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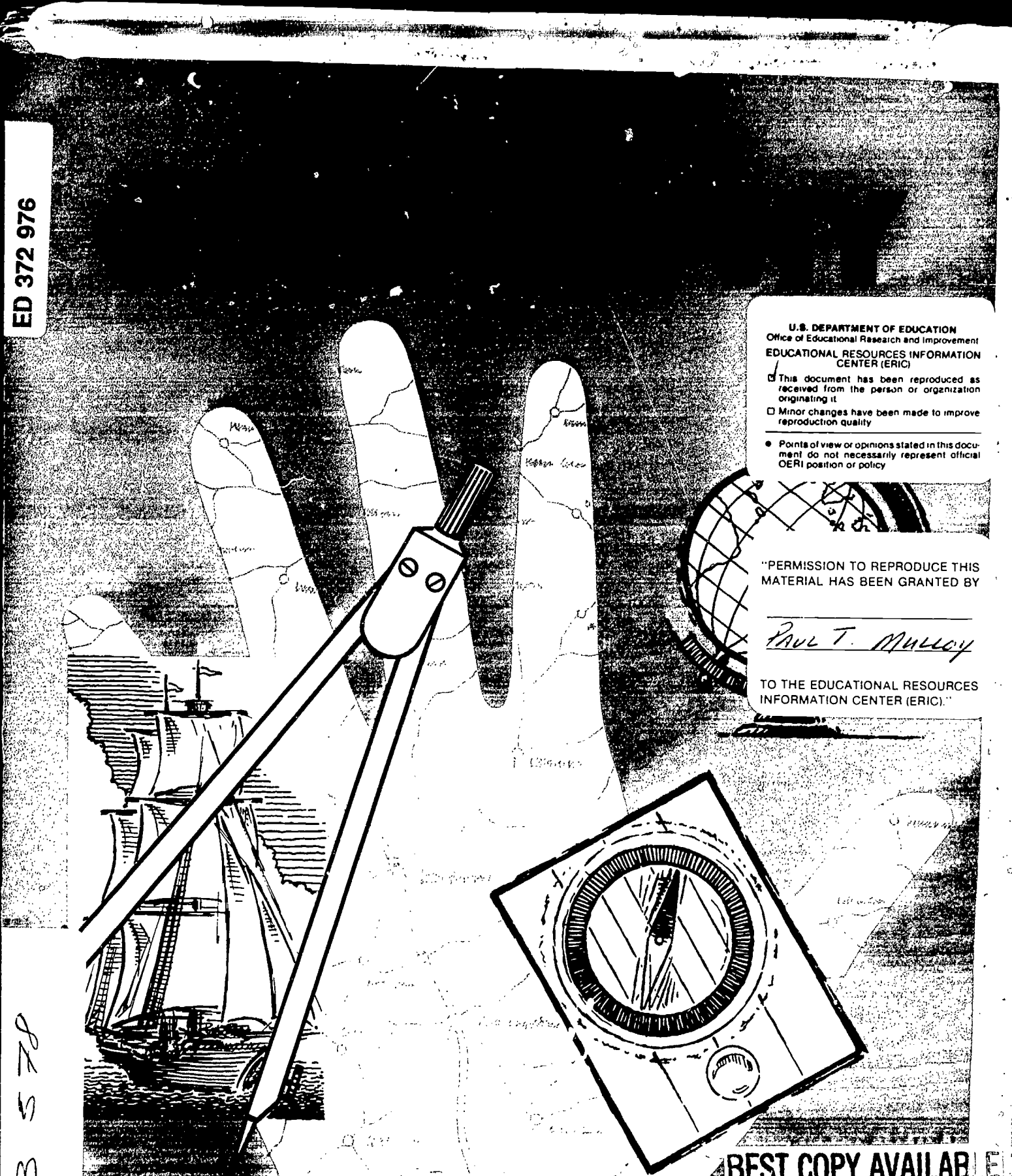
ABSTRACT

This document presents a set of activities for teaching students in grades three through nine about geography. The book presents the activities under the five major geographic themes of location, place, relationships within places, movement, and regions. Extensive student readings, maps, and other diagrams appear within the book. The document includes a foreword, an introduction, a brief discussion of the five geographic themes, and a listing of resources for teachers, including both materials and organizations. (SG)



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ed by the Massachusetts
Social Science Education

GLOBAL GEOGRAPHY:

ACTIVITIES FOR TEACHING THE FIVE THEMES OF GEOGRAPHY

(Grades 3-9)

Developed by the Massachusetts Geographic Alliance

Social Science Education Consortium
Boulder, Colorado
1990

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This book arose out of the teacher-training programs of the Massachusetts Geographic Alliance. Many of the contributors are teachers who have attended National Geographic Society summer institutes in Washington, D.C., or have attended local institutes undertaken by the Massachusetts Alliance. Special thanks go to the National Geographic Society Education Foundation for providing funds to support the publication and distribution of the book. We should also like to thank the hundreds of teachers who have participated in the Alliance through involvement in inservice courses and workshops and through trying out new ideas and activities in the classroom.

Finally, we are grateful to the editorial staff of the SSEC, who helped us put the activities into a workable format for the classroom teacher; to Steve Wanner, Burbank Junior High School, Boulder (CO) Valley Schools, who reviewed the activities from the standpoint of a classroom teacher and active Geographic Alliance member; and to Dr. Theodore Picora of the Salem State College Geography Department, who reviewed the book for geographic content and background.

