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| **Year Group - 5 & 6** | | **Date – Term Three** | |
| **Curriculum Links** | Sc5/1.1    planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary  Sc5/3.1a    compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets  Sc5/3.1d    give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic | | |
| **Session Procedures** | **Before** - Check for rubbish, glass, hazards. Check weather forecast  **During –** Keep vigilant regarding broken branches, slippery ground  Wear Hi-Viz jacket. Road safety to get to the park  **After** – clear everything away and return any natural objects to their original place  **Wash hands** | * Wash hands after touching outside objects * Remind the children about how sharp some sticks can be and to be careful of brambles and stinging nettles. * Remind children to be careful not to let the sticks fly out of their hands and go in someone else’s eye. * Gloves must be worn for both litter picking and gardening * The school grounds are our classroom and must be treated with respect. | **Equipment**  Material pieces – plastic, paper, wood, tissue, metal.  Sticks, toys |
| **Introduction and Activity Opportunities** | **Indoors – materials clips if appropriate** [**https://www.bbc.co.uk/education/clips/z97jmp3**](https://www.bbc.co.uk/education/clips/z97jmp3)  **Starter activity – Look around you – what materials can you spot? Are they solid, liquid or gas? Which materials make the best waterproof cover**?   * As a quick starter as the children to carry out simple test on cotton, foil, paper and plastic using the cups, elastic bands, pipets and water before continuing to use the material for their roof (see <http://bpes.bp.com/primary-resources/science/ages-4-to-7/uses-of-everyday-materials/introducing-materials/#article1752>) * The focus would be purely on the teams’ ability to work cooperatively and create a fair test (same amount of water and size of material). Notes should be taken and results shared verbally.   **Main activity – 1. Build a shelter to protect the cuddly from the weather**   * The shelter must keep the toy dry and warm. * Which material do you think will keep the toy warmest and driest? * The structure of the shelter will need to be built using natural objects found in the woodland. * **2. Your own shelter to protect you and to practise your reef knot and clove hitch.** * Recap reef knot and reintroduce clove hitches. * Recap the Survival Rule of Three – you can survive 3 minutes without air; 3 hours without shelter; 3 days without water; and 3 weeks without food. * Build a shelter for your team which will keep you dry and out of the wind in 20 minutes. The team must communicate, cooperate and be inclusive of one another. | **Vocabulary**  Thermal insulator  Water cycle  Solid  Liquid  Gas  Properties |
| **Plenary** | * When building a house what do engineers and architects have to think about regarding materials? – strength, flexibility, rigidity, thermal qualities, waterproof, breathable…. |



