

INTRODUCTORY  
GEOGRAPHY



CALIFORNIA STATE SERIES







*Ralph W. Fox and Thomas H. ...*  
CALIFORNIA STATE SERIES

# INTRODUCTORY GEOGRAPHY

COMPILED BY  
THE STATE TEXT-BOOK COMMITTEE  
AND APPROVED BY  
THE STATE BOARD OF EDUCATION



SACRAMENTO  
W. W. SHANNON, SUPERINTENDENT OF STATE PRINTING

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U. S. GOVERNMENT PRINTING OFFICE: 1904

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## PREFACE

SINCE Part I of the present volume is a radical innovation, it perhaps needs an explanatory foreword.

NECESSITY OF HOME GEOGRAPHY. — The final basis for all study of geography is actual experience. Yet text-books on that subject rarely treat Home Geography at all, and those that do, devote but few pages to it. This subject should, we think, receive far more careful attention.

NECESSITY OF OTHER BASAL NOTIONS. — Home experience alone, however, cannot offer a complete basis for the later study of geography, because no one locality presents all the features required. From this it happens that the best books have contained some definitions and illustrations, as of mountain, river, valley, harbor, and factory, and have planned to build the later text with the ideas these gave as a foundation. Such conceptions are certainly necessary in the early part of geography; but mere definitions fail to produce vivid, accurate pictures. The average pupil who has pursued geography for a year has little notion of the great importance of soil, of what a mountain or a river really is, of the value of good trade routes, and why a vessel cannot find a harbor wherever it will cast anchor along the coast. Yet such ideas are the proper basis for the study of geography in the higher grades. The fact that they are

so often wanting is proof that our geography still lacks foundation.

HOW THESE NEEDS ARE MET. — The first 110 pages of this volume attempt to supply this foundation by treating first, such common things as soil, hills, valleys, industries, climate, and government, which are part of every child's environment; and secondly, other features, as mountains, rivers, lakes, and the ocean, which, though absent from many localities, are still necessary as a preparation for later study. Definitions, however, are not relied upon for giving the child this extra knowledge, but detailed descriptions and discussions instead. This by no means involves neglect of the child's own environment from the time the unfamiliar matter is introduced, for throughout the geographies home experiences are frequently used. We believe that our plan gives a fuller guarantee of fitness for advanced study than has heretofore been furnished.

RELATIONSHIP TO MANKIND. — According to the definition of geography, — which treats of the relation between man and the earth, — a hill or a lake is worthy of mention only because it bears a relation to us, the men upon the earth; considered by itself it is not a part of geography. Therefore each chapter which takes up one of the above subjects, either closes with the bearing of the given topic upon mankind, or it deals with the human relationship throughout.

EARTH AS A WHOLE. — The most difficult portion of our task has been that which presents the Earth as a Whole. That a bird's-eye view should be given at an early period in the child's instruction is not questioned; but it is not easy, in limited space, to support the prin-



cial facts with sufficient detail to produce vivid and interesting pictures. The authors have found that some topics commonly included in the early study, such, for instance, as latitude and longitude, should be postponed. They have also found that many other minor subjects usually presented are comparatively irrelevant to the geographical knowledge necessary to a pupil. By setting these aside for the time, space has been secured for a physiographic basis, and for a fairly close sequence in tracing the effects of physical conditions upon plants and animals, and also upon mankind. Throughout each chapter much care has been taken to present a closely related chain of thought, and at the same time to keep the leading facts in their proper foreground.

**SUGGESTIONS FOR FURTHER HOME STUDY.** — A study of books alone can never furnish an adequate knowledge of geography. Therefore it has been thought expedient to add numerous suggestions at the end of each section, in order to remind both teacher and pupil of suitable excursions, experiments, etc., and to show at the same time the breadth of the subject. In this way physical activity — the love of exercise — may be employed in the service of the study, and a habit of investigating the home environment encouraged.

**FREQUENT REVIEWS.** — Believing in the value of frequent reviews, the authors have suggested review material in frequent comparisons and contrasts, and in introducing new topics through others that have already been presented. This method has been used throughout the book.