Richard Anderson
Paul T. Mulloy
Co-coordinators,
Massachusetts Geographic Alliance

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FOREWORD

Recent studies have shown how poorly young Americans understand geography. In fact, these same studies show that many citizens are geographically illiterate. For example, one in seven people cannot find the United States on a map; one in four cannot identify the Soviet Union or the Pacific Ocean. In 1988, the National Geographic Society commissioned the Gallup Organization Inc. to survey geographic knowledge in the U.S. and eight other nations. The U.S. ranked in the bottom third on the test.

In the 1950s and 60s, geography was an integral part of a child's education. In recent decades, however, it has fallen out of favor as a separate course. Today, according to Gilbert M. Grosvenor, President of the National Geographic Society, "students are not learning geography in our schools primarily because it is not being taught."

Yet, without an education grounded in geography, how can political leaders conduct enlightened foreign policy and lead us to lasting peace? How can scientists discover ways to halt environmental degradation? How can farmers feed a hungry populace? How can children learn to know their neighborhoods, their cities, or their world? All human aspirations and activities require a deeper knowledge of geography.

The Massachusetts Geographic Alliance is one of 34 state alliances working with the National Geographic Society to upgrade the teaching of geography in the school curriculum. The Massachusetts Alliance is a collaborative between the Center for Geographic Education at Salem State College and the Massachusetts Global Education Program, based in the Winchester Public Schools.

The Alliance's initial conference was held in April 1988 at Salem State, where teachers and curriculum specialists gathered to hear Kit Salter, University of Missouri professor, discuss the geography of East Asia. Since then, the Alliance has formed a steering committee made up of representatives from various professional organizations throughout the state, sponsored intensive summer institutes at Wellesley College for teachers, conducted eight state conferences, hosted a recent visit to Boston by Gilbert Grosvenor, and sent ten teachers to participate in the National Geographic Society summer institute in Washington. The Alliance also publishes a newsletter and sponsors the state Geography Bee, with 100 of the best geography students in the state competing for scholarship prizes.

The major goals of the Alliance are to:

- Support teachers with a range of professional development opportunities, training activities, and resource materials.
- Achieve a multiplier effect, whereby teachers trained in geography education will return to their schools to train others.
- Promote broad public awareness of the need to upgrade geography education.

The Alliance is also working with state officials, educators, and businesspeople to sponsor public awareness activities and is now establishing formal linkages with state educational policymakers and organizations. This publication is another effort of the Alliance. Although many activity books with a geography emphasis have been produced, this publication fills the need for one organized around the five themes. We hope teachers will find it a useful resource.

Richard Anderson, Ph.D.
Paul T. Mulloy
Co-coordinators,
Massachusetts Geographic Alliance

THE FIVE THEMES OF GEOGRAPHY

Prompted by concern about geographic illiteracy, the National Council for Geographic Education and the Association of American Geographers in 1984 published *Guidelines for Geographic Education: Elementary and Secondary Schools*. The *Guidelines* identified five fundamental themes in geography, themes the two organizations recommended developing throughout the K-12 curriculum.

The five themes identified were location, place, relationships within places, movement, and regions. The *Guidelines* defined these themes as follows:

- Location: Position on the Earth's Surface. Absolute and relative location are two ways of describing the positions of people and places on the earth's surface.
- Place: Physical and Human Characteristics. All places on the earth have distinctive tangible and intangible characteristics that give them meaning and character and distinguish them from other places. Geographers generally describe places by their physical or human characteristics.
- Relationship Within Places: Humans and Environments. All places on the earth have advantages and disadvantages for human settlement. High population densities have developed on flood plains, for example, where people could take advantage of fertile soils, water resources, and opportunities for river transportation. By comparison, population densities are usually low in deserts. Yet flood plains are periodically subjected to severe damage, and some desert areas, such as Israel, have been modified to support large population concentrations.
- Movement: Humans Interacting on the Earth. Human beings occupy places unevenly across the face of the earth. Some live on farms or in the country; others live in towns, villages, or cities. Yet these people interact with each other: that is, they travel from one place to another, they communicate with each other or they rely upon products, information, and ideas that come from beyond their immediate environment. The most visible evidences of global interdependence and the interaction of places are the transportation and communication lines that link every part of the world. These demonstrate that most people interact with other places almost every day of their lives.
- Regions: How They Form and Change. The basic unit of geographic study is the region, an area that displays unity in terms of selected criteria. We are all familiar with regions showing the extent of political power, such as nations, provinces, countries, or cities, yet there are almost countless ways to define meaningful regions depending on the problems being considered. Some regions are defined by one characteristic, such as a governmental unit, a language group, or a landform type, and others by the interplay of many complex features.

To assist teachers in developing student understanding of the five themes, this book presents five activities on each theme, plus two introductory activities. It should be noted that although an activity is categorized under a particular theme, it may also develop student understanding of one or more of the other themes as well.

The activities are presented in a standard format. An introduction briefly describes the activity; this is followed by a list of objectives, an indication of the time required to use the activity, and a description of the materials required. Next are step-by-step instructions for using the activity. Black-line masters for student handouts are provided when necessary.

A listing of resources for teachers concludes the book. A number of the activities require the use of student atlases. Several such atlases are listed in the resource section.

