

My revision schedule for the Biology section of IGCSE coordinated science						
Paper 2 Multiple choice 23 May 2018						
Paper 4 Extended 23 May 2018						
Paper 6 Alternative to practical 10 May 2018						
B2.1 Cell structure	week 1	week beginning	6 Nov	At the start....	Revised this.....	I know this.....
MRS GREN				☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹
Cell structure and organisation. Structure of plant and animal cells, function of cell parts, differences, magnification				☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹
Identify and explain the adaptations in special cells				☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹
B2.2 Movement in and out of cells	week 2	week beginning	13 Nov	At the start....	Revised this.....	I know this.....
Definition of diffusion and importance to cells				☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹
Definition of osmosis and importance to cells				☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹
Describe the effects of osmosis on plant tissues using terms turgid, turgor pressure, plasmolysis and flaccid				☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹
Describe factors that influence diffusion and osmosis				☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹
B3 Biological molecules	week 3	week beginning	20 Nov	At the start....	Revised this.....	I know this.....
Elements in carbohydrates, proteins and fats				☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹
The structure of large molecules made from smaller basic units				☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹
Describe tests for: starch, reducing sugars, protein, fats				☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹
State the importance of water				☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹
B4 Enzymes	Week 4	week beginning	11 Dec	At the start....	Revised this.....	I know this.....
Define enzymes				☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹
Investigate, describe and explain the effect of temp and pH on enzyme activity				☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹
Explain enzyme action				☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹
B5 Plant nutrition	week 5	week beginning	18 Dec	At the start....	Revised this.....	I know this.....
Define <i>photosynthesis</i>				☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹
State the word and symbol equation				☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹
Investigate the need for chlorophyll, light carbon dioxide for photosynthesis				☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹
Describe leaf structure				☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹
Describe and explain the importance of nitrate ions and magnesium ions				☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹
Explain the importance of chlorophyll				☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹
Outline the subsequent use and storage of the carbohydrates made in photosynthesis				☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹
B6 Animal nutrition	week 6	week beginning	08 Jan	At the start....	Revised this.....	I know this.....
B6.1 Diet						
B6.2 Alimentary canal						
State and describe a balanced diet				☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹
Name sources of food nutrients and describe the importance of each nutrient				☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹
Explain different dietary needs				☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹
Identify the main regions of the alimentary canal and associated organs				☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹
Describe the functions of the regions of the alimentary canal				☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹
Define <i>digestion, ingestion, absorption, assimilation, egestion</i>				☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹
Describe the effects of malnutrition and deficiency diseases				☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹
Define mechanical and chemical digestion and the significance of each				☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹

<b>B6.3 Digestion B7.1 Transport in plants</b>	<b>week 7</b>	<b>week beginning</b>	<b>15-Jan</b>	<b>At the start....</b>	<b>Revised this.....</b>	<b>I know this.....</b>
Identify human teeth, their structure and functions				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
Describe teeth care and causes of decay				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
State the functions and site of production of digestive enzymes, hydrochloric acid, gastric acid and bile				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
Describe villi structure and explain the significance of villi				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
State the functions of xylem and phloem.				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
Identify root hair cells, xylem tissues as seen in transverse sections				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
Relate structure and functions of root hair cells to the uptake of minerals and water				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
Define and describe transpiration. Identify factors that affect transpiration				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
State the functions of xylem and phloem.				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
Identify root hair cells, xylem tissues as seen in transverse sections				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
Relate structure and functions of root hair cells to the uptake of minerals and water				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
Define and describe transpiration. Identify factors that affect transpiration				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
Define and describe translocation				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
<b>B7.2 Transport in mammals B8.1 Gas exchange</b>	<b>week 8</b>	<b>week beginning</b>	<b>22-Jan</b>	<b>At the start....</b>	<b>Revised this.....</b>	<b>I know this.....</b>
Describe the circulatory system including the structure and function of the heart, blood vessels, blood cells, valves				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
Investigate, state and explain the effect of physical activity on pulse rate.				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
Describe the double circulation and explain the advantages				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
Describe the functioning of the heart				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
Describe coronary heart disease				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
Name the main blood vessels around the heart				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
Explain the effect of physical exercise on the heart				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
Explain how blood vessels are adapted for their function				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
Identify and list the features of the gas exchange surfaces				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
Explain the role of goblet cells, mucus and cilia in protecting the gas exchange system				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
Describe the effects of tobacco smoke and its major toxic components on the gas exchange system				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
State the differences in composition between inspired and expired air and explain these differences				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
Investigate, describe and explain the effects of physical activity on rate and depth of breathing.				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
<b>B8.2 Respiration B9.1 Nervous control in humans</b>	<b>Week 9</b>	<b>week beginning</b>	<b>29-Jan</b>	<b>At the start....</b>	<b>Revised this.....</b>	<b>I know this.....</b>
State the uses of energy				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
State the word and symbol equation for aerobic respiration				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
Define aerobic respiration				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
Define anaerobic respiration				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
State the word equation for anaerobic relation in yeast ad muscles				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
Describe the oxygen debt				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
State that anaerobic respiration releases less energy than aerobic respiration				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
Describe and identify a neurones and the nervous system				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
Describe simple reflex arc are automatic and rapid coordination				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
Identify voluntary and involuntary actions				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
<b>B9.2 Sense organs B9.3 Hormones</b>	<b>week 10</b>	<b>week beginning</b>	<b>05-Feb</b>	<b>At the start....</b>	<b>Revised this.....</b>	<b>I know this.....</b>
Identify the parts of the eye and describe the function of each part				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
Describe and explain pupil reflex and accommodation of the eye				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
Define hormones				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
Describe adrenaline, its effects and give examples of when it will be released				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
Discuss the role of adrenalin in the control of metabolic activity				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
Compare nervous and hormonal control				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺

