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.**
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| * **Identify and name a variety of common animals that are carnivores, herbivores and omnivores.**
 | * **Visit from a local vet/doctor/paramedic.**
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| * **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.**
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| * **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.**
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| * **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**
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|  | **□ Observe closely using simple****equipment such as rain gauges, thermometers.** |  |