**Ely St. John’s Primary**

**Science- Year 3**

**Animals Including Humans**

 Year 3 Key Science Vocabulary

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| Nutrition, food groups, nutrients, vitamins, minerals, proteins, carbohydrates, fibre, water, fats, repair, digest.Skeleton, endoskeleton, exoskeleton, hydrostatic skeleton, invertebrate, vertebrateSkeleton, 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, patella, foot bones, metatarsals, lower arm bones, radius, ulna, toe bones, breastbone, sternumProtect, move, movement, support, skeleton, joints, hinge joint, ball and socket joint, gliding joint

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| Fair test, prediction, conclusion |

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Our Science Journey

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| **EYFS** | **Y1** | **Y2** | **Y3** | **Y4** | **Y5** | **Y6** |
| Being updated 2020-2021 | Animals - HumansPlants(trees)/Seasonal Changes | Living things and their habitatsAnimals including humans | Rocks and Soils | ElectricitySound | ForcesEarth and Space | Living things and their habitatsLight |
|  | AnimalsMaterials | Uses of everyday materialsPlants | LightPlants | States of matterDigestion and Teeth | Properties of Materials | Evolution and inheritanceElectricity |
|  | PlantsScience skills | The EnvironmentScientists and Inventors | Animals including humansForces and Magnets | Living things and their habitats | Living things and their habitatsAnimals, including humans | Animals including humans  |

 **Science-Year 3**

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| **Key Knowledge** | I know 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 eatI know that humans and some other animals have skeletons and muscles for support, protection and movement

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| I can confidently explain how muscles work. |

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| **Key Vocabulary** | Nutrition, food groups, nutrients, vitamins, minerals, proteins, carbohydrates, fibre, water, fats, repair, digest.Skeleton, endoskeleton, exoskeleton, hydrostatic skeleton, invertebrate, vertebrateSkeleton, 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, patella, foot bones, metatarsals, lower arm bones, radius, ulna, toe bones, breastbone, sternumProtect, move, movement, support, skeleton, joints, hinge joint, ball and socket joint, gliding joint

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Fair test, conclusion, prediction |
| **Key Skills** | **Key Skills: gather, record and classify data to help in answering questions.**Ask relevant questions and use different types of scientific enquiries to answer themRecord findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tablesReport on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusionsGather, record, classify and present data in a variety of ways to help in answering questionsUse straightforward scientific evidence to answer questions or to support their findingsSet up and carry out a test that is fair, including making decisions about what measurements to take. |
| **Lines of Enquiry** | 1. Observing over time
2. Pattern seeking
3. Identifying and classifying
4. Research (secondary sources)
5. Fair testing
6. Problem solving
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| **Main Unit Line of Enquiry** | 3. Identifying and Classifying4. Research (secondary source)5. Fair Testing |
| **By the end of this unit…** | ...all children should be able to: 1. With some support, children can group and classify foods into food groups and identify the nutrients that different foods provide. • Children can work with significant support to discuss how to set up a test that is fair and (also with support) can start to draw simple conclusions from their results. • With support, children can show their understanding of a process by using some scientific language and a labelled diagram. • Children can work with support to set up and carry out a test that is fair, including making decisions about what measurements to take. Children can talk about what animals and humans need to stay healthy, showing a basic understanding of healthy eating. • Children can talk about how different animals require a different balance of nutrients and can read simple food labels. • Children can name and briefly describe the different types of skeletons.
2. • Children can match labels to some parts of the human skeleton. • With scaffolding and/or support, children can give a simple explanation of how muscles work.
 | **...most children will be able to:** 1. Children can group and classify foods into food groups and identify the nutrients that different foods provide. • Children can help decide how to set up a test that is fair and can draw simple conclusions from their results. • Children can show their understanding of a process by using scientific language and a labelled diagram. • Children can set up and carry out a test that is fair, including making decisions about what measurements to take. Children can talk about what animals and humans need to stay healthy, showing an understanding of the food groups and the nutrients humans need for a healthy diet. • Children can talk about how and why different animals require a different balance of nutrients and can gather and understand a range of information from food labels. • Children can name, describe then start to discuss the features and advantages and disadvantages of different types of skeleton.
2. • Children can name the main parts of the human skeleton. • Children can give a simple explanation of how muscles work.
 | **...some children will be able to:** Children can group and classify foods into food groups, identify the nutrients that different foods provide and suggest improvements to a meal so that it provides more nutrients.• Children can independently explain what makes a test fair and can confidently draw conclusions from their results. • Children can confidently show their understanding of a process by using a range of scientific language and a labelled diagram. • Children can confidently set up and carry out a test that is fair, including making decisions about what measurements to take and devising their own table to record results. Children can talk about what animals and humans need to stay healthy, showing an understanding of the food groups and the nutrients humans need for a healthy diet and why we need them. • Children can talk about how and why different animals require a different balance of nutrients and can talk confidently about what the information on food labels tells us. • Children can confidently describe the features and advantages and disadvantages of different types of skeleton, discussing how they support movement. • Children can confidently name some parts of the human skeleton. • Children can confidently explain how muscles work. |