<b>B9.4 Homeostasis B9.5 Tropic responses</b>	<b>week 11</b>	<b>week beginning</b>	<b>12-Feb</b>	<b>At the start....</b>	<b>Revised this.....</b>	<b>I know this.....</b>
Define and explain <i>homeostasis</i>				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
Name and identify parts of the skin				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
Describe the maintenance of a constant internal body temperature				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
Explain negative feedback				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
Describe the control of the glucose				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
Define and explain gravitropism and phototropism				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
Explain the role of auxin in plant growth				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
<b>B10.1 Asexual and sexual reproduction</b>	<b>week 12</b>	<b>week beginning</b>	<b>19-Feb</b>	<b>At the start....</b>	<b>Revised this.....</b>	<b>I know this.....</b>
Define <i>asexual and sexual reproduction</i>				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
Identify examples of asexual reproduction				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
Discuss the advantages and disadvantages of asexual reproduction				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
State the nuclei of gametes are haploid and the nucleus of a zygote is diploid				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
Discuss the advantages and disadvantages of sexual reproduction				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
<b>B10.2 Sexual reproduction in plants</b>	<b>week 13</b>	<b>week beginning</b>	<b>26-Feb</b>	<b>At the start....</b>	<b>Revised this.....</b>	<b>I know this.....</b>
Identify, draw and state the functions of the parts of the flower				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
Define <i>pollination and the agents of polnation</i>				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
Identify pollen grains form insect and wind pollinated flowers				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
Describe the structural adaptations of insect and wind-pollinated flowers				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
State the conditions for germination				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
<b>B10.3 Sexual reproduction in humans</b>	<b>week 14</b>	<b>week beginning</b>	<b>05-Mar</b>	<b>At the start....</b>	<b>Revised this.....</b>	<b>I know this.....</b>
Identify, name and state the functions of the parts of the female and the male reproductive system				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
Describe fertilisation				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
Describe the menstrual cycle				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
Compare male and female gametes				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
Correctly use the terms <i>zygote, embryo, foetus</i>				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
State and describe the functions of umbilical cord, placenta and amnion				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
State that HIV can develop into AIDS and describe the method of transmission of HIV				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
Explain how the spread of STIs can be controlled				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
<b>B11.1 Chromosomes and genes</b>	<b>week 15</b>	<b>week beginning</b>	<b>12 Mar</b>	<b>At the start....</b>	<b>Revised this.....</b>	<b>I know this.....</b>
Define <i>inheritance, chromosome, gene, allele, haploid nucleus, diploid nucleus</i>				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
Describe gender inheritance				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
State that in a human diploid cell, chromosomes are arranged into 23 pairs				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
<b>B11.2 Cell division</b>	<b>week 16</b>	<b>week beginning</b>	<b>19 Mar</b>	<b>At the start....</b>	<b>Revised this.....</b>	<b>I know this.....</b>
Define mitosis and meiosis				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
State that the exact duplication of chromosomes occurs before mitosis				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
State the role of mitosis				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
State that meiosis is involved in the production of gametes				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
<b>B11.3 Monohybrid inheritance</b>	<b>week 17</b>	<b>week beginning</b>	<b>26 Mar</b>	<b>At the start....</b>	<b>Revised this.....</b>	<b>I know this.....</b>
Define <i>genotype, phenotype, homozygous, heterozygous, dominant, recessive</i>				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
State that two identical homozygous individuals that breed together will be pure-breeding				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
State that a heterozygous individual will not be pure-breeding				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
Use genetic diagrams to predict the results of monohybrid crosses and calculate phenotypic ratios, limited to 1:1 and 3:1 ratios				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
Use Punnett squares in crosses which result in more than one genotype to work out and show the possible different genotypes				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺
Interpret pedigree diagrams for the inheritance of a given characteristic				☺ ☺ ☺	☺ ☺ ☺	☺ ☺ ☺

