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# The treatment of latitude and longitude in seven middle grade geography texts

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THE TREATMENT OF LATITUDE AND LONGITUDE IN SEVEN  
MIDDLE GRADE GEOGRAPHY TEXTS

Service Paper

Submitted By:

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(B. S. in B. A., Boston University, 1947)

In partial fulfillment of requirements  
for the Degree of Master of  
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CHAPTER I  
INTRODUCTION

The purpose of this study is to determine what children can learn about Latitude and Longitude from the texts used in this study. It is hoped that this material will be useful to classroom teachers by showing them the variety of material available in the texts about Latitude and Longitude.

Seven texts were chosen to be evaluated. The latest editions of the following texts were used:

- A. Smith, J. Russell and Sorenson, Frank E., Neighbors in the Americas. Philadelphia: The John C. Winston Co., 1948
- B. Barrows, Harlan H., Parker, Edith Putnam and Sorensen, Clarence Woodrow. The American Continents. New York: The Silver Burdett Company 1946
- C. Mc Connell, W. R., Geography of the Americas. New York: Rand McNally and Company 1949
- D. Stull, De Forest and Hatch, Roy W., Journeys Through the Americas. Boston: Allyn and Bacon 1948
- E. Bodley, G. R. and Thurston, E.L., North America and South America. Syracuse: Iroquois Publishing Co. 1946
- F. Brigham, Albert Perry and MacFarlane, Charles T., Our Continental Neighbors. New York: American Book Co., 1938
- G. Atwood, Wallace W., and Thomas, Helen Goss. The American Nations. Boston: Ginn and Company, 1948

The texts hereafter will be referred to by the letter which precedes the name of the text.

CHAPTER II  
RELATED LITERATURE IN THE FIELD OF  
LATITUDE AND LONGITUDE

Elaine Forsyth<sup>1/</sup> gives a clear and interesting description of Latitude and Longitude in the form of streets.

Forsyth treats Latitude and Longitude in two separate lessons. Lesson I deals mainly with Latitude.<sup>2/</sup> The following facts were recommended to be remembered:<sup>3/</sup>

1. Every circle large or small can be divided into 360 degrees.
2. Latitude is the distance in degrees north or south of the equator.
3. Parallels of latitude are lines running around the earth parallel to the equator.
4. A degree of latitude is always equal to about 70 miles.
5. We can measure distance north or south from the equator by using degrees of latitude.
6. We can tell direction from the parallels because they always run due east and west.

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<sup>1/</sup> Elaine Forsyth, "Map Reading" The Journal of Geography  
42:249-50 October 1943

<sup>2/</sup> Loc. cit.

<sup>3/</sup> Ibid., page 257

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Thorp<sup>1/</sup> uses a test on latitude and longitude as part of her objective studies to show the need for giving instruction in the use of geography tools.

Littlefield<sup>2/</sup> gave a test to sixth, seventh, and eighth grade students on the recognition and use of latitude and longitude. Littlefield found the pupils particularly lacking in ability to use longitude to tell time.

Uttley<sup>3/</sup> lists the following for attainments in latitude and longitude for the sixth grade:

1. To understand latitude and longitude.
2. To locate places given the latitude and longitude
3. To know the time belts.

Lange<sup>4/</sup> feels that fifth and sixth grades should know the following about latitude and longitude:

1. Knowledge of zones and the names of the lines associated with them.

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<sup>1/</sup> Mary Tucker Thorp, "Objective Studies Showing The Need for Giving Instruction in Use of Geography Tools". Master's Thesis Boston University, Boston 1932, pp494-507

<sup>2/</sup> Harold W. Littlefield, "The Construction and Evaluation of a Diagnostic Test on Map Skills for Grades Six, Seven and Eight", Masters' Thesis Boston University, 1946, Page 60.

<sup>3/</sup> Marguerite Uttley, "A Provisional Formulation of Attainment in Geography for the Elementary Schools." Thirty-Second Yearbook for the Nat'l Soc. for the Study of Ed'n. Bloomington, Illinois Public School Pub.Co.1933 pp. 247-64

<sup>4/</sup> Stella R. Lange, "Geography Test", Journal of Geography, 24: 40-41 January 1935

2. Knowledge of degrees and the number of miles to a degree of latitude.
3. The relationship between latitude and climate.
4. Knowledge of latitude and longitude.

Forsyth's treatment of Longitude is covered in Lesson II<sup>1/</sup>

According to Forsyth, the most important use of meridians is in telling us how far east or west a place is from the Greenwich meridian.<sup>2/</sup> The second most important fact we learn from meridians is true direction north and south.<sup>3/</sup>

Johnson<sup>4/</sup> uses the following activity with latitude and longitude as an example of a lower mental process (A question or exercise requiring only the recall or recognition of simple factual answers for its solution):

"Study the map of the South Atlantic States on Page 16--On the chart below make a careful sketch of this region using the 30°, and 36° parallels, and the 80°, 85°, 90°, and 105° meridians as guides. Draw in the state boundaries."

Irene Driscoll<sup>5/</sup> uses Latitude as an example of a higher mental process; i. e., a mental activity other than recall, such as the organization of ideas, supplementation

<sup>1/</sup> Elaine Forsyth, "Map Reading", The Journal of Geography 42:287-97, November 1943

<sup>2/</sup> ibid. 289

<sup>3/</sup> ibid. 290

<sup>4/</sup> Everett A Johnson " An Analysis of Fifth Grade Geography Workbooks on the Basis of the Mental Processes Involved." Master's Thesis, Boston University, Boston, 1948, Page 35.

<sup>5/</sup> Irene Driscoll, " An Analysis of Questions and Exercises In Ten Sixth Grade Geography Books on the Basis of Higher Mental Processes Req'd in Their Solution." Master's Thesis Boston Univ. 1948 Page 23.

and use of ideas, and criticism and evaluation of ideas:

"How is the Soviet Union located with reference to the parallel of  $50^{\circ}$  degrees north latitude?"

In 1944 Hutter <sup>1/</sup> of the State Teachers College, Minnesota, gave a geography test to 500 Air Corps cadets to determine their map skills. He used a diagnostic test. Two sheets were given to each cadet. One contained seven questions and the other was a Mercator Map.

The following is a list of the questions:

1. Place the directions North, -South, -East, -West in proper positions on the margin of this map.
2. a. Write the terms Equator, Cancer, Capricorn, Arctic Circle, and Antarctic Circle along the proper lines.  
b. Write the Prime Meridian and International Date Line along these lines.
3. Indicate which of the cross lines are parallels and which are meridians by writing these terms once each along the correct line at some place near the bottom of the map.
4. The parallels and meridians are arranged at  $15^{\circ}$  intervals. Along the right and bottom of the map label each line correctly for longitude and latitude. Indicate latitude only to the 60th degree but longitude completely.

Along the degrees of longitude and latitude you have placed on the map, indicate the proper hemisphere by using N for Northern, S for Southern, E for Eastern and W for Western.

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<sup>1/</sup> Harry K. Hutter, "Mistakes Made in Geography by Beginning Air Corps Cadets", The Journal of Geography, 43:109 March, 1949

- 5. Place these names as nearly as possible on the land masses they represent: North America, South America, Africa, Asia, Australia, Europe, East Indies, West Indies, Madagascar, Greenland, and the Aleutian Islands
- 6. Write in these three ocean basins: Atlantic, Pacific, and Indian
- 7. Locate as nearly as possible and write on the map, Tokyo, Rome, Berlin, London, and Washington D. C.

The following percentages of correct answers were

Question 1.	95.63
2. a	44.26
b	53.71
3.	46.39
4.	19.25
5.	76.61
6.	84.40
7.	72.77

The above summary clearly indicates that there are many incorrect impressions in the use of symbols and their application. It is necessary to go back into the schools of our land beginning in the grades and to demand a sound program of geographic principles, facts, and terms based upon good teaching.<sup>1/</sup>

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<sup>1/</sup> Harry K. Hutter, "Mistakes Made in Geography By Beginning Air Corps Cadets", Journal of Geography Volume 43:110, March 1944

Bixby <sup>1/</sup> made an analysis of the treatment of Africa in eight sixth grade geography texts. She came to the following conclusions:

"The information which children may learn from geography textbooks depends upon the text used. If one text is used, the concepts which a child may get would vary from those of another text, whether a teacher desires the maximum, average, or minimum will determine her selection. The use of several texts would be the optimum. This, however is not always possible.

"A contrast of the extremes will give an idea of the difference in texts and the concepts children would get.

"These data were collected to show how texts do vary in the material presented about one continent. In finding out about how texts may vary the task of the teacher in selecting a text is very important. Special attention should be given to the maps, their clearness, and their story. Some maps try to show so many features that children must be bewildered. Other maps with no color may not appeal to the desire for color. Graphs in a book add to the knowledge and provide an interesting and concise tool. In the hands of elementary children pictures help to establish a desire to know about people, places, and activities. Choose your book as you would any story book. Geography takes children on a magic carpet which is real and possible to see in our air-minded world."

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<sup>1/</sup> Edith P. Bixby, "The Treatment of Africa in Eight Sixth Grade Geography Textbooks", Unpublished Service Paper, Boston University, Boston, 1946, Page 44.

Stapleton <sup>1/</sup> made an interesting study on "Map Terms Used in Eight Fifth Grade Geography Texts." She found that:

"In spite of marked differences in texts examined, there is considerable uniformity in the number of types of terms thought necessary by various authors.

"Since it was apparent from the findings that a bulk of the initial mastery of elementary map terms is probably delegated to grade five, it seems even more necessary to take great pains to so introduce the terms needed at this level as to promote best mastery.

"Marked differences were revealed in the stress which various authors put upon careful explanation of the terms introduced. It may be questioned as to whether it is the responsibility of the text or the teacher to so explain each new term, but it seems certain that teachers should note those terms which are not sufficiently explained and supplement them accordingly.

"It became apparent in the course of the study that mere frequency of use is in some cases no index of importance. Care should be taken not to draw unwarranted inference from this point of view.

"Care should be taken, too, not to assume that stress on a given term and frequency of use of it are synonymous, a term used once only may receive more stress than one used many times if the one used only once is so introduced and explained that it is really understood."

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<sup>1/</sup> Mary Ellen Stapleton, "Map Terms Used in Eight Fifth Grade Geography Texts" Master's Thesis, Boston University, Boston, 1946 pages 84-86

Abrams <sup>1/</sup> found on checking question 14 of the June 1927 Regents Examination in Geography that in a majority of cases there was a total disregard for the use of parallels and meridians and that the maps were read as if in all cases North was directly toward the top of the map.

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<sup>1/</sup> A. W. Abrams, "Observations on Answers to Question Fourteen of the June 1927 Regents Examination", "Bulletin to the Schools, The University of the State of New York

Howe <sup>1/</sup> gave a test in grades four, five, and six to find if elementary school children are developing the necessary skills for the understanding of maps. The following were questions about latitude and longitude included in his list:

1. What is the latitude of Philadelphia?
2. What line of longitude passes through Cape Cod?
3. The Pyrennes are in about the same latitude as what city in New Mexico?
4. In general what is the number of people per square mile between the 95th and 105th meridian?
5. Name the city that is nearest 76 degrees West and 43 degrees North.
6. What is the latitude and longitude of Washington, D. C.?

In summing up the possibilities tending toward better teaching and learning techniques in the ability to read maps, Mr. Howe recommends in part:

"A more careful development of map skills is needed in textbooks. The mere insertion of maps and their correlation with the test is not enough. A definite map vocabulary should accompany the text to assist both teacher and pupil in developing the ability to use maps from the simple to the complex." <sup>3/</sup>

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<sup>1/</sup> George F. Howe, "A Study of the Ability of Elementary pupils to Read Maps" Thirty-Second Year Book of the National Society for the Study of Education. Bloomington, Illinois; Public School Publishing Co. 1933 pp. 491-2

DeForest Stull<sup>1/</sup> gives a clear explanation of latitude and longitude for a fourth grade level. The following is offered by DeForest Stull:

1. After a clear picture of a region has been secured with the aid of pictures, specimens, and written materials, the pupils find the place or region on the globe. The children will thus be able to put meaning into the symbols for continents, oceans, rivers, etc., because they have previously gone to these places in imagination.
2. On the globe the children are shown the location of the North and South Poles which are at the ends of the Earth's axis. The Equator is then located. It is a large circle of the Earth, midway between the poles. With the two poles and the Equator as a starting point, man has devised an elaborate scheme called latitude and longitude for locating himself on the earth. Latitude is the distance north or south of the equator measured on meridians. Longitude is distance east or west of a line drawn from Pole to Pole called the prime meridian, and is measured on the parallels. At this point an explanation of the scheme of latitude and longitude is not to be recommended, but its use as a means of locating places on the earth is advocated.
3. Children like to play games; in fact, they like to invent games, many of which will assist in learning valuable and interesting geography facts. The writer has often played a game of latitude and longitude with fourth grade children. With a large simplified school globe before the class, the teacher starts the game by saying, "I live where the Equator crosses the Prime Meridian. Who can point out where I live?" As a reward for correctly pointing out the exact location on the globe, the successful child has the privilege of stating where he lives. For instance, he might state "I live where the latitude of  $10^{\circ}$  North crosses the meridian of  $15^{\circ}$  East. Who can point out

<sup>1/</sup> DeForest Stull, "A Course of Study on Geography", Bureau of Publications, N. Y.: Teachers College, Columbia University 1927, pp. 79-81

where I live?" As a reward for correctly pointing out the location of his home, a third child continues the game and so on

The game may be modified by the pupils pointing to some spot on the map at the intersection of parallels and meridians and asking the class, "Where do I live?" The child who successfully names the place has the privilege of continuing the game. Children enjoy this game very much and incidentally acquire a considerable knowledge of the scheme of location.

## CHAPTER III

## A STUDY OF SEVEN MIDDLE GRADE GEOGRAPHY TEXTS

Many worthwhile studies have been made on geography texts. This is the first study to determine their treatment of Latitude and Longitude.

Each text was first read by skimming each page to find the main references to Latitude and Longitude. These findings: e.g., "a diagram to illustrate latitude in the form of roads", "latitude lines show "east west direction", or "diagram to illustrate longitude lines on a globe", were then recorded in table form and represented the initial approach to the analysis of the texts.

After recording these most prominent mentions made to Latitude and Longitude, the accompanying context was also analyzed; e. g., "all places on any one line of latitude are the same distance from the equator", or "lines of latitude are numbered north and south from the equator", and these findings were recorded in table form with the prior findings.

Following this each page of the text was carefully investigated for any mention of latitude or longitude, the following is an example of some of the isolated references found: "high latitudes are cooler than low latitudes", "winds affect temperature in the same latitude," and the latter were also recorded in table form.

Each text was analyzed three times in order to insure a careful coverage of the texts.

Each time a reference was made, its page number and frequency were recorded. Further analysis was made by showing whether the reference appeared in the context or activities of each text.

Only direct references to maps were included in the study. The mere listing of maps which had longitude lines or latitude lines was not included as part of the study.

The tables in Chapter IV show in detail the treatment of Latitude and Longitude. A separate table for Latitude and a separate table for Longitude is given for each text.

CHAPTER IV  
INTERPRETATION OF DATA

The capital letters used in the title of the tables indicate the different texts analyzed as listed in Chapter I. They will also be used in the writer's findings and conclusions.

All references to Latitude in the texts are recorded in Tables I, III, V, VII, IX, XI, XIII. All references to Longitude are recorded in Tables II, IV, VI, VIII, X, XII, and XIV.

