DEVELOPING MAP SKILLS — BOOK 2

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TO THE TEACHER

Developing Map Skills is a new valuable tool that can help stimulate learning and achievement within the social studies curriculum.

The book is designed specifically to capture the attention of boys and girls in the middle grades. Its contents can effectively help make the basic skills of map reading more meaningful for the individual child. Forty-eight interesting activities provide lessons that are fundamental, thought provoking, and imaginative. Each selection provides a springboard to the practice of important map-reading development.

The purpose of **Developing Map Skills** is to present to the students a background of map-reading skills that are relevant and essential to the basic program. The transition to the abstractions which maps represent is made easier through the use of the imaginary Planet Zebra as a starting point. From here the students are guided back to the representations of their real world.

Developing Map Skills provides excellent experiences in using interpretive skills. Though each lesson is geared to a specific objective, it often includes variations of other basic map skills needed at this age level.

Each page of **Developing Map Skills** can be completed within the time limits of a normal class period. The material is flexible enough to be used independently at learning stations, or by small groups needing reinforcement, or by the whole class as they work together on a new concept.

Research tells us that map-reading skills are developmental in nature. These skills are not learned automatically as the child matures. Development comes only through continued teaching and application.

It is for this reason that the modern social studies curriculum requires a creative use of basic materials. **Developing Map Skills** meets those needs, and can be an important addition to a map-reading program and our children's educational development.

A GUIDE TO DEVELOPING MAP SKILLS

Though primarily a map-reading unit, **Developing Map Skills** offers excellent opportunities in the development of a variety of basic skills necessary for independent thinking. The lessons help develop skills of locating, organizing, evaluating, and acquiring information, communicating, and interpreting symbolic representations.

In teaching the unit the teacher will find it advantageous to have on hand some special resources and equipment. Of prime importance are a globe and wall maps of the eastern and western hemispheres. Other items might include outline maps (such as those available through Hayes School Publishing Co., Inc.), a chart showing map symbols, and slated maps and globe.

The lessons provided in **Developing Map Skills** can be expanded and used to stimulate further interest by incorporating the following activities:

1. Develop a group exhibit of maps found in newspapers and magazines.

2. Develop different scales for the same map (local preferred), assigning only one of the scales to separate portions of the class. Compare the results.

3. Locate on maps the places where current news events are happening, or the locale of stories that the children are reading.

4. Develop a classroom glossary of terms and concepts associated with map reading and have the class illustrate them.

Many pages of the workbook suggest supplemental activities for the class and the individual student. Additional supportive ideas are included in the following page-by-page guide to **Developing Map Skills.**

PRESENTATION AND ANSWERS

Page 1.

1. north 2. west 3. north 4. east 5. south 6. east 7. north

Pages 2 and 3:

Pages 2 and 3 introduce the concepts of latitude and longitude. The activities are not very difficult, yet they contain the key elements of map and globe study. Latitude, along with longitude, forms the basis for finding position anywhere on the earth's surface.

The names **latitude** and **longitude** are derived from Latin. The terms were used by the early sailors on the Mediterranean Sea. Since the Mediterranean's length is from east to west, the distances along the length were called **longitude.** Distances across the Mediterranean's breadth were named **latitude.**

The term **meridian** (lines of longitude) came from two Latin words meaning "middle of the day." Noon always occurs at the same time along the same line of longitude, or meridian.

The lines of latitude are all parallel to each other, and were so named.

The teacher should relate Planet Zebra's lines of latitude and longitude to the earth's, and have the students find the positions of places on earth with which they are familiar.

Answers Page 2:

1. equator
2. Pole
3. North
4. Parallels
5. Latitude

Page 4:

Page 4 introduces the concepts of continents, oceans, and hemispheres. In relating these concepts to the earth, the teacher could point out that besides the eastern, western, northern, and southern hemispheres there are also hemispheres of land and water as well as hemispheres of day and night.

This page also introduces the grid, showing how latitude and longitude are used to locate places. This concept will be developed more fully later on.

