

Name:	Class:	Date given:
		Date due in:

# Mixtures (Pure and Impure Substances)

1. Match the keyword with the correct definition. [3]

pure substance	use two or more different elements not joined
mixture	only one type of element or compound
compound	made up of only one type of atom
element	two or more different atoms chemically joined

2. Complete the paragraph by writing the words from the box into the correct spaces. [6]

solute	soluble	solution	saturated	solvent	insoluble
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When salt is stirred into water, it dissolves. The salt is a \_\_\_\_\_ which mixes with the water, a \_\_\_\_\_, and forms a new \_\_\_\_\_. The salt can dissolve so we say it is \_\_\_\_\_. Pepper would not dissolve so it is \_\_\_\_\_. When a solution cannot dissolve any more solute we say it is \_\_\_\_\_.

3. Susan added an unknown amount of sugar to 100g of water. Describe a method to explain how she could find the mass of the sugar she added. [4]

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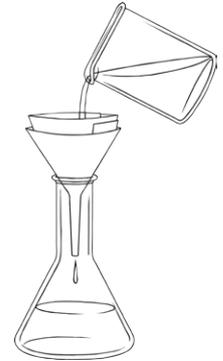
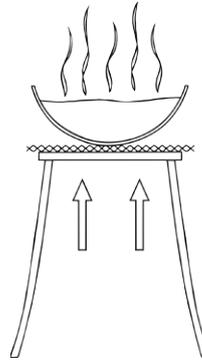
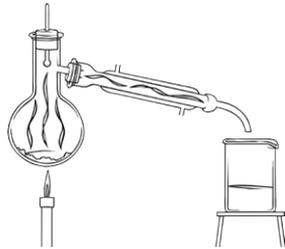
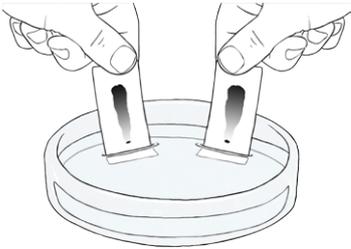
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4. Tick the correct definition of diffusion. [1]

- movement of particles from an area of low concentration to an area of high concentration, until equilibrium.
- movement of particles from an area of high concentration to an area of low concentration, until equilibrium.
- movement of particles from an area of low concentration to an area of high concentration, until disappeared.
- movement of particles from an area of high concentration to an area of low concentration, until disappeared.

5. Label each of the separation techniques pictured below. [4]







6. What characteristic of a substance can be used to help check its purity? [1]

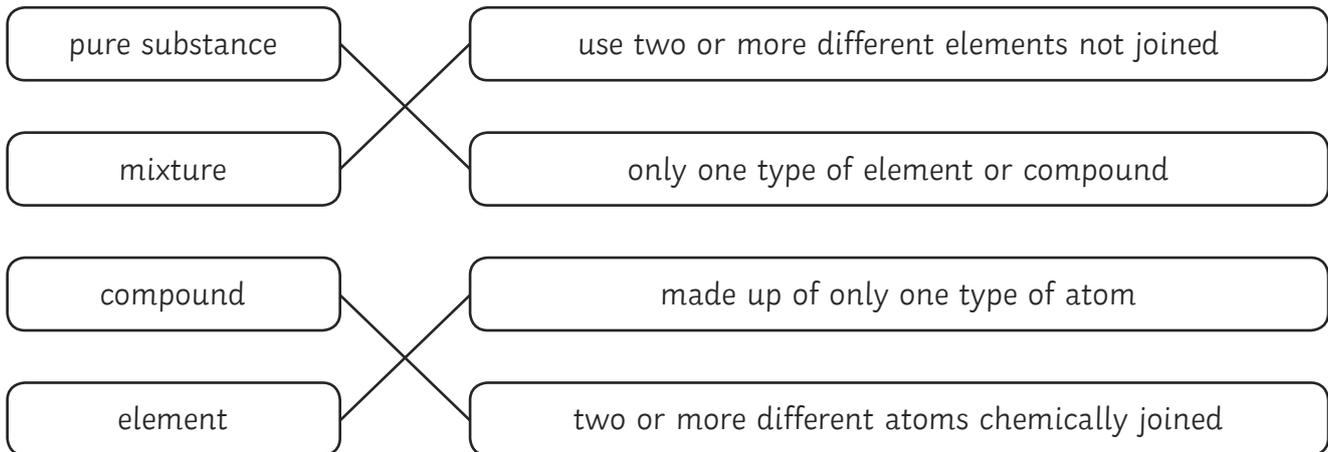
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**Learning Outcomes** (tick if achieved)

Q1	I know what mixtures are	
Q2	I can describe dissolving	
Q3	I can apply knowledge of conservation of mass and separation methods	
Q4	I can define diffusion	
Q5	I can recall and identify separation techniques	
Q6	I know how to identify a pure substance	

# Mixtures (Pure and Impure Substances) Answers

1. Match the keyword with the correct definition. [3]



2. Complete the paragraph by writing the words from the box into the correct spaces. [6]

solute      soluble      solution      saturated      solvent      insoluble

When salt is stirred into water, it dissolves. The salt is a **solute** which mixes with the water, a **solvent**, and forms a new **solution**. The salt can dissolve so we say it is **soluble**. Pepper would not dissolve so it is **insoluble**. When a solution cannot dissolve any more solute we say it is **saturated**.

3. Susan added an unknown amount of sugar to 100g of water. Describe a method to explain how she could find the mass of the sugar she added. [4]

**find total mass of solution using a balance**

**zero (calibrate) using an identical beaker (container)**

**conservation of mass**

**sum of reactants = products**

or

**heat solution**

**evaporate water (solvent)**

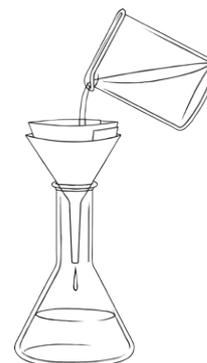
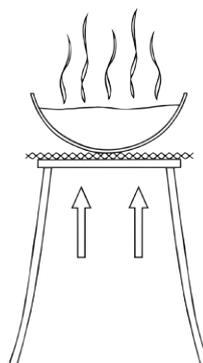
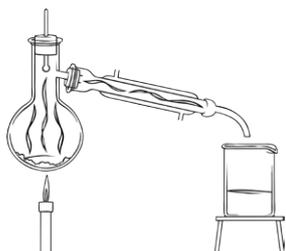
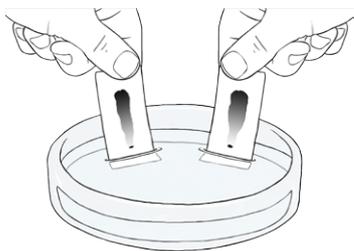
**salt crystals remain**

**measure mass on balance**

4. Tick the correct definition of diffusion. [1]

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- movement of particles from an area of low concentration to an area of high concentration, until disappeared.
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5. Label each of the separation techniques pictured below. [4]



**chromatography**

**distillation**

**evaporation**

**filtration**

6. What characteristic of a substance can be used to help check its purity? [1]

**use known melting / boiling points**