**Year 7: ASK Yourself!**

**Subject: Science**

**Topic: Autumn**

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|  | **Launching**  **1-2** | **Developing**  **3-4** | **Progressing**  **5-6** | **Mastering**  **7-9** |
| Text Box**kills** |  |  | Shape |  |
|  | Use particle diagrams to classify elements, mixtures or compounds and as molecules or atoms  Name compounds using their chemical formulae.  Use a light microscope to observe and draw cells.  Relate observations of changing day length to an appropriate model of the solar system | Represent atoms, molecules and elements, mixtures and compounds using particle diagrams.  Explain how to use a microscope to identify and compare different types of cells.  Describe how space exploration and observations of stars are affected by the scale of the universe. | Given chemical formulae, name the elements present and their relative proportions.    Deduce general patterns about how the structure of different cells is related to their function.  Make deductions from observation data of planets, stars and galaxies. | Use data about the properties of elements to find similarities, patterns and anomalies.  Relate structure of different cells to their function.  Understand the link between gravity and weight. |
| Text Box                 **nowledge** | Shape |  |  |  |
|  | Understand the basic structure of the periodic table. Metals found on the left side, non-metals on the right.  There are many types of cell. Each has a different structure or feature so it can do a specific job.  The solar system can be modelled as planets rotating on tilted axes while orbiting the Sun, moons orbiting planets and sunlight spreading out and being reflected. | Elements in a group react in a similar way and sometimes show a pattern in reactivity. Begin to represent reactions with particles and word equations.  Multicellular organisms are composed of cells which are organised into tissues, organs and systems to carry out life processes.  Why places on the Earth experience different daylight hours and amounts of sunlight during the year. | Most substances are mixtures containing atoms of different elements. with different properties to the elements. Begin to balance symbol equations  Plant and animal cells have a cell membrane, nucleus, cytoplasm and mitochondria. Plant cells also have a cell wall, chloroplasts and vacuole.  Our solar system is a tiny part of a galaxy, one of many billions in the Universe. Light takes minutes to reach Earth from the Sun, four years from nearest star and billions of years from other galaxies | Represent chemical reactions using word/ formulae equations AND particle models  Balance simple chemical equations  Multi-cellular organisms need organ systems to keep their cells alive.  Describe the characteristics of a star  Relate our Sun to other stars  Explain the concept of galaxies and the position of our galaxy |