**MAPS.** — Contrary to the usual custom, the political maps include the principal physical features, so that any

place is always seen in connection with its physiographic surroundings. The colors have been so selected as to secure harmony, and at the same time to show the boundaries clearly. Unimportant names are excluded, even where space might have permitted their introduction; and, to an unusual degree, the size of print is proportionate to the importance of places, so that the names of leading divisions, cities, etc., can be distinguished at a glance.

ILLUSTRATIONS. — The illustrations have been selected with great care to illustrate specific points; and for the sake of accuracy, photographs have in most cases been employed. They are not inserted merely for the purpose of entertainment, but in every case bear a direct relationship to the text. They are not intended as mere *pictures*, but as *illustrations*; and being numbered and referred to frequently, they pay for their space by contributing materially to the book's fund of instruction.

## TABLE OF CONTENTS

### PART I. HOME GEOGRAPHY

	PAGE
SECTION I. THE SOIL . . . . .	1
SECTION II. HILLS . . . . .	10
SECTION III. MOUNTAINS . . . . .	17
SECTION IV. VALLEYS . . . . .	28
SECTION V. RIVERS . . . . .	39
SECTION VI. PONDS AND LAKES . . . . .	53
SECTION VII. THE OCEAN . . . . .	62
SECTION VIII. THE AIR . . . . .	71
SECTION IX. INDUSTRY AND COMMERCE . . . . .	81
SECTION X. GOVERNMENT . . . . .	92
SECTION XI. MAPS . . . . .	102
REFERENCES TO BOOKS, ETC. . . . .	108

### PART II. THE EARTH AS A WHOLE

SECTION I. FORM AND SIZE OF THE EARTH . . . . .	111
ITS FORM, 111. SIZE OF THE EARTH, 113.	
SECTION II. DAILY MOTION OF THE EARTH AND ITS RESULTS . . . . .	115
THE AXIS AND POLES, 115. THE EQUATOR, 116. GRAVITY, 116. SUNRISE AND SUNSET, 117. DAY AND NIGHT, 117.	
SECTION III. THE ZONES . . . . .	120
BOUNDARIES OF THE ZONES, 120. TORRID ZONE, 121. TEMPERATE ZONES, 121. FRIGID ZONES, 122. HEMISPHERES, 123.	
SECTION IV. HEAT WITHIN THE EARTH AND ITS EFFECTS . . . . .	124
HEAT IN MINES, 124. MELTED ROCK, 125. THE EARTH'S CRUST, 125. CAUSE OF MOUNTAINS, 125. CAUSE OF CONTI-	

	PAGE
NENTS AND OCEAN BASINS, 126. CHANGE IN THE LEVEL OF THE LAND, 126.	
SECTION V. THE CONTINENTS AND OCEANS . . . . .	128
LAND AND WATER, 128. <b>The Continents</b> , 129. NORTH AMERICA, 129. SOUTH AMERICA, 129. EURASIA, 130. AFRICA, 133. AUSTRALIA, 133. <b>The Oceans</b> , 134. THE ARCTIC AND ANTARCTIC, 134. THE ATLANTIC, 134. THE PACIFIC, 134. THE INDIAN, 134. THE OCEAN BOTTOM, 134. MOUNTAINS IN THE OCEANS, 135. CORAL ISLANDS, 136.	
SECTION VI. MAPS . . . . .	137
SECTION VII. NORTH AMERICA . . . . .	139
PHYSICAL GEOGRAPHY, 139. POLITICAL DIVISIONS, 140.	
SECTION VIII. THE UNITED STATES . . . . .	141
SECTION IX. NEW ENGLAND . . . . .	142
NAMES, 142. SEAPORTS, 142. FISHING, 143. FARMING, 143. QUARRYING, 144. LUMBERING, 144. MANUFACTURING, 146. COMMERCE, 147.	
SECTION X. MIDDLE ATLANTIC STATES . . . . .	149
THE COAST-LINE, 149. THE SEAPORTS, 149. <b>Reasons for the Great Size of New York City</b> , 149. CITIES NEAR BY, 149. WATER ROUTE TO THE INTERIOR, 150. LUMBERING, 151. FARMING, 151. SALT, 152. MANUFACTURING, 152. COMMERCE, 153. <b>Reasons why Philadelphia has become a Great City</b> , 153. CITIES NEAR BY, 153. FARMING, 153. IRON, 154. COAL, 154. OIL AND GAS, 155. COMMERCE, 156. <b>Other Cities</b> , 156. BALTIMORE, 156. WASHINGTON, 156. VIRGINIA AND WEST VIRGINIA, 157.	
SECTION XI. SOUTHERN STATES . . . . .	159
RELIEF, 159. COAL AND IRON, 160. COTTON, 160. RANCHING, 161. SUGAR AND RICE, 162. FRUITS, 162. LUMBERING, 162. MANUFACTURING, 163. NEW ORLEANS, 163. OTHER SEAPORTS, 165. OKLAHOMA AND INDIAN TERRITORY, 165. CLIMATE, 166.	
SECTION XII. CENTRAL STATES . . . . .	167
RAW PRODUCTS, 167. THE MANUFACTURING AND TRADE CENTRES, 170. REVIEW AND COMPARISONS, 175.	
SECTION XIII. WESTERN STATES . . . . .	176
REASONS WHY THERE ARE SO FEW PEOPLE, 176. WONDERFUL	

