

ED 024 489

RC 002 702

By-Blanton, Dolly; And Others  
Suggestions for Teaching the Migratory Pupil.  
Richland School District, Shafter, Calif.

Pub Date 67

Note- 75p.

EDRS Price MF-\$0.50 HC-\$3.85

Descriptors-Educational Environment, Educational Improvement, \*Elementary School Curriculum, History, \*Instructional Materials, Mathematics, \*Migrant Child Education, Migrant Youth, Programed Instruction, Sciences, \*Teaching Guides, \*Units of Study (Subject Fields)

Suggestions for teachers of migrant children are offered in seven individual teaching guides which were developed as part of a research and curriculum development project to improve the teaching of migratory pupils. Levels of study include grades four, five, six, and seven, and one general unit deals with providing an effective learning environment for migrant children. Different units represent the subject areas of history, geography, science, and mathematics. (SW)

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.



SUGGESTIONS FOR TEACHING THE MIGRATORY PUPIL

"The Learning Environment of the Migratory Child"

Developed as a part of a research and curriculum development project to improve the teaching of migratory pupils.

Participants:

Miss Dolly Blanton  
Mrs. Margaret E. Greene  
Mr. Dennis A. Harrison  
Mrs. Sylvia Nickel  
Mrs. Virginia Senior  
Mrs. Irene Tilley

Richland School District  
331 Shafter Avenue  
Shafter, California 93263

Dr. E. David Cooke  
District Superintendent

Summer, 1967

AC 002 702

When discussing how disadvantaged youngster can be helped in school, the phrase "have an attractive and inviting room environment" was used many times. The many expressions used by adults concerning a classroom include:

"What an interesting science display!"

"That sure is a colorful bulletin board. May I use the idea in my room?"

"One thing I like about this room is that there is enough space for the children to work and some left over for independent work tables and displays."

"The arrangement of your students' desks is interesting. Do you find that they can work well this way or do they copy or bother each other?"

"Everything is neat and seems to have its own place. I wish I had adequate storage cupboards for materials."

"The lighting in this room is tremendous. You can see chalk board so well you'd never know it was dark and rainy outside."

These expressions and many more concerning the physical qualities of a room are very familiar to a classroom teacher in almost any school district. The physical attractiveness of a classroom does much to make a new child coming into the room feel welcome and glad that he's found himself in this particular new classroom. However, a classroom could have a so-called "perfect" room environment as measured by attractive bulletin boards, abundance of interesting displays, ample floor space and storage cupboards, and an ideal physical arrangement of desks, but a new child coming in could feel uncomfortable or unhappy because a most vital part of room environment is lacking: a warm reception of the new child by the teacher and the other students. A teacher and his students actually "create" the atmosphere which a new child meets when he steps through the door before he arrives in the classroom.

In much of the reading done this summer, the phrase "learning environment" was used instead of "room environment". This terminology, "learning environment" would seem to indicate what most teachers are trying to accomplish with all activities, displays, and centers of interest within their own classrooms. We know that all classrooms don't have adequate storage, good lighting, thrilling display centers or colorful bulletin boards because of circumstances beyond the control of the classroom teacher. However, a classroom can have an ideal "learning environment" because the attitude of the teacher and students is warm and inviting.

Let's look at the learning environment of a classroom with help for the migrant child in mind, realizing that this atmosphere is really not drastically different from the atmosphere created for learning for all children. The needs of the individual child are considered in all activities but let's focus on the migrant child for the remainder of this paper.

The most important objective is to improve the self-image and self-respect of the child from the moment he steps into the classroom. Before we can teach children the basic skills in reading and arithmetic at any grade level we must help them think better of themselves.

Here are a number of ways the classroom can be set up to welcome the newcomer be it for two days or two months:

I. Provide successful materials which can be completed by the child and can be used by the teacher to get to know the child's ability.

A. A welcoming committee not necessarily to spotlight the child in front of the entire room (because he may be shy) but to make him feel "Boy I'm liked here!"

B. A prepared booklet, that can be given to the child as soon as he comes into the room which he can call his very own. This booklet (one has been prepared during the summer) might contain individual tests which can be done by the child alone or with the help of another child or an aide. Easy does it at first -- the old adage "Nothing succeeds like success" is a good thought to remember. If a child can go home that first day feeling, "Boy, I'm great! I can add  $1 + 1$  and get 2!", then it is great, if this is all he can do. Now the teacher has found the starting point and can guide the child from there. Resist pressures to push children into programs for which they are not ready!

II. Provide an environment in which a child learns but it does not seem like learning -- just fun.

A. Games

B. Puzzles

C. Comic Books

D. Play Corners

E. Discovery Corners

III. Provide situations which make it necessary but not mandatory, for a child to read. A classroom should be a workroom to encourage active learning.

A. Label items in the room.

1. table

2. books

3. desk

4. chair

5. paper

- B. Have written instructions.
- C. Have sign-up sheets for activities.
- D. Place signs stating "DO TOUCH!" at centers of interest.

IV. Provide realistic experiences whenever possible.

- A. Field trips - not necessarily whenever possible.
- B. Develop dramatic play experiences. From the March, 1967 edition of Education magazine comes this thought, "Play is the language of childhood and until the child can speak my language, I shall speak his."

V. Look at the classroom through children's eyes.

- A. Provide bulletin boards which stimulate children's original and creative work.
- B. Provide activities which encourage children's innovations. A child is happiest when he is working in an area where his unique strengths are being capitalized.

VI. Provide activities at which individuals can work along. Don't assume, that a child will automatically know how to use free time acceptably in school. Independent activities need to be carefully planned and explained. Some children just don't know how "to find something (acceptable) to do."

- A. Tape recorder
- B. Filmstrips
- C. Experience chart stories in booklet form
- D. Reader's Digest skill builder
- E. Records
- F. Pictures - with opportunity for written expression.

VII. Plan opportunities with the definite objective of building a healthy self-image.

- A. See that the child meets success by giving him work papers at his level and jobs and responsibilities which he can do successfully. At the same time give guidance in seeing that some failures are to be expected and can be surmounted.
- B. Sometimes a mirror strategically placed in the room to literally "see himself."

C. Use actual photographs of children whenever possible.

VIII. Set up clear, defined behavior rules with fixed boundaries. Freedom in the classroom is a necessary part of creative expression, but it does not mean license to do as one pleases.

A. Discuss necessary school rules. It is essential to establish clear and definite rules and to insist that they are obeyed.

B. Discuss necessary classroom rules. A highly regulated classroom environment is not only necessary for teaching but it is also desirable for the children's own growth.

1. Make a chart listing the rules and have it displayed.

2. Have children make posters illustrating important rules.

C. Materials and equipment should be assigned a place and children should learn to put them back in the proper places. By doing this the children are learning orderliness by habitual practice.

D. Routines should be established and maintained to help children feel security. This does not mean that every activity of the day should be identical to the day before. Routine tasks can be made interesting and meaningful.

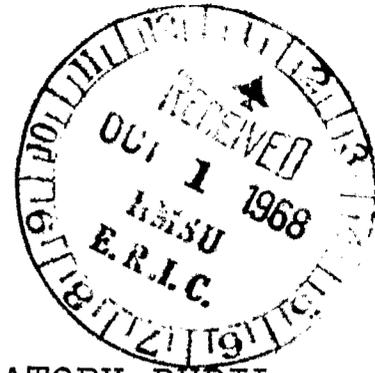
E. Provide an atmosphere that is relaxed, smooth-running and secure because it is orderly, not chaotic; flexible, not restrained; and relaxed, not undisciplined.

IX. The arrangement of the furniture in the classroom should be flexible with the best interest of the child in mind, depending upon the activity. The Colorado State Department states "What is needed is space and free moving furniture to allow any type of arrangement for activity programs. Space made available gives the flexibility needed."

In conclusion to do the best job with the migrant child (any child, in fact) teachers need to be aware of the needs of the child and must find the program or programs that will best meet these needs. At the same time teachers must provide opportunities for the learning of the skills needed for a child to succeed in school. The atmosphere of the classroom reflects the awareness of the teacher to the needs of his particular students. The atmosphere reflects how these needs are met for individual children.

As teachers, we need to remind ourselves that all children learn when given the opportunity and remain stagnant in growth when they are constantly frustrated in learning tasks.

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE  
PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS  
STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION  
POSITION OR POLICY.



SUGGESTIONS FOR TEACHING THE MIGRATORY PUPIL

"Learning About Our Schools"

A fourth grade unit on appreciation in  
the American way of life and in the migrant  
child's own life.

Developed as a part of a research and curriculum development  
project to improve the teaching of migratory pupils.

Participants:

Miss Dolly Blanton  
Mrs. Margaret E. Greene  
Mr. Dennis A. Harrison  
Mrs. Sylvia Nickel  
Mrs. Virginia Senior  
Miss Irene Tilley

Richland School District  
331 Shafter Avenue  
Shafter, California 93263

Dr. E. David Cooke  
District Superintendent

Summer, 1967

RC 002702

Purpose:

The purpose of the unit is to provide brief topics in a larger unit that will help migrant children as well as other students in understanding the importance of education in the American way of life and in their own lives.

In order to meet the objective of avoidance of isolation or singling out the migrant, the unit has been set up to fit into the social studies curriculum for all fourth grade students.

This on-going unit is set up with sub-parts which in themselves are complete units. This would enable a child leaving after a short period to have a feeling of accomplishment -- that of having begun and finished an activity while present in a particular classroom.

The migrant who enters after the unit has begun can be brought "up-to-date" during general class review; or several children may meet with him and read some portions covered or just explain to him what the class has been doing. Also it would be their role to provide him with a folder in which to keep his "booklet" papers. As the individual "booklet" is a compilation of work done, it becomes the child's personal record of work done on the unit. The child who leaves before the "major" unit has been completed may spend part of his last day listing a "table of contents" and designing a cover for his own "booklet".

Skills involved:

research  
compiling bibliographies  
construction of complete sentences  
punctuation  
paragraph construction  
outlining  
oral reports  
constructive criticism of oral reports and written work  
oral reading  
interviewing school personnel  
listening center  
map making  
scale drawing  
map skills  
democratic experience through planning and committee work  
literature appreciation  
arranging room environment-bulletin boards  
sharing materials brought from home  
organization of materials  
individual and group art work

Part I To motivate an interest in present day schools by initiation through use of regular social studies curriculum

A. Divide class into small groups to read \*the chapter "The First Schools", p. 98 California's Own History and discuss the portion "How Well Do You Remember" in these smaller groups

(1) At this time choose a panel of children, who are dramatic or popular with their peers in order to arouse interest by the entire class to present "How Well Do You Remember"

(a) Allow time for this panel to practice and think through the discussion

(b) Presentation by panel with classmates as audience who may enter into the discussion and add any information that they may have gained through reading with their own group

(2) Activities #10 and 11 under "To Think About and Talk About", p. 107 provide the basis for comparing these schools with schools of today

(a) Schools at the presidios and pueblos

I-In what ways were these schools like our present day schools?

II-In what ways were they different?

III-How would you like to go to school in a building that had been built to store grain?

IV-How would you like to save every piece of scratch paper you used?

V-Do you ever throw away paper that could be used as scratch paper? Why?

VI-Do you ever throw away paper that has only a little bit of writing on it? Why?

VII-Do you think you ought to do this?

(b) The ways that the teachers taught in the schools at the presidios and the pueblos.

\*or tape for use in listening center

I- How much memorizing do you do in your class?

II- What things do you memorize?

III- What things do you study just so you can understand them better?

IV- Which kind of learning do you like better, memorizing or learning to understand something?

(3) Pupils may discuss why people without children are required to help pay for operating our schools and why it takes so much money to operate the schools.

for booklet

(4) Children may make pictures which illustrate points brought out in the discussion

B. Discuss compiling of materials in booklet form.

(1) Begin with a folder in which to preserve materials

C. Use California's Own History, p. 121 "Californians in School" in much the same manner, then

(1) Pupils may locate: Boston, Valparaiso, and Hawaii. Boys may talk about how they would have liked to go so far away from home at the age of 6.

(2) The foreign languages taught at the school for Hartnell's children

(a) What does "foreign" mean?

(b) Why was English a "foreign" language in California at that time?

(c) Is it a foreign language in California today? Why?

