Lesson 1 –

Key points to learn:

- All matter is made up of atoms.
- Atoms are tiny particles that are so small they cannot be seen directly.
- Each element is a substance containing one particular type of atom.
- Different elements have different properties.

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Lesson 2 –

Key points to learn:

- Each element has its own name and symbol.
- The first letter in the symbol of an element is always a capital letter and the second is lower case.
- An element's name and symbol are derived from a variety of sources eg countries or scientists.

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Lesson 3 –

Key points to learn:

- The Periodic Table lists all the elements.
- The 100 or so elements that exist are found on the Periodic Table of the Elements.
- The work of many scientists including Mendeleev helped to develop the Periodic Table.

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Lesson 4 –

Key points to learn:

- The elements in the Periodic Table are arranged into groups (columns) and periods (rows).
- The elements in the Periodic table are divided into metals (left) and non-metals (right).
- Metals are good conductors of heat and electricity. They have high melting points and are malleable and ductile.
- Non metals are poor conductors of heat and electricity. They have low melting and boiling points and are brittle.

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Lesson 5 –

Key points to learn:

- Elements in the same group of the periodic table have similar properties.
- Group 1 elements are called the alkali metals.
- The alkali metals have the same properties as all metals, but they are soft, have low melting points and are very reactive.
- The reactivity of the alkali metals increases as you go down the group.
- The reactivity of the group 2 metals also increase as you go down the group.

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Lesson 6 –

Key points to learn:

- Elements in the same group of the periodic table have similar properties.
- Group 7 elements are called the halogens.
- The halogens are reactive non metals.
- The reactivity of the halogens decreases as you go down the group.
- Group 0 elements are called the noble gases.
- The noble gases are very unreactive

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Lesson 7 –

Key points to learn:

- Compounds contain two or more different elements joined or chemically bonded together.
- An element is made of one type of atom.
- Compounds have a chemical formula that tells you the type and number of each type of atom in it.

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Lesson 8 –

Key points to learn:

- When two different elements combine the ending of the name of the compound is **–ide**.
- When three or more different elements combine (and one of them is oxygen) the ending of the name of the compound is **–ate**.
- A molecule is formed when a small number of atoms join together. They can be elements (if the atoms are the same) or compounds (if the atoms are different).

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Lesson 9 –

Key points to learn:

- Physical changes are easily reversed.
- Chemical changes are usually irreversible.
- Chemical changes can be recognised by colour changes, gases being given off, energy changes or the formation of precipitates (solids).
- Word equations are used to represent chemical reactions when reactants form products.

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Lesson 10 –

Key points to learn:

- In a chemical reactions the number of atoms in the reactants is the same as the number of atoms in the products.
- In a chemical reaction atoms are rearranged.
- Metal carbonates thermally decompose on heating to form metal oxides and carbon dioxide.

Metal Carbonate → Metal Oxide + Carbon Dioxide

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Lesson 11 –

Key points to learn:

- Chemical reactions involve energy changes and often sound, light or heat are given out.
- Chemical reactions that give out heat are called exothermic.
- Chemical reactions that take in heat are called endothermic.

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Lesson 12: Atoms and Elements Badger assessment

Key points to learn:

- All key points from previous lessons apply

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