Answers:

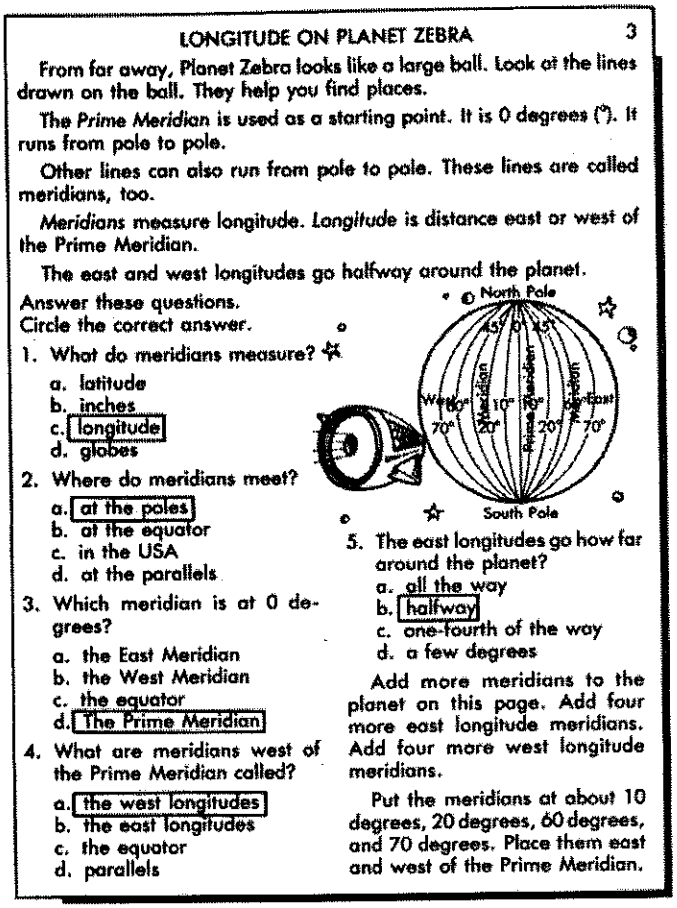
1. a
2. d
3. a
4. d
5. b
6. c

Page 5:

Page 5 reviews some of the terminology learned so far. Besides providing an interesting activity, it is intended that the review trigger the correct mental images of the basic concepts previously presented.

Page 6.

1. east 2. west 3. north 4. lake, ocean 5. ocean, plains



LONGITUDE ON PLANET ZEBRA 3

From far away, Planet Zebra looks like a large ball. Look at the lines drawn on the ball. They help you find places.

The *Prime Meridian* is used as a starting point. It is 0 degrees (°). It runs from pole to pole.

Other lines can also run from pole to pole. These lines are called meridians, too.

Meridians measure longitude. *Longitude* is distance east or west of the Prime Meridian.

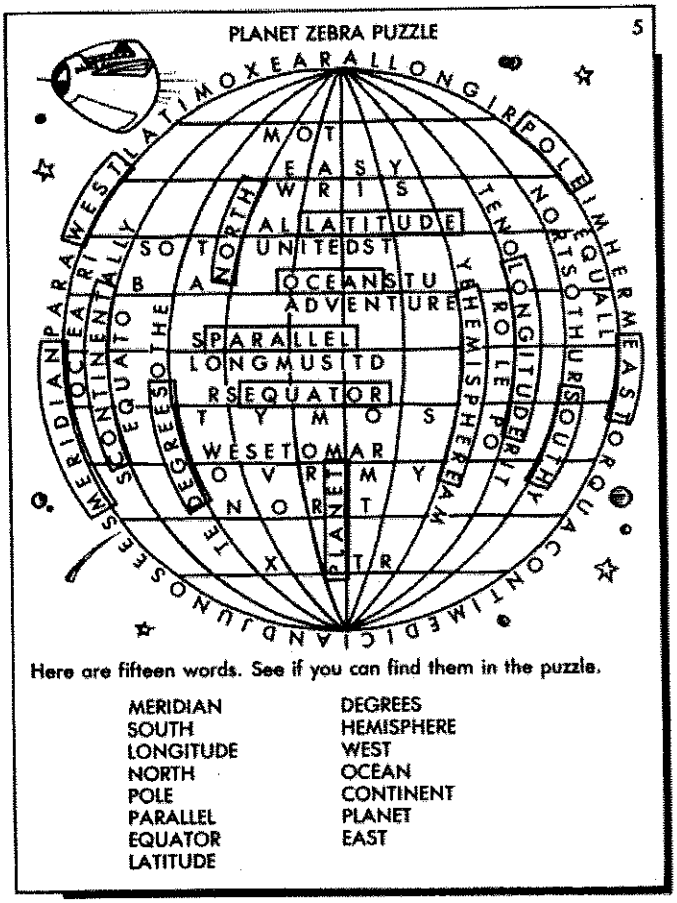
The east and west longitudes go halfway around the planet.

Answer these questions.
Circle the correct answer.