(d) What language are "foreign" languages in California now? Do you know any of them? If you do, talk in a foreign language to the class. How many of the pupils understood you? Why?

for booklet

(3) Pictures for booklets depicting school on Hartnell's Rancho

D. Several children who are beginning readers practice reading orally p. 32, "Old and New Schools" from Scott Foresman & Co., In The Neighborhood

E. Anyone who can should be urged to bring pictures of old and new schools for use on bulletin board

46-1  
67

- F. Prepare an "open bulletin board to include pictures. First schools in Kern County and Shafter could be used

Part II To Learn about our elementary schools

- A. Children report on "Old and New Schools" or they may read it to the class and show pictures

- (1) Suggestions for bulletin board may be observed as children view the pictures In The Neighborhood p. 32

- B. Read "Early Lessons" from Tom Sawyer or tape for listening center enjoyment

C. Curriculum

- (1) Brief discussion on what we learn about in school

- (a) each day in our class  
(b) during semester in our class  
(c) from Kindergarten through 6 grade

- (2) Divide class into 7 committees, each committee studying and reporting on one grade level

- (a) Provide curriculum guide  
(b) Prepare reports  
(use language text for assistance in reviewing outlines)

lists  
charts  
pictures

- (3) Presentation of reports

- (a) open discussion after each report to add any other knowledge or facts that the children have accumulated

D. Citizenship

- (1) filmstrip "Citizens in a Democracy"

- (2) With the class discuss and list what they have learned about citizenship

- (a) in class

- (b) on the playground
- (c) during meetings or class discussions
- (3) Introduce If Everybody Did. Point out that it will be available for all children to look at and read
- (4) Independently children will list what they have learned about citizenship from their film and extra reading to be proof read for booklet
- (5) View filmstrip "Citizenship Education in a Democracy"
  - (a) discuss and evaluate the filmstrip
  - (b) independently child writes his responsibility of becoming educated in a democracy. In a democracy we all have responsibility  
(use language book to review paragraph construction)
- (6) Summarize papers written on responsibility with group. They may wish to enter these in booklets
- (7) Collect pictures depicting good citizenship for bulletin board

Part III The boys and girls will see that there are many people needed to run a school. They will want to know more about the many people involved in education

A. Personnel and Facilities

- (1) From a general discussion, list on the board the many different people that the children can mention
  - (a) Classify personnel into groups
    - board of education
    - special services
    - business management
    - teaching and administrative staff
    - maintenance
    - P.T.A.
  - (b) Committees plan to gather information by personal contact.  
(They may wish to prepare a page for classroom bulletin board)

MU-1  
67

- (2) Groups report on above
  - (a) They may wish to prepare a page for the booklet on the particular person their group studied
- (3) Discuss enrollment of Richland School
  - (a) causes of growth
  - (b) how problem has been met
    - additional federal funds
    - additional personnel to increase effectiveness of learning (aides & playground supervisors to release teachers to give more planning in preparation for more individualized instruction) (Headstart to prepare pre-school youngsters)
    - additional materials
    - additional facilities
- (4) Plot school and administration building
  - (a) Draw a plan of your school room. Let 1 inch equal 5 feet. (fourth grade math book p. 252,\*253)
  - (b) Take a walk to determine location of each building.
  - (c) make replica of the school ground and buildings (Spark, Mary M. Roy, p. 153 gives good suggestions for this activity)
  - (d) sketch a map of the school
  - (e) write paragraph about many people involved in education
  - (f) Plan bulletin board to display the sketches with the school ground project on table

Part IV Having learned about our schools, the boys and girls will desire to know if schools in other parts of the world are similar

A. Other schools in the United States and around the world

- (1) View filmstrip "Schools in Mexico"

- (a) Evaluate film, listing similarities and differences "Things Alike" and "Things Different"
  - (b) Discuss the schools of Africa which third grade studies in their curriculum
  - (c) Independently list "Things Alike" & "Things Different"
  - (d) evaluate children's lists and rewrite for booklets
- (2) In small groups read "Education", p. 217 from Japan, Home of the Sun and discuss in these groups the questions at the end of the chapter
- (3) Entire classroom discussion of the chapter
- (a) Discuss p. 222 "Questions to Answer"
  - (b) Discuss "Questions for Team Discussion"
  - (c) Individuals volunteer for groups, each of whom is to take an activity listed p. 222
- (4) Reports on activities by the various groups
- (a) It may take several days to give these reports. During the preparation time usually allotted for independent social studies work, groups could begin reading Chapter 4, "Finding Out About Schools of Japan", p. 105 from Japan or it could be taped for use at the listening center.
  - (b) After each group reports on "activities", an open discussion should be encouraged. It is during this time that children who have read the chapter in Japan will have other findings to contribute.
  - (c) An "open" bulletin board about schools in other lands will give children an opportunity to display good work on the unit or pictures or other items brought from home such a Japanese newspaper etc.
- (5) Paint or draw pictures of schools in other countries (research will be necessary)
- (a) discuss research and where and how to find out about schools of various countries.

find as many examples of different countries as possible.

- (b) trip to library to find as many books as possible
- (c) make a bibliography
- (d) report on information concerning education of other countries
- (e) List different countries

committees choose areas of interest  
review committee topic individually, gather information  
meet in committees to share knowledge and plan for panels on topics to be shared with the class

- (f) Reports by committees on topics chosen  
discussion following each report, contributing anything else they may have learned on the subject
- (g) Write report about one thing only on "your topic" share written statement with committee, correcting grammar, sentence structure, spelling  
recopy report for booklet
- (h) Now make the picture to enter in booklet

B. Dioramas made by committee of school in land they choose

#### Part V Education or Schools in our Future

A. Have you thought about what you would like to be when you grow up

(1) Discuss and motivate interest

- (a) draw a picture and write one complete sentence about a picture of what you wish to become
- (b) trip to library to find books on what we would like to be
- (c) share the books

individually view or read books and compile bibliography

MU-1  
67

- (2) Share information gained on topic of career chosen
- (a) Other children contribute what they found on this topic also
- (3) What is necessary to further us on our way to the career
- (a) Introduce California Our State Today p. 228 (through p. 232) or others may read p. 102-104 of California and the West.
- (b) Share knowledge gained from texts and other knowledge from library books (on high school and college)

Stress especially p. 232, California Our State Today and p. 103, (last paragraph) California and the West  
ALL CAN GO!

Combine bibliography to enter in booklet

- (4) Share pictures of colleges, begin "open" bulletin board

Part V

- (5) Read together #2 p. 230, California Our State Today

- (a) Divide class:

two children report on p. 294, California Our Home  
two report on p. 287, California Our Home  
committee prepare to discuss #3 & 4 p. 236  
California Our State Today  
committee list all pages on colleges in  
California Our Home  
committee study "Find and Use a Special Map" p. 236 California Our State Today and discuss the list of questions

- (b) class take time to study the pages listed from California Our Home

class study p. 236, California Our State today with children who became familiar with it earlier as guides

- (c) after this study, write a paragraph about what college is nearest your home or one that you would like to attend and what you found about it

(d) read paragraphs to class; correct them with partner and recopy for booklet

B. Do you know anyone who is in college now? What does he or she plan to do?

(1) Read paragraph #3 p. 230, California Our State Today

(a) What did you wish to be?

how would you prepare for it?  
write a paragraph about it  
(review paragraph standards)  
check each others paragraphs  
recopy to put in booklet

booklet

Part VI To learn about other available educational facilities:

A. Other Gates to Happy Living (p. 232) California Our State Today p. 102 California and the West

(1) Begin "open" bulletin board

(2) list interests that make for continued learning and happy living

(a) churches

(b) libraries

(c) art and music centers

(d) playgrounds and parks

(e) clubs

(3) Volunteer for paragraph they wish to read and report on to class

(a) be sure to look in all other books for information on your particular topic

(4) Reports

(a) discussion and add any information

Part VII Culmination - suggestions for fourth grade class

A. A play could be written depicting each phase of the unit

(1) List the various sections:

(a) volunteers for the various areas

(2) Work in groups to produce the dialog

MU-1  
67

- (a) present it to the class for evaluation and suggestions
  - (b) make corrections and plan to present to the class
- B. "Men to Match our Mountains", p. 203 California Heritage of Riches may be practiced for oral expressive reading as a challenge to the class to feel that they, too, are a part of the conservation program of California, the Golden State
- C. Planning of mural with children what is to be depicted
- D. Practice "California", state song
- E. Arranging of room by children with mural, diagrams, booklets, attractive covers (eg. spatter painting)

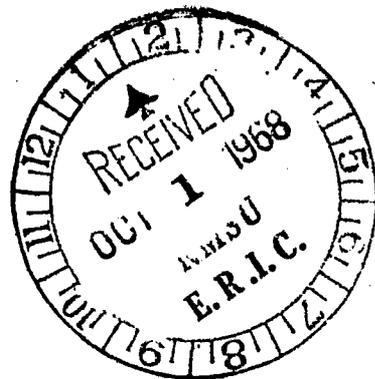
Presentation of play

Reading of "Men to Match our Mountains"

Sing "California"

EDC 70489

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE  
PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS  
STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION  
POSITION OR POLICY.



## SUGGESTIONS FOR TEACHING THE MIGRATORY PUPIL

### "Building A Map Booklet"

#### Fourth Grade Unit

Developed as a part of a research and curriculum development  
project to improve the teaching of migratory pupils.

#### Participants:

Miss Dolly Blanton  
Mrs. Margaret E. Greene  
Mr. Dennis A. Harrison  
Mrs. Sylvia Nickel  
Mrs. Virginia Senior  
Miss Irene Tilley

Richland School District  
331 Shafter Avenue  
Shafter, California 93263

Dr. E. David Cooke  
District Superintendent

Summer, 1967

HC 082702

### Purpose:

To teach and reinforce learnings about place geography. To give the child a sense of accomplishment as his booklet and knowledge grow.

For the migratory child this is another concrete evidence of work finished. This booklet, started whenever he comes, can be taken when he leaves regardless of the stage of its development.

Note: This unit is necessary before migration of Indians, discovery and exploration can be effective.

### Suggestion:

Make an expanding book of maps and pertinent materials. Add pages as each new unit is studied.

When a newcomer enters a peer can help him start his booklet.

Since many migratory children have little sense of where they have been and where they are going a road map might be a good approach as a preliminary step to learning about continents and oceans.

Local maps are available. Home, school, and routes can be traced.

### Objectives:

To learn names and location of the continents and oceans. To learn about the effect of the sun upon the earth. To learn about the equator. To learn directions on maps. To learn to use simple legends. To stimulate curiosity about the world.

To acquaint the child with road maps so he will know where he has been, where he now is and where he is going.

### Environment:

Since this portion of the booklet will deal with simple location of continents and oceans, and directions the following are suggested:

1. Bulletin Board "Where in the World Are We", Cut out large continent shapes of railroad board and place in appropriate place under the above caption. Write the names of the continents and oceans on small placecards. Punch holes in them so they can be hung on hangers (pins) on the map.
2. Pictures around the map with yarn leading from pictures to the place the picture depicts.
3. Picture books about the different continents.

4. A beginning of a labeled collection of objects from each continent.
5. Bulletin Board - Place a road map of the United States under the caption "Where Have You Been?" Children make name cards. Extend yarn from their names to where they have been. They bring pictures and do as they did for their names. The teacher may supply a picture file and children put pictures around the map with yarn connecting place and picture. (Later the same thing may be done with a California road map.)

Initiation: (To teach the names of the continents and oceans)

The following dialogue may ensue.

Teacher: (Using wall map of the world): Where in the world are we?

Pupil: In Shafter.

Teacher: Where in the world is Shafter?

Pupil: In California

Teacher: Where is California?

Pupil: In United States.

Teacher: Where is United States.

Pupil: In North America.

Teacher: Where is North America?

Pupil: In the world.

Teacher: How many large land areas are there like North America?

Pupil: There are six others.

Teachers: There are seven continents in all. Let's look at the wall map again. Where should we put this name on the blank map? What does it say? (Proceed using the names. List the continents and oceans on the board.)

Teacher: (Later) Would you like to play a game with this cut out map and these names. (See activity 111) Children can play with this map in free time checking their labeling with the wall map.

Suggested Followup:

Next Period

Filmstrip - Effect of the Sun (Introduce term "equator")

Next Period

Make a cover for map booklet. Activity 1

Next Period

Introduce the term legend. Color and label an outline map of world according to a legend the class makes.

### Vocabulary:

Asia  
Australia  
Antarctica  
Africa  
Europe  
South America  
North America  
Pacific Ocean  
Atlantic Ocean  
Indian Ocean  
Arctic Ocean  
equator  
revolve  
rotate  
continent  
island  
legend

Children may be guided to want to add other words as they feel the need.

These words can be charted until there are enough to "pay" for getting out their personal vocabulary list to add the new words.

### Activities:

#### 1. Cover for booklet

- a. Wet wash 9 x 12 manila drawing paper.
- b. Drop large blobs of different colors of paint on the wash. Try not to overlap.
- c. When dry outline each mass with black felt pen or black crayon.
- d. Try to imagine each color a land mass in a different world. Name the new world and all the continents and oceans.
- e. After a lesson on the earth and its relation to sun draw an equator to this map of a new world.
- f. Write a paragraph about the continent in this new world where he would like to live and why.

