**Year 3 Science Curriculum – Spring 2**

|  |
| --- |
| **Theme: Movement and Nutrition for the Human Body** |
| **Curriculum objectives** | **Vocabulary** | **Links across the curriculum** |
| To 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.To identify that humans [and some other animals] have skeletons [and muscles] for support, protection and movement. | **Balanced** | All parts in the correct amounts. | **Contract** | To make smaller by drawing together. | * PSHE
* How are male and female bodies different and the same.
* What can my body do that is special.
* What can I do for myself to keep myself clean.
* What is an active lifestyle.
* How can I stay healthy.
* Healthy eating and a balanced diet.
* How can I look after my teeth.
* PE
* What do our bones feel like when we exercise.
* How does our body move when we exercise.
* What do muscles feel like when we exercise.
* DT
* Making bircher muesli.
* Design, make and evaluate a structure to protect a tea cake – linked to protection of vital organs

Maths* Addition
* Subtraction

English* Oracy
 |
| **Diagram** | A drawing that shows the parts of something or how the parts work together. | **Internal** | Inside |
| **Key** | A guide to what the symbols or colours in a diagram represent. | **Protect** | To keep safe from harm. |
| **Support**  | To keep upright and bear weight. | **System** | A group of things or parts that work together. |
| **Tier 3 vocabulary** | [SNAP23\_Y3\_M4\_humanbody\_ms.docx (live.com)](https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fstatic.collins.rhapsode.com%2FSnap_Science%2FTeaching_Science%2FYear_3%2FSNAP23_Y3_M4_humanbody_ms.docx&wdOrigin=BROWSELINK) |  |  |
| **Prior knowledge:** *What specifically have pupils learned that is relevant to this unit that they are building upon?* | **Future knowledge:** *What specifically will pupils learn in the future that is relevant to this unit?* |
| Children have previously learnt:* about the basic parts of the human body and their senses. (Year 1 Biology – Animals, including humans).
* about the basic needs of animals, including humans, for survival (Year 2 Biology – Animals, including humans).
* about the importance for humans of exercise and eating the right amounts of different types of food (Year 2 Biology – Animals, including humans).
 | This prepares children for later learning:* about the functions of the basic parts of the digestive system in humans and the different types of teeth in Year 4.
 |
| **Lesson Sequence** | **Key Knowledge** | **Key Skills** |
| 1. What nutrients do we get from our food?
 | * Understand that humans, like all other animals, need to eat and drink to stay alive.
* The nutrients in the food that we eat: carbohydrates, protein, fats, roughage, minerals and vitamins.
* Identify which foods contain different nutrients and how these are useful for our bodies.
* Carbohydrates are nutrients which provide us with energy to move and keep warm.
* Sugar - a type of carbohydrate. It can give us a burst of energy but can leave us feeling low in energy when it is used up.
* Proteins: found in meat, cheese, fish, eggs, nuts, beans and pulses. These are needed for growth – they provide the building blocks for our muscles.
* Fats: these are often from plants and fish, and they provide energy. The fats in the picture are unsaturated fats. Tell them that saturated fats found in butter, oil used to fry chicken or chips can be harmful to our bodies if we eat too much of them. It is better to eat food that contains unsaturated fats.
* Fibre (sometimes called roughage): this is needed to keep our digestive systems healthy. It helps us to poo regularly.
* Vitamins and minerals: we need vitamins to keep us healthy, for example Vitamin C is needed for healthy skin, gums and joints. We need minerals too, for example calcium builds strong bones and teeth.
 | Working scientifically:* identifying differences, similarities [or changes] related to simple scientific ideas and processes.
 |
| 1. Which nutrients are in school midday meals?
 | * Children learn that different types of food in the meals we eat contain very different amounts of nutrition.
* Before scientists had identified the nutrients in food, some people became unwell because their diet lacked a balance of nutrients. For example sailors, who spent months at sea on long voyages, did not always have enough fresh fruit and vegetables. They didn’t eat enough vitamin C and this meant they became ill with a disease called scurvy. Scurvy made them very tired and meant that they bled very easily if they were injured. Fortunately now scientists have identified the nutrients in food, and it is easier for us to have a diet that has a balance of the nutrients we need.
 | Working scientifically:- identifying differences, similarities [or changes] related to simple scientific ideas and processes.- using straightforward scientific evidence to answer questions [or to support their findings]Scientific enquiry type:* identifying and classifying
 |
| 1. What is a human skeleton?
 | * The skull protects the brain
* Ribs protect the heart and lungs and the spine protects the spinal cord which runs down the middle of our bodies, carrying messages from our brain to the rest of the body.
* The heart, lungs and brain are vital organs. If they are damaged, we are likely to die, so our skeleton protects them. If our spinal cord is damaged we might lose the ability to move and feel below the damaged part.
* Bones are connected at joints which enable us to move our arms and legs.
* The pelvis
* Femur (upper leg bone)
* Scapula (shoulder blade)
* Patella (knee cap)
* Phalanges (toes).
 | Working scientifically:* recording findings using simple scientific language, drawings, labelled diagrams, [keys, bar charts, and tables]
 |
| 1. How do muscles help humans to move?
 | * Our muscles are attached to our skeleton and it is the muscles that move our bones so that we can move. They are attached by tendons.
* Joints are places where two or more bones meet. The joint may bend like a hinge (e.g. elbow), bend and twist (wrist) or rotate completely (shoulder).
* Muscles always move in pairs. One moves a bone (or another part of the body like an eye) in one direction when it flexes (tightens). The opposite muscle in the pair has to relax (stretch out long and flat) for this to happen.
 | Working scientifically:* gathering, [recording, classifying and presenting] data in a variety of ways to help in answering questions.
 |
| 1. How are vertebrate and invertebrate bodies supported?
 | * Vertebrate bodies are supported by a bony skeleton including a spine (made of many vertebrae), and that invertebrates have no bony skeleton.
* Some invertebrates have an exoskeleton to provide protection and support, and some have a hydrostatic skeleton to support their bodies.
* Some animals have a hard exterior which works as a skeleton. This is called an exoskeleton.
 | Working scientifically:* [gathering, recording], classifying and presenting data in a variety of ways to help in answering questions.

Scientific enquiry type:* identifying and classifying
 |
| 1. How are human skeletons different to other vertebrates?
 | * Humans, as mammals, belong to a group called vertebrates.
* Vertebrates have bony skeletons on the inside for support as well as for movement and protection. Reptiles, birds, amphibians and fish are also vertebrates.
* Animals that don’t have an internal bony skeleton are called invertebrates.
 | Working scientifically:* identifying differences, similarities [or changes] related to simple scientific ideas and processes.
 |
| **Themes and links** |
| **Themes (types of enquiry)** | **Where these are covered:** | **Links across the science curriculum** |
| **Observation over time** | * Lesson 2
* Lesson 4
 |

|  |  |
| --- | --- |
| **EYFS**  |  |
| **1**  | Animals (vertebrates) |
| **2**  | Changing materials |
| **3**  |  |
| **4**  | Digestion and food chain |
| **5**  | Separating mixtures and changing materials |
| **6** | Electricity – changing circuits |

 |
| **Research** | * Lesson 2
* Lesson 1
* Lesson 3
* Lesson 6
 |
| **Pattern seeking** | * Lesson 5
 |
| **Comparative and fair testing** | * Lesson 4
* Lesson 5
 |
| **Identifying, classifying and grouping** | * Lesson 2
* Lesson 3
* Lesson 4
 |  |