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| What I should know from GCSE – GCSE national curriculum | Will I need this for AQA A level Biology? Year 1 or Year 2 | Resources |
| Cell biology | Review Content <https://www.bbc.co.uk/bitesize/subjects/zp266yc><https://www.youtube.com/watch?v=QCCp-Y_-7J0&list=PLidqqIGKox7X5UFT-expKIuR-i-BN3Q1g><https://www.youtube.com/channel/UCyCNsPR1je9aSyMeAtA2N2w><https://app.senecalearning.com/courses?Price=Free&Subject=Biology><https://quizlet.com/gb/topic/science/biology/>Exam paper<https://www.youtube.com/channel/UCBgvmal8AR4QIK2e0EfJwaA> |
| • cells as the basic structural unit of all organisms; adaptations of cells related to | Year 1 |
| their functions; the main sub-cellular structures of eukaryotic and prokaryotic cells | Year 1 |
| • stem cells in animals and meristems in plants | Stem Cell Year 2 |
| • enzymes | Year 1 |
| • factors affecting the rate of enzymatic reactions | Year 1 |
| • the importance of cellular respiration; the processes of aerobic and anaerobic respiration  | Year 2 |
| • carbohydrates, proteins, nucleic acids and lipids as key biological molecules. | Year 1 |
| Transport systems |
| • the need for transport systems in multicellular organisms, including plants | Year 1 |
| • the relationship between the structure and functions of the human circulatory system  | Year 1 |
| Health, disease and the development of medicines |
| • the relationship between health and disease | Year 1 |
| • communicable diseases including sexually transmitted infections in humans |  |
| (including HIV/AIDs) | Year 1 |
| • non-communicable diseases |  |
| • bacteria, viruses and fungi as pathogens in animals and plants | Pathogens in animals Year 1 |
| • body defences against pathogens and the role of the immune system against disease  | Year 1 |
| • reducing and preventing the spread of infectious diseases in animals and |  |
| plants |  |
| • the process of discovery and development of new medicines |  |
| • the impact of lifestyle factors on the incidence of non-communicable diseases. |  |
| Coordination and control |
| • principles of nervous coordination and control in humans | Year 2 |
| • the relationship between the structure and function of the human nervous system  | Year 2 |
| • the relationship between structure and function in a reflex arc | Year 2 |
| • principles of hormonal coordination and control in humans | Year 2 |
| • hormones in human reproduction, hormonal and non-hormonal methods of contraception  |  |
| • homeostasis. | Year 2 |
| Photosynthesis |
| • photosynthesis as the key process for food production and therefore biomass for life | Year 2 |
| • the process of photosynthesis | Year 2 |
| • factors affecting the rate of photosynthesis. | Year 2 |
| Ecosystems |
| • levels of organisation within an ecosystem | Year 2 |
| • some abiotic and biotic factors which affect communities; the importance of interactions between organisms in a community | Year 2 |
| • how materials cycle through abiotic and biotic components of ecosystems | Year 2 |
| • the role of microorganisms (decomposers) in the cycling of materials through an ecosystem  | Year 2 |
| • organisms are interdependent and are adapted to their environment | Year 2 |
| • the importance of biodiversity | Year 1 |
| • methods of identifying species and measuring distribution, frequency andabundance of species within a habitat | Year 2 |
| • positive and negative human interactions with ecosystems. |  |
| Evolution, inheritance and variation |
| • the genome as the entire genetic material of an organism | Year 2 |
| • how the genome, and its interaction with the environment, influence the development of the phenotype of an organism | Year 2 |
| • the potential impact of genomics on medicine |  |
| • most phenotypic features being the result of multiple, rather than single, genes | Year 1 |
| • single gene inheritance and single gene crosses with dominant and recessive phenotypes | Year 2 |
| • sex determination in humans | Year 2 |
| • genetic variation in populations of a species | Year 2 |
| • the process of natural selection leading to evolution  | Year 2 |
| • the evidence for evolution |  |
| • developments in biology affecting classification | Year 1 |
| • the importance of selective breeding of plants and animals in agriculture |  |
| • the uses of modern biotechnology including gene technology; some of the practical and ethical considerations of modern biotechnology |  |