



ASSESSMENT and
QUALIFICATIONS
ALLIANCE

Mark scheme
March 2003

GCSE

Science (Modular) Single Award

Module 17

Energy and Electricity: Foundation Tier

Question	Key
One	1 – movement (kinetic energy) 2 – sound 3 – heat (thermal energy) 4 – light
Two	1 – lamp 2 – ammeter 3 – thermistor 4 – fuse
Three	1 – magnet 2 – field 3 – coil 4 – current
Four	1 – 2.75 2 – 8.25 3 – 108 4 – 2750
Five	1 – radiation is reflected onto the pipe 2 – water absorbs radiation 3 – steam drives a turbine 4 – a turbine turns a generator
Six	coal-fired oil-fired
Seven	K – the reading on ammeter A_3 is greater than that on A_2 N – the reading on ammeter A_1 is the sum of the reading on A_2 and A_3
Eight	8.1 – C, 8.2 – A, 8.3 – B, 8.4 – D
Nine	9.1 – D, 9.2 – D, 9.3 – B, 9.4 – Circuit A
Ten	10.1 – B, 10.2 – D, 10.3 – D, 10.4 – D

Energy and Electricity: Higher Tier

Question	Key
One	1 – radiation is reflected onto the pipe 2 – water absorbs radiation 3 – steam drives a turbine 4 – a turbine turns a generator
Two	1 – gravitational potential energy 2 – weight 3 – kinetic energy 4 – thermal energy
Three	K – the reading on ammeter A_3 is greater than that on A_2 N – the reading on ammeter A_1 is the sum of the reading on A_2 and A_3
Four	gas particles move faster when the gas is heated warm regions of gas are less dense than cooler regions
Five	5.1 – C, 5.2 – A, 5.3 – B, 5.4 – D
Six	6.1 – D, 6.2 – D, 6.3 – B, 6.4 – Circuit A
Seven	7.1 – B, 7.2 – D, 7.3 – D, 7.4 – D
Eight	8.1 – D, 8.2 – C, 8.3 – B, 8.4 – D
Nine	9.1 – A, 9.2 – A, 9.3 – A, 9.4 – A
Ten	10.1 – D, 10.2 – B, 10.3 – C, 10.4 – A