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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
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**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. |