

Contents

Unit 1	4
Biology	
An introduction	4
Biology today	6
Unit 2	9
Germ theory	9
Louis Pasteur	11
Unit 3	14
The biosphere	14
Vladimir Vernadsky	16
Unit 4	19
Cells	19
Gregor Mendel	21
Revision vocabulary Units 1 to 4	24
Unit 5	25
The discovery of the structure and function of DNA	25
Cloning	27
Unit 6	30
Chemistry	
An introduction	30
Chemistry today	32
Unit 7	35
The atom	35
Robert Boyle	37
Unit 8	40
The Law of Conservation of Mass	40
Antoine Lavoisier	42
Revision vocabulary Units 5 to 8	45
Unit 9	46
The periodicity of elements	46
Dmitri Mendeleev	48
Unit 10	51
Chemical kinetics	51
Nikolay Semyonov	53
Unit 11	56
Physics	
An introduction	56
Physics - the new science fiction	58
Unit 12	61
Electricity and magnetism	61
Michael Faraday	63
Revision vocabulary Units 9 to 12	66
Unit 13	67
The Law of Universal Gravitation	67
Isaac Newton	69
Unit 14	72
Quantum mechanics	72
Niels Bohr	74
Unit 15	77
The General Theory of Relativity	77
Albert Einstein	79
Unit 16	82
Mathematics	
An introduction	82
Mathematics	84
Revision vocabulary Units 13 to 16	87
Unit 17	88
Algebra	88
Gottfried Leibniz	90
Unit 18	93
Geometry	93
René Descartes	95
Unit 19	98
Calculus	98
Pierre de Fermat	100
Unit 20	103
Applied mathematics	103
Norbert Wiener	105
Unit 21	108
The Russian Academy of Sciences (RAS)	108
Russian Nobel Prize winners in Physics and Chemistry	110
Revision vocabulary Units 17 to 21	113
Translation work	114
Glossary	123