

Y10 Biology progression (9-1 AQA syllabus and Kerboodle)

Key:

Separates only content

Assessment: Y10 teaching specialist team to organise. All classes to do the same assessment.

Required practical: See Y10 folder for guidance and practical sheets - To be written up in a 'skinny yellow exercise book' Name, class, and Required practicals on the front.

Have students divide it into thirds - Biology required practicals - page 1 in first third; Chemistry required practicals - page 1 in second third; Physics required practicals - page 1 in final third of lab book.

Absent students **MUST** copy up and record results. Other students perhaps take photographs? (Very good onion cell photos taken through the eyepiece lens of the microscope with 9sc1 last year)

There are 10 required practical tasks for separate science students. 7 for trilogy students. (Not prac 2,8 or 10)

| Lesson Seps | Lesson Trilogy | Spec and Topic | Homework/ Assessment | Timecheck/ Assessment responsibility |
|---|----------------|---------------------------------------|-----------------------------------|--------------------------------------|
| 1 Cells and Organisation | | | | |
| Topic 1: Cells and organisation | | | | |
| Chapter B1: Cell structure and transport LDU is responsible for updating lessons | | | | |
| | | B1.1 The world of the microscope | | |
| | | B1.2 Animal and plant cells | | |
| Required practical 1: Using a light microscope | | | | |
| | | B1.3 Eukaryotic and prokaryotic cell | Homework | Self/ peer |
| | | B1.4 Specialisation in animal cells | | |
| | | B1.5 Specialisation in plant cells | | |
| | | B1.6 Diffusion | Homework | Self/ peer |
| | | B1.7 Osmosis | | |
| | | B1.8 Osmosis in plants | | |
| Required practical 3: Investigating the effect of a range of concentrations of salt or sugar solutions on the mass of plant tissue | | | | |
| | | B1.9 Active transport | Targeted revision homework | Self/ peer |
| | | B1.10 Exchanging materials | | |
| | | End of topic common assessment | | PENS teacher |

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| | | | | assessment |
| | | Assessment review and next steps | Targeted moving forward homework | Student NS response |
| Chapter B2: Cell division LDU is responsible for updating lessons | | | | |
| | | B2.1 Cell division | | |
| | | B2.2 Growth and differentiation | | |
| | | B2.3 Stem cells | Targeted revision homework | Self/ peer |
| | | B2.4 Stem cell dilemmas | | |
| | | End of topic common assessment | | PENS teacher assessment |
| | | Assessment review and next steps | Targeted moving forward homework | Student NS response |
| Chapter B3: Organisation and the digestive system - Start September 2016 JBL is responsible for writing lessons | | | | |
| 01 | 01 | B3.1 Tissues and organs | | |
| 02 | 02 | B3.2 The human digestive system | | |
| 03 | 03 | B3.3 The chemistry of food | Homework | Self/ peer |
| 04 | 04 | Required practical 4: Use standard food tests to identify food groups | | |
| 05 | 05 | B3.4 Catalysts and enzymes | | |
| 06 | 06 | B3.5 Factors affecting enzyme action | | |
| 07 | 07 | B3.6 How the digestive system works | Targeted revision homework | Self/ peer |
| 08 | 08 | Required practical 5: Investigate the effect of pH on the rate of reaction of amylase enzyme | | |
| 09 | 09 | B3.7 Making digestion efficient | | |
| 10 | 10 | End of topic common assessment | | PENS teacher assessment |
| 11 | 11 | Assessment review and next steps | Targeted moving forward homework | Student NS response |

Chapter B4: Organising animals and plants
CSS is responsible for writing lessons

| | | | | |
|-----------|-----------|---|---|--------------------------------|
| 12 | 12 | B4.1 The blood | | |
| 13 | 13 | B4.2 The blood vessels | | |
| 14 | 14 | B4.3 The heart | Homework | Self/ peer |
| 15 | 15 | B4.4 Helping the heart | | |
| 16 | 16 | B4.5 Breathing and gas exchange | | |
| 17 | 17 | B4.6 Tissues and organs in plants | Homework | Self/ peer |
| 18 | 18 | B4.7 Transport systems in plants | | |
| 19 | 19 | B4.8 Evaporation and transpiration | | |
| 20 | 20 | B4.9 factors affecting transpiration | Targeted revision homework | Self/ peer |
| 21 | 21 | End of topic common assessment | | PENS teacher assessment |
| 22 | 22 | Assessment review and next steps | Targeted moving forward homework | Student NS response |

