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| **Year Group - 3, 4 & 5**  **What happens to water at different temperatures?**  **Can we separate the materials from the solution?** | | **Date – Term Three** | |
| **Curriculum Links** | Sc4/1.2    setting up simple practical enquiries, comparative and fair tests  Sc4/1.3    making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers  Sc4/1.4    gathering, recording, classifying and presenting data in a variety of ways to help in answering questions  Sc4/3.1a    compare and group materials together, according to whether they are solids, liquids or gases  Sc4/3.1b    observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C)  Sc4/3.1c    identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.  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. Make sure that the fire circle and area are safe for the cooking.  **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. * Gloves must be worn for both litter picking and gardening * The school grounds are our classroom and must be treated with respect. | **Equipment**  Fire Equipment  Hazel sticks, water, hot chocolate  Water containers, sieves, filter paper, sand, sugar, chalk, gravel, soil, vinegar, bicarbonate of soda, |
| **Introduction and Activity Opportunities** | **Main activity –** Make predictions as to what you think will happen.  **What happens to water when we cool/heat it?**  At the fire explore what happens to the ice cubes as they are heated, then the water as it gets even hotter. Using the boiled water show how the water then condenses as it hits a cold surface. Use the hot water for hot chocolate.  **Which materials can be separated from the water?**  Which materials can you remove from the solutions? Will you use the sieve or the filter paper first? How else might you remove the solid from the solution? (salt) | **Vocabulary**  Materials  Measure  Temperature  Reversible  Dissolve  Soluble  Separate  sieve |
| **Plenary** | All of the activities that we carried out today are science experiments – how is this information important in the everyday? |