1. What do meridians measure?
   a. latitude
   b. inches
   c. longitude
   d. globes
2. Where do meridians meet?
   a. at the poles
   b. at the equator
   c. in the USA
   d. at the parallels
3. Which meridian is at 0 degrees?
   a. the East Meridian
   b. the West Meridian
   c. the equator
   d. The Prime Meridian
4. What are meridians west of the Prime Meridian called?
   a. the west longitudes
   b. the east longitudes
   c. the equator
   d. parallels
5. The east longitudes go how far around the planet?
   a. all the way
   b. halfway
   c. one-fourth of the way
   d. a few degrees

Add more meridians to the planet on this page. Add four more east longitude meridians. Add four more west longitude meridians.

Put the meridians at about 10 degrees, 20 degrees, 60 degrees, and 70 degrees. Place them east and west of the Prime Meridian.



PLANET ZEBRA PUZZLE 5

Here are fifteen words. See if you can find them in the puzzle.

MERIDIAN	DEGREES
SOUTH	HEMISPHERE
LONGITUDE	WEST
NORTH	OCEAN
POLE	CONTINENT
PARALLEL	PLANET
EQUATOR	EAST
LATITUDE	

Page 7.

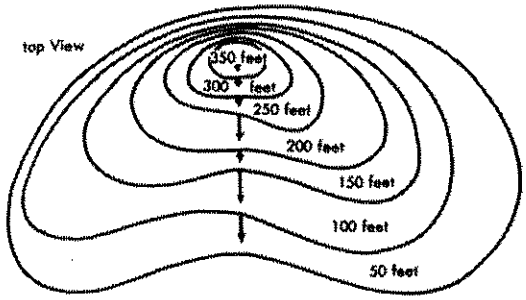
Questions 1-2: Students follow directions as indicated. 3. 3,000-over 6,000 feet

Page 8:

Page 8 introduces another kind of special map to the middle grader—a contour map. This exercise shows how a cartographer depicts on a flat surface the relative heights of hills and mountains.

The final contours that the children make are only approximate since everything depends on where each section is centered. Each child's center may be slightly different from the next child's.

Though toothpicks work best for spacing, you could try straightened paper clips as a substitute.



Pages 9, 10, and 23:

These three pages expose the students to special purpose maps. The students must now focus more attention on the key. From the key and through a reading of the map itself, special information is deduced and gathered about a particular location. Inferences and predictions can be made about vegetation, industrialization, occupations, and living condition. The class could make a bulletin board display about "life" in the states of Hiland and Mars or the continent of Dor.

Answers Page 9:

1. d	4. a
2. c	5. b
3. a	6. a

Answers Page 10:

1. c	5. b
2. b	6. d
3. d	7. d
4. a	

Page 11.

2. plains 3. mountains, hills 4. four

Page 12.

1. cold, cold 2. Water, warm, warm 3. hot 4. intermediate elevation; Nearness to water . . . warmer; tempered by elevation. 5. midway

Page 13.

Students follow directions as indicated.

Page 14.

1. northwest, southwest 2. northeast, southwest 3. northwest 4. southeast 5. northeast 6. southwest

Page 15.

1. A and B — 500; C and D — 250; E and F — 125; G and H — 375 2. 1250 miles 3. Because rivers are not straight lines. 4. A and B — 800; C and D — 400; E and F — 200; G and H — 600; TOTAL 2,000

Page 16:

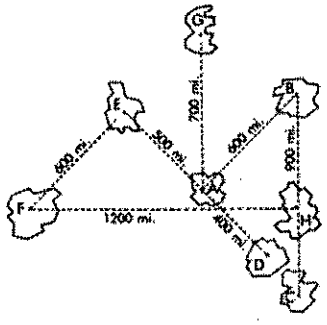
Page 16 develops practice in interpreting and using a scale. A map scale will reduce all details by the same amount. It is not the purpose on page 16 to deal with fractional amounts. Remind the children to round off the measurements to the nearest inch. All distance readings should be in multiples of 50.

Answers:

1. 100 miles	5. 100 miles
2. 50 miles	6. 150 miles
3. 150 miles	7. 100 miles
4. 200 miles	

Page 17:

Page 17 continues working with a scale of miles. Since the small "cities" have a tendency to blow away rather easily from the desk top, a more permanent map could be made by pasting the cities to an 18 by 24 sheet of newsprint or drawing paper.



Page 18.

1. apartments, city parks 2. city parks, church, family home 3. Pennsylvania, Alabama, Washington. Jefferson, Adams 4. city parks 5. yes, city parks 6. two 7. people in family homes 8. Answers will vary.

Page 19:

Page 19 brings mapping closer to home. The main emphasis is on the use of a street grid, while cardinal and intermediate directions are reinforced.

