



ASSESSMENT and
QUALIFICATIONS
ALLIANCE

Mark scheme
March 2003

GCSE

Science (Modular) Single Award

Module 15

Materials and Reactions: Foundation Tier

Question	Key
One	1 – water vapour 2 – sulphur dioxide 3 – oxygen 4 – carbon dioxide
Two	1 – displacement 2 – oxidation 3 – neutralisation 4 – decomposition
Three	1 – the hydrocarbons are heated 2 – the hydrocarbons are in a vapour state 3 – thermal decomposition of hydrocarbons 4 – hydrocarbons with small molecules
Four	1 – S – iron ore, coke and limestone are put into the furnace 2 – R – coke burns to form carbon dioxide 3 – P – carbon dioxide reacts with coke to produce carbon monoxide 4 – Q – carbon monoxide reacts with iron oxide to produce iron
Five	1 – metal M 2 – metal N 3 – metal L 4 – metal K
Six	poly(propene) is a plastic used for making crates and ropes some small hydrocarbon molecules can be used to make plastic (polymers)
Seven	a non-rusting alloy of iron is stainless steel iron can be protected by connecting it to a more reactive metal
Eight	8.1 – D, 8.2 – A, 8.3 – B, 8.4 – C
Nine	9.1 – D, 9.2 – A, 9.3 – A, 9.4 – C
Ten	10.1 – C, 10.2 – A, 10.3 – D, 10.4 – A

Materials and Reactions: Higher Tier

Question	Key
One	1 – metal M 2 – metal N 3 – metal L 4 – metal K
Two	1 – carbon dioxide 2 – lead 3 – potassium nitrate 4 – calcium hydroxide
Three	a non-rusting alloy of iron is stainless steel iron can be protected by connecting it to a more reactive metal
Four	it is produced when polymers burn it is produced when unsaturated hydrocarbons burn
Five	5.1 – D, 5.2 – A, 5.3 – B, 5.4 – C
Six	6.1 – D, 6.2 – C, 6.3 – A, 6.4 – C
Seven	7.1 – C, 7.2 – A, 7.3 – D, 7.4 – A
Eight	8.1 – D, 8.2 – C, 8.3 – B, 8.4 – A
Nine	9.1 – C, 9.2 – B, 9.3 – A, 9.4 – C
Ten	10.1 – B, 10.2 – A, 10.3 – B, 10.4 – D