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|-------|--------|--------------|
| 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 |
|--------|---------|----------|-----------|---------|-----------|

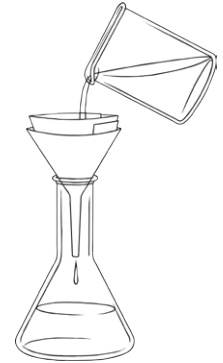
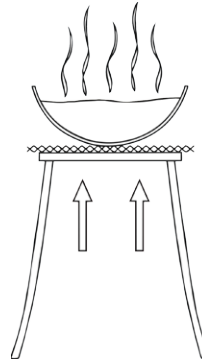
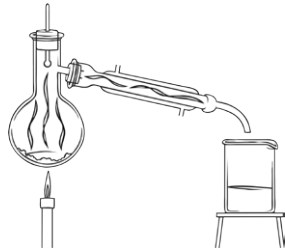
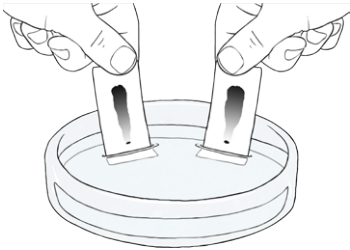
When salt is stirred into water, it dissolves. The salt is a _____ which mixes with the water, a _____, and forms a new _____. The salt can dissolve so we say it is _____. Pepper would not dissolve so it is _____. When a solution cannot dissolve any more solute we say it is _____.

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]

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]



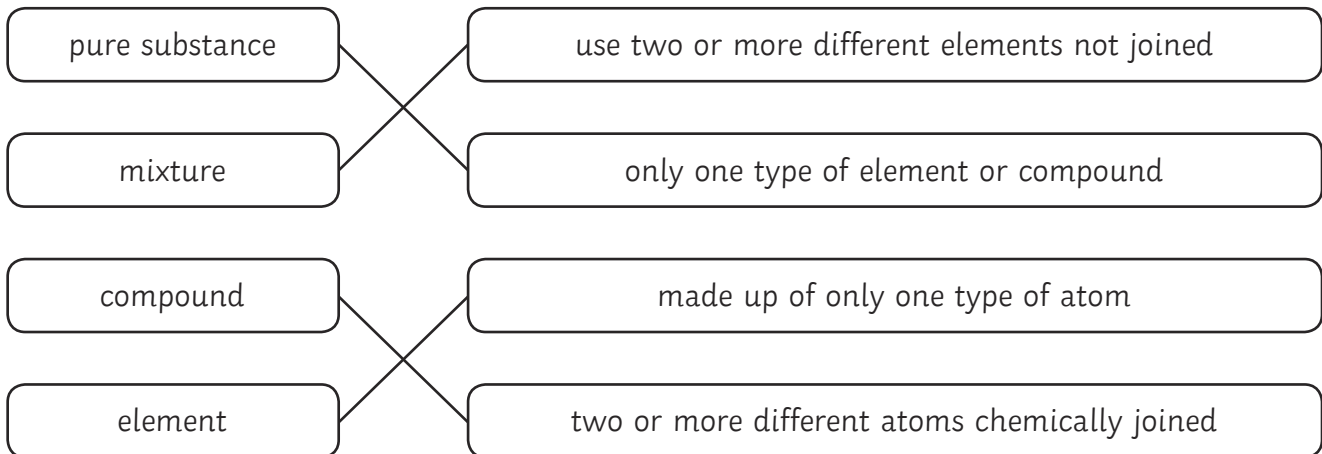
6. What characteristic of a substance can be used to help check its purity? [1]

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)

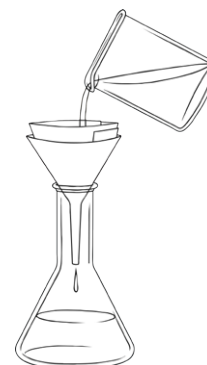
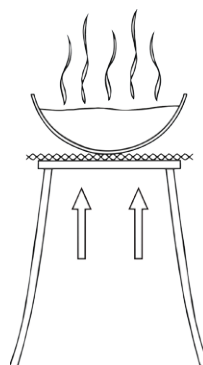
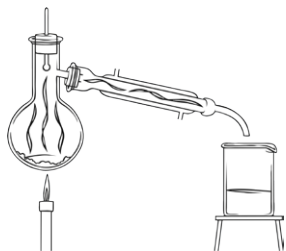
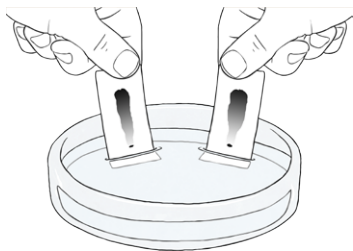
salt crystals remain

measure mass on balance

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

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



chromatography

distillation

evaporation

filtration

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

use known melting / boiling points