AN INTRODUCTION TO GEOGRAPHY

1. THE FIVE THEMES OF GEOGRAPHY

Introduction:

This activity introduces students to the work of geographers. Through analysis of a story, students are given a brief description of the five themes of geography—location, place, relationships within places, movement, and regions. Teachers could place the handout used to analyze the story in a work center for student use in analyzing other stories or books that they read throughout the year.

Objectives: Students will be able to:

1. Describe in general terms the work of a geographer.

2. Give a one-sentence description of the five themes of geography.

3. Identify examples of the five themes in a story.

Time Required: 1 class period

Materials and Preparation: Make copies of Handout 1-1 for all students.

Procedure:

1. Ask students if they know what a geographer studies. Break down the parts of the word on the chalkboard: geo—earth; graph—to write; -er—someone who does something. Help students develop a definition of a geographer based on these elements; you will need to point out that geographers study both the earth itself and the life on it, which would not be readily apparent from the elements.

2. Tell students that geographers study many things about the earth and its life. They will learn about some of those things by answering questions about a brief story. Pass out Handout 1-1 and go over the questions. Tell students to answer these questions as they listen to the following story:

> "You're listening to Y108 in the Mile High City, Denver, Colorado." Kevin rolled out of bed as his clock radio came on. As he stumbled to the bathroom, he heard his mother yell, "Remember to take a short shower. We're supposed to be conserving water."
>
> "Is it my fault there wasn't enough snow in the mountains to fill the reservoirs?" he thought, but he knew better than to say it out loud. He didn't need a lecture this early in the morning. His mother was a social studies teacher at North High School and she loved to lecture about the environment.
>
> After he had dressed, Kevin ate breakfast—bananas and corn flakes, with a cup of hot chocolate. By the time he had finished, his mother was already in the Toyota. He grabbed his book bag and dashed out the door to get a ride to school. By the time he got to the car, his eyes were stinging. Pollution was bad today.
>
> Today might be a pretty good day. A Latin American dance group was performing at a special assembly; that meant no math and no spelling! And besides, he enjoyed mariachi music, although it was frustrating not to be able to understand the Spanish lyrics to some of the songs.

Activity developed by Laurel R. Singleton, Social Science Education Consortium.

3. Go over the questions on the handout one by one, pointing out that each question represents an area of concern to geographers. Provide a brief definition of each area or theme. The following explanations are provided for use in this step.

Question 1 deals with location—where something is located on earth's surface. This story took place in Denver, Colorado, near the Rocky Mountains; this location could be described more precisely by using latitude and longitude.

Question 2 deals with place—the physical and human characteristics of a place on earth's surface. The story tells only a little bit about the characteristics of Denver—it is near mountains, and it is dry; students might infer from the presence of pollution that population density is relatively high.

Question 3 deals with relationships within places—how people interact with the environment. The lack of water in Denver has an impact on people's habits; people have created pollution.

Question 4 looks at movement—how humans interact on the earth. Evidence of movement can be found in Kevin's breakfast (bananas from a tropical climate), the family's Japanese car, and the presence of a Latin American dance group at a school assembly.

Question 5 focuses on regions, areas that are similar in terms of particular characteristics. Colorado as a state is a governmental region. Colorado could also be conceived of as a part of a dry climate region or a landform (mountain) region. Latin America is a cultural or language region.

4. Conclude the activity by having students write brief stories about themselves modeled on the story in the lesson. They should address all five of the geographic themes in their stories.

Follow-up:

Have students answer the five questions on the handout for stories they are reading in language arts.

ASKING GEOGRAPHIC QUESTIONS

1. Where did this story take place?

2. According to the story, what is this place like?

3. How did the environment in the story affect people? How did people affect the environment?

4. What examples of movement among various places on earth did you find?

5. Are any regions – areas that share special characteristics – mentioned in the story? If so, what characteristic made each region special?

2. DEFINING GEOGRAPHIC TERMS

Introduction:

This activity is designed to introduce students to some of the technical vocabulary they will encounter in their study of geography. Many of the terms listed in the handout have been used as the basis for questions at state and national geography bees sponsored by the National Geographic Society.

Objectives: Students will be able to:

1. Define selected geographic terms.

2. Use the terms in a sentence.

Time Required: 1-2 class periods (adding new terms may be turned into a yearlong project)

Materials and Preparation: You will need to make copies of Handout 2-1 for all students. Depending on the approach you decide to take, the handout may need to be cut into strips. For younger students, you will want to simplify the list. Students will also need to have access to encyclopedias or dictionaries. To conduct the vocabulary relay that concludes the lesson, you will need note cards, with one term from the handout on each note card.

Procedure:

1. Tell students that most areas of study have special vocabulary that they use to describe their work. Geography has many specialized terms that students will be learning.

2. Distribute Handout 2-1 (or your simplified version) and explain that this handout provides some examples of special geography terms. Divide the class into six groups, assigning each group one column on the handout. Group members are to work together to define each term in their column and use it in a sentence. If time permits, they may also illustrate appropriate terms with drawings or other graphics. Allow time for the groups to share their work.

3. As an alternative to the approach described above, cut the handout into pieces and give each student two or three terms. The students should prepare glossary entries for their terms. The entries should include definitions, use of the words in a sentence, and drawings, as appropriate. All the students' work can then be compiled into a glossary and distributed to the class. The glossary can be added to throughout the year.

