| **Science**  **Core Learning**  **Class 3**  **YEAR A** | | | | |
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|  | **Autumn Term** | **Spring term** | **Summer Term** | |
| **Unit of work** | Forces and Magnets  Animals including humans - food, nutrition, skeleton | Living things and their habitats  Plants: life cycles | States of matter  Sound | |
| **Prior Learning** | In KS1 children have studied materials and know a range of materials including metal.  They’ve looked at materials and their uses.  In KS1 children have looked at animals and their young. | In KS1 children have covered habitats and where animals live.  They’ve looked at mirco-habits and insects.  In KS1 children have looked at different plants and trees.  They studied the simple plant parts and their uses. | In KS1 during materials children have looked at melting and it’s effect on water.  In KS1 music children have used sound to identify and use musical technical language. | |
| **5 Key essential knowledge**  **Nuggets** | Forces and magnets   * What is friction and how does it affect movement? * How do magnets move without being touched? * What materials will attract magnets?   Animals   * What is a healthy diet? What does this provide for us? * How does our skeleton move? * What does our skeleton protect? | Living things   * What is a living thing? How can they be grouped? * What is an invertebrate? How can they be grouped? * What is a vertebrate? How can they be grouped? * How do classification keys work?   Plants   * What are the parts of a plant and their job? * How does a flower reproduce? * What is pollination? * How does fruit grow? | States of matter   * How do I know if something is a solid, liquid or a gas? * What happens when things are heated or cooled? * What is evaporation and condensation? * What is the water cycle and how does it work?   Sound   * How can we hear noises? * What are the parts of my ear? * Why are some noises louder than others? * What makes pitch change? | |
| **Core Learning**  **Knowledge** | Forces and Magnets   1. Can I compare how things move on different surfaces? 2. Do I notice that some forces need contact between two objects, but magnetic forces can act at a distance? 3. Can I observe how magnets attract or repel each other and attract some materials and not others? 4. Can I compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials? 5. Can I describe magnets as having two poles? 6. Can I predict whether two magnets will attract or repel each other, depending on which poles are facing?   Animals Including Humans   1. Can 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. 2 lessons sugar, fruit and veg, healthy diet 2. Can I identify that humans and some other animals have skeletons and muscles for support, protection and movement? 2 lessons (skeleton, muscles,lungs) 3. Can 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.   Can I Identify that humans and some other animals have skeletons and muscles for support, protection and movement? | Living things and their habitats   1. Can I recognise that living things can be grouped in a variety of ways? 2. Can I recognise that living things can be grouped in a variety of ways? Plants 3. Can I explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment? invertebrates 4. Can I explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment? fish 5. Can I explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment?birds 6. Can I explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment? mammals   Plants   1. Can I Explore the part that flowers play in the life cycle of flowering plants? observation 2. Explore the part that flowers play in the life cycle of flowering plant? reproduction 3. Can I eExplore the part that flowers play in the life cycle of flowering plants? Pollination 4. Can I explore the part that flowers play in the life cycle of flowering plants? fruits | States of matter   1. Can I compare and group materials together, according to whether they are solids, liquids or gases? solids and liquids 2. Can I compare and group materials together, according to whether they are solids, liquids or gases? gases 3. Can I observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C)? change of state 4. Can I observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C)? evaporation and condensation 5. Can I Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature?   Sound   1. Can I Identify how sounds are made, associating some of them with something vibrating? 2. Can I recognise that vibrations from sounds travel through a medium to the ear? 3. Can I Identify how sounds are made, associating some of them with something vibrating? Can I recognise that vibrations from sounds travel through a medium to the ear? 4. Can I Find patterns between the volume of a sound and the strength of the vibrations that produced it? Can I Recognise that sounds get fainter as the distance from the sound source increases? 5. Can I Find patterns between the pitch of a sound and features of the object that produced it? 6. Consolidation | |