The writer does not try to prove whether or not one book which mentions a certain phase of latitude or longitude more times than another is the better book to use as a text. Actual record of the number of mentions is the objective.

TABLE I  
REFERENCES MADE TO LATITUDE IN TEXT A

<u>LATITUDE</u>	<u>PRE- QUENCY</u>		<u>BOOK A</u>	
	<u>Con- text</u>	<u>Acti- vities</u>	<u>CONTEXT</u>	<u>ACTIVITIES</u>
A. Maps (direct reference to)		2		8, 50
b. Measuring distances	1	3	7	8, 299, 338
c. Location of:				
1. Cities	1	2	7	55, 109
2. Towns				
3. Islands		2		269, 299
4. Continents		3		8, 8, 268
5. Mountains				
6. Areas	1	2	7	316, 316
7. States		4		72, 127, 152, 206
8. Valleys				
9. Lakes				
10. Bays				
11. Straits				
12. Your own home				
13. Seacoast				
14. Canals				
15. Boundary lines				
16. Tropics				
17. Most northern and southern latitudes of North and South America	1		8	
18. Countries	2	6	7, 336	8, 50, 68, 250, 250, 336
19. Rainfall				
20. North and South Poles	1		7	
21. Roaring forties				
22. Peninsulas				
23. Seas				
24. Capes				
25. Tropic of Cancer				
26. Tropic of Capricorn				
27. Artic Circle				
28. Antarctic circle				
29. cotton belt of U. S.				
30. Colonies				
31. River mouths				
32. River systems				
33. Sinking ships				
34. Farms				

Table I - References Made to Latitude in Text A(Continued)

	LATITUDE	FRE- QUENCY		CONTEXT	ACTIVITIES
		Con- text	Acti- vities		
c.	35. Plains				
	36. Coast Ranges				
	37. Plateaus				
	38. Great Basin				
	39. Piedmont Basin				
d.	Winds are effected by latitude				
e.	To show East-west direction				
f.	Effects length of days and nights	1		40	
g.	Effect on temperature		1		55
h.	Effect on length of growing season		1		40
i.	Defines meaning		1		8
j.	Word matching test				
k.	Multiple choice test				
l.	Effect on temperature of land and water				
m.	Populations are effected by latitude				
n.	Compare positions of two countries on globe	1		334	
o.	Comparison of growing seasons in different sections of the world in the same latitude				
p.	Parallels of latitude are numbered in degrees				
q.	Effects length of summers and winters				
r.	Effects severity of winters and summers				
s.	To compare rainfall in different areas in the same latitude				
t.	To compare length of summer areas in different sections of the same latitude				
u.	To compare climate of different areas in the same latitude		1		152
v.	To show difference from longitude				
w.	Latitude effects types of plants grown				
x.	To compare climates in areas in similar latitudes				

TABLE I REFERENCES MADE TO LATITUDE IN TEXT A ( CONT. )

<u>LATITUDE</u>	<u>FRE-</u> <u>QUENCY</u>		<u>CONTEXT</u>	<u>ACTIVITIES</u>
	<u>Con-</u> <u>Text</u>	<u>Acti-</u> <u>vities</u>		
above and below the equator				
y. to compare position of cities above and below the equator by placing the tropic of cancer on the tropic of capricorn and making a double map				
z. Sun as an aid to location of latitude				
aa. The equator is the longest of all parallels of latitude				
ab. Parallels of latitude are the same distance apart.				
ac. A degree of latitude is 70 miles long		2		299, 338
ad. Completion test				
ae. Diagram to illustrate latitude in the form of roads	1		6	
af. All places located south of the equator are in the south latitudes and all places north of the equator are located in the north latitudes	1		7	
ag. Circles are divided into degrees	1		7	
ah. There are 360 degrees in a circle	1		7	
ai. From the equator to the North Pole it is one-quarter of the way around the globe	1		7	
aj. To compare climate and crops of two areas with the same latitudes, one above the equator, one below	1		316	
ak. Use in chart to show location of cities with populations of	1		351	

TABLE I  
REFERENCES MADE TO LATITUDE IN TEXT A (CONT.)

<u>LATITUDE</u>	<u>FRE- QUENCY</u>		<u>CONTEXT</u>	<u>ACTIVITIES</u>
	<u>Con- text</u>	<u>Acti- vities</u>		
20,000 or more				
al. Use in pronouncia- tion key	1		359	
am. Low latitudes of North America have tropical climates with rain forests, grasslands, and jungles				
an. The high latitudes have polar climates with very little plant life				
ao. Use in tables showing climatic conditions of important cities of world.				
ap. To compare location of states above the equator with single country below the equator for climatic similarities				
aq. compare positions of Cities on globe				
ar. Because of violent storms met in the latitude on the westerlies, they were called the roar- ing forties.				
as. Latitude affects types of industries				
at. Winds affect tempera- ture in the same latitude				
au. Rainfall is affected by latitude				
av. Climate affected by latitude				
aw. To show width of a country				
ax. To compare north south extent of two countries on map				

TABLE I REFERENCES MADE TO LATITUDE IN TEXT A (CONT.)

<u>LATITUDE</u>	<u>FRE-</u> <u>QUENCY</u>		<u>CONTEXT</u>	<u>ACTIVITIES</u>
	<u>Con-</u> <u>text</u>	<u>Acti-</u> <u>vities</u>		
ay. To compare location of a city with a group of islands				
az. To compare location of a group of islands with a country.				
aaa. Lines of latitude are called parallels.				
aab. The distance between one parallel and the other is 1 degree of 1/90 of the distance between the equator and the North and South Poles				
aac. All parallels are not shown on the globe as there would not be room enough to show oceans, cities, countries and continents, that is why on every globe they show the 5th, 10th, or 15th parallel				
aad. Parallels are imaginary lines				
aae. Many places can be located on the 30th parallel, but when a meridian such as the 90th is given, it can refer to only one place.				
aaf. Diagram illustrating latitude lines on a globe				
aag. East west lines are called lines of latitude				
aaH. All places on any line of latitude are the same distance from the equator				
aaI. All places on a line of latitude are directly east and west of one another				
aaJ. Line of latitude are numbered north and south from the equator				

TABLE I REFERENCES MADE TO LATITUDE IN TEXT A (CONT.)

FRE  
QUENCY

<u>LATITUDE</u>	<u>Con- Text</u>	<u>Acti- Tivities</u>	<u>CONTEXT</u>	<u>ACTIVITIES</u>
aak. To compare loca- tion of a boundary line and parallel in the northern latitudes for their nearness to the equa- tor				
aal. Use in question to test child's ability to recognize a north latitude from a south latitude				
aam. Use of an index or guide as an aid to finding lines of lati- tude				
aan. High latitudes are cooler than low				
aac. All parallels form circles on globe				
aap. Compare winter weather of two countries				
aaq. Compare latitudes of a state in North America with a country in South America		1		336
aar. Compare two states for similarities in latitude		1		152
aas. Use in tables showing elevation and population of cities and possessions of the United States with a population of 20,000 or more.		1		351

## REFERENCES MADE TO LATITUDE IN TEXT A (CONT.)

In Table I eight references were made to the use of Latitude for the location of countries. Six of these references appear in the activities of the text. This was the most any item was treated in the text.

There were four references to item C7 (location of states) and they were all in the activities section of the text. Item c 6 (location of areas) and item c 1 (location of cities) both have three references each. There were a total of twenty-five references to latitude for finding location.

Item b (measuring distances) has four references, three in the activities of the text.

There were only two references to Maps, appearing in the activities.

Item g (affect on temperature) and item u (to compare climate of different areas in the same latitude) each have one reference.

One reference is made to item H (affect on length of growing season).

Six references are made to Latitude's use for "Comparison Purposes". Four are activities.

There are eight references to "Informational Material" on Latitude.

TABLE II  
REFERENCES MADE TO LONGITUDE IN TEXT A

<u>LONGITUDE</u>	FRE- QUENCY		<u>CONTEXT</u>	<u>ACTIVITIES</u>
	<u>Con- text</u>	<u>Acti- vities</u>		
a. Measuring distance				
b. To show North South directions				
c. Location of:				
1. Islands		1		269
2. Countries		3		18, 68, 250
3. Continents				
4. Cities		2		8, 8
5. States		2		72, 206
6. Canals				
7. Rivers				
8. Peninsulas				
9. Mountains				
10. Spring wheat belt in U.S.A.				
11. Lakes				
12. Seacoast				
13. Greenwich meridian	1		7	
14. Sinking ship				
15. Prime Meridian		1		8
16. Most eastern and western longitudes of North and South America		1		8
17. Line that is 0° longitude				
18. Most eastern longitude of North America				
19. Most western longitude of South America				
20. Colonies				
21. Cotton Belt				
d. Defines meaning				
e. To show differences in distance between the meridians at the equator and at the poles				
f. To show relation of a city in No. America to a country in Cental American on the same meridian	1		284	

TABLE II

## REFERENCES MADE TO LONGITUDE IN TEXT A (CONTINUED)

	<u>FRE-</u> <u>QUENCY</u>		<u>CONTEXT</u>	<u>ACTIVITIES</u>
	<u>Con-</u> <u>text</u>	<u>Acti-</u> <u>vities</u>		
<u>LONGITUDE</u>				
g. Maps (direct reference to)				
h. Use in flying airplanes				
i. Aid to solution of questions				
j. To show direction other than north-south				
k.. Compare similarities between a polar map and a globe				
l. As a dividing line for comparing				
m. To compare location of an island in West Indies with the state of Florida				
n. Multiple choice test				
o. Word matching tests				
p. Completion test				
q. Compare position of two countries on globe				
r. Use in chart to show elevation and location of cities with population of 20,000 or more	1		350	
s. Use in tables showing climatic conditions of important cities of the World				
t. Longitude lines are called meridians				
u. Longitude is measured from a certain meridian called the prime meridian which passes through the town of Greenwich, England and is labeled 0°	2		7, 284	
v. Meridians are numbered east and west from the 0° meridian				
w. Meridians locate places on lines of latitude				

TABLE II

## REFERENCES MADE TO LONGITUDE IN TEXT A (CONTINUED)

<u>LONGITUDE</u>	<u>PRE- QUENCY</u>		<u>CONTEXT</u>	<u>ACTIVITIES</u>
	<u>Con- text</u>	<u>Acti- vities</u>		
x. There are 360 meridians on a globe $1^{\circ}$ apart				
y. Any point east of the prime meridian is in east longitude and any point west of the prime meridian is in west longitude				
z. Meridians are imaginary lines around the earth				
aa. There are $180^{\circ}$ of east longitude and $180^{\circ}$ of west longitude				
ab. Because the distance between meridians varies as we go north and south we do not commonly use them to measure distance in miles as we do parallels				
ac. Many places may be located on a $90^{\circ}$ longitude line, but when latitude is used with it such as $30^{\circ}$ it can refer to only one place				
ad. Use in sailing ships				
ae. Diagram to illustrate longitude in form of a street	1		6	
af. Diagram illustrating longitude lines on a globe				
ag. Lines of longitude pass through the north and south poles				
ah. All places on any one line of longitude are directly north and south of each other				

TABLE II

## REFERENCES MADE TO LONGITUDE IN TEXT A ( CONTINUED)

<u>LONGITUDE</u>	<u>FRE- QUENCY</u>		<u>CONTEXT</u>	<u>ACTIVITIES</u>
	<u>Con- text</u>	<u>Acti- vities</u>		
ai. Lines of longitude are marked by numbers which stand for degrees				
aj. Lines of longitude which pass through the United States are lines of west longitude				
ak. Use in question to test child's ability to tell if an area is in East or West longitude				
al. Use of index or guide as an aid to finding lines of longitude				
am. A connecting pair of meridians form a great north south circle around the earth				

In Table II there are fourteen references made to Longitude's use for finding location. Item c 2 (Location of countries) has three references, all activities. Items c 4 (Location of cities) and c 5 (Location of states) have two references each in the activities section of the texts. Items c 1 (Location of islands), c 13 (Location of Greenwich meridian), c 15 (Location of Primer Meridian), c 16 (Most eastern and western longitudes of North and South America), c 17 (Line that is  $0^{\circ}$  longitude), c 18 (Most eastern longitude of North America), and item c 19 (Most western longitude of South America) each have one reference.

There were only three other references made to Longitude. Item r (Use in chart to show elevation, population, and location of cities with a population of 20,000 or more), and ae (Diagram to illustrate longitude in form of a street) have one reference each in the context and the third reference, item u (Longitude is measured from a certain meridian called the prime meridian which passes through the town of Greenwich, England and is labeled  $0^{\circ}$  meridian) has two mentions in the context of the text.

TABLE III  
REFERENCES MADE TO LATITUDE IN TEXT B

<u>LATITUDE</u>	<u>PRE- QUENCY</u>		<u>CONTEXT</u>	<u>ACTIVITIES</u>
	<u>Con- text</u>	<u>Acti- vities</u>		
a. Maps(direct reference)	2	1	7, 202	32
b. Measuring distance	2		7, 82	
c. Location of:				
1. Cities	5	1	7,7,7,32,267	32
2. Towns				
3. Islands				
4. Continents		1		265
5. Mountains				
6. Areas	3		202,214,277	
7. States	4		7,7,7,17	
8. Valleys				
9. Lakes		1		82
10. Bays				
11. Straits				
12. Your own home				
13. Seacoast				
14. Canals				
15. Boundary lines				
16. Tropics				
17. Lines of latitude				
north and south	1		7	
18. Countries	1		277	
19. Rainfall				
20. North and south				
poles				
21. Roaring forties				
22. Peninsulas				
23. Seas				
24. Capes				
25. Tropic of Cancer	1		229	
26. Tropic of Capricorn				
27. Arctic Circle				
28. Antarctic Circle				
29. Cotton belt of U.S.A.				
30. Colonies				
31. River mouths				
32. River systems				
33. Sinking ships				
34. Farms	1		159	

TABLE III

REFERENCES MADE TO LATITUDE IN TEXT B (CONTINUED)

<u>LATITUDE</u>	<u>FRE-</u> <u>QUENCY</u>		<u>CONTEXT</u>	<u>ACTIVITIES</u>
	<u>Con-</u> <u>text</u>	<u>Acti-</u> <u>vities</u>		
c. 35. Plains				
36. Coast Ranges				
37. Plateaus				
38. Great Basin				
39. Piedmont Belt				
d. Winds are affected by latitude				
e. To show East West direction	2		7, 7	
f. Affect on length of days				
g. Affect on temperature				
h. Affect on length of growing season				
i. Defines meaning	1		7	
j. Word matching test				
k. Multiple choice test				
l. Affect on temperature of land and water				
m. Populations are affected by latitude				
n. Compare positions of two countries on the globe				
o. Comparison of growing seasons in different sections of the world in the same latitude				
p. Parallels of latitude are numbered in degrees				
q. Affect on length of summers and winters				
r. Affects severity of summers and winters				
s. To compare rainfall in different areas in the same latitude				
t. To compare length of summer areas in different sections of the same latitude				

