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| Squirrels Class Medium Term Planning for **Science Autumn Term 2022** | |
| **Topic: Toys**  **Materials**   * Identifying materials * Comparing materials * Testing materials | Children will also identify, describe and use materials in Art and D&T this term. |

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| **Lesson 1 - Link it.**  **What are materials?**  Exploring familiar materials by handling toys. Describing how they feel. | **Lesson 2 - Learn it**  **Sorting objects by their materials.**  Sorting objects and toys of the following materials: wood, metal, plastic, glass, brick, rock, paper, cardboard.  Why do we think that material is used? | **Lesson 3 - Learn it**  **Sorting materials by their characteristics**  Sorting objects and toys by characteristics they can see: soft, hard, fluffy, noisy, transparent, colour, etc. | **Lesson 4, 5, 6, 7, 8 – Check it**  **Testing materials**  Test materials in different ways. Do they float, sink, bend, stretch, waterproof, magnetic, see through etc.? | **Lesson 9, 10 – Show it**  **Drawing conclusions**  What have we learnt about different materials? What new properties have we discovered? | **Lesson 11, 12 -**  **Evaluating materials**  Look at potential new toys and materials, which ones would work or not work? For example: could we make a teddy bear out of rock? |

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| Substantive Knowledge (Content) | Disciplinary Knowledge (Skills) |
| **EYFS – C&L – Listening, Attention and Understanding**  Make comments about what they have heard and ask questions to clarify their understanding.  **EYFS – UTW – The Natural World**   * Explore the natural world around them, making observations and drawing pictures of animals and plants. * Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.   **KS1 – Science**  **Asking Questions and carrying out Fair and Competitive Tests**  **Children can:**  **a** explore the world around them, leading them to ask some simple scientific questions about how and why things happen;  **b** begin to recognise ways in which they might answer scientific questions;  **c** ask people questions and use simple secondary sources to find answers;  **d** carry out simple practical tests, using simple equipment;  **e** experience different types of scientific enquiries, including practical activities;  **f** talk about the aim of scientific tests they are working on.  **Identifying, Classifying, Recording and Presenting Data**  **a** use simple features to compare objects, materials and living things;  **b** decide how to sort and classify objects into simple groups with some help;  **c** record and communicate findings in a range of ways with support;  **d** sort, group, gather and record data in a variety of ways to help in answering questions such as in simple sorting diagrams, pictograms, tally charts, block diagrams and simple tables. | **EYFS – Chemistry**   * Use all their senses in hands-on exploration of natural materials. * Explore collections of materials with similar and/or different properties * Explore materials with different properties. * Explore natural materials, indoors and outside. * Talk about the differences between materials and changes they notice. * Talk about changes. * Sort materials using simple criteria and communicate observations of materials in terms of these properties., * Explore changing material by squashing, twisting, bending etc and pay attention to the results * Investigate changing materials by mixing, heating and cooling. * Investigate separating mixed materials with suitable basic equipment.   **Y1/2 – Chemistry**   * Distinguish between an object and the material from which it is made. * Describe the simple properties of a variety of everyday materials. * Identify and compare the uses of a variety of everyday materials, including wood, metal, plastic, glass, brick/rock, and paper/cardboard. * Investigate and compare the uses of different materials. * Compare and group together a variety of everyday materials on the basis of their simple physical properties. * Investigate what happens to materials when they are heated/cooled |

**Progression of Learning**

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| ‘Link It’ | ‘Learn It’ | ‘Check It’ | ‘Show It’ | ‘Know It’ |
| Explore and describe familiar materials. | Sort objects by their materials.  Sort materials by characteristics. | Test materials in different ways. | Draw conclusions – what have we learnt and how do we know? | Use what we have learnt to design/evaluate potential toys. |