	PAGE
SCENERY, 178. MINING, 179. RANCHING, 181. THE DESERT, 182. IRRIGATION, 182. FRUIT RAISING, 183. INDUSTRIES ALONG THE PACIFIC COAST, 184. THE CITIES OF THE PACIFIC COAST, 185.	
SECTION XIV. ALASKA . . . . .	188
SECTION XV. CANADA AND OTHER COUNTRIES NORTH OF THE UNITED STATES . . . . .	190
<b>Canada and Newfoundland</b> , 190. <b>INDUSTRIES</b> , 190. <b>CITIES</b> , 192. <b>THE FAR NORTH</b> , 192. <b>Islands North of North America</b> , 193.	
SECTION XVI. COUNTRIES SOUTH OF THE UNITED STATES . . . . .	195
<b>MEXICO AND CENTRAL AMERICA</b> , 195. <b>THE WEST INDIES AND BERMUDA</b> , 197.	
SECTION XVII. SOUTH AMERICA . . . . .	199
<b>RELIEF</b> , 199. <b>CLIMATE</b> , 200. <b>HISTORY</b> , 200. <b>BRAZIL</b> , 201. <b>VENEZUELA AND GUIANA</b> , 202. <b>LA PLATA COUNTRIES</b> , 203. <b>ANDEAN COUNTRIES</b> , 204.	
SECTION XVIII. EUROPE . . . . .	207
<b>THE BRITISH ISLES</b> , 207. <b>NORSE COUNTRIES</b> , 211. <b>RUSSIA</b> , 212. <b>GERMANY</b> , 214. <b>HOLLAND</b> , 216. <b>BELGIUM</b> , 217. <b>FRANCE</b> , 217. <b>SPAIN AND PORTUGAL</b> , 219. <b>ITALY</b> , 220. <b>SWITZERLAND</b> , 222. <b>AUSTRIA-HUNGARY</b> , 223. <b>GREECE</b> , 224. <b>TURKEY</b> , 225.	
SECTION XIX. ASIA . . . . .	230
<b>PHYSICAL GEOGRAPHY</b> , 230. <b>SOUTHWESTERN ASIA</b> , 231. <b>SIBERIA</b> , 234. <b>THE CHINESE EMPIRE AND KOREA</b> , 235. <b>JAPAN</b> , 237. <b>INDIA AND INDO-CHINA</b> , 238.	
SECTION XX. AFRICA . . . . .	242
<b>THE DARK CONTINENT</b> , 242. <b>NORTHERN AFRICA</b> , 243. <b>CENTRAL AFRICA</b> , 246. <b>SOUTH AFRICA</b> , 246.	
SECTION XXI. AUSTRALIA, THE EAST INDIES, PHILIPPINES, AND OTHER ISLANDS OF THE PACIFIC . . . . .	249
<b>AUSTRALIA</b> , 249. <b>THE EAST INDIES</b> , 252. <b>THE PHILIPPINE ISLANDS</b> , 253. <b>ISLANDS OF THE PACIFIC</b> , 254.	
CALIFORNIA SUPPLEMENT . . . . .	257
BOOKS OF REFERENCE . . . . .	289
APPENDIX—TABLES OF AREA, POPULATION, ETC. . . . .	295

