**Chemistry Revision: Elements &**

Mastery Matrix Points

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| --- |
| Describe and draw a model of the three states of matter |
| Use the particle model to explain melting, boiling, freezing and condensing |
| Identify a substance’s state using its melting and boiling point |
| Classify a substance as an element or compound |
| Identify the symbol for the first 20 elements |
| Name common compounds from their formula |

Key Knowledge

Definitions:

Element -

Compound –

Melting –

Boiling –

Freezing –

Condensing –

How many elements are in the periodic table? About \_\_\_\_.

Particle model – the atoms are represented as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

|  |  |  |
| --- | --- | --- |
| Solid | Liquid | Gas |
|  |  |  |

The stronger the forces between particles the \_\_\_\_\_\_\_\_\_\_ the melting and boiling point, so the \_\_\_\_\_\_ energy is needed to break the bonds between particles.

|  |  |
| --- | --- |
| *Temperature* | *Solid, liquid or gas?* |
| Lower than its melting point |  |
| Between the melting and boiling point |  |
| Higher than its boiling point |  |

**Compounds**

Understanding and Explaining

1. Describe how the movement and rearrangement of particles changes during
	1. Melting
	2. Boiling
	3. Freezing
	4. Condensing
2. Use the table to answer these questions.
	1. What state would each of the elements be at room temperature (25°C)?
	2. Which elements would be a gas at 2000°C?
3. The particle model is the simplification that all particles are small, solid spheres. This model is useful for explaining changes of state. Describe the limitations (drawbacks) of this model.
4. Are these elements or compounds?
	1. Sodium chloride
	2. Oxygen gas
	3. KI
	4. Co
	5. CO
5. Write the symbols for these elements.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Hydrogen |  | Carbon |  | Sodium |  | Sulfur |  |
| Helium |  | Nitrogen |  | Magnesium |  | Chlorine |  |
| Lithium |  | Oxygen |  | Aluminium |  | Argon |  |
| Beryllium |  | Fluorine |  | Silicon |  | Potassium |  |
| Boron |  | Neon |  | Phosphorus |  | Calcium |  |

1. Name these compounds.

|  |  |  |
| --- | --- | --- |
| 1. LiO | 6. CuCl2 | 11. HCl |
| 2. AlCl3 | 7. H2O | 12. CaBr |
| 3. MgCl2 | 8. H2SO4 | 13. K2O |
| 4. FeS | 9. KNO3 | 14. Al2O3 |
| 5. NaCl | 10. LiOH | 15. CO2 |