MUC  
21

## 2. A Puzzle

Unscramble the names of the continents and oceans.

siaa  
rafcai  
alrautsia  
caaaitlnrc  
eouerp  
hortn aiearcm  
htuos mcraeia  
iaifpcc necoa  
tanilcta aocen  
dinina caneo  
ratcic echno

## 3. Continental and Ocean Puzzle

On a bulletin board pin a large blank map of the world. Land masses cut out of railroad board. Place pin on each continent and oceans so labels can be hung in appropriate places. Pass out the names of the continents and oceans. Each child reads aloud his label and hangs it on the map. (Children may "play" with the map in free time)

## 4. Language Geography Game

After teaching the continents and oceans and the use of the words went and gone use the world map for the following games.

One child whispers to a leader where in the world, he has gone.

Leader: Where has John gone?

Child: Has John gone to Europe?

Leader: No, John has not gone to Europe.

Second Child: Has John gone to Africa?

Leader: Yes, John has gone to Africa.

Now the one who "went" becomes the leader. The one who guessed correctly pretends he has gone.

## 5. Routes

Place a cut out world map on a mesh screen. (It must not be aluminum) Glue tiny ships to magnets. Play at discovering or exploring. Indian cutouts may be glued to another set of magnets to show how the North American continent became populated.

6. Game: "Which Way"  
(For reinforcing directions on a map.) Use a wall map of the world.

Leader: I am in Europe. If I go south what continent will I come to?

Second Child: You will get to Africa?

Second Child: I am in North America, if I go south I will be in what continent?

Third Child: Will you be in South America?

Third Child: I am in South America. If I go west I will be on what ocean?

7. Learning Direction  
(For a break in routine)  
Children are given continent shapes.

Chain Dialogue:

Leader: Where are you?

First Child: (Holding up continent shape) I am in \_\_\_\_\_.  
Where are you? (to a second child)

Second Child: I am in Australia. . Where are you? (to a third child)

8. Collection

Children make a collection of objects from each continent.

#### Filmstrips Titles

Our Earth Is Moving  
Sun, Weather Maker  
The Globe  
What Is A Map  
Using the Globe  
Flat Map of a Round World  
Using Common Maps  
Elements of a Map

#### Model

Map Reading Model

#### Music - Music Near and Far

Africa  
Africa - 84  
Magic Tom Tom 87

MU-6  
67

Australia

Waltzing Matilda 54  
Kookaburra 53

South America

Gaicho 50

Europe

German Band 144

North America

Raftsmen 83

Asia

Rocking Camel Caravan 61

#### Materials

Outline Maps

World

World Polar

Western Hemisphere

Eastern Hemisphere

North America

Mexico (1769)

Farwestern states

California

"United States" 1769

United States 1848

Japan

#### Supplies

Crayons

Paints

Road Map

Shafter Map

#### Instructional Aids

Globe

Wall Maps

Large Blank maps cut  
out of railroad board

Overhead projector

filmstrip

transparencies

pictures

Time-Life pictures (Time-Life in Time Life Building, Rockefeller  
Center, New York City will send pictures from Life upon request.)

MU-6  
67

## Books about Each Continent

### Asia

Furman - Golden Book  
Bucks - World of Marco Polo  
National Geography - Central Asia  
Southeast Asia  
Southwest Asia

### Africa

Caldwell - Our Neighbors in Africa  
Coughlin - Tropical Africa  
Lobsenz - Golden Book 5  
Reed - Eastern Lands  
Gathi - Here is Africa  
Nevins - Away to East Africa  
Rivikin - Sia lives in Kilimanjaro  
Stinetorf - Elephant Outlaw  
Davis - Pickens Great Adventure  
National Geography - Africa  
Hubbard - Wild Animal Hunter  
Lindrop - Hubert the Traveling Hippopotamus  
Price - African Adventure  
Carpenter - Africa Wonder Tales

### Europe

Collins - Golden Book 3  
National Geographic - Europe  
National Geographic - British Isles  
National Geographic - France and Belgium  
National Geographic - Spain and Portugal

### South America

Appel - (Illustrated) South America  
Bivans - Golden Book 2  
Dalglish - They Live in South America  
Cook - Sammis Army

### Antarctica

Bacon - Australia Oceania and Polar Regions  
Icehower - First Book of Antarctica  
Strong - Real Book about Antarctica  
Sullivan - White Land of Africa  
Baum - Antarctica - Worst Place in the World

### Australia

Harris - Let's Read About Australia  
Life - Australia and New Zealand  
Blunden - Land and People of Australia

MU-6  
67

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE  
PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS  
STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION  
POSITION OR POLICY.

SUGGESTIONS FOR TEACHING THE MIGRATORY PUPIL

"A Fifth Grade Arithmetic Unit For The Migratory Pupil"

LINEAR MEASURE

Developed as a part of a research and curriculum development  
project to improve the teaching of migratory pupils.

Participants:

Miss Dolly Blanton  
Mrs. Margaret E. Greene  
Mr. Dennis A. Harrison  
Mrs. Sylvia Nickel  
Mrs. Virginia Senior  
Miss Irene Tilley

Richland School District  
331 Shafter Avenue  
Shafter, California 93263

Dr. E. David Cooke  
District Superintendent

Summer, 1967

RC 002 702

This unit may have been taught either in its entirety or in part before the arrival of the "migratory child"

Using an "aid" who has been present during the teaching of the unit and a "buddy" or two the unit may be developed with the "migratory child".

If there is no "aid", "buddies" under teacher supervision can assist the child. Finally, a review of the unit would likely benefit the class.

I. A unit of work on Linear Measure involving inch, foot, yard, rod, mile.

A. Purpose:

1. To acquaint child with common instruments for measuring length.
2. To give child facility in measuring length.
3. To assist the child to discover that all matter has other dimensions than length - namely width and depth (thickness)
4. To assist child to see that linear measurement is basic to the measure of all 3 dimensions of matter.

B. To Discover:

1. All measurements are comparisons of the size of one thing with the size of something else.
2. Need for standard units of measure (units of measure agreed to by millions of people)
3. That some measurements are more precise than others -- a measurement to the nearest mile is less precise than to the nearest inch.

C. Activities:

1. Measuring height of a classmate.
  - a. Decide on a suitable unit of measure.
  - b. Decide what dimension is being measured.
  - c. What other dimensions can be measured?
  - d. What unit of measure would be useful in measuring width and thickness?
  - e. Is there an object that has only one dimension?
  - f. What is this \_\_\_\_\_? Is it truly a line? Might it be symbol for a line?

2. Using oaktag construct 3 yardsticks thus:

- a. 

one yard
----------

 1 yard
- b. 

--

 3 feet
- c. 

--

 36 inches

MU-5  
67

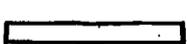
- d. Last, put all the above information on all of the yardsticks.
  - e. Leave one yardstick complete and cut one of the others into foot lengths and the last one into inch length to show that:
    - 1 yd. = 3 ft.
    - 1 yd. = 36 in.
3. Using measuring instruments constructed by the children have them measure one another and record the results.
4. What problems have developed?
- a. Some may give answers in inches
  - b. Some may give answers in feet and inches.
  - c. Some may give answers in yards, feet, inches and fractions of inches.
  - d. Develop the idea that units of measure that are alike maybe added or subtracted, so differences in height can be figured.
  - e. Problem Solving: Find the difference in height of the tallest and the shortest girl -- the tallest and shortest boy and the difference between the height of the tallest boy and the tallest girl.

Many objects both inside and out should be measured. The idea of perimeter and circumference as linear measure should be developed. The perimeters of many polygons can be measured.

Try to have child develop a formula for finding the perimeter of the most common polygons (rectangles and squares).

Help him to draw figures, put in dimensions and draw to scale if he can develop this concept.

Sample of Discovery Problems:

- 1. Draw a rectangle whose perimeter is 20 inches. Put the dimensions on the figure.
- 2. Draw a  having a side 5 inches long and whose perimeter is 24 inches. Put the dimensions on the figure.

MU-5  
67

## Riddles (Grades 4-5-6)

- A. Preparation and Materials: Keep a place on your blackboard to write a daily riddle involving arithmetic or numbers in general. These riddles are easily obtained from riddle books in your school and public library.

### Example:

1. Why is a giant's hand only 11 inches long?  
Answer: One more inch and it would be a foot.
2. How can you pick up a ton with one hand.  
Answer: Pick up a pound at a time.
3. How many hands may a large horse have?  
Answer: From 17 to 18 1/2.
4. When do 8 and 3 make more than 11?  
Answer: When they make 83.
5. Question: What is the longest word in the English language.  
Answer: Smile, because it is a mile after the s.
6. Question: How can you take 2 letters from a 5 letter word and still have 6 left.  
Answer: Take "ty" from "sixty".

### B. Introduction:

This special section of the board will contain a new arithmetic riddle each day. Read it in the morning and think about it during the day. Each afternoon ask for the solution. Adopted from Page 188 in Plus A Handbook of Experiments and Activities to Motivate the teaching of Elementary Arithmetic. -- Richland Library

\*\*\*

Books in math reference shelf with helpful materials

Seeing Through Arithmetic  
Scott Foresman

Grade 4 Pages 3-5, 226-227  
Grade 5 Pages 5-7, 92-95, 105-109

See adopted text book

Grades 4 & 5

Other books are available in the math section of textbooks other than the ones listed above. (In professional library.)

MU-5  
67

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE  
PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS  
STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION  
POSITION OR POLICY.



## SUGGESTIONS FOR TEACHING THE MIGRATORY PUPIL

"An Introduction to the World of the Microscope"

A sixth grade science unit  
for the migratory pupil.

Developed as a part of a research and curriculum development  
project to improve the teaching of migratory pupils.

### Participants:

Miss Dolly Elanton  
Mrs. Margaret E. Greene  
Mr. Dennis A. Harrison  
Mrs. Sylvia Nickel  
Mrs. Virginia Senior  
Miss Irene Tilley

Richland School District  
331 Shafter Avenue  
Shafter, California 93263

Dr. E. David Cooke  
District Superintendent

Summer, 1967

RC 102 702

## PREFACE

The unit suggested here may have been taught in part or in its entirety before the arrival of the "migratory child". In any event, because the concepts suggested by the unit are a part of the prescribed sixth grade curriculum, every effort should be made to insure the total involvement of the disadvantaged child as quickly as possible. It might be well to arrange for the unit to be introduced near the end of October in so far as many of the migratory children of this particular district enter Richland School at this time.

The necessary experiences that will help the disadvantaged child to take specific steps toward grasping certain concept development must be arranged for by the classroom teacher and the students' peer group. A warmth and understanding from both the "buddy" and the teacher of the migrant child is of primary importance in helping to promote a desire to learn on the part of the disadvantaged child.

The basic introduction -- in which the problem (Ideas and Tools for Longer Life -- Concepts in Science, State Text, 6th grade pages 99-145) is presented by the use of (An Introduction to the World of the Microscope). The child's curiosity is stimulated by the use of the Micro-Slide Viewer Set. (Richland Library)

The length of time that it takes to develop this unit depends upon the manner in which the children approach conceptual learning. A daily recording in chart form by the class of each step employed to gain the understanding of any concept development seems expedient. This provides an excellent way to acquaint any new comer with enough background information to precede comfortably with the activities being introduced at the time of his arrival.

If the migrant child experiences further difficulty in coping with the materials at the level of the class, it is essential that a wealth of teaching aids concerning the concepts being developed be available. Suggested aids may include:

1. Film Strips  
note (The following are in the Richland Library)
  - a. Edward Trudeau
  - b. Madame Curie
  - c. Kock
  - d. Robert Kock R14
  - e. Jenner
  - f. Reed
  - g. Curie

h. Louis Pasteur R11

i. Edward Jenner R9

2. Tapes

Original tapes involving a variety of activities introduced for enrichment.  
note (See appendix)

3. Charts

These charts are made by the children and should be a record of

a. Premises

b. Vocabulary

c. Record of experiments with found conclusions

4. Slides

Slides made by the children could be a further development after using the Micro-Slide Viewer and would lead to the use of a real Microscope

5. Plates

Plates drawn by the children of the class concerning slides used in the Micro-Slide Viewer

6. Concomitant materials

Materials to be used to reinforce the extension of the lesson.  
note (See appendix)

Aims:

1. To develop an awareness of the vast variety of living things which cannot be seen by the unaided eye.
2. To develop an appreciation of the value of the microscope as an instrument of scientific research.
3. To provide pupils with visual experiences which will develop their powers of observation.

Concepts to be Developed:

The following are suggested concepts that can be developed by pupils from a study of slides and the text material. It is more important that the children understand these concepts than that they memorize mechanically the names of the organisms and their parts.