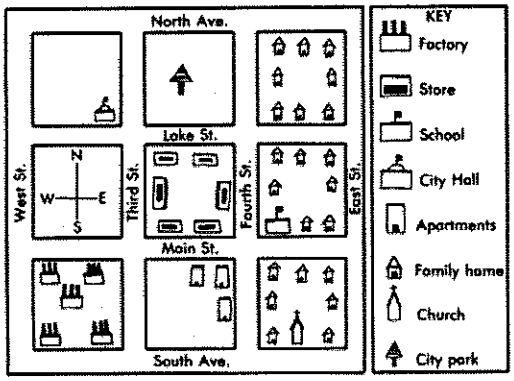
As a "hands-on" project, the teacher could have the children construct a three-dimensional map of a small area in an immediate locale.

Page 20.

Secret City Slogan of Darby

1. A 2. veggie 3. a 4. day 5. keeps 6. the 7. doctor 8. away!

A CITY ON PLANET ZEBRA 19

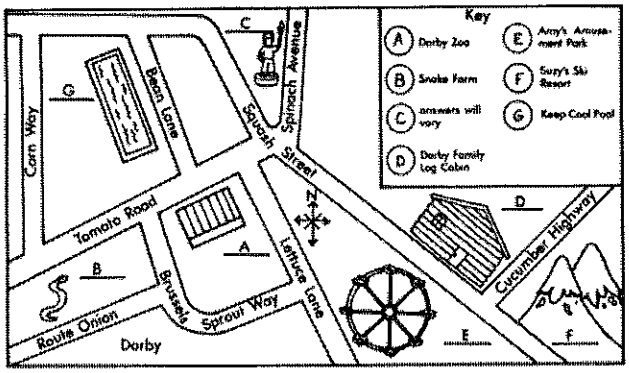


Study the map and the key. Draw symbols on the map and do the following:

1. Put a park between North Ave., Lake St., Third St., and Fourth St.
2. Place a church facing South Ave., halfway between Fourth St. and East St.
3. Fill the block between Lake St., Main St., Third St., and Fourth St. with stores.
4. Put the City Hall on the northwest corner of the intersection of Third St. and Lake St. Have it facing Lake St.
5. Put the school on the northeast corner of Fourth St. and Main St. Have it facing Main St.
6. The entire block on the southwest corner of the map is an industrial park. It is bounded by Main St., Third St., South Ave., and West St. Fill it with factories.
7. Place family homes in all the blocks between Fourth St. and East St.
8. Put three apartments on the southwestern corner of the intersection of Main St. and Fourth St.

TOURIST ATTRACTIONS IN DARBY 21

You are a tourist in the city of Darby. Darby is on Planet Zebra.
Darby has four kinds of attractions: animal, historical, just-for-fun, and sports.
Study the map of Darby's tourist attractions. Then follow the directions.



1. A zoo is at the intersection of Tomato Road and Lettuce Lane. Draw a zoo animal in the cage. Write A beside the cage. Write Darby Zoo beside the A in the key.
2. Use a pencil to trace the route from the zoo to the snake farm on Route Onion. Draw several more snakes. Write B beside the farm. Write Snake Farm beside the B in the key.
3. Trace the route from the snake farm to the historical statue at the intersection of Squash Street and Spinach Avenue. Name the statue. Write C beside it. Write the name of the statue in the key.
4. Trace the route from the statue to the Darby Family Log Cabin on Squash Street. Label the cabin D. Complete the key.
5. Trace the route from the Darby Family Log Cabin to Amy's Amusement Park southwest of the cabin. Label the park E. Complete the key.
6. Trace the route from the amusement park to Suzy's Ski Resort in the southeast corner of Darby. Label the resort F. Complete the key.
7. Time for a swim to cool off! Find Keep Cool Pool on Bean Street. Trace the route from the ski resort to the pool. Label the pool G. Complete the key.

Page 22:

Page 22 adds the concept of a map key to the map reading. A key tells the meaning of the symbols used on the map. This page likewise reinforces the difference between a continent and a country.

You will notice that the two countries vaguely resemble the United States and Canada. This simple similarity is a natural first step to the more complicated relationship of our fifty states and the North American continent.

The concepts of cardinal directions—north, south, east, and west—begin playing their important roles.

Answers:

1. Lincoln
2. Mona
3. Dark Sea
4. Sands
5. June
6. Mot
7. Atli Ocean
8. Crok
9. Nik
10. Mars
11. Nik
12. Mot

Page 23:

Answers

1. b
2. c
3. b
4. a
5. d
6. a
7. a
8. d

Pages 24 and 25:

Pages 24 and 25 deal mainly with river forms and land forms. Putting these concepts onto a map means that they are only a step away from the real world of the child. These maps pictorially help bridge the gap to the world of reality.