Topic 2: Disease and bioenergetics

Chapter B5: Communicable diseases
CSS is responsible for writing lessons

| | | | | |
|----|----|---|-----------------------------------|-------------------|
| 23 | 23 | B5.1 Health and disease | | |
| 24 | 24 | B5.2 Pathogens and disease | | |
| 25 | | <i>B5.3 Growing bacteria in the lab</i> | <i>Homework</i> | <i>Self/ peer</i> |
| 26 | | <i>B5.4 Preventing bacterial growth</i> | | |
| 27 | | <i>Required practical 2: Investigating the effect of antiseptics or antibiotics on bacterial growth</i> | | |
| 28 | 25 | B5.5 Preventing infections | | |
| 29 | 26 | B5.6 Viral diseases | Homework | Self/ peer |
| 30 | 27 | B5.7 Bacterial diseases | | |
| 31 | 28 | B5.8 Diseases caused by fungi and protists | | |
| 32 | 29 | B5.9 Human defence responses | Targeted revision homework | Self/ peer |

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| 33 | | <i>B5.10 More about plant diseases</i> | | |
| 34 | | <i>B5.11 Plant defence responses</i> | Targeted revision homework | <i>Self/ peer</i> |
| 35 | 30 | End of topic common assessment | | PENS teacher assessment |
| 36 | 31 | Assessment review and next steps | Targeted moving forward homework | Student NS response |

Chapter B6: Preventing and treating disease
JBL is responsible for writing lessons

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|----|----|---|---|--------------------------------|
| 37 | 32 | B6.1 Vaccinations | | |
| 38 | 33 | B6.2 Antibiotics and painkillers | | |
| 39 | 34 | B6.3 Discovering drugs | Targeted revision homework | Self/ peer |
| 40 | 35 | B6.4 Developing drugs | | |
| 41 | | <i>B6.5 Making monoclonal antibodies</i> | | |
| 42 | | <i>B6.6 Uses of monoclonal antibodies</i> | Targeted revision homework | <i>Self/ peer</i> |
| 43 | 36 | End of topic common assessment | | PENS teacher assessment |
| 44 | 37 | Assessment review and next steps | Targeted moving forward homework | Student NS response |

Chapter B7: Non-communicable diseases
CSS is responsible for writing lessons

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|----|----|---|-----------------------------------|--------------------------------|
| 45 | 38 | B7.1 Non-communicable diseases | | |
| 46 | 39 | B7.2 Cancer | | |
| 47 | 40 | B7.3 Smoking and the risk of disease | Homework | Self/ peer |
| 48 | 41 | B7.4 Diet, exercise, and disease | | |
| 49 | 42 | B7.5 Alcohol and other carcinogens | Targeted revision homework | Self/ peer |
| 50 | 43 | End of topic common assessment | | PENS teacher assessment |
| 51 | 44 | Assessment review and next steps | Targeted | Student NS |

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| | | | moving forward homework | response |
| Chapter B8: Photosynthesis CSS is responsible for writing lessons | | | | |
| 52 | 45 | B8.1 Photosynthesis | | |
| 53 | 46 | B8.2 The rate of photosynthesis | | |
| 54 | 47 | Required practical 6: Investigate the effect of light intensity on the rate of photosynthesis | | |
| 55 | 47 | B8.3 How plants use glucose | Targeted revision homework | Self/ peer |
| 56 | 49 | B8.4 Making the most of photosynthesis | | |
| 57 | 50 | End of topic common assessment | | PENS teacher assessment |
| 58 | 51 | Assessment review and next steps | Targeted moving forward homework | Student NS response |
| Chapter B9: Respiration JBL is responsible for writing lessons | | | | |
| 59 | 52 | B9.1 Aerobic respiration | | |
| 60 | 53 | B9.2 The response to exercise | | |
| 61 | 54 | B9.3 Anaerobic respiration | Homework | Self/ peer |
| 62 | 55 | B9.4 Metabolism and the liver | | |
| 63 | 56 | End of topic common assessment | | PENS teacher assessment |
| 64 | 57 | Assessment review and next steps | Targeted moving forward homework | Student NS response |
| Topic 3: Biological responses | | | | |
| Chapter B10: The human nervous system CSS is responsible for writing lessons | | | | |
| 65 | 58 | B10.1 Principles of homeostasis | | |
| 66 | 59 | B10.2 Control of blood glucose levels | | |
| 67 | 60 | Required practical 7: Investigate the effect of a factor on human reaction time | | |
| 68 | 61 | B10.3 Reflex actions | Homework | Self/ peer |

