Heath Mount School

# Science Curriculum Map Lent 2022

*It should be noted that the curriculum is taught in rotation so pupils are able to access the laboratories for practical work*

| **Year 3** | |
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| Our changing world | In this unit pupils will learn how to classify plants at different times of the year. When working scientifically pupils will make careful observations of leaves, bark, buds, tree shape and flowers. They will use this information to classify the plants and will record the information using keys. |
| Human Impact | Pupils will investigate the positive and negative ways that humans change the environment, locally and globally with a focus on how this affects other living things. When working scientifically pupils will carry out surveys and collate data. They will then make their data manageable and present findings in bar charts, pictograms and written reports. |
| Good vibrations | In this unit pupils will build upon their understanding of hearing and senses. They will develop vocabulary for describing sounds and sound sources scientifically. They will explore ways to change the pitch and volume of sounds. When working scientifically pupils will look for patterns between the volume and the strength of vibrations the sound produces. They will also have the opportunity to set up comparative tests, take measurements, including using data loggers and report on their findings. |

| **Year 4** | |
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| Get Sorted | Pupils will identify, compare and classify a variety of materials according to properties and uses. When working scientifically, pupils will plan and carry out different enquiry types to answer scientific questions about materials and their uses. |
| Feel the force | In this unit pupils will learn how levers, pulleys and gears allow a smaller force to have a greater effect. When working scientifically pupils will look at scientific ideas from the past and carry out investigations to support or refute famous scientists' ideas. They make predictions as a result of carrying out activities and go on to plan new investigations. |
| Earth and beyond | Pupils will develop their knowledge of the Earth's and other planets' place in the solar system, and their relationship with other bodies in space in particular the Sun. When working scientifically pupils will use models for exploring and demonstrating ideas, first-hand observations at night either in their gardens or the local area, secondary sources of information (web based and book based) to answer scientific questions increasingly independently and diagrams, charts and graphs for recording data. |

| **Year 5** | |
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| Everything changes | Pupils will use their knowledge of living things and apply it to a new scenario of variation in a species will make it better adapted to its environment and that over a long period of time the process of natural selection will lead to evolution of a species. They will also look at ideas around selective breeding and the ethical ideas surrounding the process. When working scientifically pupils will take measurements of plants to record variations and use scientific models to describe complex processes such as selective breeding. |
| Danger! Low voltage | In this unit pupils will develop their understanding of electrical circuits and build on the work in the year 3 unit Switched on. They will construct circuits with increased complexity and role play the flow of electricity in a circuit. When working scientifically pupils will carry out practical work building circuits, using scientific language and recording the circuits using scientific drawings. |
| Light up your world | In this unit pupils will develop their learning on how light enables us to see things and how objects reflect different amounts of light and shadows. Then they will develop an understanding of mirrors and the reflections that they form in order to build a periscope. When working scientifically, pupils will ask and propose questions about shadow formations as well as exploring quantitatively the formation of shadows. |

| **Year 7** | |
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| Skeletons and muscles | In this unit pupils will investigate skeletons and muscles, and how they are needed to work together in harmony in order to produce movement. They will investigate through self-exploration and practical investigations into how we build muscle strength and how the muscles work with the skeleton. Prepare for some 'funny bones' moments! |
| Simple chemical reactions | Pupils will be introduced to acids, alkalis and indicators and how they are used in the home and industry. They will then look at combustion and air pollution, and its impact on our planet. |
| Gravity and pressure | Pupils will continue to develop their knowledge and understanding of the forces. Pupils will be introduced to ideas linked to pressure, floating and sinking, then link these ideas to gravity and space travel. |
| Energy and fuel | Pupils will investigate different energy types and how they are transferred. They will then go on to look at fuel in more detail as well as how we can reduce our use of fossil fuels. |

| **Year 8** | |
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| Chemistry in the Earth | In this unit the pupils will look at how the Earth's atmosphere has evolved over time and how humans have made an impact on it. They will also will focus in on the rock cycle |
| Motion on Earth and in space | Pupils will investigate the impact of forces in equilibrium, gravitational fields and the motion of the Earth. They will also look at motion in the form of distance-time graphs and calculating speed. Finally, the unit will have the pupils looking at the stars and galaxies. |
| Waves and energy transfer | In this unit, pupils will look at energy transfers and focus in on energy in the home. They will then focus in on two forms of wave energy, light and wave energy. |
| Review & revise | Pupils will revisit the units taught in years 6-8 and review their learning, identify the learning gaps to close them and look in detail how to answer questions to be able to gain the maximum marks possible. |