The teacher might have the child find pictures in magazines and newspapers that would further illustrate the various river and land forms.

Answers Page 24:

A. 9
B. 3
C. 1
D. 2
E. 5
F. 6
G. 8
H. 10
I. 7
J. 4

Answers Page 25:

A. 10
B. 6
C. 2
D. 7
E. 9
F. 1
G. 3
H. 4
I. 8
J. 5

Page 26:

While pages 24 and 25 focus on natural forms, page 26 concerns itself with artificial features. The key is similar to one that might be found on a road map. Therefore, the teacher could have the class investigate state road maps and have the children compare the sets of map symbols.

Page 27:

Page 27 reviews some of the concepts previously introduced.

Page 28:

Page 28 emphasizes the map grid. Some maps use the individual lines as points of reference. However, by using the block system we find that children can more readily identify the area named.

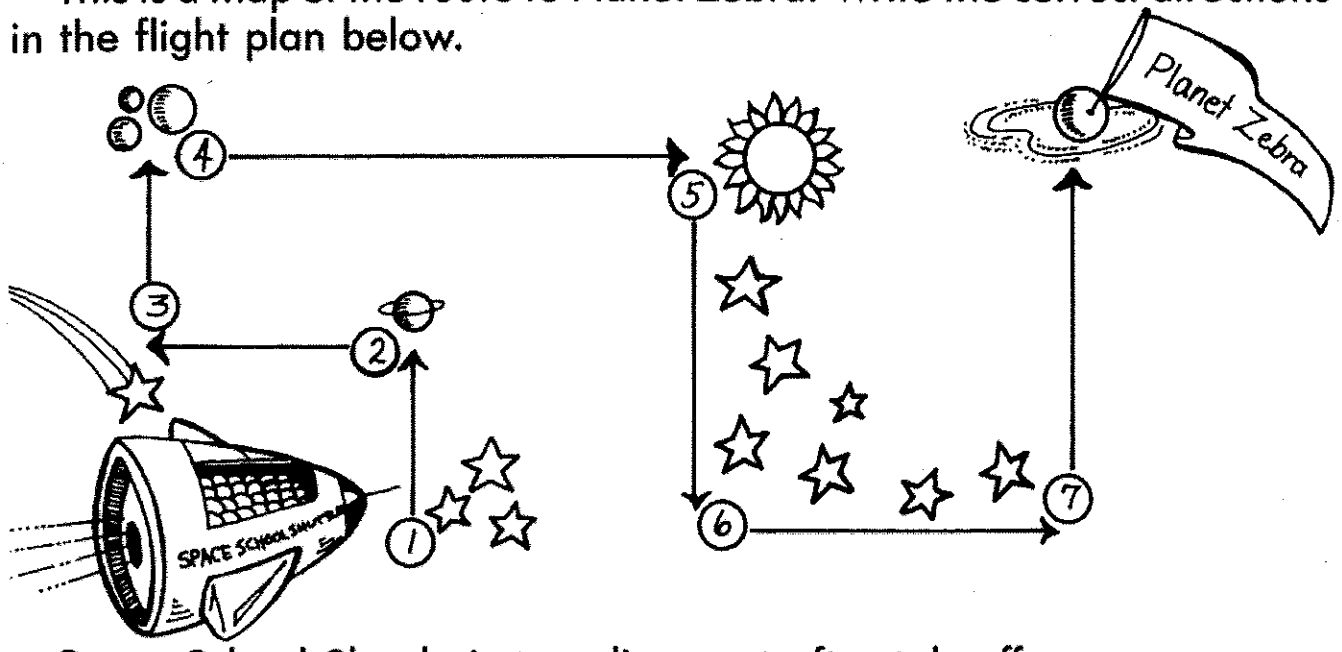
NO.

TRAVEL TO PLANET ZEBRA

You are a Space School student. You are on a field trip to Planet Zebra.

You must learn about cardinal directions in order to reach Planet Zebra. Cardinal directions are the four main directions of north, south, east, and west. On most maps north is toward the top, south is toward the bottom, east is toward the right, west is toward the left.

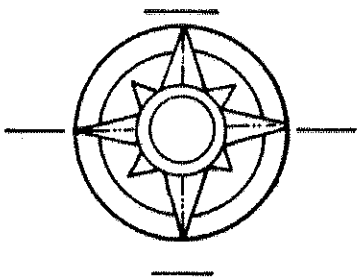
This is a map of the route to Planet Zebra. Write the correct directions in the flight plan below.