**Science-Year 3 – Animals Including Humans**

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|  | **Session 1** |  **Session 2** |  **Session 3** |  **Session 4** |  **Session 5** |
| **LO and SC** | To state why animals, including humans, need the right type of nutrients.I can use straightforward scientific evidence to answer questions.I can use secondary sources to research the 7 types of nutrients.I can use topic specific forms of language when communicating simple scientific ideas.I can create a fact file about the 7 types of nutrients. | To compare and group animals by their diet.I can explain what the right amount of nutrients are.I can explain at least one consequence of eating the wrong amount of nutrients.I can identify similarities and differences related to scientific processes | To answer questions about different types of skeletons.I can name the three different types of skeletons.I can explain the pros and cons of different types of skeletons.I can present simple scientific data in more than one way. | To identify and name bones.I can identify and name the main bones in the body.I can label a human skeleton, including some scientific names of bones. | To investigate an idea about how the human skeleton supports movement.I can explain how to make a test fair.I can take careful measurements and record these on a table. I can draw conclusions from the results of the investigation. |
| **Key Knowledge** | I know that animals, including humans need the right type of nutrients I know that humans, including animals get their nutrition from that they eat | I know that animals, including humans, need the right amount of nutrition

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 | I know that humans and some other animals have skeletons and muscles for support, protection and movement  | I know that humans and some other animals have skeletons and muscles for support, protection and movement | I know that humans and some other animals have skeletons and muscles for support, protection and movement |
| **Key Vocab** | Nutrition, food groups, nutrients, vitamins, minerals, proteins, carbohydrates, fibre, water, fats, repair, digest.

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| 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, patella, foot bones, metatarsals, lower arm bones, radius, ulna, toe bones, breastbone, sternum |

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| Protect, move, movement, support, skeleton, joints, hinge joint, ball and socket joint, gliding joint |