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| 69 | | <i>B10.4 The brain</i> | | |
| 70 | | <i>B10.5 The eye</i> | | |
| 71 | | <i>B10.6 Common problems of the eye</i> | Targeted revision homework | <i>Self/ peer</i> |
| 72 | 62 | End of topic common assessment | | PENS teacher assessment |
| 73 | 63 | Assessment review and next steps | Targeted moving forward homework | Student NS response |

Chapter B11: Hormonal coordination
JBL is responsible for writing lessons

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|----|----|---|---|--------------------------------|
| 74 | 64 | B11.1 Principles of hormonal control | | |
| 75 | 65 | B11.2 Control of blood glucose levels | | |
| 76 | 66 | B11.3 Treating diabetes | Homework | Self/ peer |
| 77 | 67 | B11.4 The role of negative feedback | | |
| 78 | 68 | B11.5 Human reproduction | | |
| 79 | 69 | B11.6 Hormones and the menstrual cycle | Homework | Self/ peer |
| 80 | 70 | B11.7 The artificial control of fertility | | |
| 81 | 71 | B11.8 Infertility treatment | Targeted revision homework | Self/ peer |
| 82 | | <i>B11.9 Plant hormones and responses</i> | Targeted revision homework | <i>Self/ peer</i> |
| 83 | | Required practical 8: Investigate the effect of light for gravity on the growth of germinating seeds | | |
| 84 | | <i>B11.10 Using plant hormones</i> | | |
| 85 | 72 | End of topic common assessment | | PENS teacher assessment |
| 86 | 73 | Assessment review and next steps | Targeted moving forward homework | Student NS response |

Chapter B12: Homeostasis in action
CSS is responsible for writing lessons

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|----|--|---|--|--|
| 87 | | <i>B12.1 Controlling body temperature</i> | | |
| 88 | | <i>B12.2 Removing waste products</i> | | |

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| 89 | | <i>B12.3 The human kidney</i> | <i>Homework</i> | <i>Self/ peer</i> |
| 90 | | <i>B12.4 Dialysis - an artificial kidney</i> | | |
| 91 | | <i>B12.5 Kidney transplants</i> | Targeted revision homework | <i>Self/ peer</i> |
| 92 | 74 | End of topic common assessment | | PENS teacher assessment |
| 93 | 75 | Assessment review and next steps | Targeted moving forward homework | Student NS response |

Topic 4: Genetics and reproduction

Chapter B13: Reproduction CSS is responsible for writing lessons

| | | | | |
|-----|----|--|---|--------------------------------|
| 94 | 76 | B13.1 Types of reproduction | | |
| 95 | 77 | B3.2 Cell division in sexual reproduction | | |
| 96 | | <i>B13.3 The Best of Both Worlds</i> | <i>Homework</i> | <i>Self/ peer</i> |
| 97 | 78 | B13.4 DNA and the genome | Homework | Self/ peer |
| 98 | | <i>B13.5 DNA structure and protein synthesis</i> | | |
| 99 | | <i>B13.6 Gene expression and mutation</i> | | |
| 100 | 79 | B13.7 Inheritance in action | Homework | Self/ peer |
| 101 | 80 | B13.8 More about genetics | | |
| 102 | 81 | B13.9 Inherited disorders | | |
| 103 | 82 | B13.10 Screening for genetic disorders | Targeted moving forward homework | Student NS response |
| 104 | 83 | End of topic common assessment | | PENS teacher assessment |
| 105 | 84 | Assessment review and next steps | Targeted moving forward homework | Student NS response |

Chapter B14: Variation and evolution JBL is responsible for writing lessons

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|-----|----|--------------------------------------|----------|------------|
| 106 | 85 | B14.1 Variation | | |
| 107 | 86 | B14.2 Evolution by natural selection | | |
| 108 | 87 | B14.3 Selective breeding | Homework | Self/ peer |

