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| **WORKING SCIENTIFICALLY:****NATIONAL CURRICULUM:**During **Years 1 and 2,** pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:  | **NATIONAL CURRICULUM:**During **Years 3 and 4,** pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content: |
| KEY STAGE 1: YEAR 1 YEAR 2 | KEY STAGE 2: YEAR 3 YEAR 4 |
| 1: Asking simple questions and recognising that they can be answered in different ways | 1: Asking relevant questions and using different types of scientific enquiries to answer them |
| 2: Performing simple tests | 2: Setting up simple practical enquiries, comparative and fair tests |
| 3: Observing closely, using simple equipment | 3: Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers |
| 4: Gathering and recording data to help in answering questions  | 4: Gathering, recording, classifying and presenting data in a variety of ways to help in answering questionsrecording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables |
| 5: Identifying and classifying | 5: Identifying differences, similarities or changes related to simple scientific ideas and processes |
| 6: Using their observations and ideas to suggest answers to questions | 6: Using straightforward scientific evidence to answer questions or to support their findings.using results to draw simple conclusions, make predictions for new values and suggest improvements and raise further questions |
|  | 7: Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions |

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| **Sc2 : BIOLOGY - PLANTS** |
| KEY STAGE 1: YEAR 1 YEAR 2 | KEY STAGE 2: YEAR 3 YEAR 4 |
| identify and name a variety of common wild and garden plants, including deciduous and evergreen trees | Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers |
| ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY | ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY |
| Walk around the school to tick off different plants and trees | SPR 2  | 1 hr | 1 | Identify and label plants and flowering plants. | SUM 2 | 1 hr | 4, 5,  |
| Observing Plants: Walk around the school sketching plants and trees. Use reference books to identify plants and trees. | SPR 2  | 1 hr | 1 |  |  |  |  |
| Identify and describe the basic structure of a variety of common flowering plants, including trees | Explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant |
| ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY | ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY |
| Label a plant | SPR 2 | 1hr | 5 | What plants need to live Investigation:  | SUM2 | 1 hr1 hr | 2, 5 |
| Plant and care for a seed (Bean) and a bulb (narcissus) | SPR 2  | 1 hr | 2 |  |  |  |  |
| find out and describe how plants need water, light and a suitable temperature to grow and stay healthy. | investigate the way in which water is transported within plants |
| ACTIVITY: | TOPIC/TERM | TIME | WORKING SCIENTIFICALLY | ACTIVITY: | TOPIC/TERM | TIME | WORKING SCIENTIFICALLY |
| Investigation: What does a sunflower need to grow bigger – plant sunflowersInvestigation – plants without water, air, light | SPR 2 | 2 hr | 4 | Investigation: White flowers and coloured liquid - showing the way in which water is transported  | SUM 2 | 2 hrs | 2, 3, 5, 7 |
| Investigation:Children to design their own test – do plants need water, air, light, soil?Compare seeds.Bean diary detailing observation of plant growth/changesSCIENTISITS AND INVESTIGATORSGreenhouse growing | SPR 2 SPR 1 | 2 hr1 hr | 4 | Structure of the Rainforest – research layers of the Rainforest | SPR 2 | 4 hrs | 4 , 5 , 7 |
| observe and describe how seeds and bulbs grow into mature plants | explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. |
| ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY | ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY |
| Grow a sunflowerGrow cress headsAssessment Activity Year 1 – Eating Plants | SPR 2 | 2 hr | 2, 3Herts for Learning | Look at the functions of part of a flower – di-sectionWatch the beesLife cycle of a plantHow seeds are dispersed | SUM 2 | 1 hr30 mins1 hr | 23 |
| Record the life cycle of a plant. Diary of a BeanSCIENTISTS AND INVESTIGATORS:Brilliant Botany – basic plant structure of a range of plants | SPR 2  | 2 hr | 6, 3 | Food chains on the rainforest – plants and animalsCompare to the science garden – observe potential life cycles  | SPR 2 | 2 hrs | 4, 5, 7 |
| ASSESSMENT ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY | ASSESSMENT ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY |
| Herts for Learning - Eating Plants | SPR 2 | 2 hr |  | Herts for Learning – Measuring Plants | SUM 2 | 1 hr |  |
| Herts For Learning - Observing Germination | SPR 2  | 2 hr |  |  |  |  |  |

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| **Sc2: BIOLOGY LIVING THINGS AND THEIR HABITATS** |
| KEY STAGE 1: YEAR 1 YEAR 2 | KEY STAGE 2: YEAR 3 YEAR 4 |
| Explore and compare the differences between things that are living, dead, and things that have never been alive. | Recognise that living things can be grouped in a variety of waysExplore and use classification keys to help group, identify and name a variety of living things in their local and wider environment |
| ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY | ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY |
|  | SPR 1  |  |  |  |  |  |  |
| Comparison Activity and walk around the school identifying this that have lived, are dead and have never lived.How living things depend upon each otherForest Friends (Environment) – looking at Australian Bush FiresEndangered Animals | AUT 1SPR 1 | 1 hr3 hr | 5, 4 | Living things and habitats – RainforestCompare to Science Garden | SPR 2SPR 2 | 1 hr1 hr | 6,7, 4 |
| 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 | Recognise that environments can change and that this can sometimes pose dangers to living things |
| ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY | ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY |
| Pets: Common animals and their habitats/what does your pet need – design a medal for your pet | SPR 1  | 1 hr | 1 | Volcanoes and earthquakes | SUM 1 | 1 hr |  |
| Looking at Local Habitats – map a habitat and classify what is within it.Look at World Habitats – research a habitat – Australia think about its suitability for what lives there. | AUT 1  | 2 hr | 1, 2, 6,  | Living things and Habitats - Rainforest | SPR 2 | 1 hr | 6,4,7 |
| Identify and name a variety of plants and animals in their habitats, including micro-habitats. |  |
| ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY | ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY |
| Pets: Common animals and their habitats/what does your pet need – design a medal for your pet | SPR 1 | 1 hr | 1 |  |  |  |  |
| Micro – habitats - investigationIdentify animals in their habitat, mapped out by a small square. Use the information gathered to answer a question | AUT 1 | 1 hr | 1 |  |  |  |  |
| 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. | Construct and interpret a variety of **food chains**, identifying producers, predators and prey. |
| ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY | ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY |
| Grouping animals : Carnivores, Herbivores, Omnivores | SPR 1 | 2 hr | 5 |  |  |  |  |
| Create a simple food chain using an animal from AustraliaSCIENTISTS AND INVESTIGATORSRachel Carson: Simple ocean food chain | AUT 1  | 1 hr | 3 | Living things and their habitats – food chains relating to rainforest | SPR 2 | 1 hr |  |
| ASSESSMENT ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY | ASSESSMENT ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY |
| Herts for Learning - | SPR 2 |   |  | Herts for Learning –  | SUM 2 |  |  |
| Herts For Learning – Living Things and Their Habitats | SPR 2  | 1 hr |  | Herts for Learning – Troublesome Animals | SPR 2 | 1 hr |  |

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| **Sc2: BIOLOGY ANIMALS INCLUDING HUMANS** |
| KEY STAGE 1: YEAR 1 YEAR 2 | KEY STAGE 2: YEAR 3 YEAR 4 |
| Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals |  |
| ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY | ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY |
| Animal features and grouping animals – mammals, amphibians, birds, fish, reptiles – sorting activity Choose and animal to research and write about. | SPR 1 | 2 hrs | 5 |  |  |  |  |
| Animal babies sorting and comparing | AUT 2 | 1 hr | 5 | Animal classification | SPR 2 | 1 hr |  |
| Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets) |  |
| ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY | ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY |
| Looking at animal body parts and comparing | SPR 1 | 1 hr | 4 |  |  |  |  |
| Growing and Changing: Test: Are children faster as they get older. | AUT 2  | 1 hr | 2 |  |  |  |  |
| Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. | Identify that humans and some other animals have **skeletons** **and** **muscles** for support, protection and movement |
| ACTIVITY: | TOPIC/TERM | TIME | WORKING SCIENTIFICALLY | ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY |
| Identify the 5 sensesIdentify parts of the bodyExplore the sense of sight- Kim’s GameExplore the sense of touch – feely bags, texture picturesExplore the sense of sound – sound walk, sound poems | AUT 1  | 5 hrs | 26 | Types of skeletonsNaming bonesFunctions of a skeletonMighty Muscles | AUT 1  | 4 hrs | 157 |
|  |  |  |  | TeethHow food travels from the mouth to the intestines | AUT 1 | 2 hrs | 6, 4, 7 |
| Find out about and describe the basic needs of Animals, including humans, including humans, for survival (water, food and air) |  |
| ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY | ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY |
| Pets: Common animals and their habitats/what does your pet need – design a medal for your pet | AUT 1  | 1 hr | 4 |  |  |  |  |
| Basic Needs: Generate questions and answers about different zoo animals. Healthy Eating: Diary, Plate, Explore different food groups and create a healthy meal.Exercise: Investigation: records the ways that exercise affects the body by completing different activitiesHygiene: Investigation – germ spreading on hands SCIENTISITS AND INVESTIGATORS:Doctors surgery – posterGERMS – Louis Pasteur | AUT 2  | 6 hrs | 64 |  |  |  |  |
