



Hartford Primary School

YEAR GROUP	Year 3	SUBJECT	Science	TERM	Autumn - Animals including Humans 10 weeks
National Curriculum Statements	Pupils should be taught to: <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. 				
Prior Learning (What should they already know)	Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. (Y1 - Animals, including humans) <ul style="list-style-type: none"> • 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) 				
MISCONCEPTIONS	Some children may think: <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 				
RETRIEVAL VOCABULARY	Carnivore, herbivore, omnivore, fish, amphibians, reptiles, birds, mammals. Balanced Diet, food types (examples – meat, fish, vegetables, bread, rice, pasta) Children will have been exposed to different food groups but will not be secure on names as yet.		NEW VOCABULARY	Nutrition, nutrients, carbohydrates, sugars, protein, vitamins, minerals, fibre, fat, water, skeleton, bones, muscles, support, protect, move, skull, ribs, spine, muscles, joints. Endoskeleton, vertebrates.	

	Essential Learning for this lesson	Suggested teaching tasks/approaches	New Knowledge – What I'm leaving the lesson with
LESSON 1	I can explore how living things get their food	Assessment questions from previous topics for formative assessment.	

	Revising Year 2 requirements for living things- air, shelter, food, water.	<p>Mind map to see prior knowledge Collect questions about the topic.</p> <p>Children explore what the different things that might happen to humans over time if they did not eat (e.g. become hungry, become tired, get grumpy, move around slowly, become ill, etc)</p> <p>Ask the children how they think a plant gets its food. Do they ever see a plant eating? For now, establish that a plant can make its own food by using the gases around it and the water in the soil</p>	Animals unlike plants which can make their own food, need to eat in order to get the nutrients they need.
LESSON 2	I can explain the parts of a balanced diet. Food groups etc	<p>Using ipads to research different food groups to fill out the half-filled table.</p> <p>Go over PowerPoint and explore the different types of food in more detail. Explain food contains a range of different nutrients. A piece of food will often provide a range of nutrients.</p> <p>Children to use their table to write down the three main functions.</p>	food is required to: keep animals healthy (e.g. vitamins), help them to grow (e.g. proteins), and provide their body with the energy required to function properly (e.g. sugars and carbohydrates).
LESSON 3	I can design a healthy meal	<p>They might compare and contrast the diets of different animals (including their pets) and decide ways of grouping them according to what they eat.</p> <p>It needs to be established with children that the type and amount of nutrition that you require depends on the types of animal you are and the amount of exercise that you have to do.</p> <p>On a whiteboard put the different food groups into order of which should be eaten the most. Then explore the food pyramid with the class and how this relates to the healthy plate they have seen before in year 2.</p> <p>Do a quick fire quiz on some foods that are tricky to place in different groups such as yogurt and eggs.</p>	<p>The key to a healthy balanced diet is:</p> <ul style="list-style-type: none"> eating the right amount of food for how active you are, and eating a range of foods – this is what balanced means <p>The range of foods in your diet should include:</p> <ul style="list-style-type: none"> plenty of fruit and vegetables plenty of bread, rice, potatoes, pasta and other starchy foods (choosing wholegrain varieties when possible) some milk and dairy foods (choosing lower-fat varieties when possible) some meat, fish, eggs, beans and other non-dairy sources of protein