Space School Shuttle is traveling east after takeoff.

1. Three stars are in the way. Go _____.
2. A ringed planet is in the way. Go _____.
3. A shooting star is in the way. Go _____.
4. Three planets are in the way. Go _____.
5. The sun is in the way. Go _____.
6. Proceed past the group of stars. Then go _____.
7. Proceed past the next group of stars. Go _____ to Planet Zebra!

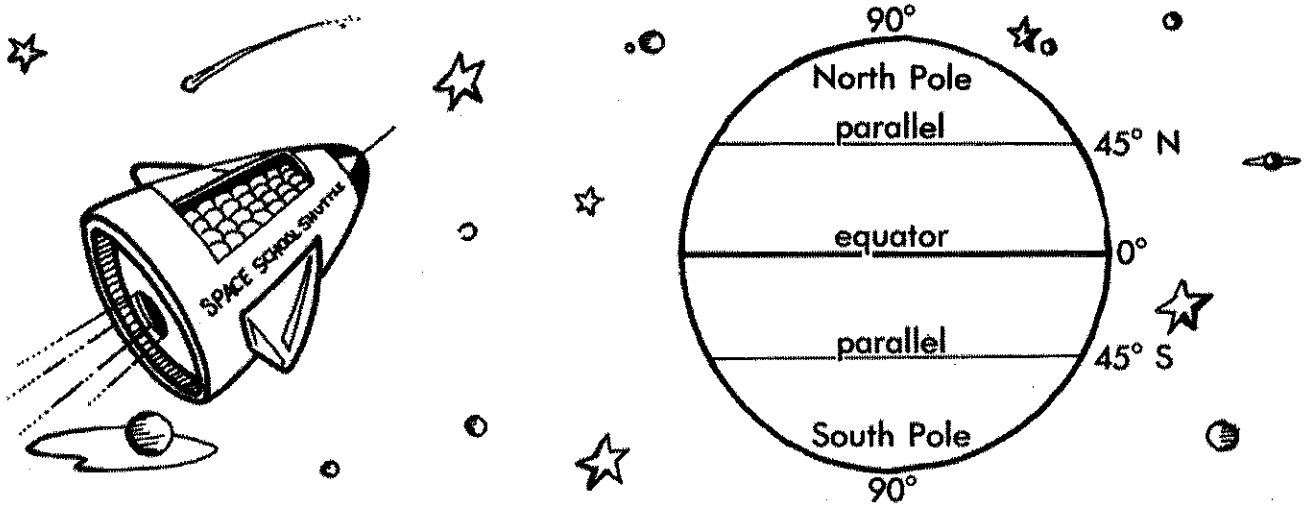
A map often has a compass rose to show directions. The abbreviations N, S, E, and W mean north, south, east, and west. Write these abbreviations on the compass rose.



You are a Space School student. You are on a field trip to Planet Zebra. Your Computer draws the maps. You must learn to read them.

From far away, Planet Zebra looks like a large ball. Look at the lines drawn on the ball. They help you find places.

The *equator* is used as a starting point. It is 0 degrees (°).



Other lines can be parallel to the equator. These lines are called *parallels*.

Parallels measure *latitude*. *Latitude* is distance in degrees north or south of the equator.

Complete the following sentences. Use words from the word box.

1. The_____ is 0 degrees latitude.
2. The South _____ is 90 degrees south latitude.
3. The _____ Pole is 90 degrees north latitude.
4. _____ measure latitude.
5. _____ is the distance north or south of the equator.

WORD BOX				
North	Latitude	equator	Parallels	Pole

What does Planet Zebra look like at its equator? Draw a picture of how you think it looks. Use the other side of this paper.

From far away, Planet Zebra looks like a large ball. Look at the lines drawn on the ball. They help you find places.

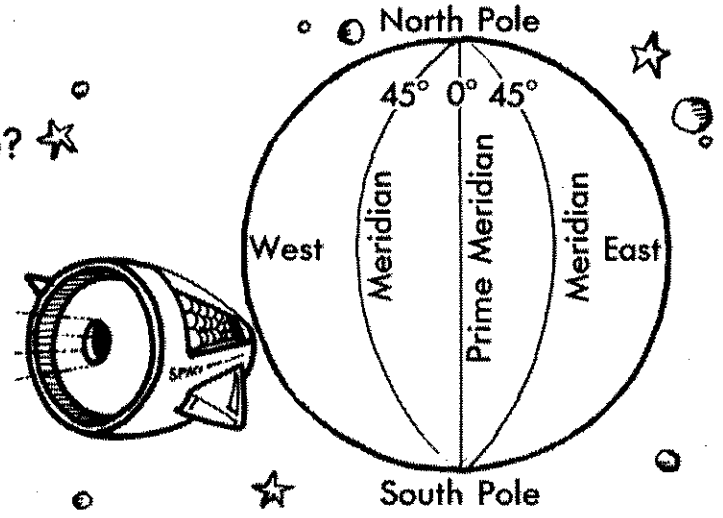
The *Prime Meridian* is used as a starting point. It is 0 degrees (°). It runs from pole to pole.