| **Core Learning**  **Skills** | **Fair testing, Problem Solving**  **Classifying and Identifying,analysing secondary sources,**  **Working scientifically**   * **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, ( not-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** | **Working scientifically**   1. **asking relevant questions and using different types of scientific enquiries to answer them** 2. **setting up simple practical enquiries, comparative and fair tests** 3. **making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, ( not-using a range of equipment, including thermometers and data loggers)** 4. **gathering, recording, classifying and presenting data in a variety of ways to help in answering questions** 5. **recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables** 6. **reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions** 7. **using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions** 8. **identifying differences, similarities or changes related to simple scientific ideas and processes** 9. **using straightforward scientific evidence to answer questions or to support their findings** | **Working scientifically**   1. **asking relevant questions and using different types of scientific enquiries to answer them** 2. **setting up simple practical enquiries, comparative and fair tests** 3. **making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, ( not-using a range of equipment, including thermometers and data loggers)** 4. **gathering, recording, classifying and presenting data in a variety of ways to help in answering questions** 5. **recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables** 6. **reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions** 7. **using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions** 8. **identifying differences, similarities or changes related to simple scientific ideas and processes** 9. **using straightforward scientific evidence to answer questions or to support their findings** | |
| **Vocabulary** | magnetic, non-magnetic, attract, repel, attraction, repulsion, poles, north, south,  force, push, pull, prediction, fair test, investigate, measure, friction  twist, gravity, magnetism, contact, Newton, force meter, measure, plot,  Force, magnet, magnetic, attract, attraction, question, strength, fair test, investigation  Magnetic, non-magnetic, attract, attraction, theory, metal, iron, steel  Herbivore, carnivore, omnivore, nutrition, diet, food chain, data, table, bar chart  Carbohydrates, proteins, dairy, fats, sugars, vitamins, minerals, fibre, growth, repair, health, energy  Vertebrate, invertebrate, bone, skeleton, skull, ribcage, pelvis, femur  Muscles, joints, tendons, contract, relax, biceps, triceps, data, scattergram  Lungs, diaphragm, heart, investigate, measure, compare, breathing rate | Life processes, movement, reproduction, sensitivity, nutrition, excretion, respiration, growth, living things, oxygen, energy, waste products, senses, environment  Plants, animals, similarities, differences, kingdom, classify, classification, flowering plants, trees, mosses, ferns, spores, cones, leaves, flowers, seeds  Vertebrates, invertebrates, classify, classification, insects, spiders, worms, woodlice, habitat, slugs, snails, molluscs, annelids, echinoderms, arthropods, crustaceans, arachnids  Vertebrates, invertebrates, classify, classification, birds, reptiles, warm/cold blooded, scales, feathers  classification, kingdom, insects, molluscs, annelids, arthropods, crustaceans, arachnids, fish, amphibians, birds, reptiles, mammals, warm blooded, cold blooded  mammals, fur, hair, milk, adapted, environment  Botany, botanist, botanical, petals, reproduction, male, female, stigma, style, stamens  reproduction, male, female, stigma, style, seed, nectar, stamens, pollination, fertilisation  Bee, pollen, nectar, waggle dance, honey, hive, pollination, fertilization, attract, transfer, stamen, style, Stigma, style, ovary, ovules, pollen grains, pollination, fertilization, fruit, pod, seeds, Fruit, seed, parent plant, dispersal, germination, investigate, fair test, record, results | States of matter, material, solid, liquid, gas, natural, manmade, classify, molecule, atom, bonds  gas, air, oxygen, nitrogen, carbon dioxide, argon, molecules  change, state, bromine, ice, freeze, melt, heat, energy, solidify, vapour  Evaporation, condensation, condense, water vapour, invisible, liquid, change state, energy, particles  Evaporation, condensation, precipitation, water cycle, water vapour, invisible, change state  Music, sound, noise, investigate, explain, vibration, vibrate, ears, hear, ound, travel, air, water, solid, vibrations, source, sound waves, sound proof, Medium, transmit, ears, detect, vibration, vibrating, sound wave, energy, decibel, fair test, data, graph, Loudness, volume, vibrations, strength, energy, rhythm, stronger, weaker, sound waves, Pitch, note, high, low, vibration, tune, instrument, sound, change, | |
| Quick quiz/Assessement | Presentation to a hockey team - to coach them into a fitter and healthier team. | Quiz creator on classification - create a power point or leaflet.  create a feast for guest - give all the information on the food/plants provided. | Create a quiz for friends - how many facts and questions can they answer?  Help a band out! Create a fun information sheet to inform your band on their sound check | |