

## Triple Biology

Topic	Done in Class	RAG	Revised	RAG
<b>B1 Cells and organisation – Paper 1</b>				
Microscopes				
Animal and plant cells				
Eukaryotic and prokaryotic cells				
Specialisation in animal cells				
Specialisation in plant cells				
Diffusion				
Osmosis				
Active transport				
Exchanging materials				
<b>B2 Cell division – Paper 1</b>				
Cell division				
Growth and differentiation				
Stem cells				
Stem cell dilemmas				
<b>B3 Organisation and the digestive system – Paper 1</b>				
Tissues and organs				
The human digestive system				
The chemistry of food				
Catalysts and enzymes				
Factors affecting enzyme action				
How the digestive system works				
Making digestion efficient				
<b>B4 Organising animals and plants – Paper 1</b>				
The blood				
The blood vessels				
The heart				
Helping the heart				
Breathing and gas exchange				
Tissues and organs in plants				
Transport systems in plants				
Evaporation and transpiration				
Factors affecting transpiration				
<b>B5 Communicable diseases – Paper 1</b>				
Health and disease				
Pathogens and disease				
<i>Growing bacteria in the lab</i>				
<i>Preventing bacterial growth</i>				
Preventing infections				
Viral diseases				
Bacterial diseases				
Diseases caused by fungi and protists				
Human defence responses				
More about plant diseases				
Plant defence responses				

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<b>B6 Preventing and treating disease – Paper 1</b>				
Vaccination				
Antibiotics and painkillers				
Discovering drugs				
Developing drugs				
<i>Making monoclonal antibodies (HT)</i>				
<i>Uses of monoclonal antibodies (HT)</i>				
<b>B7 Non communicable diseases – Paper 1</b>				
Non communicable diseases				
Cancer				
Smoking and the risk of disease				
Diet, exercise and disease				
Alcohol and other carcinogens				
<b>B8 Photosynthesis – Paper 1</b>				
Photosynthesis				
The rate of photosynthesis				
How plants use glucose				
Making the most of photosynthesis (HT)				
<b>B9 Respiration – Paper 1</b>				
Respiration				
The response to exercise				
Anaerobic respiration				
Metabolism and the liver				

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<b>B10 the human nervous system – Paper 2</b>				
Principles of homeostasis				
The structure and function of the nervous system				
Reflex actions				
<i>The brain</i>				
<i>The eye</i>				
<i>Common problems of the eye</i>				
<b>B11 Hormonal coordination – Paper 2</b>				
Principles of hormonal control				
The control of blood glucose levels				
Treating diabetes				
The role of negative feedback (HT)				
Human reproduction				
Hormones and the menstrual cycle (HT)				
The artificial control of fertility				
Infertility treatments (HT)				
<i>Plant hormones</i>				
<i>Using plant hormones (HT)</i>				
<b>B12 Homeostasis in action – Paper 2</b>				
<i>Controlling body temperature</i>				
<i>Removing waste products</i>				
<i>The human kidney</i>				
<i>Dialysis – an artificial kidney</i>				
<i>Kidney transplants</i>				
<b>B13 Reproduction – Paper 2</b>				
Types of reproduction				
Cell division in sexual reproduction				
<i>The best of both worlds</i>				
DNA and the genome				
<i>DNA structure (BOTH) and protein synthesis (HT)</i>				
<i>Gene expression and mutation (HT)</i>				
Inheritance in action				
More about genetics				
Inherited disorders				
Screening for genetic disorders				
<b>B14 Variation and evolution – Paper 2</b>				
Variation				
Evolution by natural selection				
Selective breeding				
Genetic engineering				
<i>Cloning</i>				
<i>Adult cell cloning</i>				
Ethics of genetic technologies				

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<b>B15 Genetics and evolution – Paper 2</b>				
<i>The history of genetics</i>				
<i>Theories of evolution</i>				
<i>Accepting Darwin's ideas</i>				
<i>Evolution and speciation</i>				
Evidence for evolution				
Fossils and extinction				
More about extinction				
Antibiotic resistant bacteria				
Classification				
New systems of classification				
<b>B16 Adaptations, independence and competition – Paper 2</b>				
The importance of communities				
Organisms in their environment				
Distribution and abundance				
Competition in animals				
Competition in plants				
Adapt and survive				
Adaptation in animals				
Adaptation in plants				
<b>B 17 Organising an ecosystem – Paper 2</b>				
Feeding relationships				
Materials cycling				
The carbon cycle				

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<b>B18 Biodiversity and ecosystems – Paper 2</b>				
The human population explosion				
Land and water pollution				
Air pollution				
Deforestation and peat destruction				
Global warming				
<i>The impact of change (HT)</i>				
Maintaining biodiversity				
<i>Trophic levels and biomass</i>				
<i>Biomass transfers</i>				
<i>Factors affecting food security</i>				
<i>Making food production more efficient</i>				
<i>Sustainable food production</i>				

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Required practicals paper 1				
Microscopy (cell structure and transport)				
Osmosis (cell structure and transport)				
Enzymes (organisation and the digestive system)				
Food Tests (organisation and the digestive system)				
<i>Microbiology (communicable disease)</i>				
Photosynthesis (photosynthesis)				
Required practicals paper 2				
Reaction times (the human nervous system)				
<i>Plant Responses (hormonal coordination)</i>				
Field investigations (adaptations, interdependence and competition)				
<i>Decay (organising an ecosystem)</i>				