Other lines can also run from pole to pole. These lines are called meridians, too.

Meridians measure longitude. *Longitude* is distance east or west of the Prime Meridian.

The east and west longitudes go halfway around the planet.

Answer these questions.
Circle the correct answer.



1. What do meridians measure?
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   c. in the USA
   d. at the parallels
3. Which meridian is at 0 degrees?
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Add more meridians to the planet on this page. Add four more east longitude meridians. Add four more west longitude meridians.

Put the meridians at about 10 degrees, 20 degrees, 60 degrees, and 70 degrees. Place them east and west of the Prime Meridian.

Darby is a city in the state of Verno. Verno is a state in the country of Arlo. Arlo is a country on the continent of Nik. Nik is a continent on Planet Zebra.

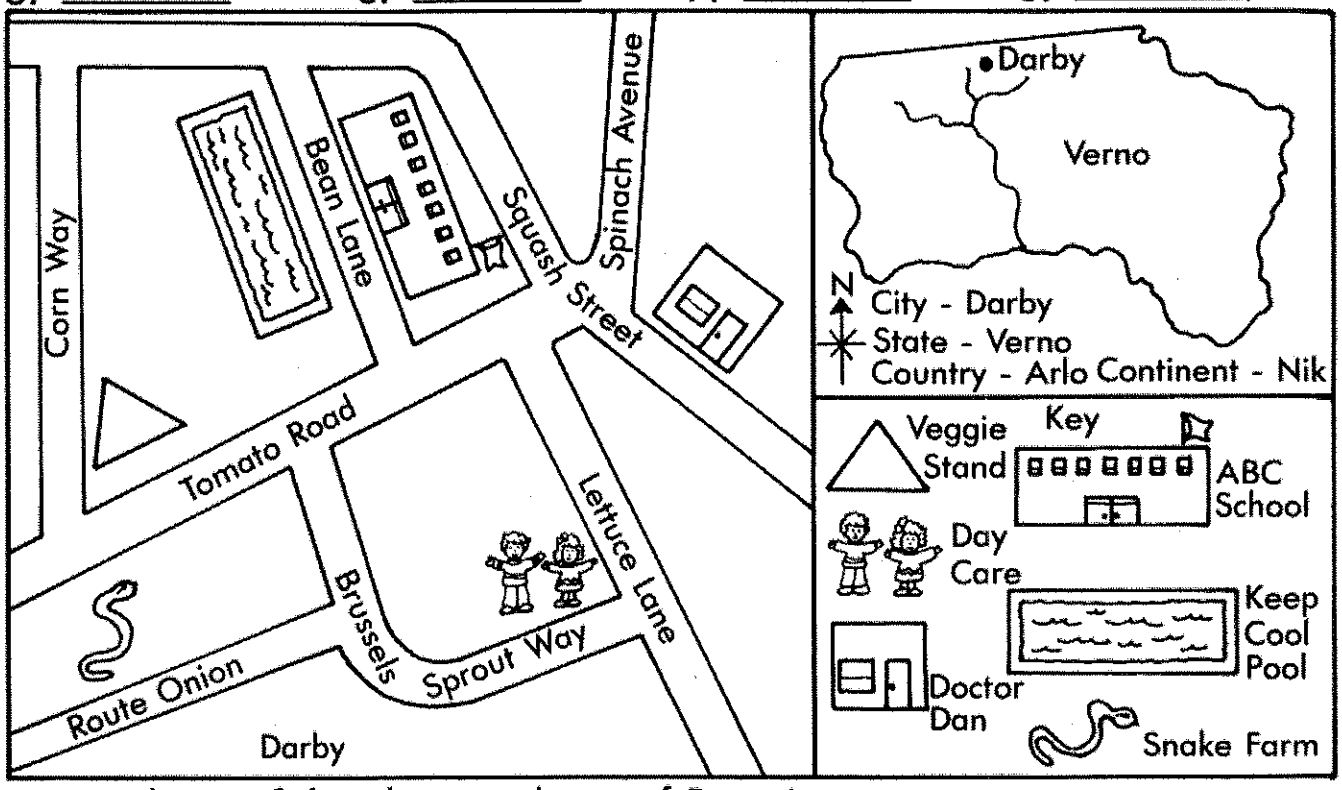
The people of Darby grow and sell vegetables. They have a Secret City Slogan. Use the street map of Darby and the clues below to write the slogan.

