

Science Project Overview Year 3 Animals including humans

<p><b>Subject Knowledge (PoS)</b> <b>Substantive knowledge</b></p> <ul style="list-style-type: none"> <li>• Animals and humans get their nutrition from their food- they do not make their own food.</li> <li>• Animals and humans need to eat a balanced diet to get the right types of nutrition.</li> <li>• Humans need to eat a combination of protein carbohydrates, dairy, fruits and vegetables and fats and sugars.</li> <li>• Different animals have varying diets. This depends on their habitats.</li> <li>• For a human to remain healthy they need to eat appropriate amounts of each food group i.e. do not consume too much fat and sugar.</li> <li>• Humans and some animals have skeletons.</li> <li>• Muscles and tendons work together with the skeleton to support movement.</li> <li>• Tendons connect the muscle to the bones.</li> <li>• Muscles often work in pairs.</li> <li>• When one muscle contracts the opposite muscle relaxes.</li> <li>• Some muscles move involuntarily i.e. heart.</li> </ul>	<p><b>Working Scientifically (PoS+Overview)</b> <b>Disciplinary knowledge</b></p> <p>During years 3 and 4, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:</p> <ul style="list-style-type: none"> <li>• ask their own questions about what they observe</li> <li>• Make some decisions about which types of scientific enquiry are likely to be the best ways of answering them, including: observing changes over time, noticing patterns, grouping and classifying things, carrying out simple comparative and fair tests and finding things out using secondary sources.</li> <li>• asking relevant questions and using different types of scientific enquiries to answer them</li> <li>• setting up simple practical enquiries, comparative and fair tests</li> <li>• making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers</li> <li>• gathering, recording, classifying and presenting data in a variety of ways to help in answering questions</li> <li>• recording findings using simple scientific language, <b>drawings, labelled diagrams</b>, keys, bar charts, and tables</li> <li>• reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions</li> <li>• using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions</li> <li>• identifying differences, similarities or changes related to simple scientific ideas and processes</li> <li>• using straightforward scientific evidence to answer questions or to support their findings.</li> <li>• draw simple conclusions and use some scientific language, first, to talk about and, later, to write about what they have found out.</li> </ul>	<p><b>Resources</b></p> <ul style="list-style-type: none"> <li>• Split pins</li> <li>• Models of skeletons</li> <li>• Food pyramids / balanced meal plates</li> <li>• Variety of foods from each of the food groups</li> <li>• Carrol diagram templates</li> </ul>
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<p><b>Previous learning:</b></p> <ul style="list-style-type: none"> <li>• Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. (Y1 - Animals, including humans)</li> <li>• Identify and name a variety of common animals that are carnivores, herbivores and omnivores. (Y1 - Animals, including humans)</li> <li>• Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets). (Y1 - Animals, including humans)</li> <li>• Find out about and describe the basic needs of animals, including humans, for survival (water, food and air). (Y2 - Animals, including humans)</li> <li>• Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene. (Y2 - Animals, including humans)</li> </ul>	<p><b>Preparing for:</b></p> <ul style="list-style-type: none"> <li>• Describe the simple functions of the basic parts of the digestive system in humans. (Y4 - Animals, including humans)</li> <li>• Identify the different types of teeth in humans and their simple functions. (Y4 - Animals, including humans)</li> <li>• Construct and interpret a variety of food chains, identifying producers, predators and prey. (Y4 - Animals, including humans)</li> <li>• Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function. (Y6 - Animals, including humans)</li> </ul>	<p><b>Bespoke to our school</b></p> <p>We are supplementing the limited experiences children have of the natural world around them through practical hands on experiences. We are taking advantage of the woodland that we have in the school setting and our trained forest school staff to give our children opportunities to learn outdoors. There is a big focus on the promotion of healthy eating linked to the findings in Reception and Year 6 on height and weight.</p>
<p><b>Vocabulary:</b></p> <p>Nutrition, nutrients, carbohydrates, sugars, protein, vitamins, minerals, fibre, fat, water, skeleton, bones, muscles, support, protect, move, skull, ribs, spine, muscles, joints, diet, movement</p>		
<p><b>Misconceptions:</b></p> <ul style="list-style-type: none"> <li>• certain whole food groups like fats are ‘bad’ for you</li> <li>• certain specific foods, like cheese are also ‘bad’ for you</li> <li>• diet and fruit drinks are ‘good’ for you</li> <li>• snakes are similar to worms, so they must also be invertebrates</li> <li>• invertebrates have no form of skeleton</li> </ul>		
<p><b>English Links:</b></p> <p>Funny bones</p>		

**Maths links:**

Measurement: Use the appropriate units of length (m/cm/mm), mass (kg/g) and volume/capacity (l/ml) to measure, compare, add and subtract – when doing investigations linked to body relationships e.g. size of feet compared to height/ age Are we square ? etc

Statistics : Use bar charts, pictograms and tables to present and interpret data- to plot results from investigations

Use information in scaled bar charts, pictograms and tables to solve one-step and two-step questions- to look at results from investigations and discuss/write conclusions.

**Explorify links:**

[Thirsty work](#)

[The damselfly's day](#)

[Odd octopus](#)

[Topsy turvy](#)

[Weird walkers](#)

[Spot the difference](#)

[Which breakfast is best?](#)

[What if we ate insects?](#)

**Possible careers/jobs:**

Anaesthetist (a doctor whose role is to anaesthetise patients), Chiropractor (a doctor specialising in the bones and skeletal system), Dentist (looks after teeth and gums), Doctor (works to keep people healthy and cure disease), Dietician (develops nutrition advice to improve people's diets), ,Midwife (helps with the delivery of babies), Nurse (cares for patients and has a broad spectrum of responsibilities), Nutritionist (studies nutrition in food and how it affects our bodies), Optician (a doctor specialising in vision and eye health), Paediatrician (a doctor specialising in children's medicine), Pharmacist (dispenses medicines and gives advice on medicines)