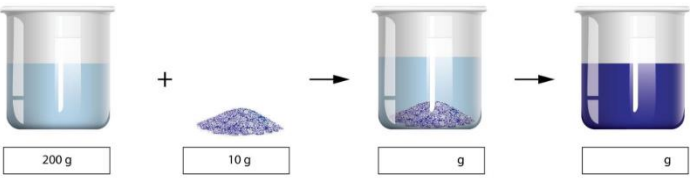
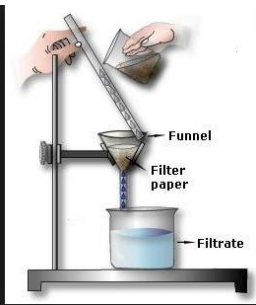
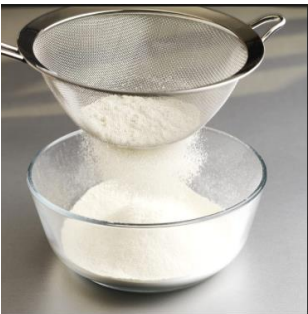
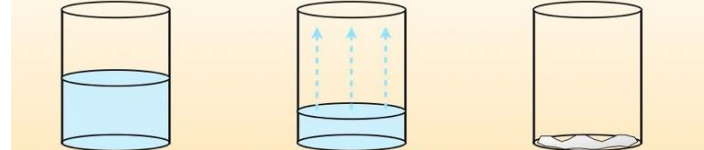


## Properties and Changes of Materials

**Prior Learning:** Things are manufactured using materials. The materials are chosen for their properties

**P.O.S –** Properties and changes of materials

Concept – Physics - energy transfer, forces

Facts	Vocabulary
<p>1. Materials can be grouped based on their properties:</p> <ul style="list-style-type: none"> <li>a) Hardness</li> <li>b) Solubility</li> <li>c) Transparency</li> <li>d) Conductivity (thermal and electrical)</li> <li>e) Response to magnets</li> </ul>	<p>1. Change - changer (verb), from late Latin cambiare, from Latin cambire 'barter'</p>
<p>2. Definition of a solution;</p> <ul style="list-style-type: none"> <li>a) a liquid mixture in which the minor component (the solute) is uniformly distributed within the major component (the solvent).</li> <li>b) If a material does not dissolve it is insoluble. If it does, it is soluble.</li> </ul>	<p>Materials dissolve into a liquid:</p> 
<p>3. Dissolving:</p> <ul style="list-style-type: none"> <li>a) When a solid dissolves, the solid (solute) and the liquid (solvent) form a very close intimate mixture called a solution.</li> <li>b) This means that the atoms of the dissolved substance are between the molecules of the liquid and cannot be separated by filtration.</li> <li>c) If you pour a solution of salt and water through filter paper, both the water and the salt will pass through the paper</li> </ul>	 
<p>4. How to recover a substance from a solution:</p> <ul style="list-style-type: none"> <li>a) Sieving or filtering - a way to separate two solids of different sizes (e.g. flour and raisins).</li> <li>b) Settling overnight</li> <li>c) Evaporation - A solid dissolved in a liquid (solution) can be heated. Liquid evaporates and leaves behind the solid</li> </ul>	 <p style="text-align: center;"><b>Evaporation</b></p> <p>Sugar dissolves in the water making a sugar solution. You cannot see the sugar but it is still there in tiny particles.</p> <p>The water evaporates. This means that it becomes water vapour. The process will be quicker if the water is heated.</p> <p>Once all the water has evaporated, the sugar is left at the bottom of the beaker. This is because sugar cannot evaporate.</p>
<ul style="list-style-type: none"> <li>d) Dissolving, mixing and changes of state are reversible changes.</li> <li>e) Some changes result in the formation of new materials, this kind of change is not usually reversible. For example: <ul style="list-style-type: none"> <li>a) Burning</li> <li>b) Action of acid on bicarbonate of soda</li> </ul> </li> </ul>	
<p>Websites:</p> <p><a href="https://www.bbc.com/bitesize/topics/zcvv4wx">https://www.bbc.com/bitesize/topics/zcvv4wx</a></p> <p><a href="https://littlebinsforlittlehands.com/balloon-baking-soda-vinegar-experiment-kids/">https://littlebinsforlittlehands.com/balloon-baking-soda-vinegar-experiment-kids/</a></p>	