		Design a meal on everything they have learnt so far that is balanced and healthy. Label the different food groups and add explanations to explain why they have chosen the particular foods, justifying choices with scientific language. (developing and building on work in Yr 2)	<ul style="list-style-type: none"> just a small amount of foods high in fat and sugar
LESSON 4	I can research the nutritional values of food by reading data from food labels.	<p>Complete the odd one out activity to retrieve words from last lesson.</p> <p>As a class so them how to research the nutrition facts. Then complete a table looking at the sugar in drinks.</p> <p>They then use the ipads to find out the different levels of fat in a pizza. Use the data to compare the results and explain why some pizzas have more fat than others.</p>	<p>That everyday foods contain a lot of sugar and fat.</p> <p>We can find this out from looking at food labels.</p>
LESSON 5	I can identify some bones in the skeletal system	<p>Using fact cards with pictures, children go outside to draw around themselves and label the different bones in their skeletons.</p> <p>Then explain where each bone is within the classroom. Pointing to them on the children's bodies. After the label a printed out skeleton.</p> <p>Once labelled, explain there are three functions of the skeleton and identify which bones carry out which function. Colour in the different bones depending on the function.</p> <p>Quiz fire quiz on powerpoint to test their knowledge</p>	<p>Skeletons have several functions:</p> <p>Movement – the skeleton provides a structure for movement</p> <p>Protection – the skeleton protects many vital organs</p> <p>Support – the skeleton provides the scaffolding for the rest of the body.</p> <p>The bones of the human skeleton are solid, strong and are various shapes with different functions.</p> <p>The skull protects the brain.</p> <p>The rib cage protects organs such as the heart and lungs.</p> <p>The spine protects the spinal cord.</p> <p>Despite being strong and solid, anyone can break a bone.</p>

LESSON 6	I can compare, contrast, and classify skeletons of different animals.	<p>Odd one out activity with three different animals</p> <p>Explain the different key vocabulary of the lesson using the videos and pictures of the skeleton to support understanding. The children then create their own glossary of the different terms learnt.</p> <p>They then work scientifically by: identifying and grouping animals x-rays. Giving them a choice between labels and how to present their groups.</p> <p>Quiz fire quiz at the end include on powerpoint</p>	<p>Different animals have different skeletons, including its size, shape and number of bones</p> <p>A skeleton that is inside of the body is called an endoskeleton</p> <p>Animals that have a spine inside their bodies are classed as vertebrates</p>
Lesson 7	I can describe how joints and muscles help me to move	<p>Odd one out activity – use this to spark the conversation of what a muscle is.</p> <p>Compare the difference between voluntary and involuntary muscles. Then talk about what would happen if humans did not have skeletons.</p> <p>Simple test - Measuring muscles working in pairs Get children to feel their biceps and triceps as they move their fist towards their shoulder. Explain that as one contract the other relaxes. Children could measure their biceps contracted and relaxed.</p> <p>After look at pictures and videos of the hand moving. Then explain that we are going to make a hand that moves and what each part represents in the model.</p>	<p>Humans and most other animals have muscles throughout their bodies which help them to move and balance</p> <p>Different muscles move different parts of the body</p> <p>Muscles work in pairs around our joints to help us move</p> <p>One muscle pulls in one direction, and another pulls in the opposite direction</p>
Lesson 8	I can collect data to look for patterns to investigate if people with longer legs can run faster / how far a child can jump	<p>Collecting data and using a fair test.</p> <p>This might be the first time that children have had to categorise different types of scientific enquiry. To help them to decide which enquiry they will need, first play this game. Put up labels of different types of enquiries at the front of the classroom: 'fair test', 'simple test', 'investigation over time', 'problem-solve', 'secondary sources', 'identifying and classifying' and 'pattern-seeking'. Provide children with an example of each:</p>	<p>Scientists can carry out fair tests to answer questions.</p> <p>To understand there are different types of scientific enquiry to help us to answer our questions.</p>

		<ol style="list-style-type: none"> 1. Fair test – Which paper towel soaks up the most water? 2. Simple test – How well do objects float? 3. Investigation over time – What happens to the daisy over the next three weeks? 4. Problem-solve – How can a paper plane stay in the air for 10 seconds? 5. Secondary sources – How can we find out which animals on Earth are the heaviest? 	
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Helpful resources to reference	Plymouth Science, Oak Academy, PLAN examples of work
Assessment Questions	<p>Why is nutrition and a balanced diet important?</p> <p>What would make a healthy meal?</p> <p>Which main body parts are associated with which part of the skeleton?</p> <p>What would happen if humans did not have skeletons?</p>