Qualification Unit

This unit forms part of a regulated qualification.

Unit Title: Chemical Analysis

Unit Reference Number: F/618/3221

Level: Level Two

Credit Value: Six (6)

Minimum Guided Learning Hours: 48

Learning Outcome (The Learner will):	Assessment Criterion (The Learner can):
1. Know about acids, alkalis and pH	1.1 Give an example of: a) Acid b) Alkali
	1.2 Give examples of reactions with acids and metals and carbonates
	1.3 Give the word equation and name products for acid reactions with: a) Metals b) Carbonates c) Hydroxides
	1.4 Be able to identify metals and acids used in a reaction by the name of the salt
	1.5 Explain metal and acid reactions in terms of redox
	1.6 Give a simple definition for pH and relate strong/weak acids to level of ionisation
	1.7 Use universal indicator to find the pH of a substance
	1.8 Outline how to neutralise acids and alkalis including the word equation naming the salt produced

2.	Know the reagents and techniques used to analyse a variety of chemical compounds.	2.1	Define what is meant by organic and inorganic chemistry
		2.2	Carry out a risk assessment.
		2.3	Carry out the following tests: a) Named Cations (Na, K, Li, Sr, Ca, Cu) using flame tests b) Water using anhydrous Copper Sulphate c) Gas tests to include H2, O2, CO2, NH3/HCl d) Halide tests using Silver Nitrate solution e) Metal carbonates using acids f) Sulphates using Barium Chloride solution
3.	Be able to detect different chemicals in unknown compounds	3.1	Apply techniques to detect different chemicals in unknown compounds
4.	Know about metal reactions	4.1	Describe these reactions with water or dilute acids: a) Potassium b) Sodium c) Lithium d) Calcium e) Magnesium f) Zinc, iron and copper
		4.2	Explain how the reactivity of metals with water or dilute acids is related to the tendency of the metal to form its positive ion
		4.3	Deduce an order of reactivity of metals based on experimental results
		4.4	Evaluate specific metal extraction processes