TABLE III

## REFERENCES MADE TO LATITUDE IN TEXT B (CONTINUED)

<u>LATITUDE</u>	<u>FRE-</u> <u>QUENCY</u>		<u>CONTEXT</u>	<u>ACTIVITIES</u>
	<u>Con-</u> <u>text</u>	<u>Acti-</u> <u>vities</u>		
u. To compare climate of different areas in the same latitude				
v. To show difference from longitude				
w. Latitude affects types of plants grown				
x. To compare climates in areas in similar latitudes above and below the equator				
y. To compare position of cities above and below the equator by placing the tropic of cancer on the tropic of capricorn and making a double map				
z. Sun as an aid to location of latitude				
aa. The equator is the longest of all parallels of latitude				
ab. Parallels of latitude are the same distance apart				
ac. A degree of latitude is 70 miles long	1		7	
ad. Completion test				
ae. Diagram to illustrate latitude in the form of a road				
af. All places located south of the equator are in the south latitudes and all places north of the equator are in the north latitudes				
ag. Circles are divided into degrees				
ah. There are 360 degrees in a circle				

TABLE III

## REFERENCES MADE TO LATITUDE IN TEXT B (CONTINUED)

<u>LATITUDE</u>	<u>FRE- QUENCY</u>		<u>CONTEXT ACTIVITIES</u>
	<u>Con- text</u>	<u>Acti- vities</u>	
ai. From the equator to the north pole it is 1/4 of the way around the globe			
aj. To compare climate and crops of two areas in the same latitude, one above the equator and one below			
ak. Use in chart to show location of cities with populations of 20,000 or more			
al. Use in pronunciation key			
am. Low latitudes of North America have tropical climates with rain forests, grasslands and jungles			
an. The high latitudes have polar climates with very little plant life			
ao. Use in tables showing climatic conditions of important cities of world			
ap. To compare location of states above the equator with single country below the equator for climatic similarities			
aq. Compare positions of cities on globe			
ar. Because of violent storms met in the latitude of the westerlies, they were called the roaring forties			
as. Latitude effects types of industries			
at. Winds effect temperature in the same latitude			
au. Rainfall is effected by latitude			

TABLE III

## REFERENCES MADE TO LATITUDE IN TEXT B (CONTINUED)

<u>LATITUDE</u>	<u>PRE- QUENCY</u>		<u>CONTEXT</u>	<u>ACTIVITIES</u>
	<u>Con- text</u>	<u>Acti- vities</u>		
av. Climate effected by latitude				
aw. To show width of a country				
ax. To compare north south extent of two countries on map				
ay. To compare location of a city with a group of islands				
az. To compare location of a group of islands with a country				
aaa. Lines of latitude are called parallels				
aab. The distance between one parallel and the other is 1 degree or 1/90 of the distance between the equator and the north and south poles				
aac. All parallels are not shown on the globe as there would not be room enough to show oceans, cities, countries, and continents. That is why on every globe they show the 5th, 10th, or 15th parallel				
aad. Parallels are imaginary lines				
aae. Many places can be located on the 30th parallel, but when a meridian such as the 90th is given, it can refer to only one place				
aaf. All places on the west east line marked 30° are 1/3 1 of the way from the equator to the north pole				

TABLE III

## REFERENCES MADE TO LATITUDE IN TEXT B ( CONTINUED

<u>LATITUDE</u>	<u>FRE- QUENCY</u>		<u>CONTEXT</u>	<u>ACTIVITIES</u>
	<u>Con- text</u>	<u>Acti- vities</u>		
aag. East west lines are called lines of latitude				
aah. All places on any line of latitude are the same distance from the equator				
aai. All places on a line of latitude are directly east and west of one another				
aaj. Lines of latitude are numbered north and south from the equator				
aak. To compare location of a boundary line and parallel in the northern latitudes for their nearness to the equator				
aal. Use in question to test child's ability to recognize a north latitude from a south latitude				
aam. Use of an index or guide as an aid to finding lines of latitude				
aan. High latitudes are cooler than low				
aao. All parallels form circles on globe				
aap. Compare winter weather of two countries		1		295
aaq. Compare latitudes of a state in North America with a country in South America				
aar. Compare two states for similarities in latitudes				
aas. Use in tables showing elevation, and population of				

## TABLE III

## REFERENCES MADE TO LATITUDE IN TEXT B ( CONTINUED )

<u>LATITUDE</u>	<u>PRE- QUENCY</u>		<u>CONTEXT</u>	<u>ACTIVITIES</u>
	<u>Con- text</u>	<u>Acti- vities</u>		
aas.(cont.) of cities and possession of the United States with a population of 20,000 or more				

In Table III there were three references to item a (Maps, direct reference to).

Item b (Measuring distances) has only two references, both appearing in the context.

Nineteen references were made to Latitude's use for "Finding Locations". Sixteen appeared in the context and three in the activities. Item c 1 (Location of cities) had the most references with six as a total, five of these appeared in the context.

One reference is made in the context to each of the following items: item i (Defines meaning), item r (Effects severity of summers and winters), and item aaf (All places on the east west line marked  $30^{\circ}$  are  $1/3$  of the way from the equator to the north pole), and item ac (A degree of latitude is 70 miles long).

One reference is made to another item in the activities of the text: item aap (Compare winter weather of two countries).

Two references are made to item e (To show east west direction) in the context of this text.

TABLE IV

## REFERENCES MADE TO LONGITUDE IN TEXT B

<u>LONGITUDE</u>	<u>FRE-</u> <u>QUENCY</u>		<u>CONTEXT</u>	<u>ACTIVITIES</u>
	<u>Con-</u> <u>text</u>	<u>Acti-</u> <u>vities</u>		
a. Measure distance				
b. To show North South directions	1		7	
c. Location of:				
1. Islands				
2. Countries				
3. Continents				
4. Cities	1		7	
5. States				
6. Canals				
7. Rivers				
8. Peninsulas				
9. Mountains				
10. Spring wheat belt in U.S.A.				
11. Lakes				
12. Seacoast				
13. Greenwich meridian				
14. Sinking ship				
15. Prime meridian				
16. Most eastern and western longitudes of North & South America				
17. Line that is 0° longitude				
18. Most eastern longitude of North America				
19. Most western Longitude of South America				
20. Colonies				
21. Cotton Belt				
d. Defines meaning	1		7	
e. To show differences in distance between the meridians at the				

TABLE IV

## REFERENCES MADE TO LONGITUDE IN TEXT B ( CONTINUED)

<u>LONGITUDE</u>	<u>FRE-</u> <u>QUENCY</u>		<u>CONTEXT</u>	<u>ACTIVITIES</u>
	<u>Con-</u> <u>text</u>	<u>Acti-</u> <u>vities</u>		
equator and at the poles				
f. To show relation of a city in North America to a country in central America				
g. Maps (direct reference)				
h. Use in flying airplanes	1		7	
i. Aid to solution of questions				
j. To show direction other than north south				
k. Compare similarities between a polar map and a globe				
l. As a dividing line for comparing				
m. To compare location of an island in West Indies with state of Florida				
n. Multiple choice test				
o. Word matching test				
p. Completion test				
q. Compare position of two countries on globe				
r. Use in chart to show location of cities with population of 20,000 or more				
s. Use in tables showing climatic conditions of important cities of world				
t. Longitude lines are called meridians				
u. Longitude is measured from a certain meridian called the prime meridian				

TABLE IV

## REFERENCES MADE TO LONGITUDE IN TEXT B ( CONTINUED )

<u>LONGITUDE</u>	<u>FRE-</u> <u>QUENCY</u>		<u>CONTEXT</u>	<u>ACTIVITIES</u>
	<u>Con-</u> <u>text</u>	<u>Acti-</u> <u>vities</u>		
u. (cont.) which passes through the town of Greenwich, England and is labeled $0^{\circ}$				
v. Meridians are numbered east and west from $0^{\circ}$ meridian				
w. Meridians locate places on lines of latitude				
x. There are 360 meridians on a globe $1^{\circ}$ apart				
y. Any point east of the prime meridian is in the east longitude and any point west of the prime meridian is in west longitude				
z. Meridians are imaginary lines around the earth				
aa. There are $180^{\circ}$ of east longitude and $180^{\circ}$ of west longitude				
ab. Because the distance between meridians varies as we go north and south we do not commonly use them to measure distance in miles as we do parallels				
ac. Many places may be located on a $90^{\circ}$ longitude line, but when latitude is used with it such as $36^{\circ}$ it can refer to only one place				
ad. Use in sailing ships				
ae. Diagram to illustrate longitude in form of a street				
af. Diagram illustrating longitude lines on a globe				

TABLE IV

## REFERENCES MADE TO LONGITUDE IN TEXT B (CONTINUED)

<u>LONGITUDE</u>	FRE- QUENCY		<u>CONTEXT</u>	<u>ACTIVITIES</u>
	<u>Con- text</u>	<u>Acti- vities</u>		
ag. Lines of longitude pass through the north and south poles				
ah. All places on any one line of longitude are directly north and south of each other				
ai. Lines of longitude are marked by numbers which stand for degrees				
aj. Lines of longitude which pass through the United States are lines of west longitude				
ak. Use in question to test child's ability to tell if an area is in East or West longitude				
al. Use of index or guide as an aid to finding lines of longitude				
am. A connecting pair of meridians form a great north south circle around the earth				

In Table IV, there are only four references made to Longitude.

The following items appear once in the context of the text:

Item b (To show North South direction)

Item c4 (Location of cities)

Item d (Defines meaning)

Item g (Maps, direct reference to )

TABLE V  
REFERENCES MADE TO LATITUDE IN TEXT C

<u>LATITUDE</u>	<u>PRE- QUENCY</u>		<u>CONTEXT</u>	<u>ACTIVITIES</u>
	<u>Con- text</u>	<u>Acti- vities</u>		
a. Maps(direct reference to)	3	1	10,10,11	34
b. Measuring distance	6	6	11,11,11 116,242, 366	101,101, 101,101, 284,307
c. Location of:				
1. Cities	6	4	291,327, 327,330, 331,366	238,380, 380,380
2. Towns				
3. Islands	6	2	11,12,242, 243,301, 304	34, 34
4. Continents		1		142
5. Mountains		1		34
6. Areas	4	3	11,23,34, 337	34, 101, 307
7. States	2	2	100, 116	39, 101
8. Valleys		1		96
9. Lakes	1		242	
10. Bays	1		242	
11. Straits		1		34
12. Your own home		1		34
13. Seacoast	1	2	37	34, 34
14. Canals	1	1	299	207
15. Boundary lines	2	1	358,361	34
16. Tropics	1		361	
17. Lines of latitude north and south				
18. Countries	7	3	12,12,242 337,361, 365,376 205	307,307, 307
19. Rainfall	1			
20. North and South poles				
21. Roaring forties				
22. Peninsulas				
23. Seas				
24. Capes				

TABLE V  
REFERENCES MADE TO LATITUDE IN TEXT C (CONTINUED)

<u>LATITUDE</u>	<u>FRE-</u> <u>QUENCY</u>		<u>CONTEXT</u>	<u>ACTIVITIES</u>
	<u>Con-</u> <u>text</u>	<u>Acti-</u> <u>vities</u>		
c. 25.Tropic of Cancer	1		361	
26.Tropic of Capri- corn				
27.Arctic Circle				
28.Antarctic Circle				
29.Cotton belt of U. S. A.				
30.Colonies				
31.River mouths				
32.River systems				
33.Sinking ships				
34.Farms				
35.Plains				
36.Coast Ranges				
37.Plateaus				
38. Great Basin				
39.Piedmont Basin				
d. Winds are effected by latitude	3	3	16,205, 273	34, 271, 271
e. To show East West direction	3	1	10,242, 243	280
f. Effect on length of days		1		271
g. Effect on tempera- ture	9	3	10,11, 16,16, 16,185, 305,335 377	96, 96,321
h. Effect on length of growing season	6	9	16,16,43, 64,216, 305	17, 34,36, 101, 104, 142, 271, 312, 312
i. Defines meaning	1	1	11	279
j. Word matching test		1		36
k. Multiple choice test		3		17, 17,312
l. Effect on temperature of land and water	1		17	

TABLE V

## REFERENCES MADE TO LATITUDE IN TEXT C (CONTINUED)

<u>LATITUDE</u>	<u>PRE- QUENCY</u>		<u>CONTEXT</u>	<u>LATITUDE</u>
	<u>Con- text</u>	<u>Acti- vities</u>		
m. Populations are effected by latitude		1	—	34
n. Compare positions of two countries on the globe	1	1	361	142
o. Comparison of growing seasons in different sections of the world in the same latitude	1		365	
p. Parallels of latitude are numbered in degrees	2		11,242	
q. Effect on length of summers and winters	1		365	
r. Effects severity of summers and winters	1	1	372	271
s. To compare rainfall in different areas in the same latitude	1		273	
t. To compare length of summer areas in different sections of the same latitude		2		279, 312
u. To compare climate of different areas in the same latitude	2		279,366	
v. To show different from longitude		1		280
w. Latitude effects types of plants grown	1		340	
x. To compare climates in areas in similar latitudes above and below the equator	2		366, 367	
y. To compare position of cities above and below the equator by placing the tropic of cancer on the tropic of capricorn and making a double map	1		366	

TABLE V

## REFERENCES MADE TO LATITUDE IN TEXT C ( CONTINUED)

<u>LATITUDE</u>	PRE- QUENCY		<u>CONTEXT</u>	<u>ACTIVITIES</u>
	<u>Con- text</u>	<u>Acti- vities</u>		
z. Sun as an aid to location of latitude	1		11	
aa. The equator is the longest of all parallels of latitude	1		242	
ab. Parallels of latitude are the same distance apart	1	1	242	248
ac. A degree of latitude is 70 miles long	1		242	
ad. Completion test		1		398
ae. Diagram to illustrate latitude in the form of a road				
af. All places located south of the equator are in the south latitudes and all places north of the equator are in the north latitudes	1		11	
ag. Circles are divided into degrees				
ah. There are 360 degrees in a circle				
ai. From the equator to the north pole it is 1/4 of the way around the globe				
aj. To compare climate and crops of two areas in the same latitude, one above the equator and one below				
ak. Use in chart to show location of cities with populations of 20,000 or more				
al. Use in pronunciation key				

TABLE V

## REFERENCES MADE TO LATITUDE IN TEXT C (CONTINUED)

<u>LATITUDE</u>	<u>FRE-</u> <u>QUENCY</u>		<u>CONTEXT</u>	<u>ACTIVITIES</u>
	<u>Con-</u> <u>text</u>	<u>Acti-</u> <u>vities</u>		
am. Low latitudes of North America have tropical climates with rain, forest, grasslands and jungles				
an. The high latitudes have polar climates with very little plant life				
ao. Use in tables showing climatic conditions of important cities of world				
ap. To compare location of states above the equator with single country below the equator for climatic similarities				
aq. Compare positions of cities of globe				
ar. Because of violent storms met in the latitude of the westerlies, they were called the roaring forties				
as. Latitude effects types of industries				
at. Winds effect temperature in the same latitude				
au. Rainfall is effected by latitude				
av. Climate effected by latitude	2		116,365	
aw. To show width of a country				
ax. To compare north south extent of two countries on map	1		365	
ay. To compare location of a city with a group of islands				

TABLE V

## REFERENCES MADE TO LATITUDE IN TEXT C (CONTINUED)

<u>LATITUDE</u>	FRE- QUENCY		<u>CONTEXT</u>	<u>ACTIVITIES</u>
	<u>Con- text</u>	<u>Acti- vities</u>		
az. To compare location of a group of islands with a country	1		304	
aaa. Lines of latitude are called parallels				
aab. The distance between one parallel and the other is 1 degree or 1/90 of the distance between the equator and the north and south poles				
aac. All parallels are not shown on the globe as there would not be room enough to show oceans, cities, countries, and continents. That is why on every globe they show the 5th, 10th, or 15th parallel				
aad. Parallels are imaginary lines				
aae. Many places can be located on the 30th parallel, but when a meridian such as the 90th is given, it can refer to only one place				
aaf. All places on the west east line marked 30° are 1/3 of the way from the equator to the north pole				
aag. East west lines are called lines of latitude	1		242	

TABLE V  
REFERENCES MADE TO LATITUDE IN TEXT C ( CONTINUED )

<u>LATITUDE</u>	<u>PRE- QUENCY</u>		<u>CONTEXT</u>	<u>ACTIVITIES</u>
	<u>Con- text</u>	<u>Acti- vities</u>		
aah. All places on any line of latitude are the same distance from the equator				
aai. All places on a line of latitude are directly east and west of one another				
aaj. Lines of latitude are numbered north and south from the equator				
aak. To compare location of a boundary line and parallel in the northern latitudes for their nearness to the equator				
aal. Use in question to test child's ability to recognize a north latitude from a south latitude				
aam. Use of an index or guide as an aid to finding lines of latitude				
aan. High latitudes are cooler than low				
aao. All parallels form circles on globe				
aap. Compare winter weather of two countries				
aaq. Compare latitudes of a state in North America with a country in South America	1		11	
aar. Compare two states for similarities in latitudes				
aas. Use in tables showing elevation and population of cities and possession of the United States with a population of 20,000 or more				

In Table V there were four references to Latitude's use in Maps (Direct reference to). Three of them are in the context of the text.

