



DOWN AMPNEY PRIMARY SCHOOL

Term 1
Unit Overview: UKS2 Science
Animals including Humans

<p><u>National Curriculum Objectives</u></p> <ul style="list-style-type: none"> ❖ Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood. ❖ Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function. ❖ Describe the ways in which nutrients and water are transported within animals, including humans. 	<p><u>Substantive knowledge</u></p> <ul style="list-style-type: none"> ❖ Know that the heart pumps blood in the blood vessels around to the lungs. ❖ Know that oxygen goes into the blood and carbon dioxide is removed. The blood goes back to the heart and is then pumped around the body. ❖ Know that nutrients, water and oxygen are transported in the blood to the muscles and other parts of the body where they are needed. As they are used, they produce carbon dioxide and other waste products. 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. This is the human circulatory system. ❖ Know that diet, exercise, drugs and lifestyle have an impact on the way our bodies function. They can affect how well our 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. ❖ Know that some conditions are caused by deficiencies in our diet e.g. lack of vitamins. 	<p><u>Vocabulary</u></p> <p>Heart, pulse, rate, pumps, blood, blood vessels, transported, lungs, oxygen, carbon dioxide, nutrients, water, muscles, cycle, circulatory system, diet, exercise, drugs, lifestyle</p> <p><u>Phonics / polysyllabic words</u></p> <p>circulatory circulation muscles</p>
<p><u>Working Scientifically Skills</u></p> <ul style="list-style-type: none"> ❖ Report and present findings from enquiries, including conclusions and explanations of degree of trust in results. ❖ Use test results to make predictions to set up further comparative and fair tests. 	<p><u>Disciplinary knowledge</u></p> <ul style="list-style-type: none"> ❖ Draw a diagram of the circulatory system and label the parts and annotate it to show what the parts do. ❖ Produce a piece of writing that demonstrates the key knowledge e.g. explanation text, job description of the heart. ❖ Use the role play model to explain the main parts of the circulatory system and their role. ❖ Use subject knowledge about the heart whilst writing conclusions for investigations. ❖ Explain both the positive and negative effects of diet, exercise, drugs and lifestyle on the body. ❖ Present information e.g. in a health leaflet describing impact of drugs and lifestyle on the body. 	<p><u>Reading support</u></p> <ul style="list-style-type: none"> ❖ Word mats ❖ Scaffolded recording / choice of recording ❖ Pre teaching of vocab
<p><u>Prior learning</u></p> <ul style="list-style-type: none"> ❖ Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene. (Y2 - Animals, including humans) ❖ 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) ❖ Describe the simple functions of the basic parts of the digestive system in humans. (Y4 - Animals, including humans) ❖ Identify the different types of teeth in humans and their simple functions. (Y4 - Animals, including humans) <p><u>Future learning</u></p> <ul style="list-style-type: none"> ❖ The consequences of imbalances in the diet, including obesity, starvation and deficiency diseases. (KS3) 	<p><u>Extension deeper thinking</u></p> <ul style="list-style-type: none"> ❖ Explore and evaluate different ways of measuring pulse rate (e.g. using different iPad apps, a stethoscope, finger on pulse, coin and straw on neck). ❖ Research about the circulatory system of different animals (e.g. the single circulatory system of fish). Do all animals have blood? Do all animals have a heart? ❖ What is the evidence that smoking/drinking is bad for you? Is there data that shows this? ❖ What do performance enhancing drugs do? ❖ Are e-cigarettes better than cigarettes? What are the side effects of e-cigarettes? ❖ Investigate the content of processed foods focussing on sugar, salt content and calories. Which are the healthiest/least 	



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<ul style="list-style-type: none"> ❖ The effects of recreational drugs (including substance misuse) on behaviour, health and life processes. (KS3) ❖ The structure and functions of the gas exchange system in humans, including adaptations to function. (KS3) ❖ The mechanism of breathing to move air in and out of the lungs. (KS3) ❖ The impact of exercise, asthma and smoking on the human gas exchange system. (KS3) 	<p><u>British Values</u></p> <ul style="list-style-type: none"> ❖ <u>Democracy</u> Take the views and opinions of others into account. Take turns and instructions from others. ❖ <u>The rule of law</u> Understand the importance of safety rules when working scientifically make choices when planning an investigation as others may have different points of view as to where to start. ❖ <u>Tolerance</u> Scientific discoveries have come from other cultures and religious beliefs often compete with scientific understanding. ❖ <u>Mutual respect</u> Work as a team, discuss findings and Offer support and advice to others. 	<p>healthy products? Should some products be banned or come with a health warning?</p> <hr/> <p><u>Key People</u></p> <ul style="list-style-type: none"> ❖ Rejina Verghis: Principal Statistician (ASJLM) ❖ Broc Drury: Immunologist ❖ Jennifer Shelley: Immunologist
<p><u>Possible misconceptions</u></p> <p>Some children may think:</p> <ul style="list-style-type: none"> ❖ your heart is on the left side of your chest ❖ the heart makes blood ❖ the blood travels in one loop from the heart to the lungs and around the body ❖ when we exercise, our heart beats faster to work the muscles more ❖ some blood in our bodies is blue and some blood is red ❖ we just eat food for energy ❖ all fat is bad for you ❖ all dairy is good for you ❖ protein is good for you, so you can eat as much as you want ❖ foods only contain fat if you can see it ❖ all drugs are bad for you. 		<p><u>Christian Values</u></p> <p><u>Courage</u></p> <ul style="list-style-type: none"> ❖ Ask our own questions to support our own understanding of the world and understand that sharing ideas, data, and results (for further testing and development by others) is a key principle of the scientific method. <p><u>Respect</u></p> <ul style="list-style-type: none"> ❖ Supporting other’s ideas, even if they differ to our own. ❖ Explore and celebrate research and developments that take place in many different cultures, both past and present. ❖ Explore how scientific discoveries have shaped the beliefs, cultures and politics of the modern world. <p><u>Trust</u></p> <ul style="list-style-type: none"> ❖ Celebrate everyone’s unique ideas and working together collaboratively.