1. Microscopic life is found everywhere -- in the air, the earth and in plants and animals.
2. There are vast numbers of complete organisms -- (see Slide 3. Micro-Slide Viewer) and plants (see Slide 4) which are so small that they cannot be seen without the aid of the microscope.
3. The microscope enables us to study the minute structures of large animals (see Slide 5 and 7) and plants (see Slide 2)
4. Many things which can be seen with the naked eye can be studied in greater detail with the aid of the microscope (see Slide 1).
5. By cutting a section from an object thin enough for light to pass through it, we can study the inner structures of living things.
6. Specimens are stained in order to make various parts and structures more distinguishable.
7. The microscope is an important and useful instrument in biology, medicine, industry and agriculture.
8. A magnifying glass is really a kind of microscope.
9. The electron microscope is capable of very high magnifications-- over 100,000 times.
10. The smaller the object, the greater the magnification needed to see it.

#### Specific Teaching Suggestions:

A. The following are suggested questions which may prove useful in stimulating interest in this lesson.

1. Who has a magnifying glass? Tell us about it.
2. Who has studied a microscope? What did you study with it?
3. Are there living things in the air that we cannot see? Name them.
4. Are there any living things in a drop of clear pond water? Name them.
5. Are there living plants in the earth so small that they cannot be seen? Name them.
6. What do scientists learn by studying things in the invisible world?
7. For what purpose would the following people use a microscope? A detective, a doctor, a plant scientist? Name others who might use a microscope.

MU-2  
67

- B. The following are suggested questions which may prove useful in discussing the specific slides in this set.

Slide 1. The letter "e"

1. Of what value would a study of this slide be to a printer? (Find defects in letters)
2. What is paper made of?
3. Can you see wood fibers in this slide?

Slide 2. Pollen

1. Do you know a person who suffers from hay fever? At what time of year does he suffer most? (spring, summer, fall).

Slide 3. Hydra

1. What do you think the small branch-like extension in the lower part of this animal is? (A hydra bud grows out of parents' side when it reaches a certain size, it breaks off and becomes a young hydra.)
2. What would happen if this bacteria began to grow on a piece of meat? (spoilage)

Slide 5. Blood Cells

1. Why do we have red cells and white cells in our blood? (Red cells carry oxygen throughout the body, white cells destroy harmful bacteria).

Slide 6. Shells of Ancient Animals

1. What can a scientist learn from this slide? (Provides proof of ancient animal life.)

Slide 7. Cross-Section of Earthworms

1. Does the worm have more intestine or muscle or blood vessel? (Muscle for crawling).

Slide 8. Virus

1. Can you detect a difference among these three viruses? (One virus is broken open.)

- C. The following are suggested activities.

1. Collect variety of printed matter on different kinds of paper. Observe difference with magnifying glass.

2. Collect newspaper and magazine articles in which a microscope is mentioned.
3. Have pupils interview their doctor or school nurse. Tell or write about how or why the particular person interviewed uses his microscope.
4. Use the library to prepare a written report on:
  - a. Development of the microscope
  - b. Anton Van Leewenhoek
  - c. Use of microscope by,  
  
Joseph Lister  
Louis Pasteur  
Robert Koch  
Selman Waksman
5. Growing of bacteria or fungi in a Petri dish.
6. Field trip  
  
Visit a doctor's office or hospital to observe the methods used in keeping everything free of germs

## APPENDIX

### 2. Tapes

After the children have had the experiences of investigating and hypothesizing and then reporting their findings in written reports, they can make original tapes of their conclusions.

These tapes can become a vital source of information for the disadvantaged learner.

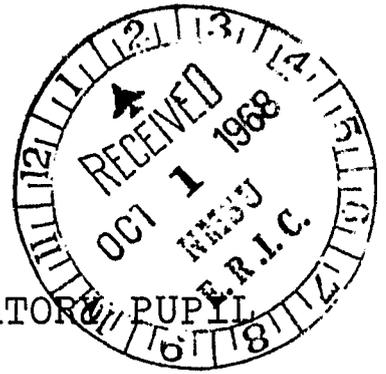
### 6. Concomitant materials

Sheets from the 6th grade State Series Reading Work Book may be used to both reinforce and extend any lesson to be introduced.

note (Suggested pages to be used)

- a. Reference Book p. 107
- b. Library p. 67
- c. Using an Index p. 64  
p. 84
- d. Using an  
Encyclopedia p. 86

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE  
PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS  
STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION  
POSITION OR POLICY.



SUGGESTIONS FOR TEACHING THE MIGRATORY PUPIL

"A Short Sixth Grade Geography Unit For The Migratory Pupil"

LEARNING ABOUT LONGITUDE AND LATITUDE

Developed as a part of a research and curriculum development  
project to improve the teaching of migratory pupils.

Participants:

Miss Dolly Blanton  
Mrs. Margaret E. Greene  
Mr. Dennis A. Harrison  
Mrs. Sylvia Nickel  
Mrs. Virginia Senior  
Miss Irene Tilley

Richland School District  
331 Shafter Avenue  
Shafter, California 93263

Dr. E. David Cooke  
District Superintendent

Summer, 1967

RC 002 702

## PREFACE

The unit suggested herein may have been taught in part or in its entirety before the arrival of a "migratory child". In any event, because the concepts suggested by the unit are a part of the prescribed sixth grade curriculum, every effort should be made for total involvement of the disadvantaged learner as quickly as possible.

The "buddy" system is perhaps the most satisfactory method of developing empathy with his peers. Construction of the individual model described in the unit can be used as a springboard to generate interest. Reviewing the premises that have been recorded daily on charts as a class project should prove valuable in helping to understanding the concepts to be studied.

A warmth and understanding from both the "buddy" and the teacher of the migrant child is of primary importance in helping to promote a desire on the part of the disadvantaged to learn. This is true not only in the case of the migrant child but also true of the disadvantaged learner.

It is important that all children be aware of a personal responsibility for the security of their peers within the classroom. Ways of developing this feeling of being secure and comfortable should be considered before the new child enters the classroom.

This short unit can successfully be adapted to the needs of the migrant child because of the flexibility of materials to be involved. The child involved in such a study can experience a feeling of having completed an entire piece of work: a beginning, a middle, and a conclusion. The depth of the unit depends upon his length of stay in the classroom. The class as a whole will develop each part of the unit at the discretion of the teacher. If the child's length of stay is limited the teacher can shorten certain portions of the unit designed for reenforcement of the concepts without weakening the structure of the unit.

## Longitude and Latitude

A. Purpose: To study longitude and latitude

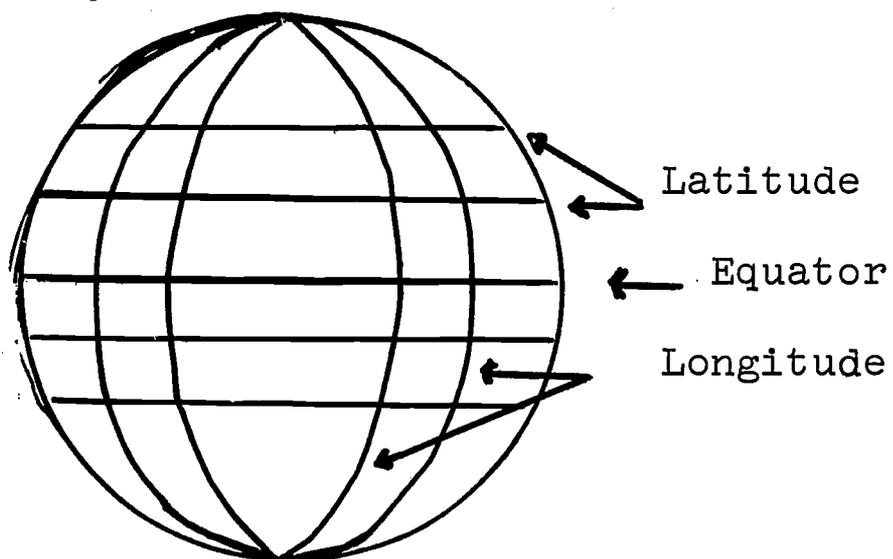
B. Materials: 12" x 12" piece of brown wrapping paper  
12" x 12" piece of white wrapping paper  
18" x 18" sheet of colored (any color) scissors, staples,  
pencils with 5" piece of string attached, ruler, paper  
clips.

C. Introductions: Each of you get a piece of the three colors' of paper, a pencil with a string attached, ruler and scissors from the materials table. We are going to make a globe to help us study the longitude and latitude divisions of our world. This is not really a globe because it will be flat but you will be able to study these divisions closely because each of you will have his own device with which to work.

Measure to find the center of the white piece of paper. Place the loose end of the string on the center point, hold tightly, and draw a circle with a five inch radius. Do this same thing on the brown paper. Using the atlas for measurements, draw the longitude lines on the brown circle and the latitude lines on the white paper. Make each line  $\frac{1}{4}$ " wide and cut all the circle away except the outside frame. Write equator on the proper line. Now clip the brown piece to the colored sheet and place the white one over the brown in the correct place. You now have a working device to help you find latitude and longitude.

D. Variation: The teacher makes a working model for the children to see. A large balloon may be covered with papier mache and longitude and latitude placed on it in different colored tissue paper. The figure may be taken apart and reassembled for study.

E. Correlation: Science work on the earth and space will be able to use this device. Historical trade routes and explorer's routes may be found on this model.



MU-3  
67

## Concepts and Techniques:

1. Reviewing directions on the globe.

Review the directions of north, south, east, and west.

Learn that the name to the north-south line is meridian, that east-west lines are called parallels.

2. Learning how to find distance from the equator, or latitude.
3. Learning how to find longitude.
4. Give exact locations.

## Vocabulary to be mastered:

Equator - imaginary line circling the globe in an east-west direction half-way between the North and South Pole called Equator because it divides the earth in half.

parallels - other imaginary lines running in an east-west direction because they are parallel to the Equator and to each other.

meridians - imaginary lines running from the North Pole to the South Pole.

meridian means "mid-day" or noon.

when your shadow points straight north (or straight south) at noon it is pointing along a meridian.

(note) the meridians are not parallel to each other. They are farthest apart at the Equator, and they come together at the North Pole and South Pole. They divide the globe into imaginary sections like the segments of an orange.

degrees - these imaginary lines measure distance not in miles but in degrees.

there are 360 degrees in a circle around the globe or any circle. A short way to write degrees is to use a special symbol a little circle.

therefore 90 degrees may be written  $90^\circ$

The Equator is the starting point for numbering the parallels and the Equator is number 0. There are 90 parallels 1 degree apart north of the Equator. There are 90 parallels 1 degree apart south of the Equator.

The North Pole is  $90^\circ$  north and the South Pole is  $90^\circ$  south.

Latitude - Distance measured by parallels are called distances of latitude.

Prime Meridian - the meridians extending from the North Pole to the South Pole are numbered from the meridian running through Greenwich, which is part of London, England.

this is the 0 Meridian

heading westward from Greenwich the meridian numbers grow larger until a point is reached exactly half way around the world.

the meridian that goes through that part is 180

Longitude - Distances measured by meridians are called distances of longitude.

each degree of latitude or longitude can be divided into 60 smaller units called minutes.

each minute can be divided into 60 smaller seconds.

by using degrees, minutes, seconds, a captain can find his position very exactly in the ocean.

References: Learning to Use a Map - A.J. Nystrom and Co.  
The World Around Us  
A World View  
Epstein, Samuel First Book of Maps and Globes  
Harris, Ruby, The Rand McNally Handbook of Map and Globe Usage

Film Strip - Flat Map of a Round Globe  
Using the Globe  
The Globe

Suggestions: The following materials may be dittoed and used as a personal source book of the child.

