



Term 1

Unit Overview: LKS2 Science

Skeletons and muscles

<p><u>National Curriculum Objectives</u></p> <ul style="list-style-type: none"> ❖ 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 ❖ identify that humans and some other animals have skeletons and muscles for support, protection and movement. 	<p><u>Substantive knowledge</u></p> <ul style="list-style-type: none"> ❖ Know that what an animal (including a human) eats should be matched to the needs of that animal. ❖ That food of the wrong type or too much food makes animals (including humans) unhealthy. ❖ Know that skeletons provide support and protection for the body. ❖ That there are two basic types of skeleton – internal and external skeletons. ❖ Humans, and some other animals, have skeletons and muscles which help them move and provide protection and support. ❖ Muscles are connected to bones and move them when they contract. 	<p><u>Vocabulary</u></p> <p>Nutrition, nutrients, carbohydrates, sugars, protein, vitamins, minerals, fibre, fat, water, skeleton, bones, muscles, joints, support, protect, move, skull, ribs, spine, endoskeleton, exoskeleton, vertebrates, invertebrates.</p> <p><u>Phonics / polysyllabic words</u></p> <p>Nutrients (u) Carbohydrates (i) Muscles (s) Exoskeleton</p>
<p><u>Working Scientifically Skills</u></p> <ul style="list-style-type: none"> ❖ Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. ▪ Asking relevant questions and using different types of scientific enquiries to answer them ▪ Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions. ▪ Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. ▪ Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. 	<p><u>Disciplinary knowledge</u></p> <ul style="list-style-type: none"> ❖ Use secondary sources to research the parts and functions of the skeleton ❖ Compare, contrast and classify skeletons of different animals ❖ Use secondary sources and primary data to suggest why human skeletons might differ in shape ❖ Use food labels to answer enquiry questions e.g. how much fat do different types of pizza contain? How much sugar is in soft drinks? ❖ Plan an investigation to find out how our skeleton changes over time. 	<p><u>Reading support</u></p> <ul style="list-style-type: none"> ❖ Word mats ❖ Scaffolded recording / choice of recording ❖ Pre teaching of vocab ❖ Word / picture association <p><u>Extension deeper thinking</u></p> <ul style="list-style-type: none"> ❖ Describe how food is digested and what it is used for in the body. ❖ Explain the difference between an internal skeleton and an exoskeleton. ❖ Describe the function of different parts of the human skeleton.
<p><u>Possible misconceptions</u></p> <ul style="list-style-type: none"> ❖ Certain whole food groups like fats are ‘bad’ for you ❖ Certain specific foods, like cheese are also ‘bad’ for you ❖ Diet and fruit drinks are ‘good’ for you ❖ Snakes are similar to worms, so they must also be invertebrates ❖ Invertebrates have no form of skeleton 		<p><u>Key People</u></p> <ul style="list-style-type: none"> ❖ Adelle Davis – 20th century nutritionist ❖ Marie Curie – radiation / x-rays



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<p><u>Prior learning</u></p> <ul style="list-style-type: none"> ❖ Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. (Y1 - Animals, including humans) ❖ Identify and name a variety of common animals that are carnivores, herbivores and omnivores. (Y1 - Animals, including humans) ❖ Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets). (Y1 - Animals, including humans) ❖ Find out about and describe the basic needs of animals, including humans, for survival (water, food and air). (Y2 - Animals, including humans) ❖ Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene. (Y2 - Animals, including humans) <p><u>Future learning</u></p> <ul style="list-style-type: none"> ❖ 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) ❖ Construct and interpret a variety of food chains, identifying producers, predators and prey. (Y4 - Animals, including humans) ❖ Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function. (Y6 - Animals, including humans) 	<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><u>Christian Values</u></p> <ul style="list-style-type: none"> ❖ <u>Courage</u> Asking our own questions and investigating new ideas. ❖ <u>Respect</u> Supporting other’s ideas, even if they differ to our own. ❖ <u>Trust</u> Celebrating everyone’s unique ideas and working together collaboratively.