There were twelve references to item b (Measuring distances), six in the context and six in the activities.

Under c (Locations of) there were fifty-six references to Latitude's use for finding locations. Thirty-three references were made in the context and twenty-three in the activities. Item c 1 (Location of cities) has ten references, six in the context and four in the activities. Item c 3 (Location of islands) has eight references, six in the context and two in the activities. Item c 18 (Location of countries) has ten references, seven in the context and three in the activities.

Item g (Effect on temperature) has twelve references made to it, nine appear in the context and three in the activities.

Item h (Effect on length of growing season) has fifteen references to it, six in the context and nine in the activities.

Item d (Winds are effected by latitude) has six references to it, three in the context and three in the activities.

Item e (To show East West direction) has four references, three in the context and one in the activities.

Item k (Multiple choice test) has three references, all in the activities of the text.

The following items are mentioned twice: item i (Defines meaning) item n (Compare positions of two countries on globe), item r (Effects severity of summers and winters), item t (To compare length of summer areas in different sections of the same latitude), item u (To compare climate of different areas in the same latitude), item x (To compare climates in areas in similar latitudes above and below the equator), item ab (Parallels of latitude are the same distance apart), item av (Climate effected by latitude).

The following items are mentioned once: item f (Effect on length of days and nights) item j (Word matching test), item l (Effect on temperature of land and water), item m (Populations are effected by latitude), item o (Comparison of growing seasons in different sections of the world in the same latitude), item q (Effect on length of summers and winters, item s (To compare rainfall in different areas in the same latitude), item v (To show difference from longitude), item w (Latitude

effects types of plants grown), item y (To compare positions of cities above and below the equator by placing the Tropic of cancer on the tropic of capricorn and making a double map), item z (Sun as an aid to location of latitude), item aa (The equator is the longest of all parallels of latitude), item ac (A degree of latitude is 70 miles long), item ad (Completion test), item af (All places located south of the equator are in the south latitudes and all places north of the equator are in the north latitudes), item ax (To compare north south extent of two countries), item az (To compare location of a group of islands with a country), and item aag (East west lines are called lines of latitude).

TABLE VI

## REFERENCES MADE TO LONGITUDE IN TEXT C

<u>LONGITUDE</u>	FRE- QUENCY		<u>CONTEXT</u>	<u>ACTIVITIES</u>
	<u>Con- text</u>	<u>Acti- vities</u>		
a. Measuring Distance		2		280, 280
b. To show North South direction	3	2	10,242, 243	248, 399
c. Location of:				
1. Islands		1		307
2. Countries		2		248, 307
3. Continents	1	1	242	248
4. Cities		1		307
5. States		1		307
6. Canals		1		307
7. Rivers				
8. Peninsulas				
9. Mountains				
10. Spring wheat belt in U.S.A.				
11. Lakes				
12. Seacoast				
13. Greenwich meridian				
14. Sinking ship				
15. Prime meridian				
16. Most eastern and western longitudes of North and South America				
17. Line that is 1° longitude				
18. Most eastern longi- tude of North America				
19. Most western longi- tude of South America				
20. Colonies				
21. Cotton Belt				
d. Defines meaning	1		242	
e. To show differences in distance between the meridians at the equator and at the poles	1		242	

TABLE VI  
REFERENCES MADE TO LONGITUDE IN TEXT C (CONTINUED)

LONGITUDE	FRE- QUENCY		CONTEXT	ACTIVITIES
	Con- text	Acti- vities		
f. To show relation of a country in Central America on same meridian	1		366	
g. Maps (direct reference to)	2		399, 401	
h. Use in flying airplanes		1		248
i. Aid to solution of questions		1		280
j. To show direction other than north south		1		280
k. Compare similarities between a polar map and a globe	1		242	
l. As a dividing line for comparing		1		307
m. To compare location of an island in West Indies with the State of Florida		1		307
n. Multiple choice test		3		96,312,312
o. Word matching tests		1		36
p. Completion test		1		398
q. Compare position of two countries on globe	1		360	
r. Use in chart to show elevation and location of cities with population of 20,000 or more				
s. Use in tables showing climatic conditions of important cities of the World				
t. Longitude lines are called meridians				
u. Longitude is measured from a certain meridian called prime meridian which passes through the town of Greenwich, England and is labeled 0° meridian				
v. Meridians are numbered east and west from the 0° meridian				

TABLE VI

## REFERENCES MADE TO LONGITUDE IN TEXT C (CONTINUED)

<u>LONGITUDE</u>	FRE- QUENCY		<u>CONTEXT</u>	<u>ACTIVITIES</u>
	<u>Con- text</u>	<u>Acti- vities</u>		
w. Meridians locate places on lines of latitude				
x. There are 360 meridians on a globe 1° apart				
y. Any point east of the prime meridian is in east longitude and any point west of the prime meridian is in west longitude				
z. Meridians are imaginary lines around the earth				
aa. There are 180° of east longitude and 180° of west longitude				
ab. Because the distance between meridians varies as we go north and south we do not commonly use them to measure distance in miles as we do parallels				
ac. Many places may be located on a 90° longitude line, but when a latitude is used with it such as 30° it can refer to only one place				
ad. Use in sailing ships				
ae. Diagram to illustrate longitude in form of a street				
af. Diagram to illustrate longitude lines on a globe				
ag. Lines of longitude pass through the north and south poles				

TABLE VI  
REFERENCES MADE TO LONGITUDE IN TEXT C (CONTINUED)

<u>LONGITUDE</u>	FRE- QUENCY		<u>CONTEXT</u>	<u>ACTIVITIES</u>
	<u>Con- text</u>	<u>Acti- vities</u>		
ah. All places on any one line of longitude are directly north and south of each other				
ai. Lines of longitude are marked by numbers which stand for degrees				
aj. Lines of longitude which pass through the United States are lines of west longitude				
ak. Use in question to test child's ability to tell if an area is in East or West longitude				
al. Use of index or guide as an aid to finding lines of longitude				
am. A connecting pair of meridians form a great north south circle around the earth				

In Table VI, item a (Measuring distances has two references in the activities section of the text.

Item b (To show north south direction) has five references, three in the context and two in the activities.

Item c (Location of) has eight references, seven are activities and one appears in the context.

Item g (Maps, direct reference to) has two references made to it in the context.

The following items have one reference: item d (Defines meaning, item e (To show difference in distance between meridians at the equator and at the poles), item f (To show relation of a city in North America to a country in Central America on the same meridian), item h (Use in flying airplanes), item i (Aid to solution of questions), item j (To show direction other than north south), item k (Compare similarities between a polar map and a globe), item l (As a dividing line for comparing), item m (To compare location of an island in West Indies with the State of Florida), item o (Word matching test, ) item p (Completion test, and item q (Compare positions of two countries globe).

Item n (Multiple choice test has three references to it in the activities of the text.

TABLE VII  
REFERENCES MADE TO LATITUDE IN TEXT D

<u>LATITUDE</u>	PRE- QUENCY		<u>CONTEXT</u>	<u>ACTIVITIES</u>
	<u>Con- text</u>	<u>Acti- vities</u>		
a. Maps (direct reference to)				
b. Measuring distances	1		36	
c. Location of:				
1. Cities	1		336	
2. Towns				
3. Islands				
4. Countries				
5. Mountains				
6. Areas				
7. States	1		36	
8. Valleys	1		322	
9. Lakes				
10. Bays				
11. Straits				
12. Your own home				
13. Seacoast				
14. Canals				
15. Boundary lines				
16. Tropics				
17. Lines of latitude north and south				
18. Countries	2		312, 328	
19. Rainfall				
20. North and South poles				
21. Roaring forties				
22. Peninsulas				
23. Seas				
24. Capes				
25. Tropic of Cancer				
26. Tropic of Capricorn				
27. Arctic Circle				
28. Antarctic circle				
29. Cotton belt of U.S.A.				
30. Colonies				
31. River mouths				
32. River systems				
33. Sinking ships				

TABLE VII

## REFERENCES MADE TO LATITUDE IN TEXT D (CONTINUED)

<u>LATITUDE</u>	<u>PRE- QUENCY</u>		<u>CONTEXT</u>	<u>ACTIVITIES</u>
	<u>Con- text</u>	<u>Acti- vities</u>		
c. 34. Farms				
35. Plains				
36. Coast Ranges				
37. Plateaus				
38. Great Basin				
39. Piedmont Belt				
d. Winds are effected by latitude				
e. To show East West direction	1		36	
f. Effect on length of day				
g. Effect on temperature	1		322	
h. Effect on length of growing season				
i. Defines meaning	1		36	
j. Word matching test				
k. Multiple choice test				
l. Effect on temperature of land of water				
m. Populations are effected by latitude				
n. Compare positions of two countries on the globe				
o. Comparison of growing seasons in different sections of the world in the same latitude				
p. Parallels of latitude are numbered in degrees				
q. Effect on length of summers and winters				
r. Effects severity of summers and winters				
s. To compare rainfall in different areas in the same latitude				

TABLE VII

## REFERENCES MADE TO LATITUDE IN TEXT D (CONTINUED)

<u>LATITUDE</u>	FRE- QUENCY		<u>CONTEXT</u>	<u>ACTIVITIES</u>
	<u>Con- text</u>	<u>Acti- vities</u>		
t. To compare length of summer areas in different sections of the same latitude				
u. To compare climate of different areas in the same latitude				
v. To show difference from longitude				
w. Latitude effects types of plants grown	1		356	
x. To compare climates in areas in similar latitudes above and below the equator				
y. To compare position of cities above and below the equator by placing the tropic of cancer on the tropic of capricorn and making double map				
z. Sun as an aid to location of latitude				
aa. The equator is the longest of all parallels of latitude				
ab. Parallels of latitude are the same distance apart				
ac. A degree of latitude is 70 miles long				
ad. Completion test				
ae. Diagram to illustrate latitude in the form of a road				
af. All places located south of the equator are in the south latitudes and all places north of the equator are in the north latitudes				

TABLE VII

## REFERENCES MADE TO LATITUDE IN TEXT D (CONTINUED)

<u>LATITUDE</u>	<u>Con- text</u>	<u>Acti- vities</u>	<u>CONTEXT ACTIVITIES</u>
ag. Circles are divided into degrees			
ah. There are 360 degrees in a circle			
ai. From the equator to the north pole it is 1/4 of the way around the globe			
aj. To compare climate and crops of two areas in the same latitude, one above the equator and one below			
ak. Use in chart to show location of cities with populations of 20,000 or more			
al. Use in pronunciation key			
am. Low latitudes of North America have tropical climates with rain forests, grasslands and jungles	1		304
an. The high latitudes have polar climates with very little plant life	1		304
ao. Use in tables showing climatic conditions of important cities of world	1		373
ap. To compare location of states above the equator with single country below the equator for climatic similarities			
aq. Compare positions of cities on globe			

TABLE VII

## REFERENCES MADE TO LATITUDE IN TEXT D ( CONTINUED)

<u>LATITUDE</u>	FRE- QUENCY		<u>CONTEXT</u>	<u>ACTIVITIES</u>
	<u>Con- text</u>	<u>Acti- vities</u>		
ar. Because of violent storms met in the latitude of the westerlies, they were called the roaring forties				
as. Latitude effects types of industries				
at. Winds effect temperature in the same latitude				
au. Rainfall is effected by latitude				
av. Climate effected by latitude	1		328	
aw. To show width of a country				
ax. To compare north south extent of two countries on map				
ay. To compare location of a city with a group of islands				
az. To compare location of a group of islands with a country				
aaa. Lines of latitude are called parallels				
aab. The distance between one parallel and the other is 1 degree or 1/90 of the distance between the equator and the north and south poles				
aac. All parallels are not shown on the globe as there would not be room enough to show oceans, cities, countries, and continents. That is why				

TABLE VII

## REFERENCES MADE TO LATITUDE IN TEXT D (CONTINUED)

<u>LATITUDE</u>	FRE- QUENCY	Con- text	Acti- vities	<u>CONTEXT</u>	<u>ACTIVITIES</u>
on every globe they show the 5th, 10th, or 15th parallel					
aad. Parallels are imaginary lines					
aae. Many places can be located on the 30th parallel, but when a meridian such as the 90th is given, it can refer to only one place					
aaf. All places on the west east line marked 30° are 1/3 of the way from the equator to the north pole					
aag. East west lines are called lines of latitude					
aah. All places on any line of latitude are the same distance from the equator					
aai. All places on a line of latitude are directly east and west of one another					
aaj. Lines of latitude are numbered north and south from the equator					
aak. To compare location of a boundary line and parallel in the northern latitudes for their nearness to the equator					
aal. Use in question to test child's ability to recognize a north latitude from a south latitude					

TABLE VII

## REFERENCES MADE TO LATITUDE IN TEXT D ( CONTINUED)

<u>LATITUDE</u>	FRE- QUENCY		<u>CONTEXT</u>	<u>ACTIVITIES</u>
	<u>Con- text</u>	<u>Acti- vities</u>		
aam. Use of an index or guide as an aid to finding lines of lati- tude				
aan. High latitudes are cooler than low				
aac. All parallels form circles on globe				
aap. Compare winter weather of two countries				
aaq. Compare latitudes of a state in North America with a country in South America				
aar. Compare two states for similarities in latitudes				
aas. Use in tables showing elevation and population of cities and possessions of the United States with a population of 20,000 or more				

In Table VII the following items are mentioned once in the context of the text: item b (Measuring distances), item c 1 (Location of cities), item c 4 (Location of continents), item c 7 (Location of states), item c 8 (Location of valleys), item e (To show East West direction), item g (Effect on temperature), item i (Defines meaning), item w (Latitude effects types of plants grown), item am (Low latitudes of North America have tropical climates with rain forest, grasslands, and jungles), item an (The high latitudes have polar climates with very little plant life), item ao (Use in tables showing climatic conditions of important cities of the World), item av (Climate effected by latitude).

Item c 18 (Location of countries has two references to it in the context.