4. When students have had a chance to examine each other's work, either through the glossary or class presentations, conduct a vocabulary relay. Divide the class into four teams; the teams should line up single file several feet from the chalkboard. On the chalkboard tray in front of each team, place a stack of note cards with a single word from the handout on each card. For younger students, you may only want to have enough note cards for each team member to have one; for older students, you may have a larger stack. When the relay begins, the first student in line for each team is to run to the chalkboard, pick up the first card, and write a definition for the word on the chalkboard; if he/she does not know the term, he/she runs back to the team and touches off the hand of the next person in line. That person then proceeds to the chalkboard and so on. When a team has written all the definitions, group members may discuss whether any of the definitions are wrong and may then correct them. When the group is in agreement on all the terms, members should sit down, signaling completion of the task. The first team to finish all the terms in its list correctly is the winner.

Activity developed by Paul Mulloy.

Follow-up:

Encourage students to create word puzzles for each other to practice using the geographic terms covered in the lesson. For example, one student might pick ten terms, write definitions for them, and then conceal the words in a word search; that student can then give the puzzle to a classmate who must use the clues to identify the words to be found.

GEOGRAPHIC LITERACY TERMS*

Acid Rain
Archipelago
Arctic Circle
Atlas
Atmosphere
Bayou
Census
Centrigrade
Cirrus Clouds
Commodity
Compass
Condensation Point
Conservation
Constellation
Continental Divide
Continental Drift
Continental Shelf
Contour Map
Coral Reef
Crust
Culture
Delta
Deposit
Desalinization
Earth
Earthquake
Ecology
Ecosystem
Equator
Ethnic Group
Evaporation
Exponential Growth
Fahrenheit
Far East
Farm Bloc
Fault
Fauna
Fjord
Flood Plain
Food Chain
Fossil Fuel
Freezing Point
Frontier
Galaxy
Glacier
GNP (gross national product)
Groundwater
Habitat
Hail
Hemisphere
Hydropower
Ice Age
Irrigation

*Based, in part, on E.D. Hirsch, Jr., *Cultural Literacy: What Every American Needs to Know* (Boston, MA: Houghton Mifflin, 1987).

Isthmus
Land Use
Latitude and Longitude
Lava
Levant, The
Low Countries
Mantle (geology)
Meridian
Middle West
Migration
Monsoon
Nimbus Clouds
Northern Hemisphere
Northern Lights
North Pole
North Star (Polaris)
Oil Sands (tar shales)
OPEC
Pollution
Population Density
Precipitation
Prevailing Westerlies
Relative Humidity
Religion
Renewable Resource
San Andreas Fault
Satellite
Seismology
Seven Wonders of the World
Solar Energy
Solar System
Southern Hemisphere
Sphere
Standard of Living
Star (astronomy)
Stratosphere
Subsistence Farming
Tenant Farming
Thunder
Tides
Topsoil
Tornado
Trade Wind
Tradition
Tundra
Typhoon
Urbanization
Vaporization
Volcano
Water Pollution
Weather Map
Weather Satellite
Zoning

LOCATION:
POSITION ON THE EARTH'S SURFACE

3. FROM THE CLASSROOM TO THE WORLD

Introduction:

Being able to describe relative locations using directional terms is one aspect of understanding location. In this activity, students review the cardinal and intermediate directions and use them to describe relative locations of objects in the classroom and on maps. The final part of the activity requires students to think about the impact of location on human activities.

Objectives: Students will be able to:

1. Name the cardinal and intermediate directions.

2. Label compass arrows with the cardinal and intermediate directions.

3. Follow compass directions to locate an object in the classroom.

4. Use compass directions to describe relative locations of places on a map.

Time Required: 1-2 class periods

Materials and Preparation: Make copies of Handouts 3-1 and 3-2 for all students. You will also need a wall map of the world and a compass for every two students (if you don't have access to enough compasses, simply mark North in the classroom with a large N). You will need two sets of stickers of different colors – one marked E for each student and one marked W.

Procedure:

1. Review with students the cardinal directions (north, south, east, west) and the intermediate directions (northeast, southeast, southwest, northwest).

2. Distribute Handout 3-1 and ask students to identify the compass rose. Have the students fill in the four cardinal directions and four intermediate directions on the handout.

3. Organize the students into teams of two, and pass out a compass to each team. Have the teams orient themselves so they are facing north. Each student should also receive a sticker with an E on it and a sticker with a W on it. They should place the stickers on their hands – right hand E, left hand W.

4. Direct one team member to select an object in the classroom; the other team member should use the compass and the stickers to determine the direction needed to locate the object. Let the teams practice with various objects in the room.

5. Distribute Handout 3-2. Have students put a compass rose on the map. Then have the students circle your home state on the map and, using it as a reference point, determine the relative location of other states in your region.

6. Provide a list of other places in the United States and have students take turns describing the relative location of these places, using your state as the reference point.

Activity developed by Barbara McLean, Joshua Eaton Elementary School, Reading, MA.

7. To conclude, ask students to pick a place on the world map, describe its location, and then suggest a change in its location. How would the change affect leisure activities in that place. Example: The Bahamas are located southwest of Florida. If we moved them to a location off the coast of Massachusetts, just south of Cape Cod, people could no longer swim in winter. Students should share their ideas first with their partners and then with the entire class.

