**Science work – Year 9**

The tasks to work through each week from your CGP guide and workbook from January 11th until February half- term are given below. Complete the tasks given in your science exercise book. If you do not have your exercise book at home, complete the task on one side of a piece of paper and keep these together, ideally in a folder, ready to stick in your exercise book when you get back to school. When you complete the pages from the workbook you should mark them using the mark schemes at the back of the book. You will also be signposted to additional online resources to help you with the tasks.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Week** | **Topic** | **CGP Guide pages** | **Workbook pages** | **Additional resources** |
| 11/01/21 | Animal, plant and specialised cells | Foundation - p.2-3Higher – p.2-3 | Foundation – p.3-6Higher – p.3-6 | The following links will take you to Oak academy lessons. This lesson will explain the difference between a prokaryotic and eukaryotic cell:<https://classroom.thenational.academy/lessons/prokaryotic-and-eukaryotic-cells-6cr6ae>This lesson will summarise structures of different cells and the role of their organelles:<https://classroom.thenational.academy/lessons/comparing-of-cells-6dj62r>This link will take you a lesson about specialised cells:<https://classroom.thenational.academy/lessons/specialised-cells-74r66c> |
| ***Task*** *– Draw and label an animal and plant cell. Explain the function of each organelle in the cell. Use your knowledge organiser to explain the difference between prokaryotic and eukaryotic cells. Use your knowledge organiser to identify 3 specialist cells. Explain how each cell is adapted to its function. Draw a flow diagram showing the level of organisation from cells to tissues to organs to organ systems to organisms using an example at each stage. Complete the workbook pages. Complete at least one Oak academy lesson.* ***Extension*** *– watch one of the BBC science lessons on BBC 2 between 1 and 3pm each afternoon this week* |
| 18/01/21 | Using microscopes | Foundation - p.1Higher – p.1 | Foundation – p.1-2Higher – p.1-2 | The following links will take you to Oak academy lessons which explain how to use a microscope to view animal and plant cells and how to use the magnification equation.<https://classroom.thenational.academy/lessons/microscopes-magnification-and-resolution-6mr38d><https://classroom.thenational.academy/lessons/using-the-microscope-and-magnification-equation-c5k66r><https://classroom.thenational.academy/lessons/viewing-animal-cells-under-the-microscope-and-calculating-magnification-cnhked> |
| **Task***: Draw a labelled diagram of a microscope. Explain how you would use the microscope to focus on a slide. Write down the equation for magnification for microscopes from the knowledge organiser. Complete the workbook pages. Complete at least one Oak academy lesson.*  |
| 25/01/21 | Chromosomes and mitosis | Foundation - p.26Higher – p.26 | Foundation – p.53Higher – p.59 | The following link will take you to an Oak academy lesson that explains the cell cycle and mitosis:<https://classroom.thenational.academy/lessons/cell-cycle-and-mitosis-60r30t> |
| **Task***: Explain using a diagram how a cell, a nucleus, a chromosome, a gene and DNA are related. Use your knowledge organiser to explain what mitosis is and briefly describe how it occurs. Complete the workbook pages. Complete at least one Oak academy lesson.*  |
| 1/02/21 | Maths skills 1 | Use your maths CGP guide to help you |  | The following clip explains what mean, medium and mode are:<https://www.bbc.co.uk/bitesize/guides/znhsgk7/revision/1>The following link will take you a lesson on order of magnitude calculations and standard form:<https://classroom.thenational.academy/lessons/order-of-magnitude-calculations-75k34d> |
| **Task:** *Explain the meaning of mean medium and mode giving examples of each. Explain the difference between decimal places, significant figures and standard form. Explain how you would convert between µm, mm, cm, m and km. Complete the Oak academy lesson.* |
| 8/02/21 | Maths skills 2 | Use your maths CGP guide to help you |  | This link will help you understand percentages:<https://www.bbc.co.uk/bitesize/topics/zf6pyrd>This lesson from Oak academy will help you understand surface area to volume ratio and explain why this is an important concept in biology:<https://classroom.thenational.academy/lessons/exchange-surfaces-and-surface-area-to-volume-ratio-60tp4r>This lesson from Oak Academy will help you understand the maths skills you need for this unit of biology:<https://classroom.thenational.academy/lessons/useful-maths-skills-64vk6t> |
| **Task:** *Explain how to calculate a percentage and a percentage increase. Explain how to calculate surface area and volume of cubes. Complete at least one Oak academy lesson.*  |