

Learning Journey	Science	Specific Properties and changes of materials	Year 5 Autumn 1	
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Building on prior learning	Theme overview	Preparing for future learning	Vocabulary
<p>In Y3 children will have learned about how to separate different mixtures of materials including solids and liquids. They will have investigated dissolving</p> <p>In Y4 children will have learned more about the properties of solids, liquids and gases and how/when they change state.</p>	<p>When materials are heated or mixed with other materials they sometimes can be made to turn into new materials.</p>	<p>Children will learn more about materials at a molecular level in KS3</p>	<p>Substance</p> <ul style="list-style-type: none"> • Air, gas, oxygen. • Weight, mass, heavy, light, balance. • Bubbles fizz. • Change, reversible and irreversible. • Evaporate and condense, freeze and melt. • Mixture, dissolve, solution, soluble, insoluble and separate <p>Solid , liquid, gas.</p>

NC coverage and HWJS skills development	Knowledge organisers	
<p>National curriculum coverage</p> <ul style="list-style-type: none"> • 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 • know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution • use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating • give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic 	<ul style="list-style-type: none"> • It is possible to change materials into completely different ones. This is very important because new substances might have different properties to materials we currently have. For example plastics can be moulded into intricate shapes, are waterproof, strong and electrical insulators. • When materials are heated or mixed with other materials they sometimes can be made to turn into new materials. • Key to this is how would we know if it was a new material or the same material mixed differently? • Indicators that something new has been made are that the properties of the material are different 	

<ul style="list-style-type: none">• demonstrate that dissolving, mixing and changes of state are reversible changes• explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda <p style="text-align: center;"><u>HWJS skills development</u></p> <p>Details of the skills that will be taught within the unit. These should match up with the skills progression documentation</p> <ul style="list-style-type: none">• Recognise that conclusions may be uncertain due to difficulties controlling and measuring variables accurately.• That measurement always introduces some error. Understand that repeating experiments helps to identify what the true value is and that data points far from the mean are likely to be inaccurate and should be discounted.• Adapting experiments to produce more precise conclusions when the question requires it, especially when seeking to find maximum, minimum or specific values	<p>(colour, state, texture, hardness, smell, temperature)</p> <ul style="list-style-type: none">• If it is not possible to get the material back easily, it is likely that it is not there any more and something new has been made (irreversible change).	
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<u>Connections / deepening understanding</u> How is the understanding of this area deepened in other areas of the curriculum? What links are there in the other subjects in the curriculum?	<u>RADE</u> Are the rights of the child relevant in this area of study - do they get referred to in the work?	<u>Assessment</u> By the end of the unit the children will be able to ... Details of the objectives that they will have covered within this unit of work	
English – Note making and report writing Geography – volcanoes, weather (water changing in the water cycle).		<ol style="list-style-type: none"> 1. Compare and group materials based on their properties 2. Understand the process of dissolving, evaporating and sieving. 3. Understand changes of state 	
Assessment recording for the unit - checking the level of pitch of the work			
<u>Key skill(s)/ knowledge to be assessed by the end of the unit</u>	<u>Lower attaining</u>	<u>Middle attaining</u>	<u>Higher attaining</u>
Details of the key knowledge that the children will have at the end of the unit: <ul style="list-style-type: none"> •It is possible to change materials into completely different ones. •When materials are heated or mixed with other materials they sometimes can be made to turn into new materials. •The properties of the material are different (colour, state, texture, hardness, smell, temperature) •Sometimes it is not possible to get the material back easily it is likely that it is not there any more and something new has been made (irreversible change) 	Description of level of knowledge that a child who at this stage: Materials, like water, can completely change and exist as solid, liquid or gas. Some materials will change when heated or mixed. Some materials mix and dissolve. Others don't Sometimes new materials can be made.	Description of level of knowledge that a child who at this stage: Materials, like water, can completely change and exist as solid, liquid or gas. This is also true of other materials Some materials will change when heated or mixed. This can sometimes be reversed but not always Some materials mix and dissolve. Others don't. Can describe what happens to the dissolved material. Sometimes new materials can be made these are often irreversible.	Description of level of knowledge that a child who at this stage: Materials, like water, can completely change and exist as solid, liquid or gas. This is also true of all materials but some need to be incredibly hot or cold to exist in another state Some materials will change when heated or mixed. This can sometimes be reversed but not always. Can discuss and explain why heating some foods is irreversible. Some materials mix and dissolve. Others don't. Can describe what happens to the dissolved material. Can explain that dissolving can be reversed by evaporation..

NB: The assessments are completed for two reasons – to enable the class teacher and in turn the subject leader to evaluate the pitch of the learning within the unit in order to consider any necessary updates and for the class teacher to report to parents on the attainment of pupils in the end of year reports