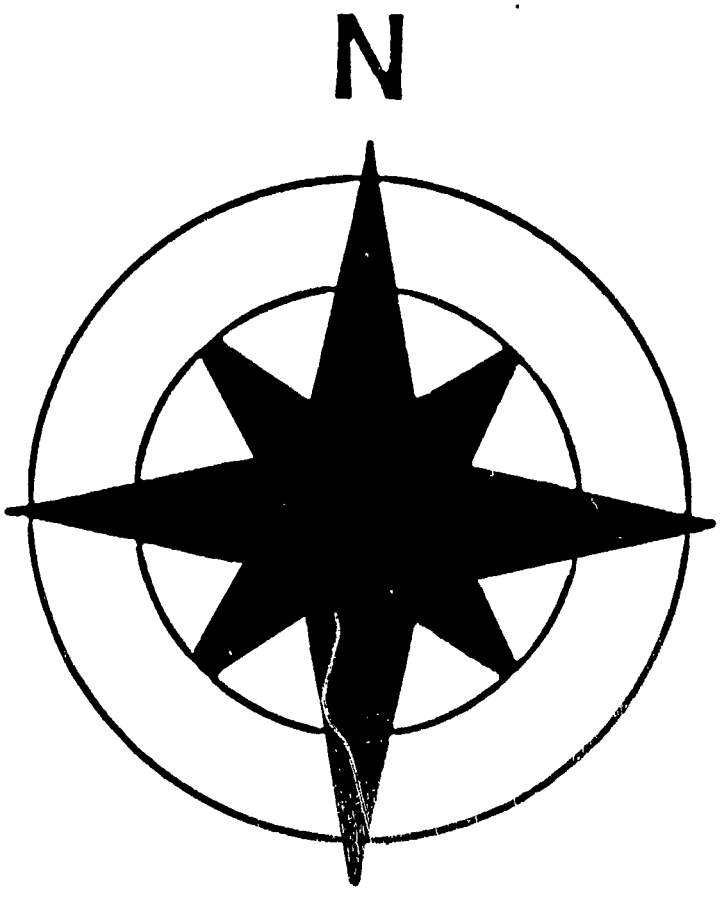
Follow-up:

1. Ask students to use a school floor plan, bedroom plan, or classroom plan and the cardinal and intermediate directions to identify the relative locations of various objects.

2. Ask students to pick a place in the world and give its relative location. Would they walk, drive, or fly to reach that location? Use the students' hometown as a reference point.

COMPASS ROSE

Fill in the four cardinal directions on the compass rose below. Then fill in the intermediate directions—the directions between the cardinal directions.



THE UNITED STATES

4. DIGGING A HOLE TO CHINA

Introduction:

This activity introduces students to some basic information about the earth's crust, mantle, and core. They then apply that information in determining whether it would be possible to "dig a hole to China." They describe China's location in several ways and brainstorm methods of getting from the United States to China.

Objectives: Students will be able to:

1. Explain that we live on a planet called earth and that it is round like a ball.

2. Create a model of the earth.

3. Use the model of the earth to discover that it would be impossible to travel through the earth's interior to get to China.

4. Brainstorm transportation methods that would enable a traveler to get to China.

Time Required: 1-2 class periods

Materials and Preparation: You will need copies of Handout 4-1, paper, and crayons for all students. You will also need a globe, dental floss, and several batches of "Global Playdough." Make the playdough by mixing 1 cup flour, 1 cup water, 1/2 cup salt, 1 tablespoon oil, and 1 teaspoon cream of tarter. Cook the ingredients on low until thick and lumpy. Knead the playdough—it will be hot! Divide the playdough into three balls—small, medium, and large; add food coloring to create three different colored balls—red (small), yellow (medium), and blue-green (large). To complete your preparations, cover the work area with butcher paper or paper bags secured with masking tape.

Procedure:

1. Open the activity by asking students to brainstorm things they know about the earth. Try to elicit some information about its shape and composition. Post all students' ideas on the chalkboard.

2. Tell students that they are going to learn more about the earth in this activity by building and analyzing a model. Divide the class into pairs, and give each pair enough playdough to construct a model (as an alternative, you may construct one larger model as a group). Give students the following directions for making the models:

- Round out the small red ball. It will become the **CORE** or center of the earth.
- Flatten the yellow ball, which will become the **MANTLE** of the earth. Make an indentation in the center of the yellow playdough. Place the red ball in the indentation and gently encircle the **CORE** (red ball) with the **MANTLE** (yellow ball).
- Flatten the blue-green ball, which will become the **CRUST** of earth. Gently encircle the **MANTLE** with the blue-green ball.

3. Give each pair a 12-inch piece of dental floss. Let pairs gently dissect the earth by pulling the dental floss through the playdough.

Activity developed by Donna LaRoche, Belmont (MA) Schools.

4. Ask the pairs of students to draw and label the earth's three layers on white construction paper, using their playdough model as a reference.

5. Once the drawings have been completed, bring the students together in a circle and discuss the earth's composition, using the playdough model, drawings, and Handout 4-1 as references.

6. Next, direct students' attention to the globe. Have volunteers locate the United States and China. Encourage students to think of as many ways as possible of describing China's location. You may need to give an example or two: China is in eastern Asia, it is in the Northern Hemisphere.

7. Ask students if they have ever thought about digging a hole to China. Based on what they learned in this lesson, would that be possible? Why not? Encourage students to brainstorm a list of ways that a traveler could get to China. Record their ideas on the chalkboard.

