Contents

3.7 The American crayfish invasion

BIOLOGY Living things Man bile o asigm ladw 1.1 Cells 2 1.10 Specialised cells (core +) 20 1.2 Working together ___ 4 1.11 Organ systems (core +) 21 1.3 Life processes 6 1.12 Pregnancy and birth (core +) 22 1.4 Cycles of life ______8 1.13 The menstrual cycle (core +) 23 1.5 The start of pregnancy_ 1.14 Changing classifications (core +)_ 10 24 1.6 New plants ______12 1.15 Champion leeks (core +) 25 1.7 Classification ______14 1.8 Groups of animals _ 16 1.9 Variation Keeping fit and healthy 2.1 Illness and health _ 26 2.9 Self-defence (core +) 42 2.2 Some chemicals can damage your body_28 2.10 Smoking and health (core +) 43 2.3 Healthy eating302.4 Digesting your food322.5 Using your food34 2.11 Vitamin tablets (core +) 2.12 More about enzymes (core +) 45 2.13 Born athletes (core +) 46 2.6 What happens when you exercise?_____36 2.14 How to get a good exchange rate (core +)_47 2.7 Keeping fit _______38 2.15 Capillaries in action (core +) 2.8 Take care when you exercise ______40 2.16 Different athletes for different events (core +)_ 49 Survival 3.1 Daily and seasonal change 50 3.8 Stay-at-homes and migrants (core +)_ 3.2 Photosynthesis: a scientific detective story_52 3.9 More discoveries about photosynthesis 3.3 Growing tomato plants without soil _____54 65 3.4 Feed the world 56 3.10 Growing enough food (core +)___ 66 3.5 Food in Biosphere 2 58 3.11 Plants and animals respire (core +)_ 67 3.6 Can great crested newts survive? 3.12 Problems of Biosphere 2 (core +) 60 68

62

3.13 Disappearing species (core +)

3.15 A problem with pesticides (core +)

3.14 Survival (core +)

69

70

71

CHEMISTRY

■ Matter		
1.1 Using everyday materials	72	1.9 What is density? (core +)88
1.2 Metals and non-metals		1.10 Density of gases (core +)89
1.3 Solids, liquids and gases		1.11 What makes a solid melt? (core +)90
1.4 Making models of matter	78	1.12 Why do liquids evaporate? (core +)91
1.5 Getting warmer, getting colder		1.13 Melting, boiling and temperature
1.6 Mixtures		(core +)92
1.7 Making pure white sugar		1.14 How does a gas fill its container? (core +)_93
1.8 Separating mixtures		1.15 How can you change gas pressure?
		(core +)94
		1.16 Why do solids expand when they are
		heated? (core +)95
Chaminal reactions		
Chemical reactions		110
2.1 Two sorts of change	96	2.9 Different kinds of mixtures (core +)112
2.2 Chemical reactions	98	2.10 More about compounds and mixtures
2.3 Elements and atoms		(core +)113
2.4 Compounds	102	2.11 Simple chemical formulas (core +)114
2.5 Elements reacting with oxygen		2.12 More complicated chemical formulas
2.6 Metals reacting with acids	106	(core +)115
2.7 Displacement reactions		2.13 Energy changes in chemical reactions
2.8 Carrying out tests	110	(core +)116
		2.14 More about the reactivity series (core +) $_{-}$ 117
		2.15 Physical change and mass (core +) 118
		2.16 Chemical change and mass (core +)119
Earth science		
3.1 Different kinds of rocks		3.9 More about the rock cycle (core +)136
3.2 Heating up the rock cycle	122	3.10 Smelting metals (core +)138
3.3 Getting metals out of rocks	124	3.11 More about salts (core +)139
3.4 Corroding metals	126	3.12 Why are ice and water so strange?
3.5 Acids and alkalis		(core +)140
3.6 Acids in the soil	130	3.13 Why do rocks dissolve? (core +) 141
3.7 Weathering rocks	132	3.14 Carbon dioxide and the greenhouse effect
3.8 Looking after the environment	134	(core +)142
•		3.15 Waste and pollution (core +)143

PHYSICS

Light and sound				
1.1 The Sun and the Earth's satellites	144	1.9	Another look at shadows (core +)	160
1.2 The solar system and the stars	_146	1.10	Some astronomical speeds (core +)	161
1.3 Driving at night	148		Using two mirrors together (core +)	162
1.4 Colour	150	1.12	Mixing colours (core +)	163
1.5 What prisms do to light	152	1.13	More ways of using prisms (core +)	164
	154	1.14	Why glass and plastic look thinner th	an
1.7 A rock band on the Moon	_156		they are (core +)	165
1.8 Two different stringed instruments	_158	1.15	The speed of sound (core +)	166
-		1.16	More about frequency (core +)	167
Forces				
2.1 Things that can attract or repel	168	2.9	Why do magnets point north and sou	th
2.2 Gravity – a force that attracts	_170		(core +)	184
2.3 Looking at orbits	_172	2.10	More about gravity and distance	
2.4 Getting things moving	_174		(core +)	185
2.5 Slowing down	_176	2.11	More about orbits (core +)	186
2.6 Looking at speed	_178	2.12	Comparing forces of friction (core +)	187
2.7 Pressure	_180	2.13	Raindrops and other falling things	
2.8 Forces that make things turn	182		(core +)	188
•		2.14	Measuring speed (core +)	189
		2.15	More about pressure (core +)	190
		2.16	More about moments (core +)	191
Energy and electricity				
3.1 Energy sources	192	3.9	Energy from the Sun (core +)	208
3.2 Using energy sources to generate		3.10	Comparing energy sources (core +)	209
electricity	_194	3.11	Renewable energy sources in action	
3.3 Getting the energy we want from			(core +)	210
electricity	196	3.12	More about energy transfers (core +)_	211
	_198	3.13	Cells and batteries (core +)	212
3.5 Measuring currents in circuits	_200	3.14	More about circuits (core +)	213
3.6 Electromagnets	_202	3.15	Switching on a car starter motor	
3.7 Using electromagnets	_204		(core +)	214
3.8 What happens to all the energy we		3.16	Storing energy for when it's needed	
transfer?	_206		(core +)	215
■ 'What you need to remember' com	plete	d pas	sages	216
Glossary/index				227