## LEARNING TO USE GRID LINES

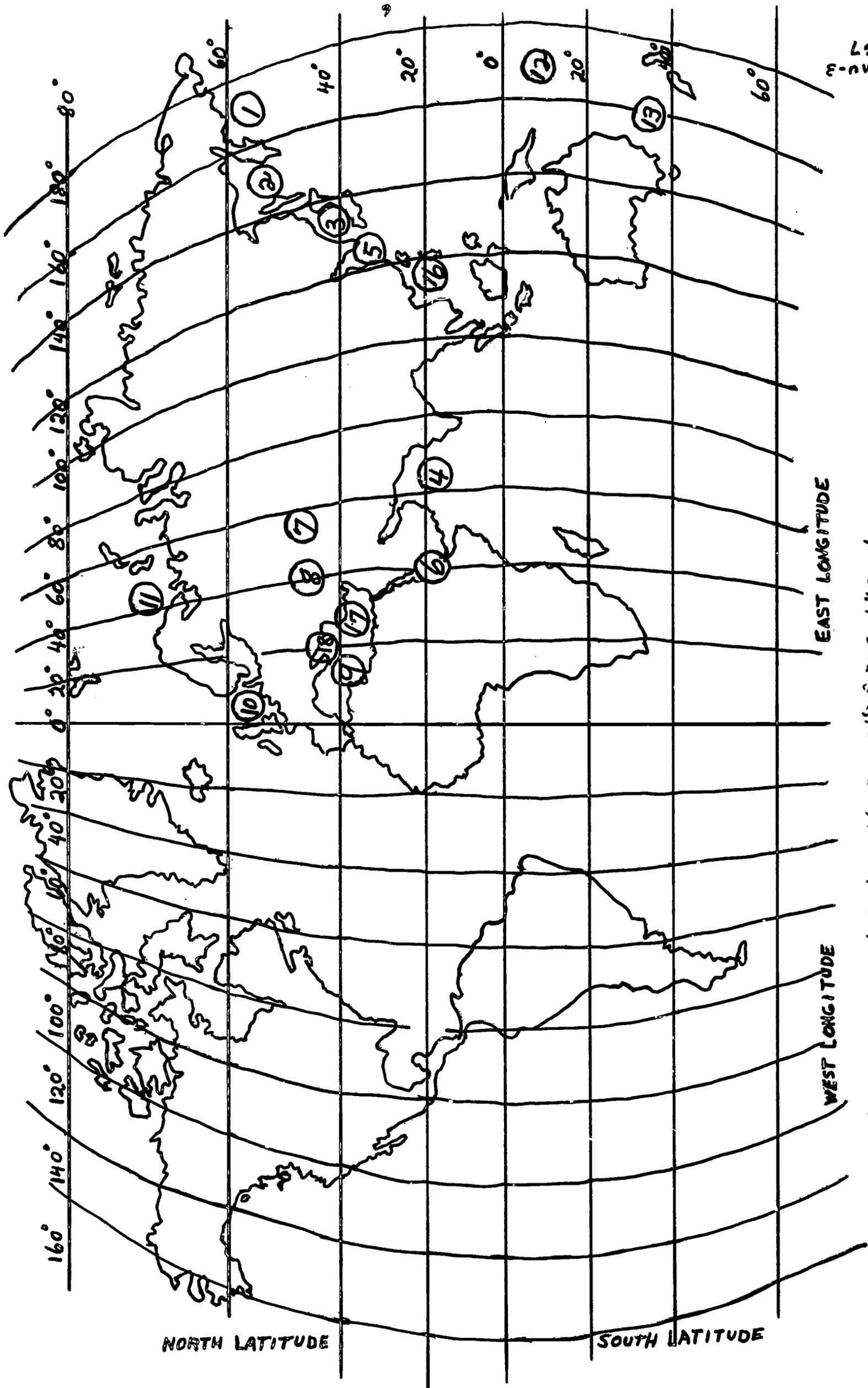
The lines of latitude and longitude given are locations of some important seas. Find them on a map and write the correct name in the blank space.

	Names of Important Seas
1. 60° N. Latitude - 180° longitude	1. <u>(Bering Sea)</u>
2. 60° N. Latitude - 140° E. Longitude	2. <u>(Sea of Okhotsk)</u>
3. 40° N. Latitude - 140° E. Longitude	3. <u>(Sea of Japan)</u>
4. 20° N. Latitude - 60° E. Longitude	4. <u>(Arabian Sea)</u>
5. 40° N. Latitude - 120° E. Longitude	5. <u>(Yellow Sea)</u>
6. 20° N. Latitude - 40° E. Longitude	6. <u>(Red Sea)</u>
7. 40° N. Latitude - 50° E. Longitude	7. <u>(Caspian Sea)</u>
8. 40° N. Latitude - 30° E. Longitude (OST)	8. <u>(Black Sea)</u>
9. 40° N. Latitude - 20° E. Longitude	9. <u>(Mediterranean Sea)</u>
10. 55° N. Latitude - 0° Longitude	10. <u>(North Sea)</u>
11. 80° N. Latitude - 40° E. Longitude	11. <u>(Barents Sea)</u>
12. 10° S. Latitude - 170° E. Longitude	12. <u>(Coral Sea)</u>
13. 40° S. Latitude - 180° E. Longitude	13. <u>(Tasman Sea)</u>
14. 20° N. Latitude - 80° W. Longitude	14. <u>(Caribbean Sea)</u>
15. 60° N. Latitude - 20° E. Longitude	15. <u>(Baltic Sea)</u>
16. 10° N. Latitude - 115° E. Longitude	16. <u>(South China Sea)</u>
17. 38° N. Latitude - 25° E. Longitude	17. <u>(Aegean Sea)</u>
18. 43° N. Latitude - 15° E. Longitude	18. <u>(Adriatic Sea)</u>

### References:

The World Around Us, pp. 422-446

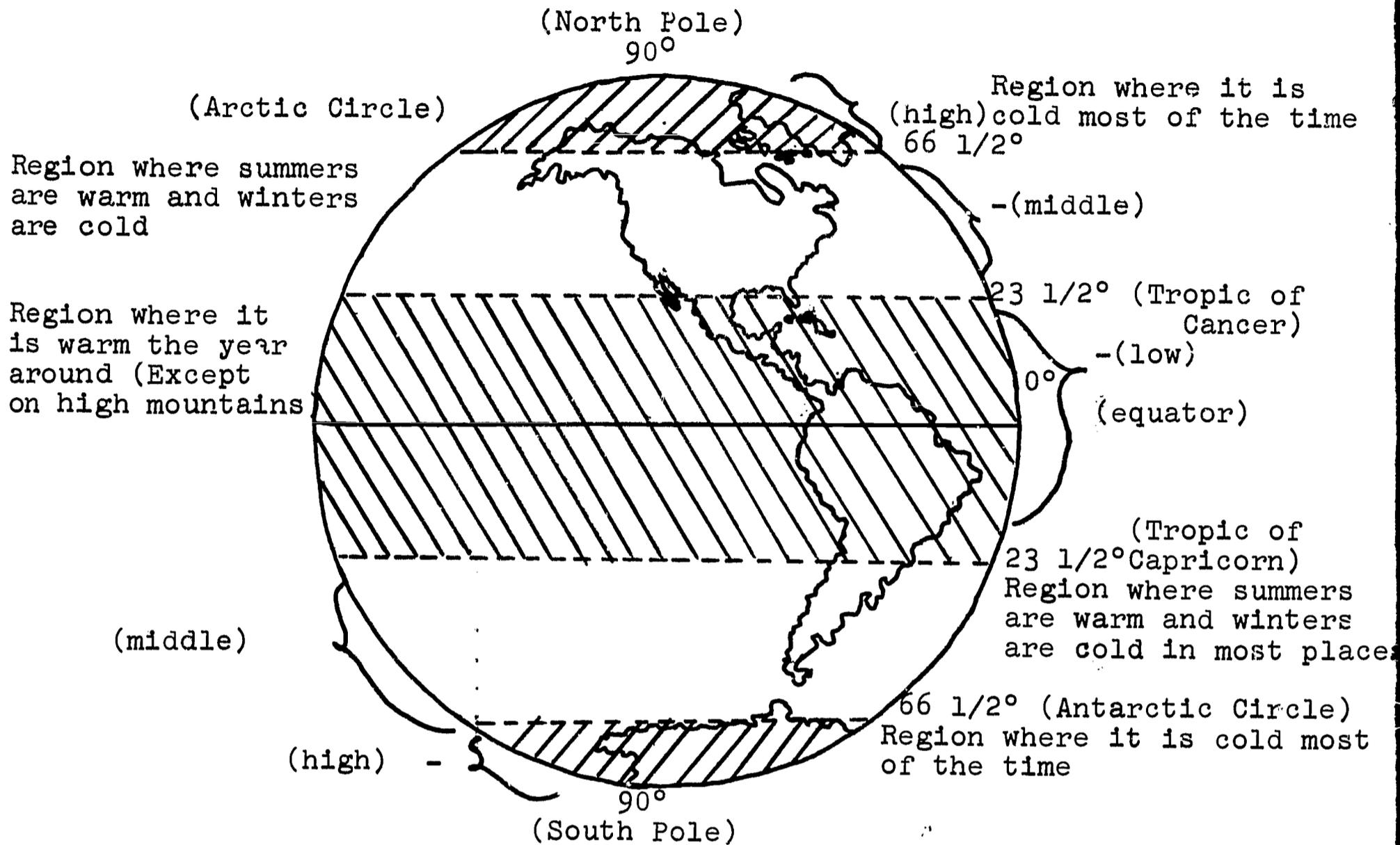
A World View, pp. 386, 393



W-229  
L9

Label the seas listed on the preceding page by number.

## REGIONS BASED ON LATITUDE



Scientists often divide the earth into three great regions based on latitude, or distance north or south of the equator. These regions are--the low latitudes, the middle latitudes, and the high latitudes.

1. Locate and label the three regions on the globe above.
2. Locate and label the parallels that form the boundaries for these regions.
3. Locate and label the North and South Poles, Arctic Circle, Antarctic Circle, Equator, Tropic of Cancer and Tropic of Capricorn.

### References:

The World Around Us, pp.54-55

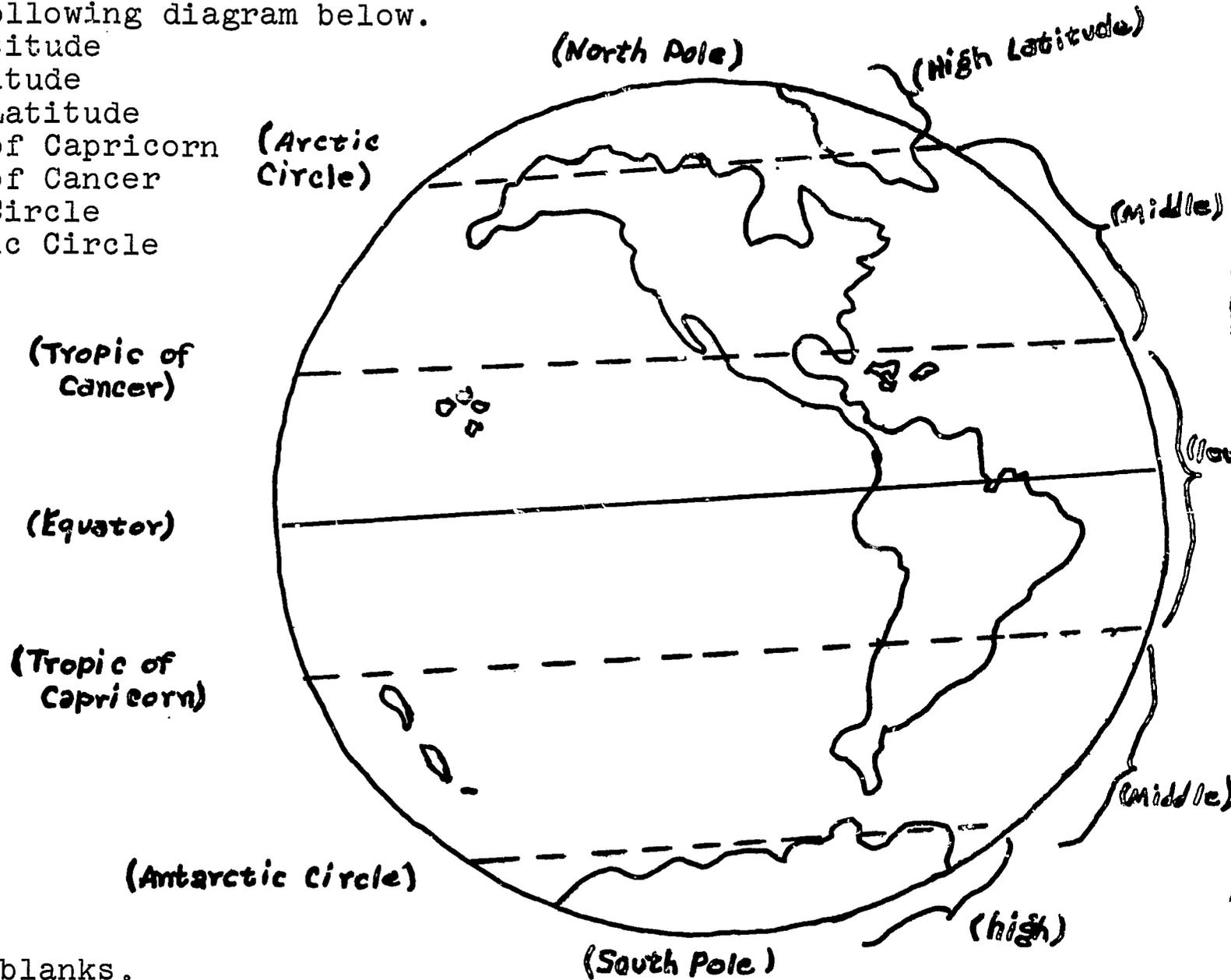
Life in Latin America,  
pp. 280-281 p. 488

## LATITUDE AND TEMPERATURE

The earth can be divided into three regions based on latitude. The regions are described as: (1) Low latitude (regions where it is warm the year round), (2) middle latitude (region where summers are warm and winters are cold), (3) high latitude (region where it is cold most of the year).

