Science Year 1

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| **Knowledge and Skills:**  **Know and recall accurately key facts relevant to the science topics below.** | **Test Question, Apparatus, Method, Results, Conclusion.**  **Scientific Enquiry**  **Children should be able to (by end of key stage) :** | **Examples**  **Ideas for prompting scientific enquiry:** |
| **Plants**   * **Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees.** * **Know the common names of flowers.** * **Know examples of deciduous and evergreen trees.** * **Identify and describe the basic structure of a variety of common flowering plants, including trees.** * **Plant structures (including leaves, flowers (blossom), petals, fruit, roots, bulb, seed, trunk, branches, stem)**   **.**   * **Draw diagrams showing the parts of different plants including trees.** | * **Observe closely, using simple equipment.**   **Plant sunflower seeds. Measure height using a ruler over a number of weeks, and record findings.**   * **Perform simple tests**   **Perform simple tests e.g. comparing 2 plants - 1 is watered and 1 is not watered .**   * **Use their observations and ideas to suggest answers to questions** * **Gather and record data to help in answering questions.** | * **Use the local environment throughout the year to explore and answer questions about plants growing in their habitat.** * **Encourage exploration of their own home environment too through a home-learning task.** * **Observe the growth of flowers and vegetables that they have planted.** * **Use real plants to identify and know parts – use plants (dandelions/daisies etc from school area to gain confidence in names).** * **Keep records of how plants have changed over time, for example the leaves falling off trees and buds opening; and compare and contrast what they have found out about different plants (links to seasonal change).** * **Class display opportunity – Use ICT to photograph/ art to record observations** * **Seasonal walks (link to senses).** * **Nature journal using flower press to observe anatomy.** * **Look after plants and flowers in the classroom all year round.** * **Link to Easter** |

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| **Animals including Humans**   * **Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals including pets.** | * **Identify and classify using first- hand experiences, where possible. (photos and videos may also be used where first–hand is not possible).** * **Observe closely, using simple equipment.**   **Investigation - Whose is the poo? Investigate fake poo that has been sent from a zoo to identify the type of diet, for 3 of their new animals.**  **□ Ask simple questions and recognise that they can be answered in different ways.**  **Senses investigations/first-hand experiences Odour or aroma?**  **Identifying textures from variety of objects – natural and man-made. – smooth, rough, gritty, slippery, fluffy. Which would be the best surface for a slide and why?**  **Hearing investigation – factors affecting hearing the whistle at the end of play. Taste test – sweet, sour, salty or bitter?** | * **Use the local environment throughout the year to explore and answer questions about animals in their habitat. (woodlands/hedgerow/**   **playgroud/fields)**  **Children should take care of animals taken from their local environment e.g. mini-beasts, tadpoles/frogs and return them safely after study.**   * **RSPB Big Schools Birdwatch. Become ornithologists.** |
| * **Identify and name a variety of common animals that are carnivores, herbivores and omnivores.** | * **Visit from a local vet/doctor/paramedic.** |
| * **Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets).** | * **3 Haggs Wood nature reserve trip -including pond dipping..** * **Zoo/zoos2schools/Askham Bryan Wildlife park experiences.** |
| * **Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.** | * **Make a wormery.** * **Collect mini-beasts (invertebrates) using pooters, petri dishes and brushes.** |

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| **Everyday Materials and their Properties**   * **Distinguish between an object and the material from which it is made.** * **Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock. Additionally: brick, paper, fabrics, elastic, foil.** * **Describe the simple physical properties of a variety of everyday materials such as: hard/soft; stretchy/stiff; shiny/dull; rough/smooth; bendy/not bendy; waterproof/not waterproof; absorbent/not absorbent; opaque/transparent.** * **Compare and group together a variety of everyday materials on the basis of their simple physical properties.** | * **Identify and classify.**   **Sort everyday objects by materials and by properties.**   * **Ask simple questions and recognise that they can be answered in different ways.**   **e.g. organise everyday objects into a venn diagram sorting metal from plastic. E.g. aluminium can, polypocket, metal fork, staples, drawing pin. Some items may overlap e.g. a stapler that has metal and plastic parts.**   * **Perform simple tests**   **‘Which is the best material for creating a fairy tale house? Lining a dog basket? for a bookshelf?**  **...for a gymnast’s leotard?’ Investigation: - build and test the 3 little pigs houses to see which materials can withstand the wolf’s huff and puff.**   * **Use their observations and ideas to suggest answers to questions. Investigation: Which materials are magnetic? How might we get a metal paperclip out of a shallow bowl of water without touching it? Would the idea you have chosen work with a plastic paperclip? Does everything made of metal stick to a magnet?** | * **Odd one out – trays of different materials covered up. Which item is the odd one out e.g. all but one are made of wood.** * **Walk around the local area to ‘I Spy’ different materials and create a tally chart e.g. wooden gate, metal lamp post, plastic bin etc.** * **Create a recycling station in your classroom to sort items throughout the topic.** * **Water play -test materials to see which will float and which will sink.** * **Links to art work – fabric collage, foil art.** |

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| **Seasonal Changes**   * **Observe changes across the four seasons.** | **□ Gather and record data to help in answering questions. Make tables and charts.**  **Investigation: Collect rainwater via a rain gauge. Record how much is collected each day over a week/ month.** | * **Seasonal walks including talking about day length, as the seasons change.** |
| * **Observe and describe weather associated with the seasons and how day length varies.**   **Note: Pupils should be warned that it is not safe to look directly at the Sun, even when wearing dark glasses.** | * **Use their observations and ideas to suggest answers to questions e.g. after gathering the data above answer questions such as ‘On which days might Percy the park-keeper have needed to water his outdoor plants? Which season is most likely to have the highest number of ‘wet play’ times.** * **Perform simple tests. Investigation:**   **Measure outdoor temperature in winter at different times throughout a day. Compare with temperatures on a summer day at the same times.**  **Asking simple questions and knowing they can be answered in different ways – How do we know it’s Autumn?** | * **Set up a weather station and create own weather broadcasting company.** * **Create a photo story for each season (from the walk) identifying the different flora and fauna/ weather observed/daylight hours etc.** * **Make a wind sock, pin wheel, wind vane, wind chime.** * **Link to RE – special festivals** |
|  | **□ Observe closely using simple**  **equipment such as rain gauges, thermometers.** |  |