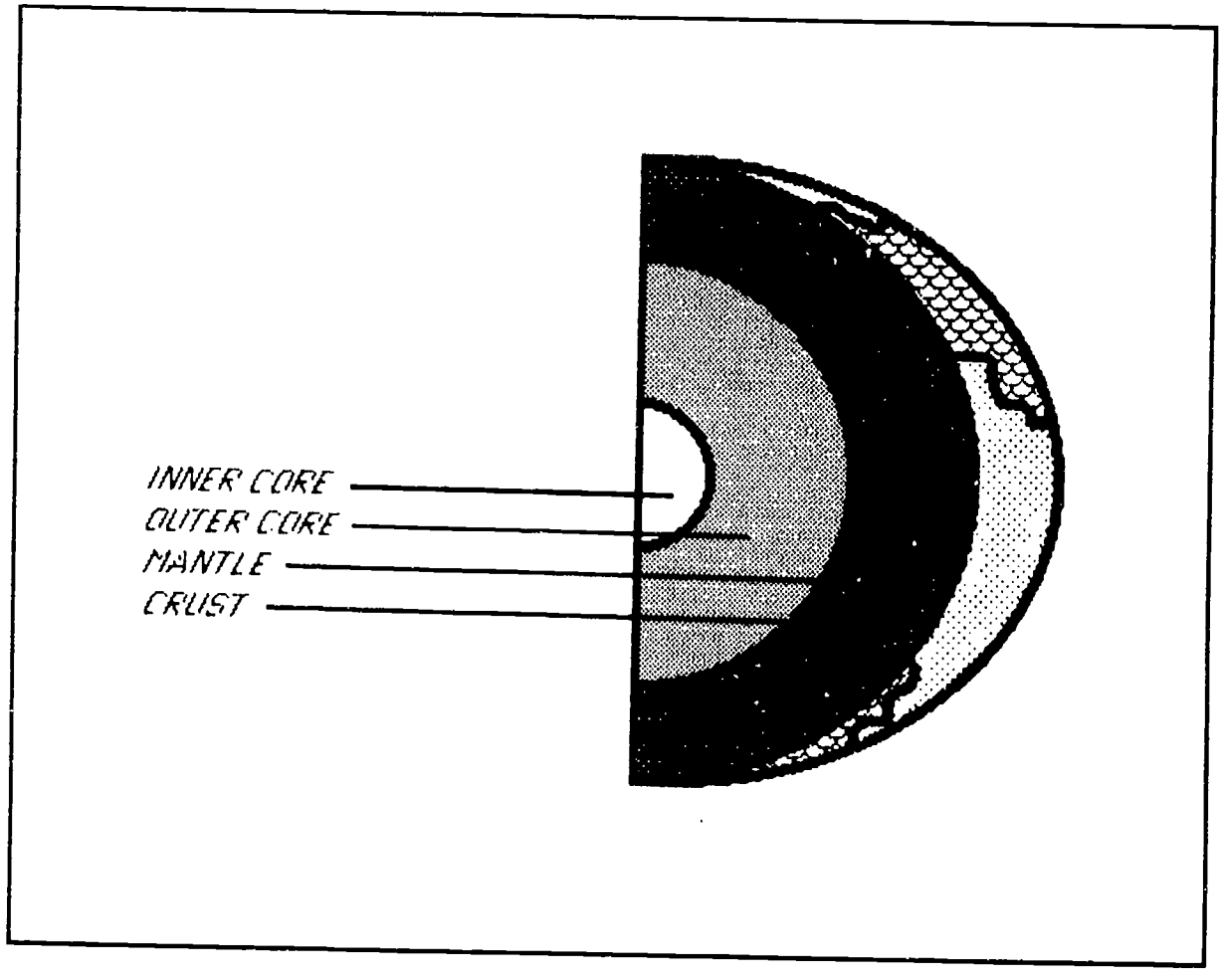
Follow-up:

1. To give students practice in describing relative location, have them describe China's location in relationship to the following countries: Japan, Vietnam, India, Iran, the Soviet Union.

2. Interested students may want to make more sophisticated and detailed models of the earth. Be sure to allow time for models to be presented and explained to the class.

3. Encourage students to think of as many ways as possible to describe the location of the United States.

THE EARTH'S INTERIOR



The earth has three layers. The outside layer is the *crust*. It is the ground on which people live. It also forms the ocean floor. The crust is between 10 and 30 miles thick.

The earth's second layer is the *mantle.* It is made of dense, very hot rock. Near its outer edge, the mantle is about 1600°F. Near the earth's core, the mantle is close to 4000°F. The mantle is 1800 to 2000 miles thick.

The third layer of the earth is called the *core*. The outer core is a thick liquid. Scientists believe it is about 4000°F. At the center of the earth is a solid inner core of metal, which may be as hot as 9000°F.

5. LET'S TRY SPANISH

Introduction:

This activity not only provides students with practice using locational skills, it also develops understandings related to the themes of place (physical characteristics) and movement. In order to complete all aspects of the activity, students need some experience working with latitude and longitude.

Objectives: Students will be able to:

1. Locate places in the United States that have Spanish terms in their names.

2. Understand why Spanish terms have been used as place names in the United States.

3. Give the absolute location of places having Spanish names.

Time Required: 1-2 class periods

Materials and Preparation: You will need a copy of Handout 5-2 and a student atlas for each class member.

Procedure:

1. Write the following Spanish terms on the chalkboard: *mesa, boca, costa, laguna*. Ask students if they know what these terms mean. The answers are: *mesa* (high table), *boca* (mouth), *costa* (coast), and *laguna* (lagoon). Explain that each term has a geographic meaning and is also used to name a place in the United States.

