SC1a States of matter

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| Word | Pronunciation | Meaning |
| **atom** |  | The smallest neutral part of an element that can take part in chemical reactions. |
| **attractive forces** |  | The weak forces of attraction between molecules. |
| **boiling point** |  | The temperature at which a liquid boils. |
| **chemical properties** | **kem**-ik-al | How a substance reacts with other substances. |
| **melting point** |  | Temperature at which a substance changes from the solid state to the liquid state when heated; or from the liquid state to the solid state when cooled. |
| **molecule** |  | Particle consisting of two or more atoms joined together by covalent bonding. |
| **particle** | **part**-ick-al | A tiny piece of matter that everything is made out of. |
| **particle model** | **part**-ick-al | A theory to explain the different properties and observations of solids, liquids and gases. |
| **physical change** | **fi**-zi-kal | A change in which no new substances are formed – like changes of state. |
| **states of matter** |  | There are three different forms that a substance can have: solid, liquid or gas. These are the three states of matter. |

SC2a Mixtures

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| Word | Pronunciation | Meaning |
| **compound** |  | A substance that can be split into simpler substances, because it contains the atoms of two or more elements joined together. |
| **element** |  | A substance made up of only atoms with the same number of protons in the nucleus. |
| **impure** |  | A substance that is not pure. |
| **melting point** |  | A specific temperature at which a solid turns into a liquid. |
| **mixture** |  | Two or more substances jumbled together but not joined to each other. The substances in many mixtures can be separated from each other. |
| **physical property** | **fi**-zi-kal | A description of how a material behaves and responds to forces and energy. For example, hardness is a physical property. |
| **pure** |  | A single substance, with a fixed composition, that does not have anything else mixed with it. |

SC2b Filtration and crystallisation

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| Word | Pronunciation | Meaning |
| **crystallisation** |  | Separating the solute from a solution by evaporating the solvent. |
| **filtrate** |  | Solution passing through a filter. |
| **filtration** |  | Using a filter to separate insoluble substances from a liquid. |
| **hazard** |  | Something that could cause harm. |
| **insoluble** | in-**sol**-you-bul | Describes a substance that cannot be dissolved in a certain liquid. |
| **residue** |  | Material remaining in the filter after mixture has passed through it. |
| **risk** |  | The chance of a hazard causing harm. |
| **risk assessment** |  | Identification of the hazards of doing an experiment. |
| **saturated solution** |  | Contains the maximum amount of solute that can dissolve in that amount of solvent at that temperature. |
| **solute** |  | Substance that dissolves in a liquid to make a solution. |
| **solution** |  | Formed when a substance has dissolved in a liquid. |
| **solvent** |  | The liquid in which a solute dissolves to make a solution. |

SC2c Paper chromatography

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| Word | Pronunciation | Meaning |
| **chromatography** | krow-ma-**tog**-raff-ee | A technique for separating the components of a mixture – for example different food colouring agents. |
| **paper chromatography** | krow-ma-**tog**-raff-ee | Chromatography carried out by spotting drops of the samples onto paper, and then allowing a solvent to move up the paper. Different components in the samples travel up the paper in the solvent at different rates. |
| **stationary phase** | **stay**-shun-air-ee | The surface through which the solvent and dissolved substances move in chromatography. |
| **mobile phase** |  | In paper chromatography, the solvent that moves along the paper carrying the dissolved samples with it. |
| **chromatogram** | krow-**mat**-tog-ram | The piece of paper showing the results of carrying out chromatography on substances. |
| **Rf value** |  | The ratio of the distance travelled by the solute on a chromatogram (measured from the centre of the spot) to the distance travelled by the solvent under the same conditions. The values for different substances can be used to identify them. |

SC2d Distillation

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| Word | Pronunciation | Meaning |
| **condense** |  | When a gas turns into a liquid. |
| **distillation** | dis-till-**ay**-shun | The process of separating a liquid from a mixture by evaporating the liquid and then condensing it (so that it can be collected). |
| **evaporate** |  |  |
| **fractional distillation** | **frak**-shon-al dis-till-**ay**-shun | A method of separating a mixture of liquids with different boiling points into individual components (fractions). |
| **mixture** |  | Two or more substances jumbled together but not joined to each other. The substances in mixtures can often be separated from each other. |
| **still** |  | The apparatus used to carry out distillation or fractional distillation |

SC2e Drinking water

| Word | Pronunciation | Meaning |
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| **aquifer** | **ack**-wi-fer | Underground layer of rock containing groundwater, which can be extracted using a well or pump. |
| **chemical analysis** | **kem**-ik-al | Using chemical reactions or sensitive machines to identify and measure substances in a sample. |
| **chlorination** | klor-in-**ay**-shun | The process of adding chlorine to a substance, often to water. |
| **desalination** | dee-sal-in-**ay**-shun | Produces fresh drinking water by separating the water from the salts in salty water. |
| **precipitate** |  | Insoluble substance formed when two soluble substances react together. |
| **sedimentation** |  | The process in which rock grains and insoluble substances sink to the bottom of a liquid. |
| **simple distillation** | dis-till-**ay**-shun | The process of separating a liquid from a mixture by evaporating the liquid and then condensing it (so that it can be collected). |