Year: 3   Term: 1a and 1b   Cornerstones Unit: Animal Nutrition and the Skeletal System

National Curriculum Progression

Y1	Y2	Y3	Y4	Y5	Y6
Animals, including Humans i. identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals ii. identify and name a variety of common animals that are carnivores, herbivores and omnivores iii. describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets) **Animals, including Humans** iv. identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.	**Living things and their Habitats** i. explore and compare the differences between things that are living, dead, and things that have never been alive ii. identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other iii. identify and name a variety of plants and animals in their habitats, including microhabitats iv. describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food. **Animals, including Humans** i. notice that animals, including humans, have offspring which grow into adults ii. find out about and describe the basic needs of animals, including humans, for survival (water, food and air) iii. describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.	**Animals, including Humans** i. 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 **Animals, including Humans** i. 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 ii. identify that humans and some other animals have skeletons and muscles for support, protection and movement.	**Living things and their Habitats** i. recognise that living things can be grouped in a variety of ways ii. explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment iii. recognise that environments can change and that this can sometimes pose dangers to living things. **Animals, including Humans** iii. construct and interpret a variety of food chains, identifying producers, predators and prey. **Animals, including Humans** i. describe the simple functions of the basic parts of the digestive system in humans ii. identify the different types of teeth in humans and their simple functions	**Living things and their Habitats** i. describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird ii. describe the life process of reproduction in some plants and animals. **Animals, including Humans** i. describe the changes as humans develop to old age.	**Living things and their Habitats** i. describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals ii. give reasons for classifying plants and animals based on specific characteristics. **Evolution and Inheritance** i. recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago ii. recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents iii. identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution. **Animals, including Humans** i. identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood ii. recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function iii. describe the ways in which nutrients and water are transported within animals, including humans

Scientific Enquiry Skills

Asking Questions	Investigating	Gathering and Recording Data	Presenting and Analysing Findings
♣ asking relevant questions and using different types of scientific enquiries to answer them	♣ setting up simple practical enquiries, comparative and fair tests ♣ making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers	♣ gathering, recording, classifying and presenting data in a variety of ways to help in answering questions ♣ recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables	♣ 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 ♣ identifying differences, similarities or changes related to simple scientific ideas and processes ♣ using straightforward scientific evidence to answer questions or to support their findings.

	Key Vocabulary – Unit Specific	Key Vocabulary – Scientific Enquiry
	animals – food, nutrition, carnivores, herbivores, plants, omnivores – compare and contrast **humans – nutrition, balanced diet, main food groups,** proteins, carbohydrates, fruit and vegetables, dairy products and alternatives, fats and spreads**, hydrated – explain, characteristics** **humans – skeleton, muscles, movement, support, protection,** organs**, bones, major muscle groups - descibe** **animals – skeleton, support, movement, protection, internal skeleton** (endoskeleton)**,** **external skeleton** (exoskeleton) – identify, compare, group	**questions, explain** **equipment - metre stick, measuring tape, hand lens, trundle wheel, ruler, timer** **observe, observations, compare, group, classify, feature, similarities, differences, make simple connections measure, measurement** **tests, instructions, method, prediction, investigation, comparative test, fair test** **results, information, investigate, investigation, noticing patterns and relationships, conclusion, evidence** **record, data, table, charts, Venn diagram, labelled diagrams, graphs, explain**

	Conceptual Learning Goals - Core Knowledge	Procedural Learning Goals - Skills
Substantive Knowledge	a. Know that animals cannot make their own food and need to get nutrition from the food they eat. Carnivores get their nutrition from eating other animals. Herbivores get their nutrition from plants. Omnivores get their nutrition from eating a combination of both plants and other animals. b. Know that humans have to get nutrition from what they eat. It is important to have a balanced diet made up of the main food groups, including proteins, carbohydrates, fruit and vegetables, dairy products and alternatives, and fats and spreads. Humans need to stay hydrated by drinking water. c. Know that humans have a skeleton and muscles for movement, support and protecting organs. Know the names of some major bones and major muscle groups. d. Know that some animals have skeletons for support, movement and protection. Some skeletons are found inside some animals, such as humans, cats and horses. Some skeletons are found on the outside of some animals, such as beetles and flies. Some animals have no skeleton, such as slugs and jellyfish. e. Know that animals can be compared and grouped according to their type of skeleton.	a. Know how to compare and contrast the diets of different animals. b. Know how to explain the importance and characteristics of a healthy, balanced diet. c. Know how to describe how humans need the skeleton and muscles for support, protection and movement. d. Know how to identify and group animals that have no skeleton, an internal skeleton (endoskeleton) and an external skeleton (exoskeleton). e. Know how to compare and group animals according to their type of skeleton
Disciplinary Knowledge	f. Know that questions can help us find out about the world and can be answered in different ways. g. Know that an observation involves looking closely at living things, which can be compared and grouped according to their features. h. Know that tests can be set up and carried out by following or planning a set of instructions. A prediction is a best guess for what might happen in an investigation based on some prior knowledge. i. Know that results are information that has been discovered as part of an investigation. A conclusion is the answer to a question that uses the evidence collected. j. Know that data can be recorded and displayed in different ways, including tables, charts, graphs and labelled diagrams. Data can be used to provide evidence to answer questions.	f. Know how to ask questions about the world around them and explain that they can be answered in different ways. g. Know how to make increasingly careful observations, identifying similarities, differences and changes and making simple connections. h. Know how to set up and carry out some simple, comparative and fair tests, making predictions for what might happen. i. Know how to use suitable vocabulary to talk or write about what they have done, what the purpose was and, with help, draw a simple conclusion based on evidence collected, beginning to identify next steps or improvements. j. Know how to gather and record findings in a variety of ways (diagrams, tables, charts and graphs) with increasing accuracy.

Scientific Enquiries:				
Observing changes Over Time	**Noticing Patterns**	**Grouping and Classifying Things**	**Carrying out Simple Comparative and Fair Tests**	**Finding Things Out using Secondary Sources of Information**
	Joints investigation Muscle investigation	Sorting food into main food groups Recording similarities and differences between the diets of two animals Grouping animals according to type of skeleton	Investigating fatty foods Own research or investigation about nutrition, skeletons or muscles	What do I know about living things? Research about animal diets Label a skeleton Own research or investigation about nutrition, skeletons or muscles

Assessment Criteria:

Disciplinary Knowledge and Skills - using appropriate scientific language from the national curriculum:	Substantiative Knowledge and Skills
- ask relevant questions and using different types of scientific enquiries to answer them - setup simple practical enquiries, comparative and fair tests - make systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers - gather, record, classify and present data in a variety of ways to help in answering questions - record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables - report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions - use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions - identify differences, similarities or changes related to simple scientific ideas and processes - use straightforward scientific evidence to answer questions or to support their findings.	• name and describe the functions of the main parts of the musculoskeletal system

Resources:

- Range of information sources about human diets and food sources.
- Brown packing paper
- Food samples including biscuits, cashew nuts, chocolate, crackers, crispbread, potato crisps, rice cakes and vegetable crisps
- Metal spoons
- Pieces of antler (optional)
- 30cm lengths of cardboard tubes, such as postal tubes
- Non-bendy plastic straws
- Pieces of string slightly longer than the straws
- Range of invertebrates collected from outside or live animal feeds bought from a pet shop, such as earthworms, snails, centipedes, woodlice, grasshoppers and crickets
- A wide variety of information sources, including books and websites, and contact information for experts such as the school nurse, local doctor, or pharmacist
- Investigation equipment