A. Print the following diagram below.

1. High Latitude
2. Low Latitude
3. Middle Latitude
4. Tropic of Capricorn
5. Tropic of Cancer
6. Arctic Circle
7. Antarctic Circle
8. Equator



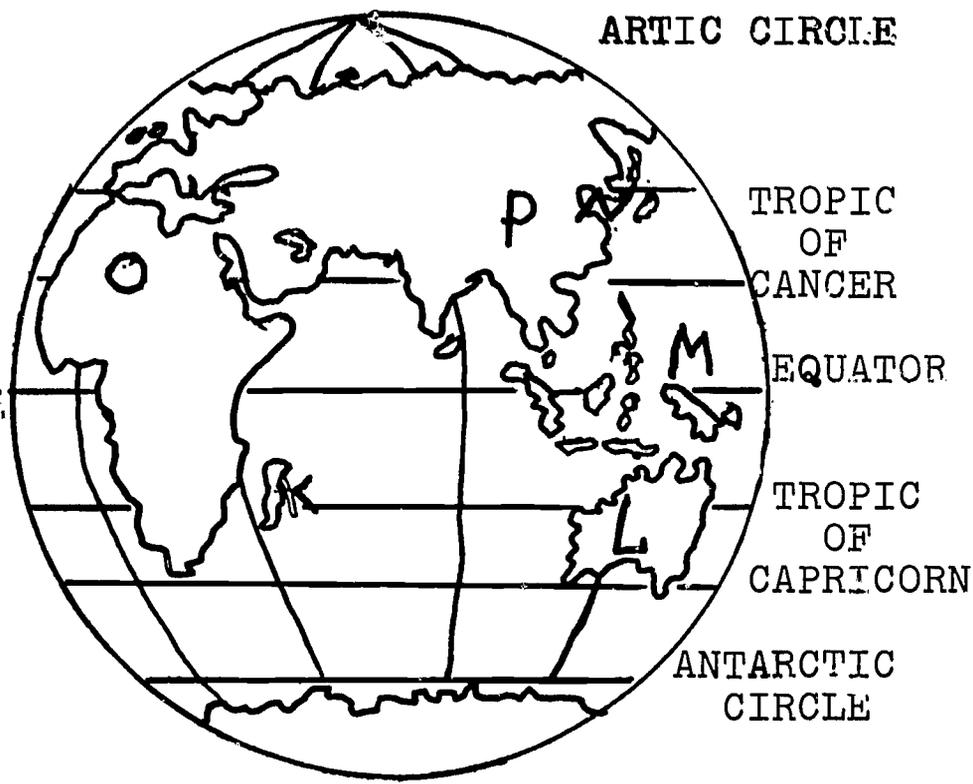
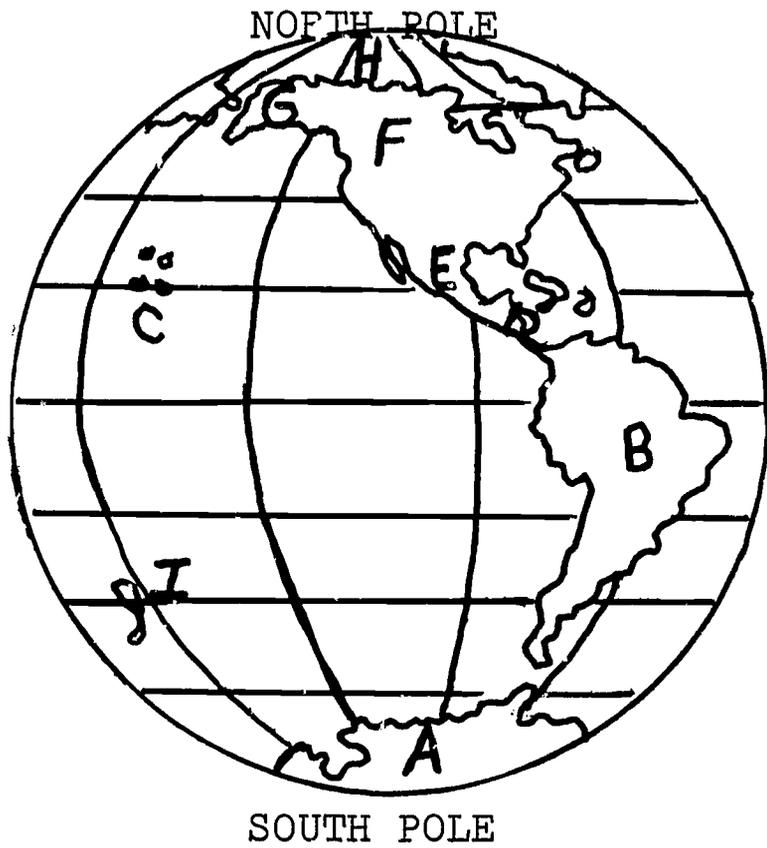
B. Fill in the blanks.

1. The low latitude lies between (Tropic of Cancer) and (Tropic of Capricorn)
2. The north middle latitude lies between (Tropic of Cancer) and The Arctic Circle).
3. The United States is found in the (middle) latitude.
4. Mexico is found in (the low) latitudes.
5. Most of South America is in (the low) latitudes.
6. What part of the United States is located in the high latitude?  
(Alaska).
7. The Hawaiian Islands are in the (low) latitude.

Reference:

Life in Latin America, pp.280-281  
p.488

SEEING AND UNDERSTANDING REGIONS



A. Locating Regions Each letter on the above diagrams corresponds with one of the regions below. Write the correct letter for each region.

- |                     |     |                       |     |
|---------------------|-----|-----------------------|-----|
| 1. Hawaiian Islands | (C) | 9. Europe             | (J) |
| 2. Alaska           | (G) | 10. Malagasy Republic | (K) |
| 3. Canada           | (F) | 11. Australia         | (L) |
| 4. Mexico           | (E) | 12. New Guinea        | (M) |
| 5. Central America  | (D) | 13. Korea             | (N) |
| 6. South America    | (B) | 14. New Zealand       | (I) |
| 7. Antarctica       | (A) | 15. Africa            | (O) |
| 8. The Arctic       | (H) | 16. China             | (P) |

B. Facts About The Earth The diagrams above will help you complete these sentences.

1. The point farthes north on earth is the (North Pole).
2. The Point farthest south is the (South Pole).
3. The east-west line that circles the earth halfway between the Poles is the (equator).
4. South Polar lands lie between the South Pole and the (Antarctic Circle).
5. North Polar lands lie between the North Pole and the (Arctic) Circle.
6. Tropical lands reach north from the equator to the Tropic of (Cancer).
7. Tropical lands reach south from the equator to the Tropic of (Capricorn).

Seeing and Understanding Regions (continued)

C. Fill in the degrees and indicate the direction of latitude.

1. Most of Asia is between (20°) and 66 1/2° (North latitude.)
2. Madagascar is crossed by (20°) (South) latitude.
3. Latitude 66 1/2° N is the (Arctic) (Circle).
4. Latitude 66 1/2° S is the (Antarctic) (Circle).
5. Most of Antarctica is below (66 1/2°) (North) latitude.

D. Reading latitude Finish each sentence with the best answer.

1. A place at 30° S. Latitude lies (south) of the equator.  
a. east      b. north      c. south
2. Latitude 75° N. Lies (north) of the Arctic Circle.  
a. north      b. south      c. west
3. Latitude 30° N. runs across (North America.)  
a. Antarctica      b. North America      c. South America
4. Latitude 15° N. runs through (Central America).  
a. the Arctic      b. Central America      c. South America
5. Latitude 15° S. runs through (South America).  
a. the Arctic      b. Central America      c. South America
6. Latitude 60° N. runs through (Alaska).  
a. Alaska      b. Mexico      c. Antarctica

References:

A World View, pp. 374-375  
Life in Latin America,  
pp. 492-493

## LOCATING PLACES BY USE OF LATITUDE AND LONGITUDE

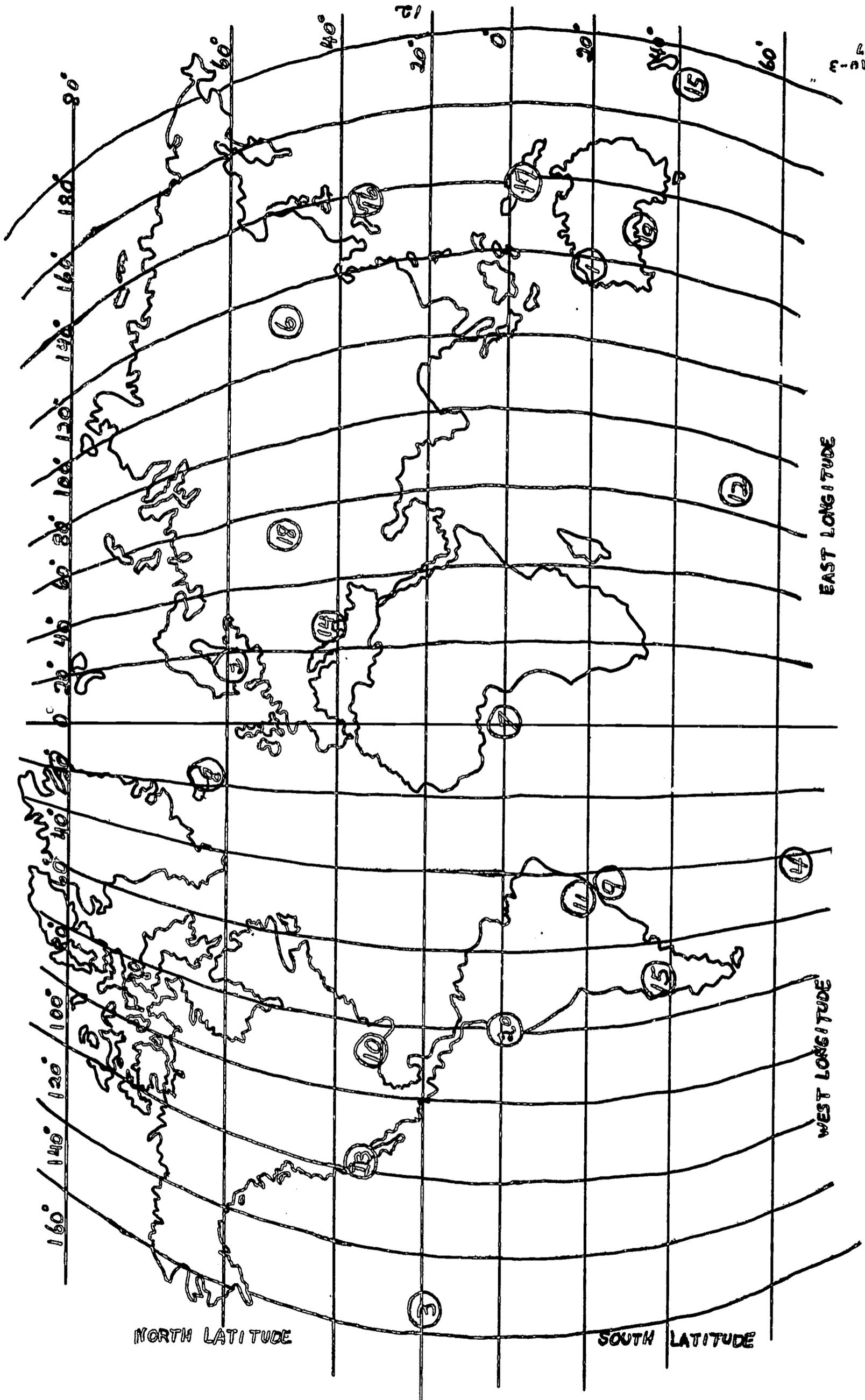
The lines on a map that run parallel to the equator or east and west are called parallels. They measure latitude, or distance north or south of the equator.

The lines on a map that run north or south are called meridians. They measure longitude, or distance east or west of the prime meridian.

List the following latitudes and longitudes by placing their corresponding number and circling it on the map of the world on the following page. Also name the Continent, Ocean, or Island that is intersected at this point on the lines below.

