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| **F:\Learning bugs\Foundation Subjects\Dolly the Fly - Science.jpgLyng Primary School Knowledge Organiser** | | | |
| **Topic:** | Mixtures and separating: What makes a mixture and how do you separate them? | Year 5 | Autumn 1 |



**What should I already know?**

To know that property refers to how a material can be described.

To describe the physical properties of a variety of everyday materials.

To know why objects are made from particular materials and to give examples of their suitability.

To know that a property of a solid is that it keeps its shape unless a force is applied to it.

To know that a property of a liquid can flow freely and take on the shape of a container.

To know that a property of a gas does not have a fixed shape and can escape from an unsealed container.

**Notable scientists**



Robert Boyle

1627–1691

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| **What Step On and Goldilocks words will I use?** | |
| **Spelling** | **Definition** |
| Variable | A factor that can be changed |
| Dissolve | Become incorporated into the liquid to form a solution |
| Evaporation | Process of turning from a liquid to a vapour |
| Insoluble | Incapable of being dissolved |
| Particle | Smallest amount |
| Sieving | Filter out larger parts of material |
| Solution | A liquid mixture in which substances have dissolved |
| Crystallising | To form a crystal |
| Filtering | Pass through a device to remove unwanted material |
| Soluble | Able to dissolve in liquid |
| Mixture | A substance made by mixing other substances together |

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| **Investigate!** |
| * Make 5 different mixtures: * containing two solid substances * containing three different coloured substances * containing three substances that are the same colour * containing a liquid and a solid * containing a magnetic material and another solid substance. * Separate mixtures by sieving * Separate mixtures by filtering * Mix to make solutions * Carry out a comparative test to investigate dissolving sugar. * Evaporation over time – salt in lids. * Observe and describe the size of the pieces which pass through or are trapped. * Line them up from smallest to largest * Draw and annotate their own diagram (in their books) that explains how each separation can be used to separate mixtures of solids with different sized particles. |

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**What will I know by the end of the unit?**

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| What are **mixtures**? | They are made up of two or more substances.  They all have the properties of their component substances.  They can all be separated. |
| What is **sieving**? | It is the physical process of particle removal.  Particles cannot pass through holes that are smaller than themselves.  Holes are usually visible to the naked eye |
| What is **filtering**? | The physical process of particle removal.  Particles cannot pass through holes that are smaller than themselves.  Holes are very small and stop very small particles from passing through. |
| What are **solutions**? | A mixture of two or more substances that stays evenly mixed.  The substances are combined to make a solution but they do not change into new substances. |
| What is **dissolving**? | Some substances dissolve when mixed with liquids.  It may look like it has disappeared but it’s mixed and appears translucent |
| What is **evaporation**? | The process of a liquid turning into a gas.  Due to increased energy of particles.  It is due to a liquid being heated. |

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| **F:\Learning bugs\Foundation Subjects\Dolly the Fly - Science.jpgLyng Primary School Knowledge Organiser** | | | |
| **Topic:** | **Science** | Year 5  *Forces* | Autumn 1 |

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| 1. Which substance is not a mixture? | **S** | | **E** |
| 1. Salt |  |  | |
| 1. Sand |  |  | |
| 1. Soil |  |  | |
| 1. Seawater |  |  | |

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| 4. which of these substances dissolves to make seawater? | **S** | **E** |
| 1. Sand |  |  |
| 1. Flour |  |  |
| 1. Salt |  |  |
| 1. Sugar |  |  |

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| Explain how the process of sieving works | **S** | **E** |
| Use the words below to help you.    Solid-solid (different size particles)  Holes  Pass through  Largest to smallest  separate |  |  |
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| 2. Which method is best to separate flour and water? | **S** | **E** |
| 1. Sieving |  |  |
| 1. Magnetism |  |  |
| 1. Filtering |  |  |
| 1. Evaporation |  |  |

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| 3. What type of mixture does sieving separate? | **S** | **E** |
| 1. Liquid and liquid |  |  |
| 1. Solid and solid (different size particles) |  |  |
| 1. Solid and solid (same size particles) |  |  |
| 1. A solution |  |  |

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| 4. What process has to happen for a solution to be made? | **S** | **E** |
| 1. Evaporation |  |  |
| 1. Dissolving |  |  |
| 1. Crystallisation |  |  |
| 1. Stirring |  |  |