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| **What will we be learning?**  **GCSE Unit: Organisation** | **Why this? Why now?**  **GCSE Course:**  AQA Trilogy  AQA Separate Biology  **What other GCSE Science units does this unit relate to?**  **Cells** – 4.1.1 cell structure, 4.1.1.4 cell differentiation, 4.1.2 cell division, 4.1.3 stem cells, 4.1.3 transport in cells  **Infection & Response** – 4.3.1 communicable disease, 4.3.1.6 white blood cells  **Bioenergetics** – 4.4.1 photosynthesis, 4.4.2 Respiration, 4.4.2.3 metabolism | **Key Words:**  cell  tissue  organ  organ system  organism  stem cell  enzyme  substrate  active site  optimum  denature  amylase  protease  lipase  amino acids  arteries  veins  capillaries  platelets  atrium  ventricle  valves  alveoli  coronary heart disease  pacemaker  statins  cancer  malignant  benign  diabetes  palisade cells  xylem  phloem  stomata  guard cells  transpiration |
| **What will we learn?**  **Useful equations/formulae/maths skills for this unit:**  Calculate rates of reaction  Plot graphs  Interpret data from tables and graphs  **Misconceptions in this topic**  Food gives you energy – this is because large insoluble starch is broken down into small soluble glucose which can be transported to your cells in the blood where it will react with oxygen. This respiration reaction releases energy. So food without oxygen would be useless!  When enzymes denature, they are destroyed or die – no, the active site just changes shape so they can’t work any longer.  Pacemakers are artificial – we all have a natural pacemaker the SAN in our right atrium of your heart, but if this goes wrong you may have an artificial one fitted to regulate your heartbeat.  All diseases are infectious – no, some are caused by genetic disorders, lifestyle, immune reaction and mental health, these are called non-communicable diseases. | |
| **What opportunities are there for wider study?**  **If you are interested in this unit, what careers does it relate to?**  dietician, cardiologist, doctor, nurse, paramedic, NHS careers, physiotherapist, botanist, care worker, horticulturalist, research scientist, pharmacologist  **Collins Revision guide relevant pages for this unit:**  Higher and Foundation Trilogy books P.24-33, 37-39, 58-59  Separate Biology books P. 16-25, 30-33, 60-63 | |
| **How will I be assessed?**  **Deep Marking Task Title for this unit:** Enzymes and pH Required Practical Write up | |