TABLE VIII

## REFERENCES MADE TO LONGITUDE IN TEXT D

<u>LONGITUDE</u>	FRE- QUENCY		<u>CONTEXT</u>	<u>ACTIVITIES</u>
	<u>Con- text</u>	<u>Acti- vities</u>		
a. Measure distances				
b. To show North South directions	1		36	
c. Location of:				
1. Islands	1		312	
2. Countries	1		303	
3. Continents	1		336	
4. Cities				
5. States				
6. Canals				
7. Rivers				
8. Peninsulas				
9. Mountains				
10. Spring wheat belt in U.S.A.				
11. Lakes				
12. Seacoast				
13. Greenwich meridian				
14. Sinking ship				
15. Prime meridian				
16. Most eastern and western longitudes of North & South America				
17. Line that is 0° longitude				
18. Most eastern longitude of North America				
19. Most western longitude of South America				
20. Colonies				
21. Cotton Belt				
d. Defines meaning	1		36	
e. To show differences between the meridians at the equator and at the poles				

TABLE VIII

## REFERENCES MADE TO LONGITUDE IN TEXT D (CONTINUED)

<u>LONGITUDE</u>	PRE- QUENCY		<u>CONTEXT</u>	<u>ACTIVITIES</u>
	<u>Con- text</u>	<u>Acti- vities</u>		
f. To show relation of a city in North America to a country in Central America				
g. Maps (direct reference)	1		312	
h. Use in flying airplanes				
i. Aid to solution of questions				
j. To show direction other than north south	1		328	
k. Compare similarities between a polar map and a globe				
l. As a dividing line for comparing				
m. To compare location of an island in West Indies with state of Florida				
n. Multiple choice test				
o. Word matching test				
p. Completion test				
q. Compare position of two countries on globe	1		302	
r. Use in chart to show location of cities with population of 20,000 or more				
s. Use in tables showing climatic conditions of important cities of world				1
t. Longitude lines are called meridians			373	
u. Longitude is measured from a certain meridian called the prime meridian which passes through the town of Greenwich, England and is labeled 0°				
v. Meridians are numbered east and west from the				

## TABLE VIII

## REFERENCES MADE TO LONGITUDE IN TEXT D (CONT.)

<u>LONGITUDE</u>	<u>FRE-</u> <u>QUENCY</u>		<u>CONTEXT</u>	<u>ACTIVITIES</u>
	<u>Con-</u> <u>text</u>	<u>Acti-</u> <u>vities</u>		
v.(cont.) 0° meridian				
w. Meridians located on lines of latitude				
x. There are 360 meridians on a globe 1° apart				
y. Any point east of the prime meridian is in the east longitude and any point west of the prime meridian is in west longitude				
z. Meridians are imaginary lines around the earth				
aa. There are 180° of east longitude and 180° of west longitude				
ab. Because the distance between the meridians varies as we go north and south we do not commonly use them to measure distance in miles as we do parallels				
ac. Many places may be located on a 90° longitude line, but when latitude is used with it such as 30° it can refer to only one place				
ad. Use in sailing ships				
ae. Diagram to illustrate longitude in form of a street				
af. Diagram illustrating longitude lines on a globe				

TABLE VIII

REFERENCES MADE TO LONGITUDE IN TEXT D ( CONTINUED )

<u>LONGITUDE</u>	<u>FRE- QUENCY</u>		<u>CONTEXT</u>	<u>ACTIVITIES</u>
	<u>Con- text</u>	<u>Acti- vities</u>		
ag. Lines of longitude pass through the north and south poles				
ah. All places on any one line of longitude are directly north and south of each other				
ai. Lines of longitude are marked by numbers				
aj. Lines of longitude which pass through the United States are lines of west longitude				
ak. Use in question to test child's ability to tell if an area is in East or West longitude				
al. Use of index or guide as an aid to finding lines of longitude				
am. A connecting pair of meridians form a great north south circle around the earth				

In Table VIII the following items are mentioned once in the context of the text: item b (To show North South direction), item c 2 (Location of countries), item c 3 (Location of continents), c 4 (Location of countries), item d (Defines meaning), item g (Maps direct reference to), item j (To show direction other than north south, item q (Compare position of two countries on globe), item s (Use in tables showing climatic conditions of important cities of the World).

TABLE IX  
REFERENCES MADE TO LATITUDE IN TEXT E

<u>LATITUDE</u>	FRE- QUENCY		<u>CONTEXT</u>	<u>ACTIVITIES</u>
	<u>Con- text</u>	<u>Acti- vities</u>		
a. Maps(direct reference)	5	8	179, 224 228, 229 229	27, 31, 41, 46, 46, 73 123, 139
b. Measuring distance	5	2	179, 224, 229, 229, 229	139, 200
c. Location of:				
1. Cities		7		16, 41, 46, 46, 73, 187, 191
2. Towns				
3. Islands				
4. Continents	1		224	
5. Mountains		1		46
6. Areas		1		123
7. States				
8. Valleys				
9. Lakes		1		96
10. Bays				
11. Straits				
12. Your own home				
13. Seacoast	1	1	215	202
14. Canals				
15. Boundary lines				
16. Tropics				
17. Lines of latitude north and south	1		229	
18. Countries	10	6	115, 179 192, 193 199, 206 218, 229 230, 230	123, 125 125, 143, 187, 187
19. Rainfall				
20. North and south poles		1		31
21. Roaring forties	1		197	
22. Peninsulas		2		16, 16
23. Seas				
24. Capes				

TABLE IX

## REFERENCES MADE TO LATITUDE IN TEXT E (CONTINUED)

<u>LATITUDE</u>	FRE- QUENCY		<u>CONTEXT</u>	<u>ACTIVITIES</u>
	<u>Con- text</u>	<u>Acti- vities</u>		
c. Location of:(cont.)				
25. Tropic of Cancer				
26. Tropice of Capricorn				
27. Arctic Circle				
28. Antarctic Circle				
29. Cotton belt of U.S.A.		1	124, 124	27
30. Colonies	2			
31. River mouths		2		166, 166
32. River systems	1	1	188	190
33. Sinking ships	1		230	
34. Farms				
35. Plains				
36. Coast Ranges				
37. Plateaus				
38. Great Basin				
39. Piedmont Belt				
d. Winds are effected by latitude				
e. To show East West direction				
f. Effect on length of days				
g. Effect on temperature	3		124, 125 219	
h. Effect on length of growing season				
i. Defines meaning	1		229	
j. Word matching test				
k. Multiple choice test				
l. Effect on temperature of land and water				
m. Populations are effected by latitude				
n. Compare positions of two countries on the globe	1		179	
o. Comparison of growing seasons in different sections of the world in the same latitude	1		160	

TABLE IX

## REFERENCES MADE TO LATITUDE IN TEXT E (CONTINUED)

<u>LATITUDE</u>	FRE- QUENCY		<u>CONTEXT</u>	<u>ACTIVITIES</u>
	<u>Con- text</u>	<u>Acti- vities</u>		
p. Parallels of latitude are numbered in degrees				
q. Effect on length of summers and winters	2		55, 127	
r. Effects severity of summers and winters				
s. To compare rainfall in different areas in the same latitude				
t. To compare length of summer areas in different sections of the same latitude				
u. To compare climate of different areas in the same latitude	1	1	159	130
v. To show difference from longitude				
w. Latitude effects types of plants grown	1		125	
x. To compare climates in areas in similar latitudes above and below the equator				
y. To compare position of cities above and below the equator by placing the tropic of cancer on the tropic of capricorn and making a double map				
z. Sun as an aid to location of latitude				
aa. The equator is the longest of all parallels of latitude				
ab. Parallels of latitude are the same distance apart				

TABLE IX

## REFERENCES MADE TO LATITUDE IN TEXT E (CONTINUED)

<u>LATITUDE</u>	<u>PRE- QUENCY</u>		<u>CONTEXT</u>	<u>ACTIVITIES</u>
	<u>Con- text</u>	<u>Acti- vities</u>		
ac. A degree of latitude is 70 miles long	2	1	224,229	16
ad. Completion test				
ae. Diagram to illustrate latitude in the form of a road				
af. All places located south of the equator are in the south latitudes and all places north of the equator are in the north latitudes	1		229	
ag. Circles are divided into degrees				
ah. There are 360 degrees in a circle				
ai. From the equator to the north pole it is 1/4 of the way around the globe				
aj. To compare climate and crops of two areas in the same latitude, one above the equator and one below				
ak. Use in chart to show location of cities with populations of 20,000 or more				
al. Use in pronunciation key				
am. Low latitudes of North America have tropical climates with rain forests, grasslands and jungles				
an. The high latitudes have polar climates with very little plant life				

TABLE IX

## REFERENCES MADE TO LATITUDE IN TEXT E (CONTINUED)

<u>LATITUDE</u>	FRE- QUENCY		<u>CONTEXT</u>	<u>ACTIVITIES</u>
	<u>Con- text</u>	<u>Acti- vities</u>		
ao. Use in tables showing climatic conditions of important cities of the world				
ap. To compare location of states above the equator with single country below the equator for climatic similarities	1		187	
aq. Compare positions of cities on globe		2		187, 187
ar. Because of violent storms met in the latitude of the westerlies, they were called the roaring forties	1		197	
as. Latitude effects types of industries				
at. Winds effect temperature in the same latitude				
au. Rainfall is effected by latitude				
av. Climate effected by latitude				
aw. To show width of a country				
ax. To compare north south extent of two countries on map		2		139, 187
ay. To compare location of a city with a group of islands	1		151	
az. To compare location of a group of islands with a country	1		155	
aaa. Lines of latitude are called parallels	2		228, 229	
aab. The distance between				

TABLE IX

## REFERENCES MADE TO LATITUDE IN TEXT E (CONTINUED)

<u>LATITUDE</u>	FRE- QUENCY		<u>CONTEXT</u>	<u>ACTIVITIES</u>
	<u>Con- text</u>	<u>Acti- vities</u>		
aab.(cont.)one parallel and the other is 1 degree or 1/90 of the distance between the equator and the north and south poles	1		229	
aac.All parallels are not shown on the globe as there would not be enough room to show oceans, cities,countries and continents. That is why on every globe they show the 5th,10th, or 15th parallels	1		229	
aad.Parallels are imaginary lines	1		229	
aae.Many places can be located on the 30th parallel, but when a meridian such as the 90th is given, it can refer to only one place	1		230	
aaf.All places on the west east line marked 30° are 1/3 of the way from the equator to the north pole				
aag.East west lines are called lines of latitude				
ash.All places on any line of latitude are the same distance from the equator				
aai.All places on any line of latitude are directly east and west of one another				

TABLE IX

## REFERENCES MADE TO LATITUDE IN TEXT E (CONTINUED)

<u>LATITUDE</u>	PRE- QUENCY		<u>CONTEXT</u>	<u>ACTIVITIES</u>
	<u>Con- text</u>	<u>Acti- vities</u>		
aa.j. Lines of latitude are numbered north and south from the equator				
aa.k. To compare location of a boundary line and parallel in the northern latitudes for their nearness to the equator				
aa.l. Use in question to test child's ability to recognize a north latitude from a south latitude				
aa.m. Use of an index or guide as an aid to finding lines of latitude				
aa.n. High latitudes are cooler than low				
aa.o. All parallels form circles on globe				
aa.p. Compare winter weather of two countries				
aa.q. Compare latitudes of a state in North America with a country in South America				
aa.r. Compare two states for similarities in latitudes				
aa.s. Use in tables showing elevations, and population of cities and possessions of the United States with a population of 20,000 or more				

In Table IX, there were thirteen references to item a (Maps, direct referenceto), five were in the context and eight in the activities.

Item b (Measuring distances) has seven references, five in the context and two in the activities.

Item c (Finding locations) has forty-two references, eighteen in the context and twenty-four in the activities.

Item g (Effect on temperature) has three references in the activities section of the text.

The following items have two references: item q (Effect on length of summers and winters), item u (To compare climate of different areas in the same latitude), item aq (Compare position of cities on globe), item az, (To compare north south extent of two countries on map), item aaa (Lines of latitude are called parallels).

Item ac (A degree of latitude is 70 miles long) has three references to it, two in the context and one in the activities.

The following items have one reference: item i (Defines meaning), item n (Compare position of two countries on globe), item o (Comparison of growing seasons in different sections of the world in the same latitude), item w (Latitude effects types of plants grown, item af (All places located south the Equator are in the south latitudes and all places located north of the equator are in the north latitudes), item ap (To compare

location of states above the equator with single country below the equator for climatic similarities), item ar (Because of the violent storms met in the latitude of the westerlies, they were called the roaring forties), item ay (To compare location of a city with a group of islands), item az (To compare location of a group of islands with a country), item aab (The distance between one paraell and the other is 1 degree of 1/90 of the distance between the equator and the north and south poles), item aac (All parallels are not shown on the globe as there would not be room enough to show oceans, cities countries, and continents. That is why on every globe they show the 5th, 10th, or 15th parallel), item aad (Parallels are imaginary lines), item aae (Many places can be located on the 30th parallel, but when a meridian such as the 90th is given it can refer to only one place).

TABLE X  
REFERENCES MADE TO LONGITUDE IN TEXT E

<u>LONGITUDE</u>	FRE- QUENCY		<u>CONTEXT</u>	<u>ACTIVITIES</u>
	<u>Con- text</u>	<u>Acti- vities</u>		
a. Measuring distance		2		143, 166
b. To show North South directions		2		16, 166
c. Location of:				
1. Islands				
2. Countries	1	2	224	131, 131
3. Continents		1		166
4. Cities	3	6	159, 224 229	27, 41, 46, 46, 73, 146
5. States				
6. Canals				
7. Rivers	2		124, 124	
8. Peninsulas		1		16
9. Mountains		1		46
10. Spring wheat belt in U.S.A.		1		73
11. Lakes		1		96
12. Seacoast		1		202
13. Greenwich meridian	1		228	
14. Sinking ship	1		230	
15. Prime meridian				
16. Most eastern and western longitudes of north and South America				
17. Line that is 00 longitude				
18. Most eastern longitude of North America				
19. Most western longitude of South America				
20. Colonies				
21. Cotton Belt		1		27
d. Defines meaning	1		229	
e. To show differences in distance between the meridians at the equator and at the poles	2		228, 229	

TABLE X  
REFERENCES MADE TO LONGITUDE IN TEXT E (CONTINUED)

<u>LONGITUDE</u>	FRE- QUENCY		<u>CONTEXT</u>	<u>ACTIVITIES</u>
	<u>Con- text</u>	<u>Acti- vities</u>		
f. To show relation of a city in North America to a country in Central America on same meridian	1		224	
g. Maps (direct reference to)	2	10	159, 214	16, 27, 31, 41, 46, 46, 73, 123, 131, 166
h. Use in flying airplanes				
i. Aid to solution of questions				
j. To show direction other than north-south	2	2	229, 230	16, 46
k. Compare similarities between a polar map and a globe				
l. As a dividing line for comparing		1		16
m. To compare location of an island in West Indies with the State of Florida				
n. Multiple choice test				
o. Word matching test				
p. Completion test				
q. Compare position of two countries on globe				
r. Use in chart to show elevation and location of cities with population of 20,000 or more				
s. Use in tables showing climatic conditions of important cities of the World				
t. Longitude lines are called meridians	1		228	
u. Longitude is measured from a certain meridian called the prime meridian which passes through the town of				

TABLE X  
REFERENCES MADE TO LONGITUDE IN TEXT E (CONTINUED)

<u>LONGITUDE</u>	<u>FRE- QUENCY</u>		<u>CONTEXT</u>	<u>ACTIVITIES</u>
	<u>Con- text</u>	<u>Acti- vities</u>		
u.(cont.) Greenwich, England and is labeled 0°	1		228	
v. Meridians are num- bered east and west from the 0° meridian	1		229	
w. Meridians locate places on lines of latitude	1		229	
x. There are 360 meri- dians on a globe 1° apart	1		229	
y. Any point east of the prime meridian is in the east longitude and any point west of the prime meridian is in west longitude	1		229	
z. Meridians are imaginary lines around the earth	1		229	
aa. There are 180° of east longitude and 180° of west longitude	1		229	
ab. Because the distance between meridians varies as we go north and south we do not commonly use them to measure distance in miles as we do parallels	1		229	
ac. Many places may be lo- cated on a 90° longitude line, but when latitude is used with it such as 30° it can refer to only one place	1		230	
ad. Use in sailing ships	1		230	

TABLE X

## REFERENCES MADE TO LONGITUDE IN TEXT E (CONTINUED)

<u>LONGITUDE</u>	FRE- QUENCY		<u>CONTEXT</u>	<u>ACTIVITIES</u>
	<u>Con- text</u>	<u>Acti- vities</u>		
ae. Diagram to illustrate longitude in form of a street				
af. Diagram illustrating longitude lines on a globe				
ag. Lines of longitude pass through the north and south poles				
ah. All places on any one line of longitude are directly north and south of each other				
ai. Lines of longitude are marked by numbers which stand for degrees				
aj. Lines of longitude which pass through the United States are lines of west longitude				
ak. Use in question to test child's ability to tell if an area is in East or West Longitude				
al. Use of index or guide as an aid to finding line of longitude				
am. A connecting pair of meridians form a great north south circle around the earth				

In Table X item a (Measuring distance) and item b (To show North South direction) have two references each in the activities of the text.