An intersection is where two or more roads meet.

Secret City Slogan of Darby

1. _____ 2. _____ 3. _____ 4. _____

5. _____ 6. the_____ 7. _____ 8. _____!



1. First letter of the place northeast of Bean Lane
2. The kind of stand at the intersection of Tomato Road and Corn Way
3. First letter of the place northeast of Bean Lane
4. First word of the place at the intersection of Brussels Sprout Way and Lettuce Lane
5. First word of the place southwest of Bean Lane plus the letter for the sound made northwest of Route Onion
6. Done for you
7. Title of the man who works at the intersection of Squash Street and Spinach Avenue
8. First letter of the place northeast of Bean Lane plus the third word of the street which intersects Tomato Road, Route Onion, and Lettuce Lane

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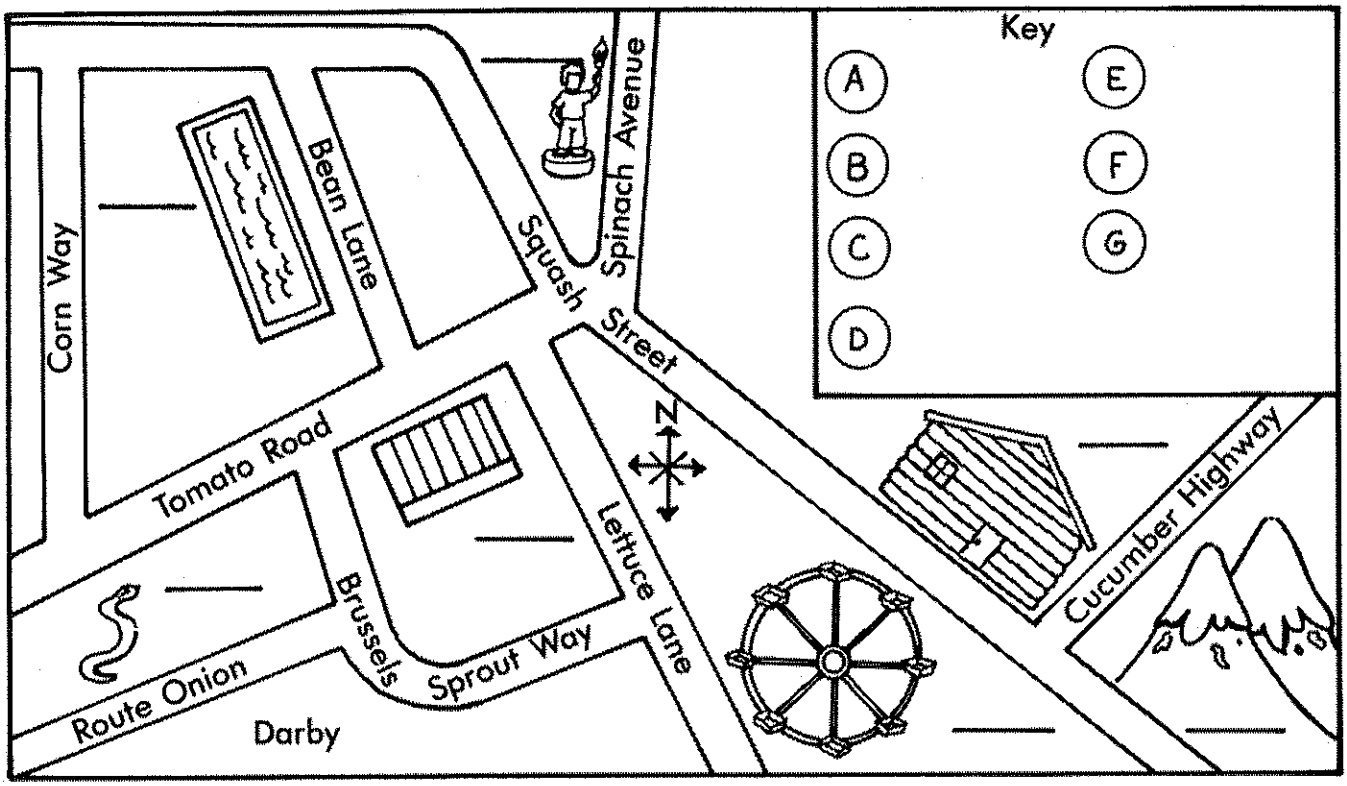

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