

## Scope and Sequence

|                                     | Stage 1                                                                                                                                                                                                                                                                                                                             | Stage 2                                                                                                                                                                                                                                                                                                                                                   | Stage 3                                                                                                                                                                                                                                                                                                                         | Stage 4                                                                                                                                                                                                                                                                                                                                                                                             |
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| <b>Focus Question/s</b>             | Part 1. How do insects pollinate flowers?<br>Part 2. Does the shape of a flower influence the insect visitor?                                                                                                                                                                                                                       | 1. How does a flower become a fruit?<br>2. Who are the pollinators?                                                                                                                                                                                                                                                                                       | How do plants attract insect pollinators?                                                                                                                                                                                                                                                                                       | Can flower types be predictors of insect pollination?                                                                                                                                                                                                                                                                                                                                               |
| <b>Science Syllabus Outcomes</b>    | <b>Living Things Strand</b><br>Children will know and understand that:<br>1. Living things grow, reproduce, move, need air, take in nutrients and eliminate wastes<br>2. The senses are used to receive messages from all around                                                                                                    | <b>Living Things Strand</b><br>Children will know and understand that:<br>1. Plants and animals live in environments that supply their needs<br>2. Living things depend on other living things to survive                                                                                                                                                 | <b>Living Things Strand</b><br>Children will know and understand that:<br>1. The activities of people can change the balance of nature<br>2. Groups of living things have changed over long periods of time                                                                                                                     | <b>Knowledge and Understanding</b><br>Students will develop knowledge and understanding of interactions within the living world.<br>A student:<br>1. describes features of living things (4.8)<br>2. identifies factors affecting survival of organisms in an ecosystem (4.10)                                                                                                                      |
| <b>Integrated Science Topics</b>    | <b>Growing Up</b><br><ul style="list-style-type: none"> <li>What living things need</li> <li>Providing for the needs of plants, animals and people</li> </ul> <b>Let's Communicate</b><br><ul style="list-style-type: none"> <li>Using senses signals and symbols to communicate.</li> <li>Why living things communicate</li> </ul> | <b>Mini-Worlds</b><br><ul style="list-style-type: none"> <li>Environments of living things.</li> <li>Interrelationships and consequences of change in mini environments.</li> </ul>                                                                                                                                                                       | <b>A Change for the Better</b><br><ul style="list-style-type: none"> <li>Inheritance and environment</li> </ul> <b>Environment Matters</b><br><ul style="list-style-type: none"> <li>Effects of human activities on the environment</li> </ul>                                                                                  | <b>Classification 4.8.2</b><br><ul style="list-style-type: none"> <li>Classify living things according to structural features and identify that they have patterns of similarities and differences</li> <li>Identify a range of plants and animals using a range of simple keys</li> </ul>                                                                                                          |
| <b>Key Concepts/Words</b>           | Flower      Shapes<br>Pollen      Tube<br>Insect      Reproduce<br>Insect visitor      Butterfly<br>Bee      Fly                                                                                                                                                                                                                    | Flower      Pollination<br>Stamen      Insects<br>Anther      Pollen<br>Stigma Fruit      Pollinator<br>Seed      Reproduction                                                                                                                                                                                                                            | Insects      Pollinator<br>Bees      Pollen<br>Butterflies      Pollination<br>Beetles      Wasps<br>Flies                                                                                                                                                                                                                      | Insects      Flower types tubular<br>Bees      brush<br>butterflies      Species<br>beetles      Pollinator<br>flies,                                                                                                                                                                                                                                                                               |
| <b>Underlying Science - summary</b> | Insects obtain food from the flowers they visit, usually in the form of pollen or nectar. In return for this food the insects carry the pollen from one flower to the other, allowing the plant to reproduce. Flowers have characteristics that attract insects and insects have specialised mouth parts to gain access to nectar   | Flowers contain the reproductive parts of plants. Their purpose is to allow pollination to take place. The first critical step in pollination involves transfer of pollen from the anthers to the stigma. To enable pollen transfer to develop seeds, many plants rely on insects (and other vectors e.g. wind) to ensure successful cross-fertilisation. | Flowers have evolved a remarkable range of strategies to guarantee that male pollen is transferred to female parts of the flower. Insects are the predominant animal pollinators. They have physical characteristics that make them extremely efficient in locating flowers and transferring pollen from one flower to another. | Plants attract pollinators by offering pollen or nectar and by guiding them to the flower using scent and visual cues. This has resulted in strong relationships between plants and the animals that pollinate them. However, pollination can be the result of any insect who has visited a flower for other purposes, apart from the sweet reward of nectar and the nutritious benefits of pollen. |