Contents

How to use this book	V	Unit 3 Data handling	23
		Diagnostic test	24
Unit I Observation and		Background information	25
measurement in Physical Sciences	1	The Scientific Method	25
Diagnostic test	2	Graphs	26
Background information	3	Skills	29
Means of measurement	3	Identifying variables	29
Units of measurement in the Systeme		Identifying relationships between variables	30
Internationale (SI)	4	Representing data	32
Multiples and sub-multiples in the SI	4	Interpreting straight-line graphs	33
Skills	6	Interpreting curved-line graphs	35
Observation	6	Practice questions	36
Measurement: use of scales on instrument	s 7		
Converting base units	7	Unit 4 Kinetic theory, elements	
Converting units other than base units	9	and compounds	39
Converting square units	9	Kinetic theory: Revision	39
Converting cubic units	10	Diagnostic test	40
Practice questions	11	Background information	40
		Gases	40
Unit 2 Mathematics in Physical		Liquids	41
Sciences	13	Solids	41
Diagnostic test	14	Phase changes (changes of state)	41
Background information	15	Practice questions	43
Using symbols for physical quantities	15	Elements and compounds: Revision	44
Skills	16	Diagnostic test	45
Writing formulae	16	Background information	45
Changing the subject of a formula	17	The Periodic Table	45
Changing the subject of a formula with		Elements	46
squares or higher degrees	18	Compounds	48
Substituting into formulae	19	Mixtures	49
Substituting into formulae in which the		Practice Questions	49
subject still needs to be changed	20		
Practice questions	21	Unit 5 Writing chemical formulae	51
		Diagnostic test	52
		Background information	53
		Scientific names and formulae of	
		compounds	53

Scientific names of covalent compounds	54	Unit 8 Current electricity	81
Scientific names for ionic compounds	54	Diagnostic test	82
Skills	55	Background information	84
Naming of covalent compounds	55	Symbols, formulae and units used in	
Writing chemical formulae of covalent		circuit calculations	85
compounds	55	The use of symbols in electric circuits	85
Naming of ionic compounds	57	Direction of conventional current	86
Writing chemical formulae for ionic		Factors affecting resistance in a conductor	r 86
compounds	58	Skills	87
Naming ionic compounds that contain		Understanding series and parallel	
polyatomic ions	59	connections	87
Writing chemical formulae of		Drawing circuit diagrams	89
ionic compounds that contain		Calculating potential difference (p.d.)	91
polyatomic ions	60	Calculating current strength	92
Practice questions	62	Calculating resistance	93
		Understanding resistors in series	94
Unit 6 Writing chemical		Understanding resistors in parallel	96
equations	63	Practice questions	98
Diagnostic test	64		
Background information	64	Unit 9 Mechanics	101
Skills	65	Diagnostic test	102
Writing chemical equations in words	65	Background information	103
Writing chemical equations in symbols		Motion	103
and formulae (unbalanced)	65	Mass	103
Balancing of formula equations	66	Energy	104
Practice questions	69	Time	105
		Skills	105
Unit 7 Electrostatics	70	Calculating distance (x)	105
Diagnostic test	71	Calculating time elapsed	
Background information	72	(time interval, Δt)	106
How strongly materials attract electrons	74	Calculating speed (v)	107
Using an electroscope	75	Calculating weight (w)	109
Van de Graaff generator	75	Calculating forces (F)	110
Earthing of objects	76	Practice questions	112
Unit of electric charge	77		
Charging by friction (rubbing)	77	Datasheet	113
Charging by induction (nearness)	78	Complete Periodic Table	114
Sharing charge	78	Answers to Diagnostic tests and	
Practice questions	79	Practice questions	115