

Year 6 – Classifying living things (Living things and their habitat)												
Links made with other subjects	Amazon rain forest											
The BIG Question	Living things 2 : what is the same and what is different?											
The BIG Outcome	Produce 3 classification keys sorting animals with reference to the 5 vertebrae groups and some with plants											
Science objectives (link to NC)	<ul style="list-style-type: none"><li>- describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro–organisms, plants and animals</li><li>- give reasons for classifying plants and animals based on specific characteristics</li></ul>											
Prior knowledge What prior knowledge is needed for children to be successful in this unit?	<p><i>Children already know:</i></p> <p>EYFS – Understanding the world - Children know about similarities and differences in relation to places, objects, materials and living things. They talk about the features of their own immediate environment and how environments might vary from one another. They make observations of animals and plants and explain why some things occur and talk about changes.</p> <p>Yr 2 – <b>Habitats (living things and their habitats)</b></p> <p>Yr 4 –<b>Grouping and dangers to living things (living things and their habitats)</b></p>											
Future learning Consider the conceptual knowledge within a subject that pupils need for future learning not just the recall of facts but the importance of concepts	<p>This unit gives prior knowledge to:</p> <p>KS3 Reproduction in humans (as an example of a mammal), including the structure and function of the male and female reproductive systems, menstrual cycle (without details of hormones), gametes, fertilisation, gestation and birth, to include the effect of maternal lifestyle on the foetus through the placenta.</p> <ul style="list-style-type: none"><li>• Reproduction in plants, including flower structure, wind and insect pollination, fertilisation, seed and fruit formation and dispersal, including quantitative investigation of some dispersal mechanisms.</li><li>• Differences between species.</li></ul>											
Science strands	<table><tr><td>Related Enquiry Questions</td></tr><tr><td><b>Classifying</b></td></tr><tr><td>Based on the children’s own criteria:<ul style="list-style-type: none"><li>- Classify animals according to Carl Linnaeus’ system.</li><li>- Classify plants into flowering, mosses, ferns and conifers, based on specific characteristics.</li><li>- Create a branching database/dichotomous key to classify a set of living things</li></ul></td></tr><tr><td><b>Observing over time</b></td></tr><tr><td>Not relevant</td></tr><tr><td><b>Pattern Seeking</b></td></tr><tr><td>Not relevant</td></tr><tr><td><b>Comparative testing</b></td></tr><tr><td>Not relevant</td></tr><tr><td><b>Researching</b></td></tr><tr><td><ul style="list-style-type: none"><li>- Research the characteristics of a vertebrate/invertebrate group. (Children present what they’ve learned in different ways: create a model, write a song, write a story, create a PPT, etc.)</li><li>- Research the characteristics of flowering plants, mosses, ferns and conifers.</li><li>-Research the difference between bacteria, virus and fungi to give reasons why these are not plants or animals.</li><li>- Research how micro-organisms can be helpful or harmful.</li><li>- Research unusual animals e.g. axolotl, platypus, kangaroos etc.</li></ul></td></tr></table>	Related Enquiry Questions	<b>Classifying</b>	Based on the children’s own criteria: <ul style="list-style-type: none"><li>- Classify animals according to Carl Linnaeus’ system.</li><li>- Classify plants into flowering, mosses, ferns and conifers, based on specific characteristics.</li><li>- Create a branching database/dichotomous key to classify a set of living things</li></ul>	<b>Observing over time</b>	Not relevant	<b>Pattern Seeking</b>	Not relevant	<b>Comparative testing</b>	Not relevant	<b>Researching</b>	<ul style="list-style-type: none"><li>- Research the characteristics of a vertebrate/invertebrate group. (Children present what they’ve learned in different ways: create a model, write a song, write a story, create a PPT, etc.)</li><li>- Research the characteristics of flowering plants, mosses, ferns and conifers.</li><li>-Research the difference between bacteria, virus and fungi to give reasons why these are not plants or animals.</li><li>- Research how micro-organisms can be helpful or harmful.</li><li>- Research unusual animals e.g. axolotl, platypus, kangaroos etc.</li></ul>
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## Science Scheme of Work

<b>Vocabulary/ Glossary</b>	Vertebrates, fish, amphibians, reptiles, birds, mammals, invertebrates, insects, spiders, snails, worms, flowering, non-flowering.
<b>Knowledge</b> (see italics for knowledge to remember)	<p>The knowledge that children will learn and remember:</p> <ol style="list-style-type: none"> <li><i>1. Living things can be formally grouped according to characteristics.</i></li> <li><i>2. Plants and animals are two main groups but there are other living things that do not fit into these groups e.g. micro-organisms such as bacteria and yeast, and toadstools and mushrooms.</i></li> <li><i>3. Plants can make their own food whereas animals cannot.</i></li> <li><i>4. Animals can be divided into two main groups: those that have backbones (vertebrates); and those that do not (invertebrates).</i></li> <li><i>5. Vertebrates can be divided into five small groups: fish; amphibians; reptiles; birds; and mammals. Each group has common characteristics.</i></li> <li><i>6. Mammals - All mammals have a body covering of either hair or fur. They breathe using lungs. Females feed their young with milk from their mammary glands. Most mammals are viviparous. This means that the offspring are kept inside the female's body.</i></li> <li><i>7. Birds have bodies covered with feathers. They do not have teeth but use their beaks to eat their food. Their front limbs are adapted as wings, although not all birds fly. Birds breathe using lungs. Females lay eggs with hard shells, usually in a nest.</i></li> <li><i>8. The body of a reptile is covered in hard scales. Reptiles live on land, although many of them swim well and may feed in water, such as some snakes and lizards. They breathe using lungs.</i></li> <li><i>9. The body of the fish is covered in scales and has fins attached to help it move through the water. Fish breathe using gills which take oxygen out of the water</i></li> <li><i>10. The skin of amphibians is very thin and must always be kept wet because amphibians breathe through their skin. They do have lungs, but their lungs are small and are not used very much. Eggs are left in the water.</i></li> <li><i>11. Invertebrates can be divided into a number of groups, including insects, spiders, snails and worms.</i></li> <li><i>12. Plants can be divided broadly into two main groups: flowering plants; and non-flowering plants.</i></li> </ol>
<b>SEND expectations</b>	<ol style="list-style-type: none"> <li><i>1. Living things can be formally grouped according to characteristics.</i></li> <li><i>2. Plants and animals are two main groups but there are other living things that do not fit into these groups e.g. micro-organisms such as bacteria and yeast, and toadstools and mushrooms.</i></li> <li><i>3. Animals can be divided into two main groups: those that have backbones (vertebrates); and those that do not (invertebrates).</i></li> <li><i>4. Vertebrates can be divided into five small groups: fish; amphibians; reptiles; birds; and mammals. Each group has common characteristics.</i></li> <li><i>5. Plants can be divided broadly into two main groups: flowering plants; and non-flowering plants.</i></li> </ol>
<b>Common misconceptions</b>	<p>Some children may think:</p> <ul style="list-style-type: none"> <li>- all micro-organisms are harmful</li> <li>- mushrooms are plants.</li> </ul>