2. Tell students that in some areas of the United States, especially in the West and Southwest, there is a strong connection to Spanish language and culture. One way to determine the extent of this connection is to see how many places have Spanish terms in their names.

3. Distribute Handout 5-1 and, with the atlases as a reference, ask the students to find a place in the United States that incorporates each term in its name. That place name should be written in the blank next to the term.

4. In the space next to each place name, students should write in the correct latitude and longitude for the center of that particular place. An example is presented on the handout.

5. Conclude by discussing with students reasons why these names were chosen and how they reflect the geographical features of the location.

Follow-up:

1. Have teams of students use their atlases to identify other places in the United States where non-English terms are included in the names. Each team should give the absolute locations (latitude and longitude) of each place found; teams could then trade lists and find the locations described by the other team.

2. Ask students to locate places in the United States that have been named after places in other countries. Students should give the absolute locations for the U.S. site and the place for which it was named.

Activity developed by Paul Mulloy and Tom Collins, Global Links Project, Washington, DC.

SPANISH TERMS IN U.S. PLACE NAMES

1. *amarillo* (yellow): Amarillo, Texas 101°W 35°N
2. *arroyo* (brook, dry stream bed)
3. *blanco* (white):
4. *boca* (mouth, estuary):
5. *cerro, morro* (hill):
6. *colorado* (reddish):
7. *costa* (coast):
8. *de, del* (of):
9. *este* (east):
10. *grand(e)* (big):
11. *laguna* (lagoon):
12. *los, las* (the):
13. *mesa* (high table):
14. *nevada* (snowfall):
15. *norte* (north):
16. *occidental* (western):
17. *oriente* (east):
18. *paso* (pass):
19. *pueblo* (town, village):

20. *rio* (river):_____

21. *sierra* (mountain):_____

22. *sur* (south):_____

23. *valle* (valley):_____

24. *vegas* (fertile lowland, plain):_____

6. A LATIN AMERICAN MAP HUNT

Introduction:

This activity illustrates how learning the names and locations of various places—often regarded as a necessary but tedious learning task—can become an enjoyable activity. While students practice locational skills, they also begin learning about the physical characteristics of places. The activity would be an excellent introduction to a unit on Latin America.

Objectives: Students will be able to:

1. Define the term *physical feature.*

2. Use an atlas to locate and label 32 physical features of Latin America.

3. Describe the location of those features.

Time Required: 2 class periods

Materials and Preparation: Make a transparency of Handout 6-1, as well as copies for all the students. Make a set of the Map Hunt Clues and cut them apart. You will also need student atlases and an overhead projector.

Procedure:

1. Begin the activity by putting the words *physical feature* on the board. Ask students if they can define the words and tell you what the phrase means. Physical means natural and material; feature is a characteristic or part of something. A physical feature is thus a natural part of the earth, such as a lake, mountain, or river. Explain to students that they will now be locating major physical features of Latin America.

2. Give each student a copy of Handout 6-1, an atlas opened to a physical map of Latin America, and one map hunt clue. Each student should read the question on the clue, find the answer in the atlas, write the question number and answer on the back of the handout, and label and draw the answer on the blank map.

3. Once this has been completed, students may begin swapping map hunt clues with other students. Continue until students have located the answers to all 30 map hunt clues. As an alternative, you may have students come to you to have their work corrected after finding five or six clues; if they have the wrong answer, you can allow them to go back and try again.

4. When students have answered the 30 map hunt clues, collect them all. Then have each student come to the front of the class in turn, read the original clue that was given to him/her, and label the overhead transparency with the correct feature. Be sure students are as accurate as possible when they draw the map symbols so that the entire class can check the accuracy of their maps. When each student has drawn his/her feature on the map, ask for a description of the feature's location. Continue this procedure until all 30 physical features have been reviewed and are labeled on the map.

Activity adapted from *The Essence of Place: Geography in the K-12 Curriculum*, edited by Gail L. Hobbs (Los Angeles: UCLA, 1987). Permission granted from Bert Bower, Executive Director, Teachers' Curriculum Institute.

The answers are provided below.

1. Pacific Ocean
2. Atlantic Ocean
3. Caribbean Sea
4. Gulf of Mexico
5. Gulf of California
6. Lake Nicaragua
7. Lake Maracaibo
8. Lake Titicaca
9. Sierra Madre Occidental
10. Sierra Madre Oriental
11. Andes Mountains
12. Mount Aconcagua
13. Guiana Highlands
14. Brazilian Highlands
15. Rio Grande
16. Orinoco River
17. Amazon River
18. Parana River
19. Rio de la Plata
20. Plateau of Mexico
21. Yucatan Peninsula
22. Atacama Desert
23. Gran Chaco
24. Pampas
25. Patagonia
26. Baja California
27. Isthmus of Panama
28. Strait of Magellan
29. Cape Horn
30. Galapagos Islands

Follow-up:

1. Groups of students might create and exchange similar sets of clues for other regions of the world.

2. Invite a foreign student, a recent immigrant, or someone from the community who has lived in Latin America to come into the class and discuss how the physical features of Latin America have affected its history, culture, and economic circumstances.