Item c (Finding locations) has twenty-three references; eight are in the context and fifteen in the activities.

Item g (Maps, direct reference to) has twelve references, two in the context, and two in the activities.

Item j (To show direction other than North South) has four references, two in the context and two in the activities.

The following item is mentioned twice: item e (To show differences in distance between meridians at the equator and at the poles).

One reference is made to each of the following items: item d (Defines meaning), item f (To show relation of a city in North America to a country in Central America on the same meridian), item l (As a dividing line for comparing), item t (Longitude lines are called meridians), item u (Longitude is measured from a certain meridian called a Prime Meridian), item v (Meridians are numbered east and west from the  $0^{\circ}$  meridian), item x ( There are 360 meridians on a globe  $1^{\circ}$  apart), item w (Meridians locate places on lines of latitude), item y (Any point east of the Prime Meridian is in east longitude, and any point west of the Prime Meridian is in west longitude), item z (meridians are imaginary lines around the earth) item aa ( There are 180 degrees of east longitude, and 180 degrees of west longitude).

item ab (Because the distance between meridians varies as we go north and south, we do not commonly use them to measure distance in miles as we do parallels), item ac ( Many places can be located on a  $90^{\circ}$  longitude line, but when latitude is used with it such as  $30^{\circ}$ , it can refer to only one place), and item ad (Use in sailing ships)

TABLE XI

## REFERENCES MADE TO LATITUDE IN TEXT F

<u>LATITUDE</u>	FRE- QUENCY		<u>CONTEXT</u>	<u>ACTIVITIES</u>
	<u>Con- text</u>	<u>Acti- vities</u>		
a. Maps(direct reference)	5		9,42,66, 66,183	
b. Measuring distance	3	4	66,183, 305	40, 285,285
c. Location of:				
1. Cities	3	1	102,166, 166	285
2. Towns	1		102	
3. Islands	3		118,342, 342	
4. Continents	2		277,384	
5. Mountains				
6. Areas	5		26, 26, 26, 46, 66	
7. States		1		40
8. Valleys				
9. Lakes				
10. Bays				
11. Straits				
12. Your own home				
13. Seacoast	1		166	
14. Canals				
15. Boundary lines				
16. Tropics				
17. Lines of latitude north and south				
18. Countries	10	3	5, 9,26, 40,40, 202,212 305,357, 359	87, 87, 328
19. Rainfall				
20. North and south poles				
21. Roaring forties				
22. Peninsulas	1		101	

TABLE XI

## REFERENCES MADE TO LATITUDE IN TEXT F (CONTINUED)

<u>LATITUDE</u>	FRE- QUENCY		<u>CONTEXT</u>	<u>ACTIVITIES</u>
	<u>Con- text</u>	<u>Acti- vities</u>		
c. Location of(Cont.):				
23. Seas	1		166	
24. Capes	1		305	
25. Tropic of Cancer	1		373	
26. Tropic of Capricorn	1		373	
27. Arctic Circle	1		373	
28. Antarctic Circle	1		373	
29. Cotton belt of U.S.A.				
30. Colonies				
31. River mouths				
32. River systems				
33. Sinking ships				
34. Farms				
35. Plains				
36. Coast Ranges				
37. Plateaus				
38. Great Basin				
39. Piedmont Belt				
d. Winds are effected by latitude				
e. To show East West direction				
f. Effect on length of days				
g. Effect on temperature				
h. Effect on length of growing season				
i. Defines meaning				
j. Word matching test				
k. Multiple choice test				
l. Effect on temperature of land and water				
m. Populations are effected by latitude	1		202	
n. Compare positions of two countries on the globe	3	2	305, 327 359	328, 328
o. Comparison of growing seasons in different				

TABLE XI

## REFERENCES MADE TO LATITUDE IN TEXT P (CONTINUED)

<u>LATITUDE</u>	<u>FRE- QUENCY</u>		<u>CONTEXT</u>	<u>ACTIVITIES</u>
	<u>Con- text</u>	<u>Acti- vities</u>		
o. (cont.) sections of the world in the same latitude				
p. Parallels of latitude are numbered in degrees				
q. Effect on length of summers and winters				
r. Effects severity of summers and winters	1		102	
s. To compare rainfall in different areas in the same latitude				
t. To compare length of summer areas in different sections of the same latitude				
u. To compare climate of different areas in the same latitude	4	1	102,102, 167,214	345
v. To show difference from longitude				
w. Latitude effects types of plants grown	1		202	
x. To compare climates in areas in similar latitudes above and below the equator				
y. To compare position of cities above and below the equator by placing the tropic of cancer on the tropic of capricorn and making a double map				
z. Sun as an aid to location of latitude				
aa. The equator is the longest of all parallels of latitude				

TABLE XI  
REFERENCES MADE TO LATITUDE IN TEXT F (CONTINUED)

<u>LATITUDE</u>	<u>FRE- QUENCY</u>		<u>CONTEXT</u>	<u>ACTIVITIES</u>
	<u>Con- text</u>	<u>Acti- vities</u>		
ab. Parallels of latitude are the same distance apart				
ac. A degree of latitude is 70 miles long	1	1	66	285
ad. Completion test				
ae. Diagram to illustrate latitude in the form of a road				
af. All places located south of the equator are in the south latitudes and all places north of the equator are in the north latitudes				
ag. Circles are divided into degrees				
ah. There are 360 degrees in a circle				
ai. From the equator to the north pole it is 1/4 of the way around the globe				
aj. To compare climate and crops of two areas in the same latitude one above the equator and one below				
ak. Use in chart to show location of cities with populations of 20,000 or more				
al. Use in pronunciation key				
am. Low latitudes of North America have tropical climates with rain forests, grasslands, and jungles				

TABLE XI

## REFERENCES MADE TO LATITUDE IN TEXT F (CONTINUED)

<u>LATITUDE</u>	PRE- QUENCY		<u>CONTEXT</u>	<u>ACTIVITIES</u>
	<u>Con- text</u>	<u>Acti- vities</u>		
an. The high latitudes have polar climates with very little plant life				
ao. Use in tables showing climatic conditions of important cities of world				
ap. To compare location of states above the equator with single country below the equator for climatic similarities	1	1		40
aq. Compare positions of cities on globe	3		42,183,328	
ar. Because of violent storms met in the latitude of the westerlies, they were called the roaring forties	1		42	
as. Latitude effects types of industries	1		202	
at. Winds effect temperature in the same latitude	1		212	
au. Rainfall is effected by latitude	1		254	
av. Climate effected by latitude	3	1	202,283,344	328
aw. To show width of a country	2		305, 327	
ax. To compare north south extent of two countries on map				
ay. To compare location of a city with a group of islands				

TABLE XI

## REFERENCES MADE TO LATITUDE IN TEXT F (CONTINUED)

<u>LATITUDE</u>	FRE- QUENCY		<u>CONTEXT</u>	<u>ACTIVITIES</u>
	<u>Con- text</u>	<u>Acti- vities</u>		
az.				To compare location of a group of islands with a country
aaa.				Lines of latitude are called parallels
aab.				The distance between one parallel and the other is 1 degree or 1/90 of the distance between the equator and the north and south poles
aac.				All parallels are not shown on the globe as there would not be room enough to show oceans, cities, countries, and continents. That is why on every globe they show the 5th, 10th, or 15th parallel
aad.				Parallels are imaginary lines
aae.				Many places can be located on the 30th parallel but when a meridian such as the 90th is given, it can refer to only one place
aaf.				All places on the west east line marked 30° are 1/3 of the way from the equator to the north pole
aag.				East west lines are called lines of latitude
aah.				All places on any line of latitude are the same distance from the equator

TABLE XI

## REFERENCES MADE TO LATITUDE IN TEXT F (CONTINUED)

<u>LATITUDE</u>	FRE- QUENCY		<u>CONTEXT</u>	<u>ACTIVITIES</u>
	<u>Con- text</u>	<u>Acti- vities</u>		
aa1. All places on a line of latitude are directly east and west of one another				
aa2. Lines of latitude are numbered north and south from the equator				
aa3. To compare location of a boundary line and parallel in the northern latitudes for their nearness to the equator				
aa4. Use in question to test child's ability to recognize a north latitude from a south latitude				
aa5. Use of an index or guide as an aid to finding lines of latitude				
aa6. High latitudes are cooler than low				
aa7. All parallels form circles on globe				
aa8. Compare winter weather of two countries				
aa9. Compare latitudes of a state in North America with a country in South America				
aa10. Compare two states for similarities in latitudes				
aa11. Use in tables showing elevation and population of cities and possessions of the United States with a population of 20,000 or more				

In Table XI there are five references to item a (Maps, direct reference to), all in the context.

Item b (To show North South directions) has seven references, three in the context and four in the activities.

Item c (Finding locations) has thirty-seven references, thirty-two appearing in the context and five in the activities.

Item n (Compare position of two countries on globe) has five references, three in the context and two in the activities.

Item av (Climate effected by latitude) has four references, three in the context and one in the activities.

Item ac (A degree of latitude is 70 miles long) and item aw (To show width of a country) have two references.

Three references are made in the context to item aq (Compare position of cities on globe).

One reference is made to each of the following items: item m (Populations are effected by latitude, item r (Effects severity of winters and summers), item w (Latitude effects types of plants grown), item ap (To compare location of states above the equator with single country below the equator for climatic similarities), item ar (Because of the violent storms met in the latitude of the westerlies they were called the roaring forties).

item as (Latitudes effect types of industries), item at  
(Winds effect temperature in the same latitude), item au  
(Rainfall is effected by latitude).

TABLE XII  
REFERENCES MADE TO LONGITUDE IN TEXT F

<u>LONGITUDE</u>	FRE- QUENCY		<u>CONTEXT</u>	<u>ACTIVITIES</u>
	<u>Con- text</u>	<u>Acti- vities</u>		
a. Measure distance				
b. To show North South directions	2	1	83, 241	285
c. Location of:				
1. Islands				
2. Countries				
3. Continents	2	1	1, 66	285
4. Cities	1		277	
5. States				
6. Canals				
7. Rivers				
8. Peninsulas				
9. Mountains				
10. Spring wheat belt in U.S.A.				
11. Lakes				
12. Seacoast				
13. Greenwich meridian				
14. Sinking ship				
15. Prime meridian				
16. Most eastern and western longitudes of North & South America				
17. Line that is 0° longitude				
18. Most eastern longitude of North America				
19. Most western longitude of South America				
20. Colonies	1		138	
21. Cotton belt Defines meaning To show differences distance between meridians at the				

TABLE XII

## REFERENCES MADE TO LONGITUDE IN TEXT F (CONTINUED)

<u>LONGITUDE</u>	FRE- QUENCY		<u>CONTEXT</u>	<u>ACTIVITIES</u>
	<u>Con- text</u>	<u>Acti- vities</u>		
e.(cont.) equator and at the poles				
f. To show relation of a city in North America to a country in Central America				
g. Maps(direct reference)	2	1	1, 66	328
h. Use in flying airplanes				
i. Aid to solution of questions				
j. To show direction other than north south				
k. Compare similarities between a polar map and a globe				
l. As a dividing line for comparing	1		277	
m. To compare location of an island in West Indies with State of Florida				
n. Multiple choice test				
o. Word matching test				
p. Completion test	1		277	
q. Compare position of two countries on globe	1		66	
r. Use in chart to show location of cities with population of 20,000 or more				
s. Use in tables showing climatic conditions of important cities of world				
t. Longitude lines are called meridians				
u. Longitude is measured from a certain meridian called the prime meri- dian	1	1	97	97

TABLE XII

## REFERENCES MADE TO LONGITUDE IN TEXT F (CONTINUED)

<u>LONGITUDE</u>	FRE- QUENCY		<u>CONTEXT</u>	<u>ACTIVITIES</u>
	<u>Con- text</u>	<u>Acti- vities</u>		
u. (cont.) which passes through the town of Greenwich, England and is labeled $0^{\circ}$				
v. Meridians are numbered east and west from $0^{\circ}$ meridian				
w. Meridians locate places on lines of latitude				
x. There are 360 meridians on a globe $1^{\circ}$ apart				
y. Any point east of the prime meridian is in the east longitude and any point west of the prime meridian is in west longitude				
z. Meridians are imaginary lines around the earth				
aa. There are $180^{\circ}$ of east longitude and $180^{\circ}$ of west longitude				
ab. Because the distance between meridians varies as we go north and south we do not commonly use them to measure distance in miles as we do parallels				
ac. Many places may be located on a $90^{\circ}$ longitude line, but when latitude is used with it such as $30^{\circ}$ it can refer to only one place				
ad. Use in sailing ships				
ae. Diagram to illustrate longitude in form of a street				

TABLE XII

## REFERENCES MADE TO LONGITUDE IN TEXT F (CONTINUED)

<u>LONGITUDE</u>	FRE- QUENCY		<u>CONTEXT</u>	<u>ACTIVITIES</u>
	<u>Con- text</u>	<u>Acti- vities</u>		
af. Diagram illustrating longitude lines on a globe				
ag. Lines of longitude pass through the north and south poles				
ah. All places on any one line of longitude are directly north and south of each other				
ai. Lines of longitude are marked by numbers which stand for degrees				
aj. Lines of longitude which pass through the United States are lines of west longitude				
ak. Use in question to test child's ability to tell if an area is in East or West longitude				
al. Use of index or guide as an aid to finding lines of longitude				
am. A connecting pair of meridians form a great north south circle around the earth				

In Table XII there were three references to item b (To show North South direction)

Item c(Finding locations) has five references, one appearing as an activity.

