**UNIT OVERVIEW:** Cell division

**ENQUIRY: How do organisms grow and reproduce?**

|  |  |  |  |
| --- | --- | --- | --- |
| **Unit intention: *What and Why*** “During the cell cycle, genetic information is copied and passed to daughter cells. Microscopes can be used to view the different stages of the cycle. In multicellular organisms, stem cells are modified to produce many different types of specialized cell. Understanding how stem cells can be modified has huge potential in medicine.  From their work at KS4 students should be familiar with the structure of a chromosome and be able to use the terms haploid and diploid with confidence. | | | |
| **Success criteria:** | | 🗸 | X |
| **Cell division Learning Checklist I can:**  Describe the cell cycle  Explain how the cell cycle is regulated  Explain the main stages of mitosis and the significance of mitosis in life cycles.  Explain the significance of meiosis in life and the main stages of meiosis  Describe how cells of multicellular organisms are specialised for particular functions the features and differentiation of stem cells  Explain the production of erythrocytes and neutrophils derived from stem cells in bone marrow  Evaluate the potential uses of stem cells in research and medicine | |  |  |
| **Unit summative and formative assessment details:**  Weekly Seneca, factual re-call  Extended writing  Practical Research  End of unit test | | | |
| **Home Learning (What and how often):**  **Home Learning (What and how often):**  Homework once a week (flip learning and Seneca)  Revisit class content (make notes)  Research activities for practical | | | |
| **Topic Sequence**  The cell cycle and its regulation  The stages of mitosis and meiosis  Cell specialisation  The features and differentiation of stem cells  The production of erythrocytes and neutrophils derived from stem cells  The potential uses of stem cells in research and medicine | **Recommended reading:**  HPA Recommended biological dictionary  <http://www.nature.com/scitable/>  topicpagemitosis-and-cell-division-205  <http://www.biology.arizona.edu>  /cell\_bio/tutorials/cell\_cycle/mitosis\_movie.html  **Places to visit:**  Centre of the cell | | |

|  |
| --- |
| **Success criteria** – Have you met them? Show your evidence in the boxes below. |
| **1.** |
| **2.** |
| **3.** |
| **4.** |
| **5.** |
| **6.** |
| **How will you improve your work?** |

**End of Unit EVALUATION**