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| updated logo Hedgehogs & Butterflies Class Medium Term Planning for Science Autumn Term 2022 |
| Topic: People who help us**Everyday Materials -** * describe the simple physical properties of a variety of everyday materials;
* compare and group together a variety of everyday materials on the basis of their simple physical properties.
 | In this topic the children will explore a range of materials and textures. There will be specific planned opportunities to support the children’s progress and may be altered to suit the needs of the children during the term.  |

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| **Lesson 1 - Link it.****Explore a range of familiar materials.**What do the children do with them? Which ones interest them the most?Plenary – Look at photos of ourselves exploring the materials. Point out who and what the material is.  | **Lesson 2-6 – Learn and check it****Explore different types of materials. Matching materials to the name of the material and the adjective using symbols.**Lesson 2 – Treasure baskets – wood and metal (can we sort them into two separate groups?)Lesson 3 – Treasure baskets – plastic (can we sort them by colour?)Lesson 4 – Treasure baskets – fabric (can we sort them by rough and smooth?)Lesson 5 – Treasure baskets – mixed materials (can we sort them by soft and hard?)Lesson 6 – Range of materials (can we sort them by type of material)?Plenary – Look at photos of ourselves exploring the materials. Point out who and what the material is.  | **Lesson 7-9 – Learn and check it****Explore materials based on their simple physical properties.**Lesson 7 – Which materials sink or float? Model sinking and floating with PECS cards.Experiment – put materials into the water tray. What happens? Does it sink? Does it float? Plenary – group materials by sinking and floating.Lesson 8 – Which materials are waterproof? Create a hat for a doll – what material makes the doll’s head wet? Experiment – pour water over different materials over the doll’s head (e.g. paper, cellophane, cardboard, plastic, fabric, etc.). Plenary – sort the materials by waterproof and absorbent.Lesson 9 – Which materials are shiny? Create a shiny sun-catcher. Experiment – use a torch to see which materials reflect the light (e.g. metal spoon, wooden spoon, foil, spatula, fabric, penny, keys, etc.). Plenary – sort the materials by shiny and dull. | **Lesson 10 - Show it****Explore a range of materials independently.**Exploring a range of materials with equipment to explore their physical properties.Do children remember how to test the physical properties of the materials? Do children use the equipment correctly? Do children group the materials into names/ properties using the symbols?Plenary – Look at photos of ourselves exploring the materials. Point out who and what the material is.  | **Lesson 11 - Know it****Sort materials by type or physical property when prompted.**Engage with a range of materials previously looked at while naming the type/ physical properties of the material. Use symbols to support sorting. Can children sort them into groups when prompted?Plenary – Look at photos of ourselves sorting the materials.  |

Take the objectives for the LO stickers from this section

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| Substantive Knowledge (Content) | Disciplinary Knowledge (Skills)  |
| 1. **EYFS –**
* Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class.
* Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.

**Key Stage One -** * describe the simple physical properties of a variety of everyday materials;
* compare and group together a variety of everyday materials on the basis of their simple physical properties.
* carry out simple practical tests, using simple equipment;
* experience different types of scientific enquiries, including practical activities
* observe the natural and humanly constructed world around them;
* use simple features to compare objects, materials and living things;
* decide how to sort and classify objects into simple groups with some help;
 | EYFS – * **Explore changing materials by squashing, twisting, bending etc and pay attention to the results**
* **Sort materials using simple criteria and communicate observations of materials in terms of these properties.**
* **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.**
* **Explore and respond to different natural phenomena in their setting and on trips.**
* **Realise that their actions have an effect on the world, so they want to keep repeating them.**
* **Repeat actions that have an effect.**
* **Plan and think ahead about how they will explore or play with objects.**
* **Make more links between those ideas.**

Key Stage One – * **Observe closely, using simple equipment.**
* **Perform simple tests.**
* **Identify and classify.**
* **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.**
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**Progression of Learning**

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| ‘Link It’  | ‘Learn It’ | ‘Check It’  | ‘Show It’ | ‘Know It’ |
| Previous learning of pupils Exploring familiar materials. | Activities provided during lesson Learn to hold, touch, feel, and look at closely different materials.Be exposed to new vocabulary with symbols.Naming materials and physical properties.Learn to sort materials into different groups. | Independent activities linked to lesson Practice exploring different materials and sorting them into groups based on type of material or physical properties. | How will the pupils share knowledge during or end of lessonUse previous knowledge to explore a range of materials independently with opportunities to test the physical properties. | Retrieve or generalization of learning after lesson Sort materials by grouping them and matching them to the symbol (type/ physical property). |