# Science Medium Term Plan

| | **Year Group:** | **Term:** | **Topic/Unit :** |
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| | 6 | Autumn | Animals, including humans |
| **National Curriculum Programme of Study** | • Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood.<br>• Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function.<br>• Describe the ways in which nutrients and water are transported within animals, including humans. | | |
| **Prior Learning** | • Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene. (Y2 - Animals, including humans)<br>• Identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat. (Y3 - Animals, including humans)<br>• Describe the simple functions of the basic parts of the digestive system in humans. (Y4 - Animals, including humans)<br>• Identify the different types of teeth in humans and their simple functions. (Y4 - Animals, including humans) | | |
| **Future Learning** | • The consequences of imbalances in the diet, including obesity, starvation and deficiency diseases. (KS3)<br>• The effects of recreational drugs (including substance misuse) on behaviour, health and life processes. (KS3)<br>• The structure and functions of the gas exchange system in humans, including adaptations to function. (KS3)<br>• The mechanism of breathing to move air in and out of the lungs. (KS3)<br>• The impact of exercise, asthma and smoking on the human gas exchange system. (KS3) | | |
| **Links to other subjects** | PSHE – Health and hygiene<br>PE – exercise | | |
| **Enrichment** | Interview an athlete. | | |
| **Working Scientifically** | **Comparative tests**<br>  <br>Which type of exercise has the greatest effect on our heart rate? | **Identify and classify**<br>  <br>Which organs of the body make up the circulation system, and where are they found? | **Observation over time**<br>  <br>How does my heart rate change over the day? | **Pattern seeking**<br>  <br>Is there a pattern between what we eat for breakfast and how fast we can run? | **Research**<br>  <br>How have our ideas about disease and medicine changed over time? |
| **Working Scientifically Assessment Focus** | **Plan/ Do: Set up enquiry** – Heart Rate<br>**Working Scientifically Review:** Use test result to make predictions to set up further comparative and fair tests<br>**Assessment Focus**<br>• Can children make and explain their predictions based on previous results?<br>• Can children carry out a scientific enquiry to answer their question? | | |
| **Sticky vocabulary** | Heart, pulse, rate, pumps, blood, blood vessels, transported, lungs, oxygen, carbon dioxide, nutrients, water, muscles, cycle, circulatory system, diet, exercise, drugs, lifestyle<br>**Working scientifically vocabulary:** relationship, evidence, accuracy, scatter graphs | | |
| **End points** | • The heart pumps blood in the blood vessels around to the lungs.<br>• Oxygen goes into the blood and carbon dioxide is removed.<br>• The blood goes back to the heart and is then pumped around the body. | | |

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| | • Nutrients, water and oxygen are transported in the blood to the muscles and other parts of the body where they are needed.<br>• As they are used, they produce carbon dioxide and other waste products.<br>• Carbon dioxide is carried by the blood back to the heart and then the cycle starts again as it is transported back to the lungs to be removed from the body.<br>• This is the human circulatory system.<br>• Diet, exercise, drugs and lifestyle have an impact on the way our bodies function.<br>• They can affect how well out heart and lungs work, how likely we are to suffer from conditions such as diabetes, how clearly we think, and generally how fit and well we feel.<br>• Some conditions are caused by deficiencies in our diet e.g. lack of vitamins. |