Brough Primary School – Curriculum Intention Plan 2023 - 2024

<table>
<tr><td colspan="2">Subject: Science
Year Group: Year 5/6</td><td>Area of learning: Animals Including Humans</td></tr>
<tr><td>Links to previous work/Remember when</td><td colspan="2">

the function of the skeleton and the purpose of muscles;
the basic parts of the digestive system and the functions of organs in this system;
the different types of teeth in humans and their functions;
the life cycle of a human and how we change as we grow and develop;
the basic needs of animals for survival (water, food, air);
the importance of exercise, hygiene and a balanced diet.

<u>Working Scientifically</u>

being able to ask and investigate relevant scientific questions;
setting up simple scientific enquiries;
making systematic and careful observations;
gathering, recording and presenting data;
reporting on findings both oral and written;
using results to draw simple conclusions
using straight forward scientific evidence to support what they have found out.

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<tr><td>Term</td><td>Year 5/6</td><td>Key Skills to be taught</td></tr>
<tr><td>Spring 2024

What the children should know at the end of this series of lessons</td><td colspan="2">

Build on learning in Y3 and Y4 (outlined above) so they can Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood.
Build on their understanding of a healthy lifestyle by recognising the impact of diet, exercise, drugs, and lifestyle choices on the way their bodies function. This should include how to keep their bodies healthy and how their bodies might be damaged by some drugs and other substances that can be harmful.
Describe the ways in which nutrients and water are transported within animals, including humans.
Work should include working scientifically by exploring the work of well-known scientists and scientific research about the relationships between diet, exercise, drugs and lifestyle and health.

<u>Working Scientifically</u>

Develop their knowledge of planning different scientific investigations to answer questions, including recognising and controlling variables.
Continue to use scientific equipment to measure but with increasing accuracy.
How to record data in increasing complexity through diagrams, labels, tables, bar and line graphs.
Using test results to make predictions and set up comparative and fair tests.

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	• Reporting and presenting findings from investigations in oral and written forms for display and other presentations. • Identify how scientific evidence has been used to support or discount ideas and arguments.

Vocabulary
Blood, blood vessels, arteries, veins, capillaries, heart, pumps, oxygen, carbon dioxide, lungs, nutrients, water, Circulatory System, exercise, diet, oesophagus, stomach, small intestine, large intestine, rectum, anus, lifestyle, drugs, addiction, function, disease, medicine, alcohol, cigarettes, stimulant, depressant, analgesic, hallucinogen.

Sequence of learning	**Learning Objectives/Outcomes**	**Suggested Lesson Outline**
1	**Learning Objective:** Identify and name the main parts of the human circulatory system. **Key knowledge:** The circulatory system circulates oxygenated and deoxygenated blood around the body, via a pump called our heart. **Enquiry Type:** Identify how scientific evidence has been used to support or discount ideas and arguments.	**Recap** – What can you remember about The digestive system? What do you remember about the human life cycle? What does our skeleton and system of muscles enable us to do? Can you list all of the advantages our skeleton has? **How the circulatory system works** The heart is part of the circulatory system in our bodies. Circulatory means the process of circulation where something is moving around. Our heart moves oxygenated and deoxygenated blood around our bodies. The heart is a pump which moves blood through blood vessels – channels. Veins carry deoxygenated blood, and arteries carry oxygenated blood. Blood transports oxygen around our body. *Children label the different parts of the circulatory system.* *They then describe the function of each part in an appropriate amount of detail.*
2	**Learning Objective:** Identify and name the main parts of the human circulatory system. **Key knowledge:** The heart keeps all the blood moving around the circulatory system. It is a very strong muscle. **Enquiry Type:**	**Recap** – What are the different parts of the circulatory system we learned about in the last lesson? What are the names of the tubes which carry Oxygenated blood to all parts of the body? **The Heart** Learn about the size and location of the heart. It is protected by the rib cage. Discuss why the heart is often depicted as having a 'blue' side and a 'red' side. The heart has four main blood vessels that carry blood to and from the heart. Learn about the pulse and heart rate and how

