Page Number	Activity Number	Activity Title
i		Title Page
iii		Contents
vi		Using This Worktext
Х		Using BIOZONE's Resource Hub
1		Chapter 1: Foundational Chemistry
2	1	Defining Chemistry
3	2	Choosing the Right Equipment
5	3	Safety in the Lab
7	4	Classifying Matter
10	5	States of Matter
13	6	Changing States
16	7	Chemical and Physical Change
17	8	Physical Properties of Matter
19	9	Mixtures
20	10	Separating Mixtures
23	11	Paper Chromatography
25	12	Did You Get it?  Chapter 2: Atomic Structure and the Periodic
27		Table
28	13	Introduction to the Atom
29	14	Discovering Atomic Structure
32	15	Atomic Structure
35	16	Electron Configuration
38	17	Atomic Mass and Isotopes
40	18	Development of the Periodic Table
42	19	Modern Periodic Table
44	20	A closer Look at Element Groups
48	21	Periodic Trends
49	22	Periodic Trends: Atomic and Ionic Radii
52	23	Periodic Trends: 1st Ionization Energy
54	24	Periodic Trends: Electronegativity
56	25	Did You Get it?
58		Chapter 3: Bonding and Substances
59	26	Types of Chemical Bonds
60	27	Ionic Bonding
62	28	Writing Ionic Compound Formulae
65	29	Covalent Bonding
67	30	Lewis Structures
69	31	Molecular Geometry
73	32	Bond Polarity
75 70	33	Molecular Polarity Intermolecular Forces
78 70	34	
79	35	London Dispersion Forces Permanent dipole-dipole
81 83	36 37	Hydrogen Bonding
85 85	38	Types of Solid Substances
86	39	Molecular Solids
89	40	Metallic Solids
92	41	Ionic Solids
95	42	Covalent Networks
97	43	Did You Get it?
99		Chapter 4: Chemical Reactions and
	44	Stoichiometry Chamical Equations
100 101	44	Chemical Equations
	45 46	Balancing Equations Classifying Chemical Reactions
103	40	Giassilying Ghemidal Readiions

	ı	
104	47	Synthesis Reactions
105	48	Decomposition reactions
106	49	Replacement reactions
108	50	Investigating reactions
110	51	Precipitation
112	52	Precipitation Reactions
113	53	The Mole
114	54	Relative Mass
115	55	Molar Mass
117	56	Using Molar Mass
120	57	More Mole Calculations
121	58	Empirical and Molecular Formula
123	59	Percentage Composition
126	60	Stoichiometry and Mole ratios
128	61	Stoichiometric Problems
131	62	Gravimetric Analysis 1 Water of Crystallization
133	63	Gravimetric Analysis 2 Analysis of a Reaction
135	64	Limiting Reactants
137	65	Did You Get it?
		Chanter E. Thermook amintur
139		Chapter 5: Thermochemistry
140	66	Energy in Chemistry
141	67	Heat, Energy, and Temperature
142	68	Thermodynamic Laws and Thermochemistry
146	69	Entropy in Chemistry
149	70	Enthalpy
152	71	Modelling Endothermic and Exothermic
155	72	Thermochemical Calculations: Mole Ratios
157	73	Thermochemical Calculations and Mass
160	74	Enthalpy of Combustion
161	75	Enthalpy of Formation
163	76	Enthalpy and Phase Change
165	77	Specific Heat Capacity
166	77	Specific Heat Capacity
168	78	Calorimetry Investigation
170	79	Bond Enthalpy
173	80	Hess's Law
176	81	Did You Get it?
178		
		Chapter 6: Reaction Rate and Equilibrium
179	82	Collision Theory
181	83	Activation Energy
183	84	Reaction Rates and Influencing Factors
187	85	Catalysts
190	86	Chemical Equilibrium
193	87	The Equilibrium Constant
195	88	Le Chatelier's Principle
199	89	Le Chatelier's Principle and Temperature Change
201	90	Investigating Change in Equilibrium Systems
203	91	Predicting Changes in Equilibrium Systems
205	92	Industrial Equilibria
209	93	Did You Get it?
211		Chapter 7: Substances in Solutions
212	94	Water as a Solvent
212	95	Types of Solutions
215	96	Saturated Solutions
	96	Solubility
217		Factors Affecting Solubility
219	98	
221	99	Solubility Curves

222		
226	100	Molarity, Concentration, and Dilution
	101	Colligative Properties of Solutions
228	102	Defining Acids and Bases
231	103	Strong and Weak Acids and Bases
233	104	Acid and Base Reactions in Water
234	105	Conjugate Acids and Bases
236	106	pH and lons
238	107	Indicators
242	108	pH calculations - Strong Acids and Bases
245	109	Acid-Base Neutralization
247	110	Standard Solutions
249	111	Titration
253	112	Did You Get it?
255		Chapter 8: Gases and Gas Laws
256	113	Properties of Gases
258	114	Kinetic Molecular Theory
	115	Particle Motion and Kinetic Energy
260 261		
	116	Temperature and Kinetic Energy
263	117	Pressure in Gas Systems The Gas Laws
266	118	
270	119	Ideal Gas Law
271	120	Using the Ideal Gas Law
273	121	Did You Get it? Chapter 9: Kegox Keactions and
275		Flectrochemistry
276	122	Introduction to Redox reactions
277	123	Reduction and Oxidation
279	124	Exploring Redox Reactions
281	125	Activity Series
283	126	Using an Activity Series
285	127	Oxidation Numbers
288	128	Redox Half-Reactions
290	129	Balancing Redox Equations
292	130	Electrochemistry
293	131	Voltaic (galvanic) Cells
295	132	Applications of Voltaic Cells
297	133	Rechargeable Batteries
298	134	Electrolytic cells
		Electrolysis
299	135 136	Did You Get it?
302	130	
304		Chapter 10: Organic Chemistry
305	137	Introduction to Organic Compounds
307	138	Alkanes
311	140	Properties of Alkanes
312	141	Alkenes and Alkynes
314	142	Alcohols
316	143	Fuels and Combustion
318	144	Polymers
319	145	Functional Groups
322	146	Substitution Reactions
323	147	Addition Reactions
325	148	Addition Polymerization
326	149	Condensation Reactions
329	150	Hydrolysis
330	151	Saponification
332	152	Organic Reactions Summary
334	153	Did You Get it?
	100	
336		Chapter 11: Nuclear Chemistry

337	154	The Atomic Nucleus
338	155	Radioactive decay
342	156	Half-life Half-life
344	158	Energy Release
345	159	Nuclear Fission
347	160	Nuclear Power
351	162	Radiation and Humans
352	163	Did You Get it?
354		Chapter 12: Science Practices and Data
355	164	The Nature of Science
		SI Units and Measurement
357	165	
359	166	Working With Numbers
361	167	_Graphing Skills
363	168	Describing Data
365	169	Accurracy and Precision
367	170	Investigations in Chemistry
368		Appendix 1: Data tables
370		Appendix 2: Equipment List
372		Appendix 3: Glossary
379		Image Credits
380		Index
382		Index