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| Explain advantages of an internal skeleton | Explain how cartilage turns into bone |
| Describe the structure of the long bone | Describe how the arm bends and straightens |
| Explain why it is dangerous to move a person with a suspected fracture | Describe the structure of a synovial joint, explain the function of each part |
| Describe range of movement in joints | Explain why elderly people are more prone to fractures |

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| Define a single circulatory system | Define a double circulatory system  http://t0.gstatic.com/images?q=tbn:ANd9GcS45Ka6czzN45vTOT2KtWayZN7SvXncXfetZL4Ol98Hub21dl0Y:www.cix.co.uk/~argus/Image3.gif |
| Describe the contribution of Galen | Describe the contribution of Harvey |
| Explain the advantages of double circulatory system over a single circulatory system | Describe the function of an artificial pacemaker |
| Explain sequence of contraction and valves in the heart | Describe how the pacemaker coordinates heart muscle contraction#  http://t0.gstatic.com/images?q=tbn:ANd9GcSVSiODrgRB5JtFFbJtXNdJZl2kHVfKFGbMZ6EH9t9dKLNO6ljV:www.zsf.jcu.cz/jab/5_3/fig1sedmera.jpg |

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| Explain the consequence of a hole in the heart | Explain the consequences of a damaged or weak heart valve |
| Understand why all unborn babies have a hole in the heart | Explain advantages and disadvantages of an artificial pacemaker over a heart transplant  http://t3.gstatic.com/images?q=tbn:ANd9GcSUOGf7iAaZ37eZ_vmLUURFq-FM13nEx7UgRptJAq--D4CYDjYwYw:cdn.gizmocrazed.com/wp-content/uploads/2011/04/heartbeat.jpg |
| Explain the consequences of a blocked coronary artery | Describe the processes of   * blood donation * blood transfusion |
| Describe the processes of blood clotting | Define agglutination |
| Complete the table   |  |  |  | | --- | --- | --- | | Blood Type | Antigens | Antibodies | | A |  |  | | B |  |  | | AB |  |  | | O |  |  | | |

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| Explain how fish gills work | Explain how permeable skin of amphibians work |
| Explain adaptations of gas exchange surfaces (alveoli) | Describe how the respiratory system protects itself against disease |
| http://t1.gstatic.com/images?q=tbn:ANd9GcQ6L1DVJavy3_GCFpBAtIy_oPoYLfHFc6H5AesHu3eL-lgEkuqz:oxfordmedicine.com/doc/10.1093/med/9780199584048.001.0001/med_9780199584048_graphic043003-full.jpgDefine tidal air | Define vital capacity air |
| Define residual air | Describe asbestosis and state cause |
| Describe cystic fibrosis and state cause | Describe lung cancer and state cause |
| Describe symptoms and treatment of asthma | |

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| Explain the importance of physical digestion | Explain where bile is made and how it improves fat digestion |
| Explain why stomach pH is acidic where as mouth and small intestine is alkaline | Describe the breakdown of starch as a two step process |
| Enzymes: complete the table   |  |  |  | | --- | --- | --- | | Enzyme | Substrate | Product | | Carbohydrase/ Amylase |  |  | | Protease |  |  | | Lipase |  |  | | |
| Explain why large molecules are broken down to small molecules in digestion | Explain how the small intestine is adapted to efficient absorption of food |

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| Explain the importance of maintaining constant water concentration in blood plasma | diagram-of-kidney question sheetdiagram-of-kidney question sheetdiagram-of-kidney question sheetdiagram-of-kidney question sheet |
| Explain how the function of the kidney tubule forms urine  http://home.comcast.net/~llpellegrini/Test%20clip%20art-%20nephron-Unlabeled.JPG | Explain the principle of a dialysis machine |
| State where urea is made | State what urea is made from |
| Explain how concentration of urine is controlled by Anti-diuretic hormone (ADH) | Explain factors that affect urine concentration |
| Explain how the body responds to increased concentration levels of carbon dioxide  Explain why high levels of carbon dioxide is toxic |

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| Describe the role of oestrogen | Describe the role of progesterone |
| Describe the role of FSH | Describe the role of LH |
| Explain how negative feedback controls the menstrual cycle | Explain how the contraceptive pill works |
| Describe artificial insemination to treat infertility | Describe use of FSH to treat infertility |
| Describe in vitro fertilisation (IVF) to treat infertility | Describe egg donation to treat infertility |
| Describe surrogacy to treat infertility | Describe ovary transplants to treat infertility |
| Describe how foetal development can be checked | |

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| Explain causes of extremes in heights | State where human growth hormone is made and where is effects |
| Describe how baby’s growth is monitored and why | Explain causes of increased life expectancy in modern times |
| State 3 problems in the supply of donor organs | State 4 problems of using mechanical replacements of organs |
| Describe the 2 problems with transplants | Explain why donors can be living |
| Describe the advantages of a register of donors | Describe the disadvantages of a register of donors |