| ASSESSMENT ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY | ASSESSMENT ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY |
| Herts for Learning - Our Class Pictograms | SPR 2 | 2 hr |  | Herts for Learning – Research SkeletonsModel Skeletons | SUM 2 | 2 hr |  |
| Herts For Learning – Growth and Survival | SPR 2  | 2 hr |  | Herts for Learning - Teeth | AUT 1 | 1 hr |  |

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| **Sc2: BIOLOGY EVOLUTION AND INHERITANCE** |
| KEY STAGE 1: YEAR 1 YEAR 2 | KEY STAGE 2: YEAR 3 YEAR 4 |
|  | **From ‘The Earth (Rocks, Atmosphere)**: Describe in simple terms how **fossils** are formed when things that have lived are trapped within rock. |
| ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY | ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY |
|  |  |  |  | Volcanoes and EarthquakesTypes of rocksFossils formed | SUM1 | 3 hr |  |
|  |  |  |  |  |  |  |  |
| ASSESSMENT ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY | ASSESSMENT ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY |
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| **Sc3: CHEMISTRY MATERIALS** |
| KEY STAGE 1: YEAR 1 YEAR 2 | KEY STAGE 2: YEAR 3 YEAR 4 |
| distinguish between an object and the material from which it is made | compare and group materials together, according to whether they are solids, liquids or gases |
| ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY | ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY |
| Go on a materials hunt and observe and log what materials objects are made from. | SUM 1 | 1 hr | 5 |  |  |  |  |
| Recycling: To find out which materials can be recycled and how the changing the shape can aid in this. | SUM 1 | 1 hr | 5, 3 | Compare and group solids/liquids and gasesWhich gases impact upon human and plant lifePower of air pressure | AUT 2 | 1 hr1 hr1 hr | 5, 4 |
| **describe** the simple physical properties of a variety of everyday materials**Identify** and name a variety of everyday materials, including wood, metal, plastic, glass, metal, water and rock | 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), |
| ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY | ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY |
| Look at the properties of materials – sort plastic/ non plastic – Explore keeping cotton wool dry | SUM 1  | 1 hr | 1,2,3,4 | Investigation – melting ice (Environment) | Spring 1 | 1 hr |  |
| Discovering new materials:Learning about John McAdam | SUM  | 1 hr | 1, 4, 6 | Materials heated and cooledAccurate drawing and labelling of thermometerRecords temperature and interpretTrack change of temperature from iced water to boiling water – solid to gas | AUT 2 | 1 hr1 hr1 hr | 2, 4, 53, 2, 4,  |
| **compare** and **group** together a variety of everyday materials on the basis of their simple physical propertiesidentify and **compare** the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses |  |
| ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY | ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY |
| Investigation – floating and sinkingLook at what makes materials float-lighter less dense and air insideBuild a house for Max – looking at suitability of materialsSir Frances Drake – magnets/games | SUM 1  | 1 hr1 hr1 hr | 1, 2, 4,  |  |  |  |  |
| Identify uses and compare the suitability of a variety of materials. SortingOut and About – identifying and classifying materials in the local area and gather and record data.Comparing suitability – exploring the purpose of different materialsSCIENTISTS AND INVESTIGATORS:Charles Mackintosh - suitability | SUM 1  | 3 hr1 hr | 5, 4 |  |  |  |  |
| (Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching) | identify the part played by **evaporation and condensation** in **the water cycle** and associate the rate of evaporation with temperature |
| ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY | ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY |
|  |  |  |  |  |  |  |  |
| Changing Shape: Explore different materials and see how they can be changed and why? | SUM 1 –  | 1 hr | 4 | Investigate factors to speed up evaporationWater Cycle | AUT 2SPR 1 | 1 hr1 hr | 1, 2, 7,  |
| ASSESSMENT ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY | ASSESSMENT ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY |
| Herts for Learning - Floating and Sinking | SPR 2 | 1 hr |  |  |  |  |  |
| Herts For Learning – Testing Waterproof | SPR 2  | 1 hr |  | Herts for Learning – Solids, liquids and gases | AUT 2 | 1 hr |  |

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| **Sc3: CHEMISTRY ROCKS AND THE ATMOSPHERE** |
| KEY STAGE 1: YEAR 1 YEAR 2 | KEY STAGE 2: YEAR 3 YEAR 4 |
|  | Recognise that that **soils** are made from rocks and organic matter |
| ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY | ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY |