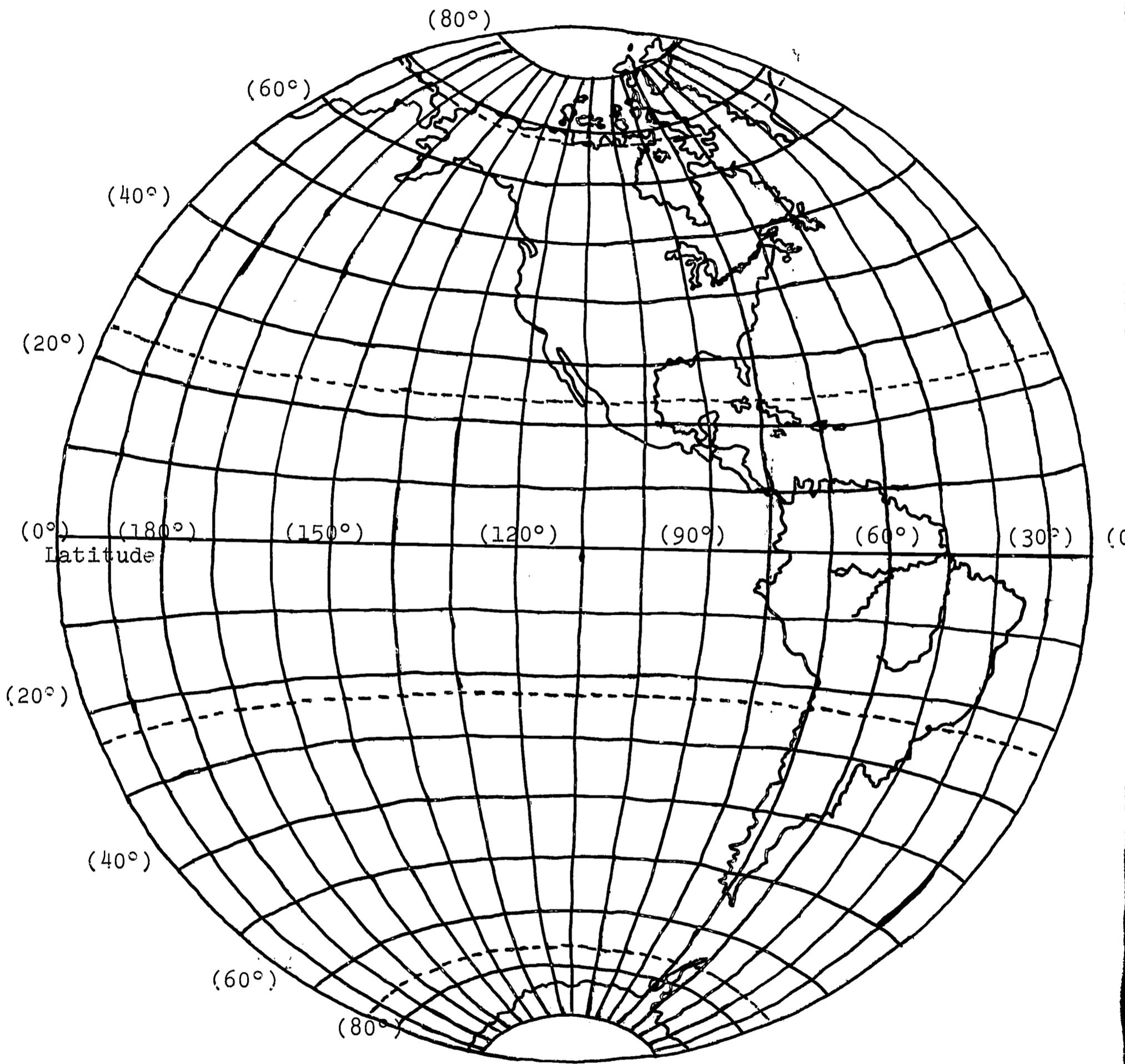
Example: 1.	20° S. Lat. 120° E. Long.	(Australia)
2.	60° N. Lat. 20° E. Long.	(Sweden)
3.	20° N. Lat. 155° W. Long.	(Hawaii)
4.	62° S. Lat. 45° W. Long.	(Antarctica)
5.	40° S. Lat. 170° E. Long.	(New Zealand)
6.	50° N. Lat. 110° E. Long.	(Asia)
7.	0° Lat. 0° Long.	(Gulf of Guinea)
8.	61° N. Lat. 20° W. Long.	(Iceland)
9.	23° S. Lat. 43° W. Long.	(Brazil)
10.	30° N. Lat. 90° W. Long.	(New Orleans)
11.	20° S. Lat. 45° W. Long.	(Brazil)
12.	50° S. Lat. 70° E. Long.	(Indian Ocean)
13.	35° N. Lat. 120° W. Long.	(Fresno)
14.	40° N. Lat. 22° E. Long.	(Greece)
15.	35° S. Lat. 70° W. Long.	(Argentina)
16.	38° N. Lat. 140° E. Long.	(Japan)
17.	5° S. Lat. 140° E. Long.	(New Guinea)
18.	50° N. Lat. 55° E. Long.	(U.S.S.R.)
19.	30° S. Lat. 130° E. Long.	(Australia)
20.	0° Lat. 80° W. Long.	(Ecuador)

Reference:  
The World Around Us, pp. 458-459



49  
E-DW

# CLIMATIC ZONES



Label in degrees the longitudinal and latitudinal lines.  
Color the TORRID ZONE red (low latitude)  
Color the TEMPERATE ZONE green (middle latitude)  
Color the FRIGID ZONE blue (high latitude)

Reference:

Life in Latin America,  
pp. 280, 281, 488

MU-3  
67

Game:

Objective: Reinforcement of concepts learned.

Materials: Globe or large wall map.

Leader: Group

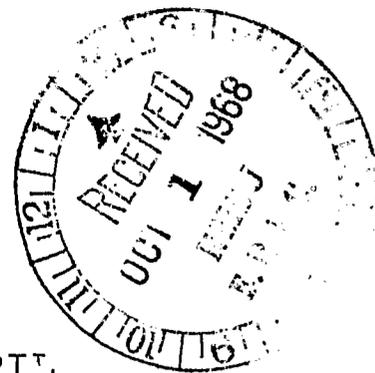
The leader tells the group that he is at so many degrees latitude and so many degrees longitude.

He then asks the question:

Where am I?

The first member to find the correct location then becomes the leader.

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.



## SUGGESTIONS FOR TEACHING THE MIGRATORY PUPIL

"A Short Seventh Grade Arithmetic Unit On Percentage For The Migratory Pupil"

### PERCENTAGE

Developed as a part of a research and curriculum development project to improve the teaching of migratory pupils.

#### Participants:

Miss Dolly Blanton  
Mrs. Margaret E. Greene  
Mr. Dennis A. Harrison  
Mrs. Sylvia Nickel  
Mrs. Virginia Senior  
Miss Irene Tilley

Richland School District  
331 Shafter Avenue  
Shafter, California 93263

Dr. E. David Cooke  
District Superintendent

Summer, 1967

RC 002 702

## TO THE TEACHER

This is a unit in percentage using programmed instruction. There are two types of programs used in this unit, linear, and scrambled. In linear programmed instruction, the student moves along from one frame to the next without skipping around. The scrambled program, as the name implies, requires the student to skip around from page to page, depending upon which answer he chooses.

This unit was written for use by a migrant student who might enter the class after the teacher has covered percentage with the rest of the class. Some of the advantages of programmed instruction that make this lesson particularly well suited for use by migrant students are: it is a complete unit of work; it can be completed by a student at his own rate, with a minimum of guidance from the teacher; and the student gets the correct answers immediately and there-by learns the correct information. Besides being well suited to the migrant student, this unit can serve very well as a review for any student who is having difficulty in this area.

Because all students are not familiar with programmed instruction methods, the teacher should be sure that the student has a thorough understanding of the instructions and what he is expected to do. This can best be accomplished by reading over the instruction with the student before allowing him to begin the program. Since this is not a test, it is o.k. for the student to get help whenever he feels the need for it.

The student should be able to complete this unit in one regular class period, 45 minutes.

## INSTRUCTIONS

1. You are about to take a course in PERCENTAGE using Programed Instruction. You will be teaching yourself, at your own rate of speed. This is not a test but a learning situation.
2. There are two types of programs used in this lesson, called "linear" and "scrambled". In the "linear" portion of this lesson, you will go from odd page number to odd page number. For example, you will start on page 1 of the lesson and at the bottom of the page you will be directed to page 3, skipping page 2 (even number), from page 3 to page 5, and so on. In the "linear" portion, you will go from "frame" to "frame" using a piece of paper to cover the next "frames". There is no advantage in "peeking" at the new information. To do your best, you must follow the sequence. In each frame, there will be a small amount of information and a question for you to answer. Your answer can be checked to the left of the next frame. If at any time you want to refresh your memory, you may turn back in the program.
3. When you come to the "scrambled" portion of the program you will be asked to select an answer from a list of answers. Beside each answer there will be an EVEN page number and a letter, either A, B, C, or D. For example, you select an answer and it tells you to turn to page 2A. You will turn to page 2 and look at part A and follow the directions given. There will be a part B, C, and D, but you will not be concerned with it.
4. As you go through this program and you come to a section that requires you to write in a blank, do so. If, when you check your answer you find that it is wrong, cross out your answer and write the correct answer below it. When you are asked to select a correct answer from a given list of answers, circle the one you believe to be correct. If you find that you have selected the wrong answer, do not erase the circle around it, just put an X through it and circle the correct answer.
5. READ EACH SENTENCE CAREFULLY; BE SURE YOU UNDERSTAND WHAT IS SAID BEFORE YOU TRY TO ANSWER THE QUESTION.

REMEMBER, THIS IS NOT A TEST!

NOTE: When working with percents, you will also have to use decimals and fractions at times. Therefore, a knowledge of each will be required. The denominator of a decimal fraction will be determined as follows: The number immediately to the right of the decimal point indicates tenths value. Example, .5 equals 5/10. The second number to the right of the decimal point indicates hundredths, .75 equals 75/100. The third number to the right of the decimal point indicates thousandths, .250 equals 250/1000. Each fraction can then be reduced to its lowest terms.

TURN TO PAGE II

OBJECTIVES:

The student will:

1. Write the definition of percent.
2. Change given decimals to percent. At least 2 out of 3 must be correct.
3. Change given percent to decimals. At least 2 out of 3 must be correct.
4. Change given percent to common fractions. At least 2 out of 3 must be correct.
5. Change given common fractions to percent. At least 2 out of 3 must be correct.
6. Substitute numbers taken from given problems into the "percentage problem formula". The formula will be given. The student must get all problems correct.
7. Solve problems by finding percentage. At least one out of two problems must be correct.
8. Solve problems by finding what percentage one number is of another. At least one out of two problems must be correct.
9. Solve problems by finding a number when the percent of a number is known. At least one out of two problems must be correct.
10. Solve problems when the percentages are greater than 100%. At least one out of two problems must be correct.

	1. Percent (%) is defined as parts per hundred. Therefore, in the fraction $\frac{6}{100}$ , which is the same as the decimal .06, the 6 indicates we are concerned with six parts per _____.
hundred	2. 33%, written as a fraction $\frac{33}{100}$ or the .33, indicates we are concerned with _____ parts per _____.
33 hundred	3. 5% of a number means $\frac{5}{100}$ of it; 15% of a number means $\frac{15}{100}$ of it. Therefore 23% of a number means _____ of it and indicates we are concerned with _____ parts per hundred.
$\frac{23}{100}$ 23	4. Percent is defined as _____ per _____.
parts hundred	5. In your own words, write the definition of percent. _____.
Parts per hundred	6. To change a decimal to a percent, the first step is to move the decimal point two places to the right, eg., .28 or 28. Therefore, the decimal .28 becomes 28. To change a decimal to a percent, the first step is to move the decimal point two places to the _____.

Continue to page 3

2A

5 is correct. 5 is the smallest number of students, because 25 is the total number of students in the class.

Go to page 4B.

2B

10% is wrong. 10% is the smaller of the two percents. However, we are looking for the number of people. (This is on the left side of the equal sign.)

Return to page 4B and select another answer.

2C

$\frac{63}{X} = \frac{100\%}{720}$  is wrong. Remember to keep all the percents on one side of the equal sign and all other information on the other side. In this case, 100% should be on the bottom right. X is the percent we are looking for and 720 is the larger numeral and is placed on the bottom left.