## LIST OF MAPS

FIGURE	FACING PAGE
91. TO ILLUSTRATE THE MEANING OF MAPS . . . . .	107
119. THE HEMISPHERES . . . . .	137
120. MERCATOR MAP OF THE WORLD . . . . .	137
121. RELIEF MAP OF NORTH AMERICA . . . . .	<i>On page</i> 138
123. NORTH AMERICA . . . . .	140
124. UNITED STATES . . . . .	141
125. NEW ENGLAND . . . . .	142
132. MIDDLE ATLANTIC STATES . . . . .	149
140. SOUTHERN STATES . . . . .	159
148. CENTRAL STATES . . . . .	167
157. WESTERN STATES . . . . .	176
177. SOUTH AMERICA . . . . .	199
183. EUROPE . . . . .	207
203. ASIA . . . . .	230
214. AFRICA . . . . .	242
221. AUSTRALIA, EAST INDIES, PHILIPPINE ISLANDS, AND ISLANDS OF THE PACIFIC . . . . .	249
225. CALIFORNIA (NORTHERN PART) AND SAN FRANCISCO AND VICINITY . . . . .	256
226. CALIFORNIA (SOUTHERN PART) . . . . .	257

# PART I

## HOME GEOGRAPHY



### I. THE SOIL

You have often played in the dirt. Did you ever stop to think what it is made of? It was not always what it now is. You know that the wood in your desk was not always a part of the desk; it used to be part of a tree, and has a long story to tell about itself before it was brought to your school. So all the dirt or *soil* that you have ever seen has a long story to tell about how it became what it is now. Let us see what that story is.

When mud dries upon your hands and you rub them together, you can notice an unpleasant, gritty feeling. This is caused by the scraping together of hard bits of something in the soil. If you rub some of this dirt against a smooth piece of glass, you can often hear it scratch the glass. This shows that these little bits must be very hard, for if they were not, they could not scratch anything so hard as glass. They must be even harder than a pin, for you cannot scratch glass with a pin.

It will help you to find out what these bits are if you examine some sand. The grains in it are tiny bits of rock, large enough to be clearly seen. When they are

rubbed against glass, they scratch it, because they are hard and sharp.

Sand is made of rock that has been broken up into very fine pieces. Soil is also made of rock, but the pieces are finer still. The soil that you have seen, such as that in the school yard, or by the side of the walk, was once rock.

*Soil has been made from rock.*

Since soil is found almost everywhere, you may wonder how so much rock has been changed to it. The answer is not hard to find. Did you ever pound a brick up into bits until you made brick-dust? You can change a stone to dust in the same way. Break one into small bits and see how much it resembles dirt.

Sometimes one sees men drilling holes into stone; the tiny pieces that are broken off collect in and round the hole, and look much like dirt. When a grindstone is used to sharpen tools, small pieces of the stone are ground off, and if water is poured upon it, this dust makes the water muddy, just as soil would.

Much rock has been changed to dirt by the rubbing of pieces of stone against one another. In this way tiny bits have been worn off, as chalk is worn away when rubbed against the blackboard, or slate pencils against the slate. Perhaps some of the dirt that you have seen has been made in this manner. Later you will learn about the glaciers which have caused much of this rubbing.

*The grinding of rocks together has made much soil.*

But this is not the only way in which rock has been changed into soil. Much of it has decayed and fallen to pieces as wood does. You know that, after a long time, stumps of trees, and the boards in sidewalks, grow so



soft that they fall to pieces. Perhaps you have called it *rotting*, but this means the same as *decaying*. The picture (Fig. 1) shows such a stump.

Other things even harder than wood decay in much the same way, although perhaps more slowly. Hard nails, at first bright and shiny, decay until they become a soft, yellow rust. Iron pipes and tin pails rust until holes appear in them and they leak.



FIG. 1.

A decaying stump of a tree.

You may not have thought that stones also decay, but



FIG. 2.

A rocky cliff containing many cracks.  
Point to some of them.

they do. The headstones in old graveyards are often so crumbled that the letters can scarcely be read, and sometimes the stones have even fallen apart. The decay of rock may also be seen in old stone buildings, boulders, and rock cliffs. Have you ever noticed this?

*Soil has been formed, also, by the decay of rocks.*

There are several things that help to cause this decay.

All rocks have cracks in them (Fig. 2). Usually some of these are so large that they can be plainly seen; but there are many others so tiny that they cannot be seen

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