|  |  |  |  | Compare layers of soilsVolcanoesTypes of rocks – sorting man made or naturalPermeability of soils – Creating compost – wormery, testing permeability | SUM 1 | 1 hr1 hr1 hr1 hr | 4, 5,  |
|  |  |  |  | Layers of the Rainforest | SPR 1 | 1 hr |  |
|  | Describe in simple terms how **fossils** are formed when things that have lived are trapped within rock. |
| ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY | ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY |
|  |  |  |  | Fossils formed – order the fossilisation process | SUM 1 | 1 hr | 3 |
|  |  |  |  |  |  |  |  |
|  | Compare and group together **different kinds of rocks** on the basis of their simple physical properties |
| ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY | ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY |
|  |  |  |  | Types of rocks – carousel – permeability and durability, books, density | SUM 1 | 1 hr | 3 |
|  |  |  |  |  |  |  |  |
| ASSESSMENT ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY | ASSESSMENT ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY |
|  |  |  |  | Herts for Learning – Testing Soils | SUM 1 | 1 hr |  |
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| **Sc4: PHYSICS FORCES AND MOTION** |
| KEY STAGE 1: YEAR 1 YEAR 2 | KEY STAGE 2: YEAR 3 YEAR 4 |
| **Materials**: Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. |  |
| ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY | ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY |
|  |  |  |  |  |  |  |  |
| Changing Shape: Explore different materials and see how they can be changed and why? | SUM 1  | 1 hr | 6 |  |  |  |  |
|  | Notice that some forces need contact between two objects, but magnetic forces can act at a distance |
| ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY | ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY |
|  |  |  |  | Magnet Strength – Investigation strength of magnetsMagnet Poles- treasure hunt using a compassMarvellous Magnets – design and make a magnet gameScrapyard challenge – sort materials to magnetic/non-magnetic | SPR 2 | 3 hrs | 5,2,3,4,7 6 |
|  |  |  |  |  |  |  |  |
|  | Compare how things move on different surfaces |
| ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY | ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY |
|  |  |  |  | Pushes and Pulls – Activity sheetFaster and Slower – Investigation – effect of friction | SPR 2 | 3 hrs | 5, 2, 3, 4, 7 |
|  |  |  |  |  |  |  |  |
| ASSESSMENT ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY | ASSESSMENT ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY |
|  |  |  |  | Herts for Learning - Shoe grip | SPR 2 | 1 hr |  |
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| **Sc4: PHYSICS WAVES AND LIGHT** |
| KEY STAGE 1: YEAR 1 YEAR 2 | KEY STAGE 2: YEAR 3 YEAR 4 |
|  | Notice that light is reflected from surfaces |
| ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY | ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY |
|  |  |  |  | What is Light?Light and ReflectionsMirror , Mirror | SPR 1 | 3 hrs |  |
|  |  |  |  |  |  |  |  |
|  | Recognise that light from the sun can be dangerous and that there are ways to protect their eyes |
| ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY | ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  | Recognise that they need light in order to see things and that dark is the absence of light |
| ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY | ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  | Recognise that shadows are formed when the light from a light source is blocked by a solid objectFind patterns that determine the size of shadows. |
| ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY | ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY |
|  |  |  |  | ShadowsLet’s investigate!What a performance | SPR 1 | 3 hrs |  |
|  |  |  |  |  |  |  |  |
| ASSESSMENT ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY | ASSESSMENT ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY |
|  |  |  |  | Herts for Learning – Materials and Shadows | SPR 1 | 1 hr |  |
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| **Sc4: PHYSICS WAVES AND SOUND** |
| KEY STAGE 1: YEAR 1 YEAR 2 | KEY STAGE 2: YEAR 3 YEAR 4 |
|  | **Sound:**Identify how sounds are made, associating some of them with something vibratingRecognise that vibrations from sounds travel through a medium to the ear |
| ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY | ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  | find patterns between the pitch of a sound and features of the object that produced itfind patterns between the volume of a sound and the strength of the vibrations that produced it. |
| ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY | ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  | Recognise that sounds get fainter as the distance from the sound source increases |
| ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY | ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY |
|  |  |  |  |  |  |  |  |
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| ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY | ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY |
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| ASSESSMENT ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY | ASSESSMENT ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY |
|  |  |  |  |  |  |  |  |
|  |  |  |  | Herts for Learning – Changing Pitch |  |  |  |

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| **Sc4: PHYSICS MAGNETISM** |
| KEY STAGE 1: YEAR 1 YEAR 2 | KEY STAGE 2: YEAR 3 YEAR 4 |
|  | notice that some forces need contact between two objects and some forces act at a distance  |
| ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY | ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY |
|  |  |  |  | Magnet strength | SPR 2 | 1 hr |  |
|  |  |  |  |  |  |  |  |
|  | 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. |
| ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY | ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  | observe how magnets attract or repel each other and attract some materials and not others  |
| ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY | ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  | Describe magnets as having two poles |
| ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY | ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY |
|  |  |  |  | Magnetic Poles  | SPR 2 | 1 hr |  |
|  |  |  |  |  |  |  |  |
|  | Predict whether two magnets will attract or repel each other, depending on which poles are facing |
| ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY | ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY |
|  |  |  |  | Marvellous Magnets | SPR 2 | 1 hr |  |
|  |  |  |  |  |  |  |  |
| ASSESSMENT ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY | ASSESSMENT ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY |
|  |  |  |  | Herts for Learning – Magnet Investigation | SPR 2 | 1 hr |  |

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| **Sc4: PHYSICS ELECTRICITY** |
| KEY STAGE 1: YEAR 1 YEAR 2 | KEY STAGE 2: YEAR 3 YEAR 4 |
|  | identify common appliances that run on electricity |
| ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY | ACTIVITY: | TOPIC/TERM | TIME | WORKING SCIENTIFICALLY |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  | construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers |
| ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY | ACTIVITY: | TOPIC/TERM | TIME | WORKING SCIENTIFICALLY |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  | identify whether or not a lamp will light in a simple series circuit based on whether or not the lamp is part of a complete loop with a battery |
| ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY | ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  | recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit |
| ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY | ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  | Recognise some common conductors and insulators, and associate metals with being good conductors. |
| ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY | ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| ASSESSMENT ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY | ASSESSMENT ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY |
|  |  |  |  |  |  |  |  |
|  |  |  |  | Herts for Learning – Identifying Conductors |  |  |  |

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| **Sc4: PHYSICS EARTH AND SPACE** |
| KEY STAGE 1: YEAR 1 YEAR 2 | KEY STAGE 2: YEAR 3 YEAR 4 |
| **Seasonal changes:**observe changes across the four seasons |  |
| ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY | ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY |
| Looking at day and night and seasonal changes – through animals and fireworksAutumn – design a party for indoors and outdoors and compare. Which would be better for Autumn? | AUT 2  | 2 hr1 hr |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| observe and describe weather associated with the seasons and how day length varies. |  |
| ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY | ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY |
| Data collection: Record the weather over a period of timeLook at the weather forecastInvestigation: set up a weather stationLook at weather around the world.End of Term Assessment: Investigating Rain | AUT 2 | 4 hrs1 hr | Herts for Learning |  |  |  |  |
|  |  |  |  |  |  |  |  |
| ASSESSMENT ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY | ASSESSMENT ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY |
| Herts for Learning - Seasonal Changes – Investigating Rain | AUT 2 | 1 hr |  |  |  |  |  |
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| **Sc4: PHYSICS ENERGY**  |
| KEY STAGE 1: YEAR 1 YEAR 2 | KEY STAGE 2: YEAR 3 YEAR 4 |
|  |  |
| ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY | ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| ASSESSMENT ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY | ASSESSMENT ACTIVITY: | TERM | TIME | WORKING SCIENTIFICALLY |
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