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	Identify how scientific evidence has been used to support or discount ideas and arguments.	that is linked to the heart. Link this lesson to earlier work in Y2 and Y4 about healthy living. *Children label the different parts of the heart. Children order the functions of the heart, so they understand the order in which the heart works.*
3	**Learning Objective:** Recognise the impact of diet, exercise, drugs, and lifestyle choices on the way their bodies function. Identify and name the main parts of the human circulatory system. **Key knowledge:** A pulse is a steady beat. It can be measured by counting the number of beats your heart makes in a minute. This is heart rate. **Enquiry Type:** Develop their knowledge of planning different scientific investigations to answer questions, including recognising and controlling variables. Reporting and presenting findings from investigations in oral and written forms for display and other presentations.	**Recap** – Can you remember the different parts of the heart? Explain how the circulatory system works (using this picture) **Pulse Rate Investigation** Today children will plan and carry out an investigation about activity and heart rate. They should identify the control and independent variables in their plan and state why their test is fair. They should outline a method to show how they will do the test and decide on the location and activities themselves (with some guidance). They should state what it is they have found out, using a relationship statement if possible. E.g. The faster I run the higher my heart rate goes etc. *Children plan an investigation about pulse rate. Children record what their results are. Children identify the relationship between exercise and heart rate.*
4	**Learning Objective:** Describe the ways in which nutrients and water are transported within animals, including humans. Understand a healthy lifestyle by recognising the impact of diet, and lifestyle choices on the way their bodies function. **Key knowledge:**	**Recap** – What did we learn about the heart rate during exercise? Why does this happen? What is the relationship between exercise and heart rate? Why does it matter that we exercise our heart? **The Digestive System and the Transport of nutrients, oxygen and water.** Blood carries water, nutrients and oxygen around the body. It also carries waste products away from muscles in the body. Recap the 'Eatwell' plate but now link to what each food type provides in terms of nutrients for the body. Learn about the different parts of the digestive system and their functions.

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	The blood transports oxygen, nutrients and water around the body. We eat the five food groups. Each one provides us with different things that our bodies need. The digestive system is the mouth, oesophagus, stomach, small intestine, large intestine, rectum and anus **Enquiry Type:** Identify how scientific evidence has been used to support or discount ideas and arguments.	*Children create a poster to explain how the body absorbs nutrients if you have plenty of time. Children also label a diagram of the digestive system. Children record what effect eating an excess of fatty or sugary foods would have on the body.*
5	**Learning Objective:** Understand the importance of a healthy lifestyle by recognising the impact of diet, exercise, drugs, and lifestyle choices on the way their bodies function. **Key knowledge:** Exercise, eating a healthy diet and not putting harmful substances into our bodies gives us the best chance of leading a healthy lifestyle. **Enquiry Type:** Work should include working scientifically by exploring the work of well-known scientists and scientific research about the relationships between diet, exercise, drugs and lifestyle and health.	**Recap** – How do we absorb water and nutrients into our blood? How the water and nutrients moved around the body? **Relationships between diet, exercise, drugs and lifestyle and health** Research the work of well-known scientists to identify the advantages of regular exercise, eating a healthy diet and keeping clean. Move on to consider how we know someone is feeling ill. Occasionally we might need some medicine. Emphasis medicines can also harm you if not used correctly. *Children record their research, organising their work as they choose as long as they cover the three aspects - exercise, eating healthily and keeping clean. They should write a short summary for each section identifying the benefits of each aspect to living a healthy lifestyle. Children record the key warning about medicines - use, dosage, doctor prescribed etc.*

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6	**Learning Objective:** Recognising the impact of diet, exercise, drugs, and lifestyle choices on the way their bodies function. To know how their bodies might be damaged by some drugs and other substances that can be harmful. **Key knowledge:** Some things can harm our bodies - being overweight, smoking, alcohol, illegal drugs. **Enquiry Type:** Identify how scientific evidence has been used to support or discount ideas and arguments.	**Recap** – What did we decide about the relationships between exercise, diet and hygiene? **Things that can harm us** This topic might require some sensitivity. Consider some of the things that are unhealthy. Explain why. Explore the effects of being overweight, smoking and alcohol in more detail. Look briefly at illegal drugs if this has not been recently taught in PHSE. *Children use ICT to create a powerpoint to educate a given audience about the health risks discussed in this lesson.*
7	**Learning Objective:** To demonstrate what has been learnt about the circulatory system, the digestive system and how to stay healthy.	ASSESSMENT LESSON Use a short formative assessment to help you understand how the children have retained what has been taught.

Learning Outcome/product
Children will learn about the importance of the circulatory system and how it transports oxygen around our body. They will learn about the heart and heart rate and how it is an important muscle in our bodies. Children will learn how nutrients, oxygen and water are transported around the body. Children will learn about being healthy and things they can do to lead a healthy lifestyle as well as learning about things that people do that can cause them to be unhealthy.

Assessment records	**List only those children who have not achieved the expected outcomes.**