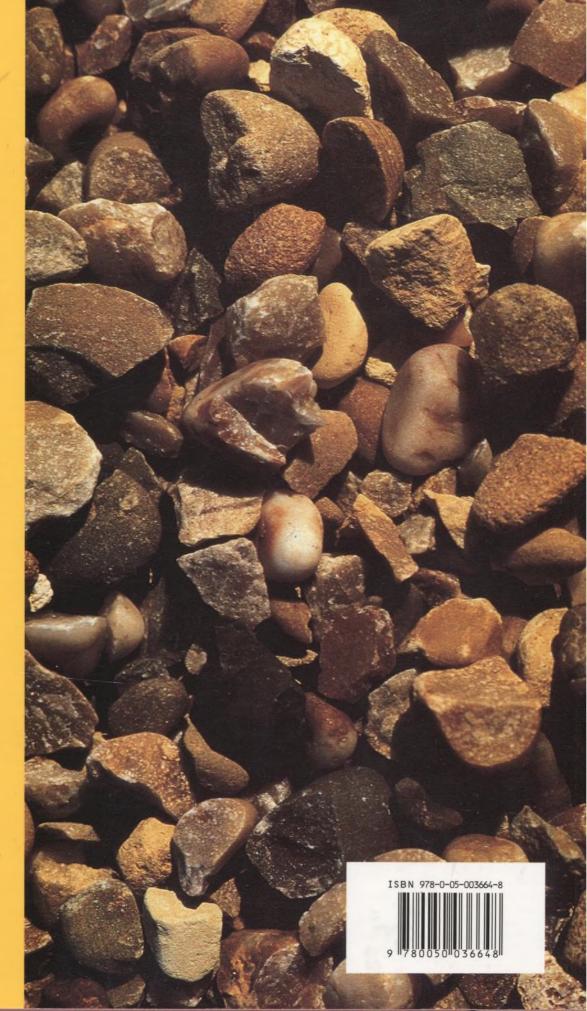
Understanding Geology is a thoroughly practical, lively and comprehensive introduction to the subject, based on recent GCSE National Criteria.

The carefully sequenced content ensures a logical build-up of key ideas, and cross-referencing between chapters enables pupils to integrate all aspects of the subject.

Each chapter is broken into manageable short sections for ease of use, and ends with a set of data-response questions. The Fieldwork Appendix provides practical guidelines for preparing and conducting fieldwork, and there are ideas for practical work which link to each chapter.





Contents

	-		
1 What is geology?	4	10 Earth force: deformation in rocks	93
2 Planet Earth	5	Folding	93
The Solar System	5	Cleavage in rocks	96
Planet Earth: facts and figures	7	Faulting	97
Is the earth unique?	,	Joints	101
Inside the earth	9	Unconformities	102
The earth's crust	13		
Activity in the earth's crust	14	11 Geological mapwork	103
An introduction to plate movement	15	Geological cross-sections: folded rocks	104
Plates, continents and mountains	16	Geological cross-sections: faulted rocks	106
Isostasy: the crust in balance	17	Geological cross-sections: igneous rocks	107
Questions	18	Geological cross-sections: unconformities	108
		Interpreting the past: geological history	110
3 Minerals	19	Questions	112
Elements and minerals of the crust	19	12 Fossils	114
Crystals and mineral structure	21	What are fossils?	114
How to identify minerals	22	The study and use of fossils	116
Questions	26	Trilobites	119
4 An introduction to rocks	27	Graptolites	120
Igneous rocks		Brachiopods	121
Sedimentary rocks	27 27	Bivalves	123
Metamorphic rocks	27	Cephalopods	125
The rock cycle	28	Gastropods	127
Studying rocks		Crinoids and echinoids	127
Questions	29	Corals	130
	29	Fossil vertebrates	132
5 Igneous rocks and volcanoes	31	Fossil plants	136
Extrusive igneous rocks: an introduction t	to	Fossils: practical work	
volcanoes	31	Questions	137
Intrusive igneous rocks	37		137
Identifying igneous rocks	39	13 Plate tectonics	139
Questions	41	Constructive plate margins (spreading ridges)	140
6 Sediments and surface process	40	Destructive plate margins (subduction zones)	142
6 Sediments and surface processes Weathering		Conservative plate margins	146
Transportation, erosion and deposition	42	Continental break-up and movement	146
The effect of growity on and important	44	Explanation of plate movement	148
The effect of gravity on sedimentary mater		Plate tectonics and sea level	148
The geological effect of running water The geological effect of the sea	47	Questions	150
The geological effect of the sea	54	14 The geological history of the	7
	59		454
The geological effect of the wind Questions	62	British Isles	151
	63	Episode 1: the earliest evidence	154
7 Sedimentary rocks	64	Episode 2: a closing ocean brings Britain together	154
Bedding in sedimentary rocks	65	Episode 3: Britain as part of the Caledonian	
Clastic sedimentary rocks	66	Continent	160
Chemical and organic sedimentary rocks	70	Episode 4: Britain as part of a large landmass with	
Sedimentary structures	75	fluctuating sea level	165
Lithifaction	77	A .	170
Description of sedimentary rocks	78	Questions	171
Questions	78	15 Economic geology 1	173
O Motomouphia washe			173
8 Metamorphic rocks	80		175
Thermal or contact metamorphism	81	Case study: a proposed mining development in Mid	1/3
Regional metamorphism	82	\A/-	178
Dislocation metamorphism	82	F	181
Identifying metamorphic rocks	82	Coolean and the second second	184
Questions	86	\A/-41'	0.00
9 Geological time	88	The first of the state of the s	186
All the time in the world		0	187
Dating the past	88		187
The speed of geological activity	90	Appendix 1: Fieldwork	89
Questions	91	Appendix 2: Ideas for practical work	91
an John of the Control of the Contro	92		96