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|-----|----|---|---|--------------------------------|
| 109 | 88 | B14.4 Genetic engineering | | |
| 110 | | <i>C14.5 Cloning</i> | | |
| 111 | | <i>C14.6 Adult cell cloning</i> | Targeted moving forward homework | <i>Student NS response</i> |
| 112 | 89 | Ethics of genetic technologies | | |
| 113 | 90 | End of topic common assessment | | PENS teacher assessment |
| 114 | 91 | Assessment review and next steps | Targeted moving forward homework | Student NS response |

Chapter B15: Genetics and evolution
CSS is responsible for writing lessons

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|-----|----|---|---|--------------------------------|
| 115 | | <i>B15.1 The history of genetics</i> | | |
| 116 | | <i>B15.2 Theories of evolution</i> | | |
| 117 | | <i>B15.3 Accepting Darwin's ideas</i> | <i>Homework</i> | Self/ peer |
| 118 | | <i>B15.4 Evolution and speciation</i> | | |
| 119 | 92 | B15.5 Evidence for evolution | | |
| 120 | 93 | B15.6 Fossils and extinction | Homework | Self/ peer |
| 121 | 94 | B15.7 More about extinction | | |
| 122 | 95 | B15.8 Antibiotic resistant bacteria | | |
| 123 | 96 | B15.9 Classification | | |
| 124 | 97 | B15.10 New systems of classification | | |
| 125 | 98 | End of topic common assessment | | PENS teacher assessment |
| 126 | 99 | Assessment review and next steps | Targeted moving forward homework | Student NS response |

Topic 5: Ecology

Chapter B16 Adaptations, interdependence, and competition
CSS is responsible for writing lessons

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|-----|-----|--------------------------------------|----------|------------|
| 127 | 100 | B16.1 Importance of communities | | |
| 128 | 101 | B16.2 Organisms in their environment | | |
| 129 | 102 | B16.3 Distribution and abundance | Homework | Self/ peer |

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|---|------------|--|---|--------------------------------|
| 130 | 103 | Required practical 9: Measuring the population size of a common species in a habitat | | |
| 131 | 104 | B16.4 Competition in animals | | |
| 132 | 105 | B16.5 Competition in plants | | |
| 133 | 106 | B16.6 Adapt and Survive | Homework | Self/ peer |
| 134 | 107 | B16.7 Adaptation in animals | | |
| 135 | 108 | B16.8 Adaptations in plants | | |
| 136 | 109 | End of topic common assessment | | PENS teacher assessment |
| 137 | 110 | Assessment review and next steps | Targeted moving forward homework | Student NS response |
| Chapter B17: Organising an ecosystem JBL is responsible for writing lessons | | | | |
| 138 | 111 | B17.1 Feeding relationships | | |
| 139 | 112 | B17.2 Materials cycling | Homework | Self/ peer |
| 140 | 113 | B17.3 The carbon cycle | | |
| <i>141</i> | <i>114</i> | <i>B17.4 Rates of decomposition</i> | | |
| 142 | 115 | Required practical 10: Investigate the effect of temperature on the rate of decay of fresh milk | | |
| 143 | 116 | End of topic common assessment | | PENS teacher assessment |
| 144 | 117 | Assessment review and next steps | Targeted moving forward homework | Student NS response |
| Chapter B18: Biodiversity and ecosystem CSS is responsible for writing lessons | | | | |
| 145 | 118 | B18.1 The human population explosion | | |
| 146 | 119 | B18.2 Land and water pollution | Homework | Self/ peer |
| 147 | 120 | B18.3 Air pollution | | |
| 148 | 121 | B18.4 Deforestation and peat destruction | | |
| 149 | 122 | B18.5 Global warming | | |
| <i>150</i> | | <i>B18.6 The impact of change</i> | <i>Homework</i> | Self/ peer |
| 151 | 123 | B18.7 Maintaining biodiversity | | |
| <i>152</i> | | <i>B18.8 Trophic levels and biomass</i> | | |

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|-----|-----|--|---|--------------------------------|
| 153 | | <i>B18.9 Biomass transfers</i> | | |
| 154 | | <i>B18.10 Factors affecting food security</i> | <i>Homework</i> | Self/ peer |
| 155 | | <i>B18.11 Making food production efficient</i> | | |
| 156 | | <i>B18.12 Sustainable food production</i> | | |
| 157 | 124 | End of topic common assessment | | PENS teacher assessment |
| 158 | 125 | Assessment review and next steps | Targeted moving forward homework | Student NS response |