

Year 10

All numbers refer to specification points

Timing	Unit Title	Key Question(s)	Knowledge	Assessing understanding
Autumn	Tissues and organs	How are organisms organised and a study of non communicable diseases	<i>Start the year by doing a recap of the photosynthesis lessons - including application of the factors affecting rates of photosynthesis and the fates of glucose and all classes to complete the required practical 6 - factors affecting rate of photosynthesis in first 2 weeks of september</i> • 2.3.1 Plant tissues • 2.3.2 Plant organ system • 2.2.2-2.2.4 the heart and blood • 2.2.4 Coronary heart disease: a non-communicable disease • 2.2.5 Health issues • 2.2.6 The effect of lifestyle on some non-communicable diseases • 2.2.7 Cancer	How understanding is assessed Students will be assessed on their ability to: • Recall the knowledge covered • Interpret graphical and experimental data, • Make connections between different areas of understanding, • Explain the Biological processes covered. <i>Assessment will take the form of written questions in a test.</i> Skills • Graphical interpretation • Making connections • Explanations • Description • Scientific literacy and development of use of key terminology • Graph drawing • Data analysis
Spring	4.3 Infection and response	How can diseases be caught, treated, avoided and studied?	• 4.3.1.1 Communicable (infectious) diseases • 4.3.1.2 Viral diseases • 4.3.1.3 Bacterial diseases • 4.3.1.4 Fungal diseases • 4.3.1.5 Protist diseases • 4.3.1.6 Human defence systems • 4.3.1.7 Vaccination • 4.3.1.8 Antibiotics and painkillers	How understanding is assessed Students will be assessed on their ability to: • Recall the knowledge covered • Interpret graphical and experimental data

			• 4.3.1.9 Discovery and development of drugs • 4.3.2.1 Producing monoclonal antibodies • 4.3.2.2 Uses of monoclonal antibodies • 4.3.3 Plant disease (biology only)	• Make connections between different areas of understanding, explain the Biological processes covered. Assessment will take the form of written questions in a test. Students will also be assessed on their ability to effectively carry out the following : <u>Required practical 2</u> : investigate the effect of antiseptics or antibiotics on bacterial growth using agar plates and measuring zones of inhibition. Skills • Graphical interpretation • Making connections • Explanations • Description • Scientific literacy • Planning and carrying out an investigation • Graph drawing • Data analysis.
Summer	2.2.1 The human digestive system	How is our food digested?	• The structure and function of enzymes • Where are digestive enzymes produced and where is their action • The fate of the products of digestion • The formation and function of bile • Carrying out rate calculations for chemical reactions	How understanding is assessed Students will be assessed on their ability to: • Describe and explain the roles of enzymes • Relate knowledge of enzymes to metabolism • Describe the nature of enzyme molecules and relate their activity to temperature and pH changes • Carry out rate calculations for chemical reaction Required practical activity 4 : use qualitative reagents to test for a range of carbohydrates, lipids and proteins

				Required practical 5 : investigate the effect of pH on the rate of reaction of amylase enzyme Skills • Graphical interpretation • Making connections • Explanations • Description • Scientific literacy • Planning and carrying out an investigation • Graph drawing • Data analysis.
Summer	4.7 Ecology	How are complex communities maintained?	• 4.7.1 Adaptations, interdependence and competition • 4.7.2 Organisation of an ecosystem • 4.7.3 Biodiversity and the effect of human interaction on ecosystems • 4.7.4 Trophic levels in an ecosystem (biology only) • 4.7.5 Food production (biology only)	How understanding is assessed Students will be assessed on their ability to: • Recall the knowledge covered • Interpret graphical and experimental data, • Make connections between different areas of understanding, explain the Biological processes covered. Assessment will take the form of written questions in a test. Students will also be assessed on their ability to effectively carry out the following : <u>Required practical 9 :</u> measure the population size of a common species in a habitat. Use sampling techniques to investigate the effect of a factor on the distribution of this species <u>Required practical 10:</u> the effect of temperature on the rate of decay of fresh milk by measuring pH change

				Skills • Graphical interpretation • Making connections • Explanations • Description • Scientific literacy • Planning and carrying out an investigation • Graph drawing • Data analysis
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