforestation and land use Global warming Maintaining biodiversity and ecosystems Food security <b>Biotechnology</b>

*Ludus Admirandus*