Return to page 8A and select another answer.

right	7. After moving the decimal point two places to the right, add the percent sign (%); e.g., .35 changed to 35. then to 35%. To change a decimal to a percent, move the decimal point _____ places to the _____ and add the _____ sign.
two right percent (%)	8. The decimal .83 is changed to a percent by moving the decimal point _____ places to the _____. The result is _____.
two right 83%	9. Change the following decimals to percents:  a. .15 equals _____ % b. .23 equals _____ % c. .75 equals _____ % d. .31 equals _____ % e. .005 equals _____ %
a. 15% b. 23% c. 75% d. 31% e. .5%	10. A decimal point is not shown with whole percents. For example, 63% does not have a decimal point shown. Mentally, however, a decimal point is placed to the right of the numeral three (63.%). In the percent below, place an X where you would mentally place a decimal point.  47%
47%	11. Fractional percents do have decimal points. for example, 56 1/2% can be written as 56.5%. Rewrite 23 1/4% as a decimal _____.

Continue to page 5

4A

$\frac{63}{720} = \frac{X}{100\%}$  is correct. You have set the problem up in the correct form for solving percent. Try one more for a double check. John purchased 24 oranges and later found 6 were spoiled. What percent were spoiled? Select the correct formula.

If your answer is:

$$\frac{6}{24} = \frac{X}{100\%}$$

Go to page: 10B

$$\frac{6}{X} = \frac{100\%}{24}$$

6B

4B

Using the problem below, substitute into the formula. 10% of the people in town are farmers. There are 90 people in town. How many are farmers? What number should go on the bottom left to complete the formula?

$$\frac{\text{small}}{\quad} = \frac{10\%}{100\%}$$

If your answer is:

Go to page:

90  
10%  
100%

6A  
2B  
8B

4C

25 is wrong. 25 is the total number of students in the class. Therefore, the number of students that are girls must be a smaller number.

Return to page 10A  
and select another  
answer.

23.25%	12. Change a percent to a decimal by dropping the percent sign and moving the decimal point two places to the left. For example, 12.5% becomes 12.5 after dropping the percent sign. Moving the decimal point two places to the left and 12.5 then becomes .125. Therefore, the percent 12.5% equals the decimal .125. In changing a percent to a decimal, move the decimal point two places to the _____.
left	13. The first step in changing 46% to a decimal is to drop the _____.
percent sign	14. The second step is to move the decimal point _____ places to the _____.
two left	15. Change the following percents to decimals: a. 34% equals _____ b. $\frac{1}{4}\%$ equals _____ c. 24.5% equals _____ d. .5% equals _____

Continue to page 7

6A

90 is correct. It is the number of people in town. The number of farmers would be a smaller number, since there are only 10% farmers.

Go to page 8A.

6B

$\frac{6}{X} = \frac{100\%}{24}$  is wrong. All percents are placed on one side of the equal sign and all other information on the opposite side.

Return to page 4A and select another answer.

6C

$\frac{63}{720} = \frac{100\%}{X}$  is wrong. You are looking for the smaller percentage. 100% should be on the bottom of the formula.

Return to page 8A and select another answer.

<p>a. .34          b. .0025          c. .245          d. .005          (Read the question carefully)  <math>\frac{1}{4}\%</math> is less than 1%. Therefore, <math>\frac{1}{4}\%</math> equals the decimal .0025 and not .25)</p>	<p>16. To change a percent to a common fraction, first change the percent to a decimal. For example, <math>75\% = .75</math>. <math>45\%</math> would be changed to the decimal .45. The second step after changing the percent to a decimal is to change the decimal to a fraction form and reduce to its lowest terms. Refer to footnote on instruction page I. For example, <math>80\%</math> equals .80 changed to a fraction is <math>\frac{80}{100}</math> or <math>\frac{4}{5}</math>.</p> <p>In changing a percent to a fraction, first change the percent to a _____ and then to a _____ and reduce to its lowest terms.</p>
<p>decimal fraction</p>	<p>17. <math>60\%</math> is equal to the decimal _____ and the fraction _____.</p>
<p>.60  <math>\frac{60}{100}</math> or <math>\frac{3}{5}</math></p>	<p>18. Change the following percents, first to decimals and then to fractions. Reduce to lowest terms.</p> <p>a. <math>40\% =</math> _____ <math>=</math> _____</p> <p>b. <math>22.5\%</math> _____ <math>=</math> _____</p> <p>c. <math>20\%</math> _____ <math>=</math> _____</p> <p>d. <math>12.5\%</math> _____ <math>=</math> _____</p>
<p>a. .40 <math>\frac{2}{5}</math>          b. .255 <math>\frac{9}{40}</math>          c. .20 <math>\frac{1}{5}</math>          d. .125 <math>\frac{1}{8}</math></p>	<p>19. To change a fraction to a percentage, first change the fraction to a decimal and then the decimal to a percent. For example, <math>\frac{3}{8} = .375 = 37.5\%</math>. To change the fraction <math>\frac{2}{3}</math> to a percent, you must first change it to a _____.</p>

Continue to page 9

8A

Select the correct formula for the following problem. X indicates the unknown number (number to be found). Out of 720 students in the school, there are 63 absent. What is the percentage of absence?

If your answer is:

Go to page:

$$\frac{63}{X} = \frac{100\%}{720}$$

2C

$$\frac{63}{720} = \frac{100\%}{X}$$

6C

$$\frac{63}{720} = \frac{X}{100\%}$$

4C

$$\frac{X}{720} = \frac{63}{100\%}$$

10C

8B

100% is wrong. We are looking for the large number. True, 100% is a large number but we are looking for a large number representing people.

Return to page 4B and select another answer.

8C

100% is wrong. You are looking for the smallest number. 100% would be the total percent of student in the class or the largest number percentage-wise.

Return to page 10A and select another answer.

decimal	20. After changing the fraction to a decimal, change the decimal to a percent. $\frac{3}{4}$ is changed to the decimal .75 and then changed to a _____.
percent	21. To change a fraction to a percent, first change the fraction to a _____ and then to a _____.
decimal percent	22. $\frac{4}{5}$ is first changed to the decimal .80 and then to the percent _____.
80% ( $\frac{4}{5}$ is changed to a decimal by dividing the 4 by the 5 and then to the percent by moving the decimal point two places to the right and adding the percent sign)	23. Change the following fractions to percents. <u>Be careful with your division.</u> a. $\frac{3}{4} =$ _____ b. $\frac{3}{8} =$ _____ c. $\frac{7}{8} =$ _____ d. $\frac{3}{9} =$ _____

Continue to page 10A

ANSWERS FROM PAGE 9: a. 75% b. 37.5% c. 87.5% d. 33.3%

10A

All percentage problems can be solved by substituting given information into the formula  $\frac{\text{small number}}{\text{large number}} = \frac{\text{\%}}{100\%}$ . For example, in the problem:

There are 25 students in the class. Of the 25, there are 5 girls. What percent of the students are girls? Substituting, the formula then looks like this:  $\frac{\text{Small}}{\text{Large}} = \frac{X \text{ (unknown)}}{100\%}$ . What number should go on the top

left? Select an answer below and turn to the page indicated after your answer.

If your answer is:

5  
25  
100%

Go to page:

2A  
4C  
8C

10B

$\frac{6}{24} = \frac{X}{100\%}$  is correct. Now for the final test. Go to page 11,

Frame 24 and continue.

10C

$\frac{X}{720} = \frac{63}{100\%}$  is correct. Remember that all percents are on one side of the equal sign. The unknown (X) is a percent and should be on the other side. Return to page 8A and select another answer.

24. A company had 100 employees and 15 were women. Write the formula using the given information.

\_\_\_\_\_

(Your answer)

Proceed to the next frame to check answer.

$$\frac{15}{100} = \frac{X}{100}$$

25. It rained 10 days out of 30. Write the formula using the given information.

$$\frac{10}{30} = \frac{X}{100\%}$$

26. 20 men work in the field. 4% of the men quit working. How many men quit work? You would be looking for the number of men who quit as the unknown value.

$$\frac{X}{20} = \frac{4\%}{100\%}$$

REVIEW: Percentage numbers all go on one side of the formula and all other information on the other side. For example,

$$\frac{\text{small}}{\text{large}} = \frac{\text{small \%}}{100\%}$$

Continue to page 12

27. You are now going to learn how to solve percentage problems. For example, 20 students are in the class. 20% have red hair. How many students have red hair? Substitute into the formula by changing percents to decimals. Solve the equation.

$$\text{Step \#1. } \frac{\text{small}}{\text{large}} = \frac{\%}{100\%}$$

$$\text{\#2 } \frac{X \text{ (unknown)}}{20 \text{ students}} = \frac{20\%}{100\%}$$

$$\text{\#3 } \frac{X}{20} = \frac{.20}{1.00} \quad (\text{Change percents to decimals and cross multiply.})$$

$$\text{\#4 } 1X = 4.00$$

$$\text{\#5 } X = \underline{\hspace{2cm}} \text{ Students with red hair.}$$

\#6 Read the problem carefully.

4

28. Solve the following problems. You are solving for the percent of a number.

1. During the month of April (30 days), it rained 23% of the time. How many days did it rain?

\_\_\_\_\_

6.9

2. During the year (365 days), it was cloudy 48% of the time. How many days was it cloudy?

\_\_\_\_\_

Continue to page 13

175.2	29. Solve the following problems by finding what percent one number is of another. <u>There are 60 boys in the P.E. class. 12 of the boys can swim. What percent of the class can swim?</u>  _____
20%	2. Of the 1400 people contacted, 65% own automobiles. How many people own automobiles?  _____
910	30. Solve the following problems by finding a number when the percent of a number is known.  1. The Smith family spent \$52 weekly for food, shelter, and clothing. That is 65% of their weekly income. What is their weekly income?  _____
\$80	2. Bill said that the \$10.50 he intended to spend for a football was just 35% of what he had saved. How much did he save.  _____

Continue on to page 14

MU-4  
67

\$30

31. At times, you will be using percents greater than 100%. For example, this year there are 250% as many students as last year. Last year there were 160 students. In this case, the larger percent (250%) goes on the bottom and the 100% goes on top. For example,

$$\frac{160}{x} = \frac{100\%}{250\%}$$

Solve the following problems where percents are greater than 100%:

1. Last year Sam spent \$154 for clothes, this year he spent 120% as much as last year. What was the amount he spent this year?

---

\$184.80

2. Find 122% of 65.

---

79.3

## APPLICATION

32. You have just completed a programmed course in percentage. There are many ways that knowing how to solve percent problems can help you in your daily life. Some examples are figuring tax, deciding if a sale is really as low as claimed, and mixing a formula for a baby. Can you think of others?

Continue to page 15

## SELF-TEST

1. Write the definition of percent.
2. Change each of the following decimals to a percent:
  - a.  $.12 =$  \_\_\_\_\_
  - b.  $.23 =$  \_\_\_\_\_
  - c.  $.005 =$  \_\_\_\_\_
3. Change each of the following percents to a decimal:
  - a.  $28\%$  \_\_\_\_\_
  - b.  $63\frac{1}{2}\%$  \_\_\_\_\_
  - c.  $3\frac{3}{4}\%$  = \_\_\_\_\_
4. Change each of the following percents to a common fraction and reduce to its lowest terms:
  - a.  $73\% =$  \_\_\_\_\_
  - b.  $20\% =$  \_\_\_\_\_
  - c.  $43\% =$  \_\_\_\_\_
5. Change each of the following fractions to a percent:
  - a.  $\frac{3}{4} =$  \_\_\_\_\_
  - b.  $\frac{2}{3}$  \_\_\_\_\_
  - c.  $\frac{13}{16} =$  \_\_\_\_\_

Continue to page 16

6. Using the "percentage problem formula",  $\frac{\text{small number}}{\text{large number}} = \frac{\%}{100\%}$

substitute numbers into the formula from the following problems. Do not try to solve the problems.

- a. The student wrote 50 words and misspelled only 3%.
- b. During the next test, the student misspelled 12 out of 75 words.
- c. 12% of the students are girls. 9 students are girls.

a. \_\_\_\_\_ b. \_\_\_\_\_ c. \_\_\_\_\_

7. Solve the following problems by finding the percentage.

- a. Last year Sam earned \$720. He spent 6% of his money for clothes. How much did he spend for clothes?
- b. Out of 40 men on the job, 80% can drive a tractor. How many men can drive a tractor?

8. Solve the following problems by finding what percent one number is of another.

- a. A boy guessed wrong 14 times out of 60 guesses. What was his percent of error?
- b. Out of a class of 32 students 4 are absent. What percent of the total class is absent?

Continue to page 17

9. Solve the following problems by finding a number when the percent of a number is known:
- 10% of the students in the class are in the band. If there are 4 students in the band, how many are in the class?
  - $3/4\%$  of the questions were correct. There were 12 questions correct. How many questions were there?
10. Solve the following problems. The percents are greater than 100%.
- Last year the enrollment at the school was 540 students. The enrollment this year is 125% of last year's. What was the enrollment this year?
  - Find 275% of 44.

me-4  
67