<b>B11.4 Variation and selection</b>	<b>week 18</b>	<b>week beginning</b>	<b>02 Apr</b>	<b>At the start....</b>	<b>Revised this.....</b>	<b>I know this.....</b>
Define <i>variation, and mutation</i>				☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹
Distinguish between phenotypic variation and genetic variation				☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹
State that phenotypic variation is caused by both genes and environment				☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹
State that continuous variation results in a range of phenotypes between two extremes, e.g. height in humans				☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹
State that discontinuous variation results in a limited number of phenotypes with no intermediates, e.g. tongue rolling				☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹
State that discontinuous variation is mostly caused by genes alone				☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹
Describe natural selection				☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹
Describe selective breeding				☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹
State that ionising radiation and some chemicals increase the rate of mutation				☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹
Describe evolution				☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹
Define the process of <i>adaptation</i>				☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹
Describe the development of strains of antibiotic resistant bacteria as an example of evolution by natural selection				☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹
State the differences between natural and artificial selection				☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹
Outline how selective breeding improves crop plants and domesticated animals				☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹
<b>B12 Food chains and webs</b>	<b>week 19</b>	<b>week beginning</b>	<b>09 Apr</b>	<b>At the start....</b>	<b>Revised this.....</b>	<b>I know this.....</b>
State that the Sun is the principal source of energy input to biological systems				☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹
Define the terms: <i>food chain, food web, producer, consumer, herbivore, carnivore, decomposer, ecosystem, trophic level</i>				☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹
Construct simple food chains and food webs				☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹
State that consumers may be classed as primary, secondary and tertiary according to their position in a food chain				☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹
Describe how energy is transferred between trophic levels				☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹
Explain why food chains usually have fewer than five trophic levels				☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹
Identify producers, primary consumers, secondary consumers, tertiary consumers and quaternary consumers				☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹
<b>B13 Human influences on ecosystems</b>	<b>week 20</b>	<b>week beginning</b>	<b>23 Apr</b>	<b>At the start....</b>	<b>Revised this.....</b>	<b>I know this.....</b>
Describe the carbon cycle						
Discuss the effects of the combustion of fossil fuels and the cutting down of forests on the oxygen and carbon dioxide concentrations in the atmosphere						
List the undesirable effects of deforestation						
Explain the undesirable effects of deforestation on the environment						
Explain the process of eutrophication						
State the sources and effects of pollution of water (rivers, lakes and the sea) by chemical waste, discarded rubbish, untreated sewage and fertilisers						
Topic review				week 21	week beginning	30 April
Attempt past paper questions and study the mark schemes				☺ ☹ ☹	☺ ☹ ☹	☺ ☹ ☹

1. STICK to the programme! The later you start, the more you will have to do – every week!
2. Make sure you organise a thorough revision programme.
  - Make your OWN Revision notes – highlight key points
  - Test your knowledge and understanding
  - ASK if you don't understand ANYTHING!
  - Find and complete relevant exam past questions
  - Analyse the mark scheme – why didn't you get full marks??
  - Repeat the questions until you do achieve full marks!
3. Have confidence in you own ability
4. Go to bed early the night before your exam
5. Eat breakfast.