Item g ( Maps, direct reference to) has three references, two in the context.

Item q (Compare position of two countries on globe) has three references, two are activities.

Item u (Longitude is measured from a certain meridian called the Prime Meridian which passes through the town of Greenwich, England and is labeled the 0°meridian) has two references, one in the activities, and one in the context.

One reference is made to each of the following items: item j (To show direction other than north south), item l(As a dividing line for comparing), item p (Completion test)

TABLE XIII

## REFERENCES MADE TO LATITUDE IN TEXT G

<u>LATITUDE</u>	FRE- QUENCY		<u>CONTEXT</u>	<u>ACTIVITIES</u>
	<u>Con- text</u>	<u>Acti- vities</u>		
a. Maps(direct reference)	2	1	29,221	26
b. Measuring distance	1		221	
c. Location of:				
1. Cities	2		29,223	
2. Towns				
3. Islands				
4. Continents	3		29,302,228	
5. Mountains		3		26,26,26
6. Areas	2		305 339	
7. States				
8. Valleys		1		26
9. Lakes				
10. Bays				
11. Straits				
12. Your own home				
13. Seacoast				
14. Canals				
15. Boundary lines	1		29	
16. Tropics				
17. Lines of latitude north and south				
18. Countries				
19. Rainfall				
20. North and south poles				
21. Roaring forties				
22. Peninsulas				
23. Seas				
24. Capes				
25. Tropice of Cancer				
26. Tropic of Capricorn				
27. Arctic Circle				
28. Antarctic Circle				
29. Cotton belt of U.S.A.				
30. Colonies				
31. River mouths				
32. River Systems				
33. Sinking ships				

TABLE XIII  
REFERENCES MADE TO LATITUDE IN TEXT G (CONTINUED)

<u>LATITUDE</u>	<u>FRE- QUENCY</u>		<u>CONTEXT</u>	<u>ACTIVITIES</u>
	<u>Con- text</u>	<u>Acti- vities</u>		
c. 34. Farms				
35. Plains		3		26, 26, 26
36. Coast Ranges		1		26
37. Plateaus		2		26, 26
38. Great Basin		1		26
39. Piedmont belt		1		26
d. Winds are effected by latitude				
e. To show East West direction	1		221	
f. Effect on length of days				
g. Effect on temperature	1		221	
h. Effect on length of growing season				
i. Defines meaning				
j. Word matching test				
k. Multiple choice test				
l. Effect on temperature of land and water				
m. Populations are effected by latitude				
n. Compare positions of two countries on the globe	1		305	
o. Comparison of growing seasons in different sections of the world in the same latitude				
p. Parallels of latitude are numbered in degrees	1		29	
q. Effect on length of summers and winters				
r. Effects everity of summers and winters	1		332	
s. To compare rainfall in different areas in the same latitude				

TABLE XIII

## REFERENCES MADE TO LATITUDE IN TEXT G (CONTINUED)

<u>LATITUDE</u>	<u>Con- text</u>	<u>Acti- vities</u>	<u>CONTEXT</u>	<u>ACTIVITIES</u>
t.	To compare length of summer areas in different sections of the same latitude			
u.	To compare climate of different areas in the same latitude			
v.	To show difference from longitude			
w.	Latitude effects types of plants grown			
x.	To compare climates in areas in similar latitudes above and below the equator			
y.	To compare position of cities above and below the equator by placing the tropic of cancer on the tropic of capricorn and making a double map			
z.	Sun as an aid to location of latitude			
aa.	The equator is the longest of all parallels of latitude			
ab.	Parallels of latitude are the same distance apart			
ac.	A degree of latitude is 70 miles long			
ad.	Completion test			
ae.	Diagram to illustrate latitude in the form of a road			
af.	All places located south of the equator are in the south latitudes and all places north of the			

TABLE XIII

REFERENCES MADE TO LATITUDE IN TEXT G ( CONTINUED )

<u>LATITUDE</u>	<u>FRE-</u> <u>QUENCY</u>		<u>CONTEXT</u>	<u>ACTIVITIES</u>
	<u>Con-</u> <u>text</u>	<u>Acti-</u> <u>vities</u>		
af.(cont.) equator are in the north lati- tudes	1		29	
ag. Circles are divided into degrees				
ah. There are 360 degrees in a circle				
ai. From the equator to the north pole it is 1/4 of the way around the globe				
aj. To compare climate and crops of two areas in the same latitude				
ak. Use in chart to show location of cities with populations of 20,000 or more				
al. Use in pronunciation key				
am. Low latitudes of North America have tropical climates with rain forests, grasslands and jungles				
an. The high latitudes have polar climates with very little plant life				
ao. Use in tables showing climatic conditions of important cities of world				
ap. To compare location of states above the equator with single country below the equator for climatic similarities				
aq. Compare positions of cities on globe				

TABLE XIII

## REFERENCES MADE TO LATITUDE IN TEXT G (CONTINUED)

<u>LATITUDE</u>	FRE- QUENCY		<u>CONTEXT</u>	<u>ACTIVITIES</u>
	<u>Con- text</u>	<u>Acti- vities</u>		
ar. Because of violent storms met in the latitude of the westerlies, they were called the roaring forties				
as. Latitude effects types of industries				
at. Winds effect temperature in the same latitude				
au. Rainfall is effected by latitude				
av. Climate effected by latitude				
aw. To show width of a country				
ax. To compare north south extent of two countries on map				
ay. To compare location of a city with a group of islands				
az. To compare location of a group of islands with a country				
aaa. Lines of latitude are called parallels				
aab. The distance between one parallel and the other is 1 degree or 1/90 of the distance between the equator and the north and south poles				
aac. All parallels are not shown on the globe as there would not be room enough to show oceans, cities, countries, and continents.				

TABLE XIII

REFERENCES MADE TO LATITUDE IN TEXT G (CONTINUED)

<u>LATITUDE</u>	<u>FRE- QUENCY</u>		<u>CONTEXT</u>	<u>ACTIVITIES</u>
	<u>Con- text</u>	<u>Acti- vities</u>		
aac.(cont.) That is why on every globe they show the 5th,10th, or 15th parallel				
aad.Parallels are imaginary lines	1		28	
aae.Many places can be located on the 30th parallel, but when a meridian such as the 90th is given, it can refer to only one place				
aaf.All places on the west east line marked 30° are 1/3 of the way from the equator to the north pole	1		28	
aag.East west lines are called lines of latitude	1		28	
aah.All places on any line of latitude are the same distance from the equator	1		28	
aai.All places on a line of latitude are directly east and west of one another	1		28	
aaj.Lines of latitude are numbered north and south from the equator	1		29	
aak.To compare location of a boundary line and parallel in the northern latitudes for their nearness to the equator	1		29	
aal.Use in question to test child's ability to recognize a north latitude from a south latitude	1		29	

TABLE XIII

REFERENCES MADE TO LATITUDE IN TEXT G ( CONTINUED)

<u>LATITUDE</u>	FRE- QUENCY		<u>CONTEXT</u>	<u>ACTIVITIES</u>
	<u>Con-</u> <u>text</u>	<u>Acti-</u> <u>vities</u>		
aam. Use of an index or guide as an aid to finding lines of latitude	1		29	
aan. High latitudes are cooler than low	1		161	
aa0. All parallels form circles on globe	2		221,221	
aap. Compare winter weather of two countries				
aaq. Compare latitudes of a state in North America with a country in South America				
aar. Compare two state for similarities in latitudes				
aas. Use in tables showing elevation, and population of cities and possessions of the United States with a population of 20,000 or more				

In Table XIII there are three references to item a (Maps, direct reference to); two are in the context.

Item b (Measuring distances) has one reference in the context.

Item c (Finding locations) has nineteen references. Twelve are activities.

Item aao (All parallels form circles on globe) has two references in the context.

One reference is made to each of the following items: item e (To show east west direction), item g (Effect on temperature), item n (Compare position of two countries on globe), item p (Parallels of latitude are numbered in degrees), item r (Effects severity of winters and summers), item af (All places located south of the equator are in the south latitude), item aaf (Diagram illustrating latitude lines on a globe), item aag (East west lines are called lines of latitude), item aah (All places on any line of latitude are the same distance from the equator), item aai (All places on a line of latitude are directly east and west of one another), item aaj (Lines of latitude are numbered north and south from the equator), item aak (To compare location of a boundary line and a parallel for their nearness to the equator), item aal (Use in question to test child's ability to recognize a north latitude from a

south latitude), item aam (Use of an index or guide as an aid to finding latitude), item aan (High latitudes are cooler than low), item aao (All parallels form circles on globe).

TABLE XIV

REFERENCES MADE TO LONGITUDE IN TEXT G

<u>LONGITUDE</u>	FRE- QUENCY		<u>CONTEXT</u>	<u>ACTIVITIES</u>
	<u>Con- text</u>	<u>Acti- vities</u>		
a. Measure distance				
b. To show North South directions	3		28,29,29	
c. Location of:				
1. Islands				
2. Countries	1		29	
3. Continents				
4. Cities	2		29,29	
5. States				
6. Canals				
7. Rivers				
8. Peninsulas				
9. Mountains				
10. Spring wheat belt in U.S.A.				
11. Lakes				
12. Seacoast				
13. Greenwich meridian				
14. Sinking ship				
15. Prime meridian				
16. Most eastern and western longitudes of North & South America				
17. Line that is 0° longitude				
18. Most eastern longitude of North America				
19. Most western longitude of South America				
20. Colonies				
21. Cotton Belt				
d. Defines meaning				
e. To show differences in distance between the meridians at the equator and at the poles	1		28	

TABLE XIV

## REFERENCES MADE TO LONGITUDE IN TEXT G (CONT.)

<u>LONGITUDE</u>	FRE- QUENCY		<u>CONTEXT</u>	<u>ACTIVITIES</u>
	<u>Con- text</u>	<u>Acti- vities</u>		
f. To show relation of a city in North America to a country in Central America				
g. Maps (Direct reference)				
h. Use in flying airplanes				
i. Aid to solution of questions				
j. To show direction other than north south				
k. Compare similarities between a polar map and a globe				
l. As a dividing line for comparing				
m. To compare location of an island in West Indies with State of Florida				
n. Multiple choice test				
o. Word matching test				
p. Completion test				
q. Compare position of two countries on globe				
r. Use in chart to show location of cities with population of 20,000 or more				
s. Use in tables showing climatic conditions of important cities of world				
t. Longitude lines are called meridians				
u. Longitude is measured from a certain meridian called the prime meridian which passes through the town of Greenwich, England and is labeled 0°	1			

TABLE XIV

## REFERENCES MADE TO LONGITUDE IN TEXT G (CONTINUED)

	<u>LONGITUDE</u>	FRE- QUENCY		<u>CONTEXT</u>	<u>ACTIVITIES</u>
		<u>Con- text</u>	<u>Acti- vities</u>		
v.	Meridians are numbered east and west from 0° meridian	1		29	
w.	Meridians locate places one lines of latitude				
x.	There are 360 meridians on a globe 1° apart				
y.	Any point east of the prime meridian is in the east longitude and any point west of the prime meridian is in west longitude				
z.	Meridians are imaginary lines around the earth				
aa.	There are 180° of east longitude and 180° of west longitude				
ab.	Because the distance between meridians varies as we go north and south we do not commonly use them to measure distance in miles as we do parallels				
ac.	Many places may be located on a 90° longitude line, but when latitude is used with it such as 30° it can refer to only one place				
ad.	Use in sailing ships				
ae.	Diagram to illustrate longitude in form of a street				
af.	Diagram illustrating longitude lines on a globe	1		28	

TABLE XIV

## REFERENCES MADE TO LONGITUDE IN TEXT G (CONTINUED)

<u>LONGITUDE</u>	PRE- QUENCY		<u>CONTEXT</u>	<u>ACTIVITIES</u>
	<u>Con- text</u>	<u>Acti- vities</u>		
ag. Lines of longitude pass through the north and south poles	3		29, 221, 223	
ah. All places on any one line of longitude are directly north and south of each other	2		29, 221	
ai. Lines of longitude are marked by numbers which stand for degrees	1		29	
aj. Lines of longitude are marked by numbers which stand for degrees	1		29	
ak. Use in question to test child's ability to tell if an area is in East or West longitude	2		29, 29	
al. Use of index or guide as an aid to finding lines of longitude	1		29	
am. A connecting pair of meridians form a great north south circle around the earth	1		223	

In Table XIV all references appear in the context. Item b ( To show North South direction) has three references.

Item c (Finding locations) has three references.

Item ag (Lines of latitude pass through the north and south poles) has three references.

Item ah ( All places on any one line of latitude are directly north and south of each other) and item ak ( Use in question to test child's ability to tell if an area is in East or West longitude) both have two references.

One reference is made to teach of the following items: item e (To show differences in distance between the meridians at the equator and at the poles), item u (Longitude is measured from a certain meridian called the Prime Meridian which passes through the town of Greenwich, England and is labeled  $0^{\circ}$ ), item v ( Meridian are numbered east and west from the  $0^{\circ}$  meridian), item as (Diagram illustrating longitude lines on a globe) item ai (Lines of longitude are marked by numbers), item aj (Lines of longitude which pass through the United States are called lines of west longitude), item al (Use of an index or guide as an aid to finding lines of longitude)

"Table XV. Summary Table of the Treatment of Latitude In Seven Middle Grade Geography Texts" shows all references made to Latitude in each of the texts. The page numbers of the references have been omitted.







TABLE XV--SUMMARY TABLE OF THE TREATMENT OF LATITUDE IN SEVEN MIDDLE GRADE GEOGRAPHY TEXTS (CONT.)

	A		B		C		D		E		F		G		
	Con- text	Acti- vities	Con- text	Acti- vities	Con- text	Acti- vities	Con-Acti- text vities	Con- text	Acti- vities	Con- text	Acti- vities	Con- text	Acti- vities	Con- text	Acti- vities
ao. Use in tables showing climatic conditions of important cities of the world							1								
ap. To compare location of states above the equator with single country below the equator for climatic similarities									1			1			
aq. Compare positions of cities on globe										2		3			
ar. Because of violent storms met in the latitude of the westerlies, they were called the roaring forties									1			1			
as. Latitude effects types of industries												1			
at. Winds effect temperature in the same latitude												1			
au. Rainfall is effected by latitude												1			
av. Climate effected by latitude					2		1					3		1	
aw. To show width of a country												2			
ax. To compare north south extent of two countries on map					1					2					
ay. To compare location of a city with a group of islands									1						
az. To compare location of a group of islands with a country					1				1						
aaa. Lines of latitude are called parallels										2					
aab. The distance between one parallel and the other is 1 degree or 1/90 of the distance between the equator and the north and south poles										1					
aac. All parallels are not shown on the globe as there would not be room enough to show oceans, cities, countries, and continents. That is why on every globe they show the 5th, 10th, or 15th parallel.										1					





"Table XVI. Summary Table Of The Treatment of Longitude In Seven Middle Grade Georgraphy Texts" shows all references made to Longitude in each of the texts. The page numbers of the references have been omitted.

