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| **What will we be learning?**  Movement | **Why this? Why now?**  Previous Learning  In Key Stage 2 you learned that humans and other animals have skeletons and muscles for support, protection and movement.  Future Learning  In Key Stage five you will learn more about the skeleton and movement in “Animal Responses”  Enquiry Processes  Enquiry process not applicable, but students will be applying the scientific content learned to both the dissection of a chicken leg and the modelling of the human arm. | **Key Words:**  Joints  Bone marrow  Ligaments  Tendons  Cartilage  Antagonistic muscle pairs  Relax  Contract  Prosthetic |
| **What will we learn?**   * The role of the skeleton in protection and support is revisited * The production of blood cells * Identify the different types of joints and the range of motion they allow * Describe how antagonistic pairs of muscles contract and relax. * Explain factors that affect the force exerted by muscle. * I can describe and explain the following on a chicken dissection, joints, ligaments, tendons, cartilage, bone marrow and antagonistic muscle movement. * Predict the consequences of damage to a joint, bone or muscle. i.e. Osteoarthritis   **Misconceptions in this topic**   * *That muscles push the bones* ***(incorrect).***   Antagonistic muscles work together in pairs. As one muscle **contracts**, the other **relaxes.***Relaxation of muscles is a returning to the resting length, and* **NOT** *a lengthening/stretching or pushing.*   * *That the skull is a fixed joint* ***(incorrect).***   The bones of the skull are held together by strong, **fibrous and elastic joints called sutures***. During infancy and childhood, the sutures are flexible. This allows the brain to grow quickly and protects the brain from minor impacts to the head (such as when the infant is learning to hold his head up, roll over, and sit up). Without flexible sutures the child's brain could not grow enough. The child would develop brain damage.* | |
| **What opportunities are there for wider study?**  **Careers:**   * Exercise physiology or trainer – investigating ways to improve human performance. * Chiropractor * Orthopaedist * Massage therapist * Rheumatologist * Orthotist/prosthetist * pharmaceutical or biotechnology industries   **Extracurricular opportunities and Visits:**  Science Technology, Engineering (And) Maths: The Schools **STE(A)M** group provides information about trips, visits and opportunities, check them out on the school’s SharePoint pages. | |
| **How will I be assessed?**  **(informal)**   * Chicken dissection * Producing model skeleton * Printed PLCs – ticked off throughout unit   **(Formal)**  As part of the key stage 3 combined testing system. This topic will be assessed, alongside 2 other topics, as part of Highcliffe Science Department assessment policy. | |