Fair test, prediction, conclusion |
| **Key Skills** | Ask relevant questions and use different types of scientific enquiries to answer themRecord findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables | Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tablesReport on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions | Gather, record, classify and present data in a variety of ways to help in answering questionsRecord findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tablesUse straightforward scientific evidence to answer questions or to support their findings | Gather, record, classify and present data in a variety of ways to help in answering questionsRecord findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tablesUse straightforward scientific evidence to answer questions or to support their findings | Set up a test that is fair and can draw simple conclusions from their results. Show their understanding of a process by using scientific language and a labelled diagram.Set up and carry out a test that is fair, including making decisions about what measurements to take. |
| **Lines of Enquiry** | 4.Research (secondary sources) | 4.Research (secondary sources) | 3.Identifying and classifying | 3.Identifying and classifying | 5. Fair Testing |
| **Session Notes****+ Resources** | Children answer the question ‘Why do living things need food?’ Add ideas to the working wall. Next chat about the five food groups. Children stick picture into books and label food groups. Then compare the five food groups to the seven nutrients pyramid.Remind children of the five food groups.**Activity**Children complete a fact file in their books about the 7 nutrients and their jobs/why they are beneficial. Print presentation for tables so children have them to refer to. Include information books about different nutrients. Remind children of the features of fact files/leaflets. Give them some examples. **Resources****Presentation-Types of Nutrients****Slide 5 printed for books****Slides 8-15 printed for tables****Information books for tables** | Recap on five food groups and 7 types of nutrients. Discuss the right amounts of nutrients needed for a human, compared to animals. Talk about saturated/unsaturated fats. Children write headings (saturated/unsaturated) and then draw/write names of foods under the correct heading. Use slide 11 for different foods. **Activity**Children complete Nutrient Needs Sheet. Sheets differentiated for ability. Consolidate lesson by answering question ‘Could you be healthy eating the same diet as a parrot?**’** Children record their answers into their books.**Resources****Presentation- Types of Nutrients**

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| **Nutrient Needs Activity Sheet**

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 | Introduce vertebrate/invertebrate, and complete the quiz on the presentation. Into their books, children categorise animals as vertebrates or invertebrates. Children mark their own work as answers are revealed. Edit incorrect answers with purple pen. Discuss different types of skeletons. Print slide 19 for books. In pairs, children compete table. **Activity**Adult show/model part of a poster advertising one of the skeletons. Children then create a poster advertising one of the different skeletons. **Resources****Presentation- Types of Skeletons****Slide 19 printed for books****Books/slides printed for tables (children use when creating posters)** | Children begin by naming bones on a skeleton. Print ‘Common Names Skeleton Labelling Sheet’ for children to write on and then stick into books. Look at presentation, then add to sheet using purple pen. Tick any bones that have been labelled correctly. Differentiated sheets to be handed out. Children then use this sheet to help them label human skeleton. **Activity**In table groups, children choose one person to label. They then write the names of bones on post it noes and add those to their chosen person. Once they have written the common names for bones, they add the scientific names to their post it notes. Scientific name word bank to be on tables. Children read and cut the names, then stick onto post it notes. Adult and children discuss scientific bone names and add to skeleton sheet. Adult take photographs for books. **Resources****Presentation-Naming Bones****Post it notes****Scientific names around classroom.** **Word mat with bone names** **Activity sheet scientific bones (print for tables)** | Recap on the scientific names of bones, and talk about different types of joints. Children answer the question-Can people with longer femurs jump further? **Activity**Children complete investigation. Record measurements on sheet. **Resources****Presentation- Human Skeleton****Investigation Activity Sheet** |

**Science- Year 3 – Animals Including Humans**

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|  | **Session 6** |  **Session 7** |  **Session 8** |  **Session 9** |  **Session 10** |
| **LO and SC** | To design and carry out my own investigation.I can set my own scientific question to investigate.I can explain how I would make my test fair.I can decide what to measure and can take careful measurements. |  |  |  |  |
| **Key Knowledge** | Children can confidently explain how muscles work.Identify that humans and some other animals have skeletons and muscles for support, protection and movement. |  |  |  |  |
| **Key Vocab** |

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| Fair Test, Conclusion, prediction  |

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| **Key Skills** | 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. |  |  |  |  |
| **Lines of Enquiry** | 5. Fair Testing |  |  |  |  |
| **Session Notes****+ Resources** | Think back to the investigation about whether the length of someone’s femur (thigh bone) affects how far they can jump. The children think of a question they want to answer. Take a vote on the question they would like to answer. Fill out sheet as a class.**Activity**The class think of a question that they want to answer. The whole class choose one question, and then in table groups, complete the activity to answer the question. Children fill in the sheet- Your Own Investigation.**Resources-****Lesson presentation-Investigating****Measuring tapes/metre sticks Chalk Balls (a variety)****Your Own Investigation Sheet** |  |  |  |  |