TABLE XVI--SUMMARY TABLE OF THE TREATMENT OF LONGITUDE IN SEVEN MIDDLE GRADE GEOGRAPHY TEXTS

	A		B		C		D		E		F		G	
	Con- text	Acti- vities	Con- text	Acti- vities	Con- text	Acti- vities	Con- text	Acti- vities	Con- text	Acti- vities	Con- text	Acti- vities	Con- text	Acti- vities
a. Measuring distance						2				2				
b. To show North South direction			1		3	2	1			2	2	1	3	
c. Location of:														
1. Islands		1				1	1							
2. Countries		3				2	1		1	2			1	
3. Continents					1	1	1			1	2	1		1
4. Cities		2	1			1			3	6	1			2
5. States		2				1								
6. Canals						1								
7. Rivers									2					
8. Peninsulas										1				
9. Mountains										1				
10. Spring wheat belt in U.S.A.										1				
11. Lakes										1				
12. Seacoast										1				
13. Greenwich meridian	1								1					
14. Sinking ship									1					
15. Prime meridian		1												
16. Most eastern and western longi- tudes of North and South America		1												
17. Line that is 0° longitude		1												
18. Most eastern longitude of North America		1												
19. Most western longitude of South America		1												
20. Colonies														
21. Cotton Belt											1			
d. Defines meaning	1		1		1		1		1	1				
e. To show differences in distance between the meridians at the equator and at the poles										2				
f. To show relation of a city in North America to a country in Central America on the same meridian		1								1				
g. Maps (direct reference to)					1					2	10	2	1	
h. Use in flying airplanes			1											
i. Aid to solution of questions														
j. To show direction other than north south						1		1		2	2		1	

TABLE XVI--SUMMARY TABLE OF THE TREATMENT OF LONGITUDE IN SEVEN MIDDLE GRADE GEOGRAPHY TEXTS (CONT.)

	A		B		C		D		E		F		G	
	Con- text	Acti- vities	Con- text	Acti- vities	Con- text	Acti- vities	Con- text	Acti- vities	Con- text	Acti- vities	Con- text	Acti- vities	Con- text	Acti- vities
k. Compare similarities between a polar map and a globe					1									
l. As a dividing line for comparing						1			1		1			
m. To compare location of an island in West Indies with the State of Florida														
n. Multiple choice test														
o. Word matching test														
p. Completion test														
q. Compare position of two countries on globe												1		
r. Use in chart to show elevation and location of cities with a population of 20,000 or more					1			1			1	2		
s. Use in tables showing climatic conditions of important cities of the World	1													
t. Longitude lines are called meridians								1						
u. Longitude is measured from a certain meridian called the prime meridian which passes through the town of Greenwich, England and is labeled 0°									1					
v. Meridians are numbered east and west from the 0° meridian		2								1		1	1	1
w. Meridians locate places on lines of latitude										1				
x. There are 360 meridians on a globe 1° apart										1				
y. Any point east of the prime meridian is in the east longitude and any point west of the prime meridian is in the west longitude										1				
z. Meridians are imaginary lines around the earth										1				
aa. There are 180° of east longitude and 180° of west longitude										1				
ab. Because the distance between meridians varies as we go north and south we do not commonly use them to measure distance in miles as we do parallels										1				



Table XVII was constructed to present the main categories of Latitude treated in the seven texts. The category "Comparison Purposes" consists of the following references:

- n. Compare positions of two countries on globe
- o. Comparison of growing seasons in different sections of the world in the same latitude
- s. Compare rainfall in different areas in the same latitude
- t. Compare length of summer areas in different sections of the same latitude
- u. Compare climate of different areas in the same latitude
- x. Compare climate in areas in similar latitudes above and below the equator
- y. Compare positions of cities above and below the equator by placing the Tropic of Cancer on the Tropic of Capricorn and making a double map
- aj. Compare climate and crops of two areas in the same latitude, one above the equator and one below
- ap. Compare location of states above the equator with a single country below the equator for climatic similarities
- aq. Compare positions of cities on globe
- ax. Compare north south extent of two countries on map
- ay. Compare location of a city with a group of islands
- az. Compare location of a group of islands with a country
- aak. Compare location of a boundary line and a parallel in the northern latitudes for their nearness to the equator
- aap. Compare winter weather of two countries
- aaq. Compare latitudes of a state in North America with a country in South America
- aar. Compare two states for similarities in latitude

The category of "Effect on Temperature and Climate" consists of the following references:

- g. Effect on temperature
- l. Effect on temperature of land and water
- q. Effect on length of summers and winters
- r. Effects severity of summers and winters
- t. Compare length of summer areas in different sections of the same latitude
- u. Compare climate of different areas in the same latitude
- x. Compare climates in areas in similar latitudes above and below the equator
- aj. Compare climate and crops of two areas with the same latitude, one above the equator and one below
- am. Low latitudes of North America have tropical climates with rain forests, grasslands, and jungles
- an. The high latitudes have polar climates with very little plant life.
- av. Climate effected by latitude
- aan. High latitudes are cooler than low
- aap. Compare winter weather of two countries

Some of the references included in the above category were also included in the category for "Comparison Purposes".

The following references were included in the category of "Informational Material" about Latitude:

- e. To show east west direction
- i. Defines meaning
- p. Parallels of latitude are numbered in degrees
- v. To show difference from longitude
- z. Sun as an aid to location of latitude
- aa. The Equator is the longest of all parallels of latitude
- ab. Parallels of latitude are the same distance apart
- ac. A degree of latitude is 70 miles long
- ae. Diagram to illustrate latitude in the form of roads
- af. All places located south of the equator are in the South latitudes, while all places located north of the equator are in the North Latitudes

- ag. Circles are divided into degrees
- ah. There are 360 degrees in a circle
- ai. From the equator to the north pole it is  $1/4$  of the way around the globe
- aaa. Lines of latitude are called parallels
- aab. The distance between one parallel and the other is one degree or  $1/90$  of the distance between the equator and the north and south pole.
- aac. All parallels are not shown on the globe as there would not be room enough to show oceans, cities, countries, and continents. That is why on every globe they show the 5th, 10th, or 15th parallel.
- aad. Parallels are imaginary lines
- aae. Many places can be located on the 30th parallel, but when a meridian such as the 90th is given it can refer to only one place
- aaf. Diagram illustrating latitude lines on a globe
- aag. East west lines are called lines of latitude
- aah. All places on any line of latitude are the same distance from the equator
- aai. All places on a line of latitude are directly east and west of one another
- aaj. Lines of latitude are numbered north and south from the equator
- aa0. All parallels form circles on the globe

The three other categories on Latitude, "Finding Locations", "Measuring Distances", and "Maps" are the first three references made to Latitude in each text and may be seen easily by referring to tables.

TABLE XVII--MAIN CATEGORIES TREATED IN SEVEN GEOGRAPHY TEXTS ON LATITUDE

CATEGORIES	Text A			Text B			Text C			Text D			Text E			Text F			Text G		
	CONTEXT	ACTIVITIES	TOTAL	CONTEXT	ACTIVITIES	TOTAL	CONTEXT	ACTIVITIES	TOTAL	CONTEXT	ACTIVITIES	TOTAL	CONTEXT	ACTIVITIES	TOTAL	CONTEXT	ACTIVITIES	TOTAL	CONTEXT	ACTIVITIES	TOTAL
Comparison Purposes	2	4	6	0	1	1	11	3	14	0	0	0	6	5	11	10	4	14	2	0	2
Effect on Temperature and Climate	1	2	3	0	1	1	18	6	24	4	0	4	4	1	5	8	2	10	3	0	3
Informational Material	6	2	8	6	0	6	12	4	16	2	0	2	10	1	11	1	1	2	11	0	11
Finding Location	6	19	25	16	3	19	33	23	56	6	0	6	18	24	42	32	5	37	8	12	20
Measuring Distances	1	3	4	2	0	2	6	6	12	1	0	1	5	2	7	3	4	7	1	0	1
Maps - Direct reference to	0	2	2	2	1	3	3	1	4	0	0	0	5	8	13	5	0	5	2	1	3

Table XVII, A Summary of the Main Categories Treated in the Texts with Reference to Latitude, shows that texts C, E, and F use latitude for "Comparison Purposes" fourteen, eleven, and fourteen times respectively, whereas the remaining three texts use it six times or less. This is significant in that Irene Driscoll<sup>1/</sup> uses latitude for "Comparison Purposes as an example of a higher mental process".

Latitude(s next category, "Effect on Temperature and Climate" has twenty-four references to it in Text C, and ten in Text F. The remaining texts mention it five times or less.

Stella R. Lange<sup>2/</sup> lists a "Knowledge of the relationship between latitude and climate", as one of the things a fifth grader should know about latitude.

Text C offers the most "Informational Material" about latitude, while Text D and F offer the least.

An interesting result shows Text A with twenty-five references to latitude's use for "Finding Locations", Text B has nineteen, but sixteen of Text B's references are in the Context of the text, while nineteen of text A's

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- 1/ Irene Driscoll "An Analysis of Questions and Exercises in Ten Six Grade Geography Books on the Basis of Higher Mental Processes Involved", Master's Thesis, Boston University, 1948, page 23
- 2/ Stella R. Lange, "A Geography Test". Journal of Geography 24:40-41 January 1935

references are in the "Activities" section of the text. Each text stresses opposite methods of developing the understanding of using latitude to find locations.

Text C makes sixteen references to "Informational Material" about latitude. Text E and G refer to it eleven times. Text B makes six references to it, and Text D and F refer to it only twice. This is significant in that it is an important understanding of Latitude and should be one of the early understandings learned in the study of Latitude.

The category of "Finding Locations" is an important one for it puts into use the actual usage of latitude in "true to life" situations. Texts C and F make fifty-six and thirty-seven references to this category respectively, both stress the use of "activities" in its development, while texts A and B make twenty-five and nineteen references respectively, but text A stresses its development in the "Context" and text B stresses its development in the "Activities". Text G makes twenty references to this category and twelve of them are activities. Text D treats this category only six times and Text E has forty-two references, eighteen of them as "Activities" and twenty-four in the "context."

Text C makes twelve references to the category of "Measuring Distances", texts E and F make seven, and the remaining texts refer to this category four times or less. This category is important in developing in children appreciation of distance.

Latitude's use in conjunction with maps, has thirteen references in Text E, three in texts B and G, four in text C.

Text E has thirteen references to maps, while Text D has none. Text C makes twelve references to latitude's use for "Measuring Distances" while texts D and G make reference only once.

Table XVIII consists of the main categories treated in the texts on Longitude. The following references were made to Longitude under the category "Comparison Purposes":

- k. Compare similarities between a polar map and a globe
- l. As a dividing line for purposes of comparing
- m. Compare location of an island in West Indies with the State of Florida
- q. Compare positions of two countries on globe.

The following references were made to Longitude under the category "Informational Material":

- d. Defines meaning
- t. Longitude lines are called meridians
- u. Longitude is measured from a certain meridian called the prime meridian which passes through the town of Greenwich, England and is labeled 00.
- w. Meridians locate places on lines of latitude
- x. There are 360 meridians on a globe one degree apart
- y. Any point east of the prime meridian is in east longitude and any point west of the prime meridian is in west longitude
- z. Meridians are imaginary lines around the earth
- aa. There are 180° of east longitude and 180° of west longitude
- ab. Because of the distance between the meridians varies as we go north and south we do not commonly use them to measure distance in miles as we do parallels.
- ag. Lines of longitude pass through the north and south poles
- ah. All places on any one line of longitude are directly north and south of each other
- ai. Lines of longitude are marked by numbers
- am. A connecting pair of meridians forms a great north south circle around the earth

The two other main categories of Longitude are:  
"Finding Locations" and "Maps".

TABLE XVIII--MAIN CATEGORIES TREATED IN SEVEN GEOGRAPHY TEXTS ON LONGITUDE

CATEGORIES	Text A			TEXT B			Text C			Text D			Text E			Text F			Text G		
	CONTEXT	ACTIVITIES	TOTAL	CONTEXT	ACTIVITIES	TOTAL	CONTEXT	ACTIVITIES	TOTAL	CONTEXT	ACTIVITIES	TOTAL	CONTEXT	ACTIVITIES	TOTAL	CONTEXT	ACTIVITIES	TOTAL	CONTEXT	ACTIVITIES	TOTAL
Comparison Purposes							2	2	4	1	0	1	0	1	1	0	2	2			
Informational Material	3	0	3	1	0	1	1	0	1	1	0	1	10	0	10	1	1	2	9	0	9
Finding Location	1	13	14	1	0	1	1	7	8	3	0	3	8	15	23	4	1	5	3	0	3
Maps (Direct reference to)	1	0	1				2	0	2				2	10	12	2	1	3			

In Table XVIII "Main Categories Treated In Seven Middle Grade Geography Texts On Longitude," texts A, B, and G made no reference to Longitude's use for "Comparison Purposes", while texts C and F make four and two references to it respectively, and texts D and E make mention to it only once.

Text E offers the most "Informational Material" about Longitude, and all references appear in the context. Text F has one reference to the latter, an activity.

Text E has the most references to Longitude's use for "Finding Locations" fifteen are activities.

Text C which made thirty-three references to "Finding Locations" to Latitude, made only one reference to it in respect to Longitude.

Text D and G make three references to "Finding Locations", while texts A and F make fourteen and five respectively, and text B has only one reference to it.

Texts B, D, and G make no use of Longitude in "Maps, (Dirent reference to)", while Text E has the most with twelve.

CHAPTER V  
CONCLUSIONS

From the Summary Tables in Chapter IV it is evident that Latitude is treated more extensively than Longitude. There were 457 references to Latitude and only 164 to Longitude.

It is evident that much more could be done to develop a better understanding of Longitude. No mention was made of Longitude's use to tell time in any of the texts.

Texts C, E, and F use latitude for "Comparison Purposes" fourteen, eleven, and fourteen times respectively, whereas the remaining texts use it six times or less. Making comparisons is an excellent technique for developing a better understanding of the uses of latitude.

The category of "Comparison Purposes" was treated lightly in the texts in respect to Longitude. Texts A, B, and G made no reference to it at all, and texts C and F made four and two references to it respectively while texts D and E made mention of it only once.

Text C has twenty-four references to Latitude's effect on "Temperature and Climate", text F ten, and the remaining texts mention it five times or less. This category is one of the important understanding that should be

developed in the fifth grade.<sup>1/</sup>

Text E offers the most "Informational Material" about Longitude. All references in this text appear in the context. Texts B, C, and D refer to "Informational Material" only once, text A has three references, Text F has two, and text G nine. There are fifty-six references to "Informational Material" about Latitude and twenty-seven references to "Informational Material" about Longitude.

Text E has the most references to Longitude's use for "Finding Locations", fifteen references are activities. Text A has fourteen references to this category, thirteen are activities. Text C makes eight references to this category, texts D and G three, text B one, and text F five.

Text C has the most references to Latitude's use for "Finding Locations", thirty-three appear in the context and twenty-three in the activities.

Texts A and B stress opposite methods for developing the understanding of using latitude to find locations: e. g., text A has twenty-five references to this category, nineteen of which are activities, while text B makes nineteen references to this category, sixteen of

<sup>1/</sup> Stella R. Lange, "A Geography Test": Journal of Geography, Volume 24:40-41 January 1935

of which appear in the "Context" of the text.

Latitude was used two hundred-five times in "Finding Locations" while Longitude was used fifty-seven times in this category.

Latitude's use in "Measuring Distances" has twelve references in Text C, seven in texts E and F, and the remaining texts mention it four times or less. This category is important in developing in children an appreciation of distance.

There was no category set up in Longitude to "Measure Distances". Longitude is not commonly used to measure distance because the distance between lines of longitude varies as we go north and south.

From the Tables in Chapter IV it is evident that much more can be learned about Latitude than Longitude.

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