Fireworks Learning Outcomes

By the end of this unit you should know:

Lesson **1-2**		**1. All substances are made of atoms.** **2. An atom consists of a nucleus containing positively charged protons and neutral neutrons, surrounded by negatively charged electrons.** **3. The atomic number of an atom tells us how many protons it has in its nucleus.** **4. Protons and neutrons have a mass of 1amu.** **5. Electrons have negligible mass.** **6. Protons and neutrons make up the mass number of the atom.**
3-5		**7. The elements can be arranged and classified on the Periodic Table (metal, non metal/ solid, liquid, gas).** **8. Elements contain only one type of atom.** **9. The columns of elements are called groups.** **10. The common names of the main groups are:-** **Group 1 Alkali metals, Group 7 Halogens,** **Group 0 Noble gases, Transition metals** **11. The rows of elements are called periods.**
6-8		**12. Compounds contain 2 or more different types of atom joined by a chemical bond.** **13. Compounds containing only 2 elements end with –ide.**

		14. Compounds containing only 3 elements, one of which is oxygen, end with –ate. 15. The chemical formula of a compound tells us the numbers of each type of atom present, e.g. H_2O has twice as many hydrogen atoms as oxygen atoms.
9-10		16. Electrolysis breaks down compounds into elements using DC electricity.
11		17. A change where no new substance is made is a physical change. 18. A change which makes a new substance is a chemical change (reaction). 19. Certain signs indicate when a chemical reaction takes place; energy change, colour change, gas released (bubbles) or solid produced (goes cloudy).
12-13		20. Burning is a chemical reaction - also called combustion. 21. Combustion is the reaction between a fuel and oxygen producing energy. 22. When a fuel containing carbon and hydrogen burns in air it makes carbon dioxide and water. 23. Exothermic reactions give out heat (energy). 24. Carbon dioxide turns limewater cloudy. 25. Water turns blue cobalt chloride paper pink.