Science – Animals Including Humans – Year 3 and Year 4

Year 3 NC - pupils should be taught to:	How we do this in Year 3	Year 3 Vocabulary	Year 4 NC - pupils should be taught to:	How we do this in Year 4	Year 4 Vocabulary
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 <u>How working scientifically can be met</u> • compare and explain the difference between food groups and types of nutrients • compare and group animals by their diet	Recap what a living thing is and discuss why living things need food. How do plants and animals obtain food? Show image of what plants need to photosynthesise and explain basic photosynthesis. Compare what would happen if animals tried to obtain food like this. Explore food groups and types of nutrients – the nutrient pyramid and explore each type of nutrient. Discuss similarities and differences between the Food Groups pie chart and Types Of Nutrients pyramid – why can't we just eat what we like? Explain how water can be obtained from both drinking and eating food. Explore the six types of nutrients we get from food. Vitamins, Minerals and Fibre – small amounts needed but still vital. Read information about saturated and unsaturated	Plants, animals, humans, food, nutrition, food groups, nutrients, vitamins, minerals, proteins, carbohydrates, fibre, water, fats, repair, digest.	Describe the simple functions of the basic parts of the digestive system in humans <u>How working scientifically can be met</u> • identify and label parts on diagram • use straightforward scientific evidence to answer questions	Recap the human need for nutrition. Explore what the digestive system is and the journey of food in the body. Explore body parts in the correct place. Discuss and explore how the different parts of the digestive system work. How do they help humans to digest food? Match parts and their functions.	Mouth, tongue, teeth, oesophagus, stomach, duodenum, small intestine, large intestine, pancreas, liver, rectum, anus, salivary glands, gallbladder, digestion, digest, digestive system. Mouth, tongue, teeth, oesophagus, stomach, duodenum, small intestine, large intestine, pancreas, liver, gallbladder, rectum, anus, salivary glands, digestion, digest, digestive system, functions, glands, enzymes, acid.

	fats and sort foods into this category. Match the animal and the nutrients.				
Identify that humans and some other animals have skeletons and muscles for support, protection and movement. <u>How working scientifically can be met</u> • sort animals based on their skeletons • label a human skeleton with the scientific names of bones • compare and label the skeleton of a human and a different type of animal	Explore vertebrate/invertebrate. Show/sort examples of various animals with each type of skeleton. Show picture of three types of skeletons. What do you think the words endoskeleton, exoskeleton and hydrostatic skeleton mean? Sort animals according to their skeleton type and give own examples of animals for each type of skeleton – think about pros and cons for each type of skeleton. Children identify bones in their body. Which ones confused you? Why? (Use a model skeleton if available to support understanding). Construct the human skeleton and label with bone name cards. Discuss how bones have common names and scientific names. Assess existing knowledge of scientific bone names.	Skeleton, endoskeleton, exoskeleton, hydrostatic skeleton, invertebrate, vertebrate. Skeleton, skull, cranium, rib, costal, rib cage, thoracic cage, collarbone, clavicle, ankle, talus, funny bone/ upper arm bone, humerus, leg bone (upper), femur, leg bones (lower), tibia, fibula, finger bones, phalanges, hand bones, metacarpals, shoulder blade, scapula, jaw, mandible, backbone, vertebrae, wrist, carpals, hips, pelvis, knee cap,	Identify the different types of teeth in humans and their simple functions <u>How working scientifically can be met</u> • identify similarities and differences by comparing • set up simple practical enquiries, comparative and fair tests • create an enquiry or test • make predictions and suggest equipment systematic observations	Match types of teeth and their names and explore teeth location in the mouth. Why do we have different types of teeth? What is their purpose? Explore the functions of teeth: incisors, canines, premolars, molars, wisdom teeth. Do other animals have the same type of teeth as humans? Why? Why not? Show pictures of labelled teeth for Herbivores, Carnivores and Omnivores. Read explanation of diet. Does the diet of animals affect the teeth they have? Explore how the children know what causes tooth decay. Why do scientists ask questions? Why do they carry out enquiries and tests? Explain the difference between scientific and non-scientific questions Encourage children to	Teeth, incisors, canines, molars, premolars, humans, animals. Tooth, decay, questions, scientific, non-scientific, practical enquiries, comparative tests, fair tests, variables. Erode, erosion, test, practical enquiry, fair test, comparative test, time intervals, observe, record, scientific language, conclusion,

• identify and explain the three main functions of a skeleton • set up a simple practical enquiry • recording findings using simple scientific language by writing the results of the practical investigation • I can record my findings	Do all animals have the same types of bones? Do they look alike? Children to label bones on a human, horse and fish. Why do animals have skeletons? What would happen if we did not have a skeleton? The three main functions of a skeleton – protection/support/ movement. Show image of skeleton with - what does the skeleton protect? Label and the bones in the skeleton that protect. How do you know which skeleton belongs to which animal? Discuss how the skeleton gives the body its shape and if the skeleton is shaped differently so would the body be. Explore what would happen if you had no bones in your body? Which part of the skeleton keeps your body upright? Show how the different types of joints move. Children discuss how	patella, foot bones, metatarsals, lower arm bones, radius, ulna, toe bones, breastbone, sternum. Protect, move, movement, support, skeleton, joints, hinge joint, ball and socket joint, gliding joint. Muscle, muscles, pairs,	• record findings using appropriate scientific language • use results to make predictions for new values and/or raise further questions resulting from my enquiry/test	generate questions to test tooth decay and decide on the best investigation using a practical enquiry. Carry out test using boiled eggs with shells on (this is similar to enamel on a tooth) and record findings.	prediction, questions.

	skeletons move - movement and control over movement. What are muscles? Examine diagram showing cells, tissues and muscles explaining the difference. Show a picture of a skeleton with the layer of muscles on top. Discuss the difference between skeletal muscles which help us move and are voluntary movements and organs whose movement is involuntary. Explain how muscles work in pairs - working together by contracting and relaxing to enable movement. Work in groups to carry out different actions - practical enquiries in the context of investigating pairs of muscles.	contract, relax, contracted, relaxed, voluntary, involuntary.			
			Construct and interpret a variety of food chains, identifying producers, predators and prey <u>How working scientifically can be met</u> • construct and interpret	What is a food chain? Whole class brainstorm recalling prior knowledge from Key Stage 1. Refine. Show a simple food chain: How is a food chain constructed? What do the arrows represent? How should we label the different parts of the food	Food chain, predator, consumer, prey, producer, construct, interpret, diagram.

				chain? Show different types of food chains which matched the vocabulary with the plant/animal. Children construct a food chain. Show a food web on the IWB. How are food webs similar/different to food chains? Why are food webs useful?	