LATIN AMERICA

1. What ocean is west of South America?

2. What ocean is east of South America?

3. In what body of water is the island country of Cuba located?

4. What gulf is situated east of Mexico?

5. What is the largest gulf on Mexico's western coast?

6. What is the largest lake in Central America?

7. Which is the largest lake in South America?

8. What is the name of the lake that forms part of the border between Peru and Bolivia?

9. What is the name of the main mountain range on Mexico's west coast?

10. What is the name of the main mountain range on Mexico's east coast?

11. What mountains run through the western portion of South America?

12. What is the highest mountain in South America?

13. What highlands separate Venezuela, Guyana, Suriname, and French Guiana from Brazil?

14. What are the highlands in eastern Brazil called?

15. What river forms part of the border between Mexico and the United States?

16. What major river runs through Venezuela?

17. What is the longest river in South America?

18. What river forms the southeastern border of Paraguay?

19. What wide "river" (it is actually an estuary) forms a bay between Argentina and Uruguay?

20. What huge plateau covers most of central Mexico?

21. Which is the largest peninsula in Mexico?

22. What is the large desert in northern Chile?

23. Which flatlands extend through northern Argentina, Paraguay, and southern Bolivia?

24. What flatland covers most of central Argentina?

25. What is the name of the flatland located in southern Argentina between the Andes and the Atlantic Ocean?

26. What is the longest and narrowest peninsula in Mexico?

27. What isthmus connects North and South America?

28. Which strait connects the Pacific Ocean with the Atlantic Ocean?

29. What is the most southerly cape in South America?

30. What small group of islands lies off the coast of Ecuador?

7. OPERATION OVERFLIGHT

Introduction:

This activity focuses on the Gary Francis Powers incident in 1960, presenting excerpts from the pilot's writings in which he described his thoughts and feelings as he parachuted down from his destroyed plane. The activity could therefore be used in a history class, as well as in geography classes practicing the use of latitude and longitude or studying the Soviet Union.

Objectives: Students will be able to:

1. Locate major cities and landforms in the Soviet Union.

2. Identify the countries that border the Soviet Union on its southeastern and northwestern borders.

3. Plot a route on a map and identify features along the route.

4. Use primary source material to imagine themselves in another person's place.

Time Required: 1-2 class periods

Materials and Preparation: Each student will need a student atlas and copies of Handouts 7-1 and 7-2.

Procedure:

1. Ask students whether they have ever heard of Matthias Rust, the 19-year-old West German who flew his single-engine plan undetected through Soviet radar to land in the middle of Moscow's Red Square. He was imprisoned for one year. After his release in 1988, he said that his flight was meant to encourage peace and goodwill among nations.

2. Tell students that in 1960, a similar flight took place over the Soviet Union but for different reasons. An American U-2 spy plane manned by Francis Gary Powers was shot down over Sverdlovsk, about 750 miles east of Moscow. The resulting escalation of tensions set back U.S.-Soviet relations for years afterward.

3. Ask students to imagine they were the pilot of that U-2 spy flight. Why might they be flying over the Soviet Union in 1960?

4. Distribute Handout 7-1 and ask students to read one section at a time. After reading each section, they should write in their notebooks *who* the passage is about, *where* the event is taking place, and *what* has happened or is about to happen. When did they realize what was being described? How would they feel if this had happened to them?

5. Distribute Handout 7-2, which gives Powers' flight coordinates, including the coordinates of his intended flight path beyond the Sverdlovsk area. Have students plot the route of the spy plane with a solid line and the intended flight plan with a dotted line.

6. After plotting the coordinates, students should use their atlases to determine what terrain, cities, economic and military sites might have been observed in the flight. Have students report to the class on their findings. Why would the United States want to know about these features?

Activity developed by Richard Jensen, Hingham (MA) Public Schools.

Follow-up:

1. Students might create a radio or television broadcast reporting on the flight. To prepare the broadcast, students will need to do research to find out more about the incident.

2. Students might also find articles about Matthias Rust's flight, tracing his flight over the Soviet Union. How were the two flights similar or different?

OPERATION OVERFLIGHT

1 I was thinking, I should pull the ripcord, when a quick jerk yanked me upward. The chute had opened automatically.

---

2 Suddenly my thoughts were sharp and clear. The chute had been set to open at fifteen thousand feet, which meant I was somewhere below that. And under fifteen thousand feet I didn't need the emergency oxygen in my seat pack and could take off my face plate.

I was immediately struck by the silence. Everything was cold, quiet, serene.

---

3 The first thing to do when the parachute opens, I had been taught in Air Force survival school, is to look up and make sure the chute has billowed correctly. This I was reluctant to do, since, having only one chute, I was not anxious to discover whether it had failed. But I looked up. The orange and white panels blossomed out beautifully. But against the vast expanse of sky, the chute looked very small.

There was no sensation of falling. It was as if I were hanging in the sky, no movement at all.

---

4 Part of the aircraft passed me, twisting and fluttering like a leaf. I thought it was one of the wings. Yet I had no way to estimate size or distance. It could have been a small piece up close or a large piece some distance away.

---

5 Looking down, I saw I was still quite high, probably ten thousand feet.

Below were rolling hills, a forest, a lake, roads, buildings, what looked like a village.

It was pretty country. A typical American scene. Like parts of Virginia.

Excerpted from *Operation Overflight*. by Francis Gary Powers (New York: Holt, Rinehart and Winston, 1970).

6 As if by wishing it I could make it so.

It was odd. Under other circumstances it would have seemed amusing. A country as large as the Soviet Union, so vast, with huge sections almost totally uninhabited. and I had to pick a populated area in which to go down.

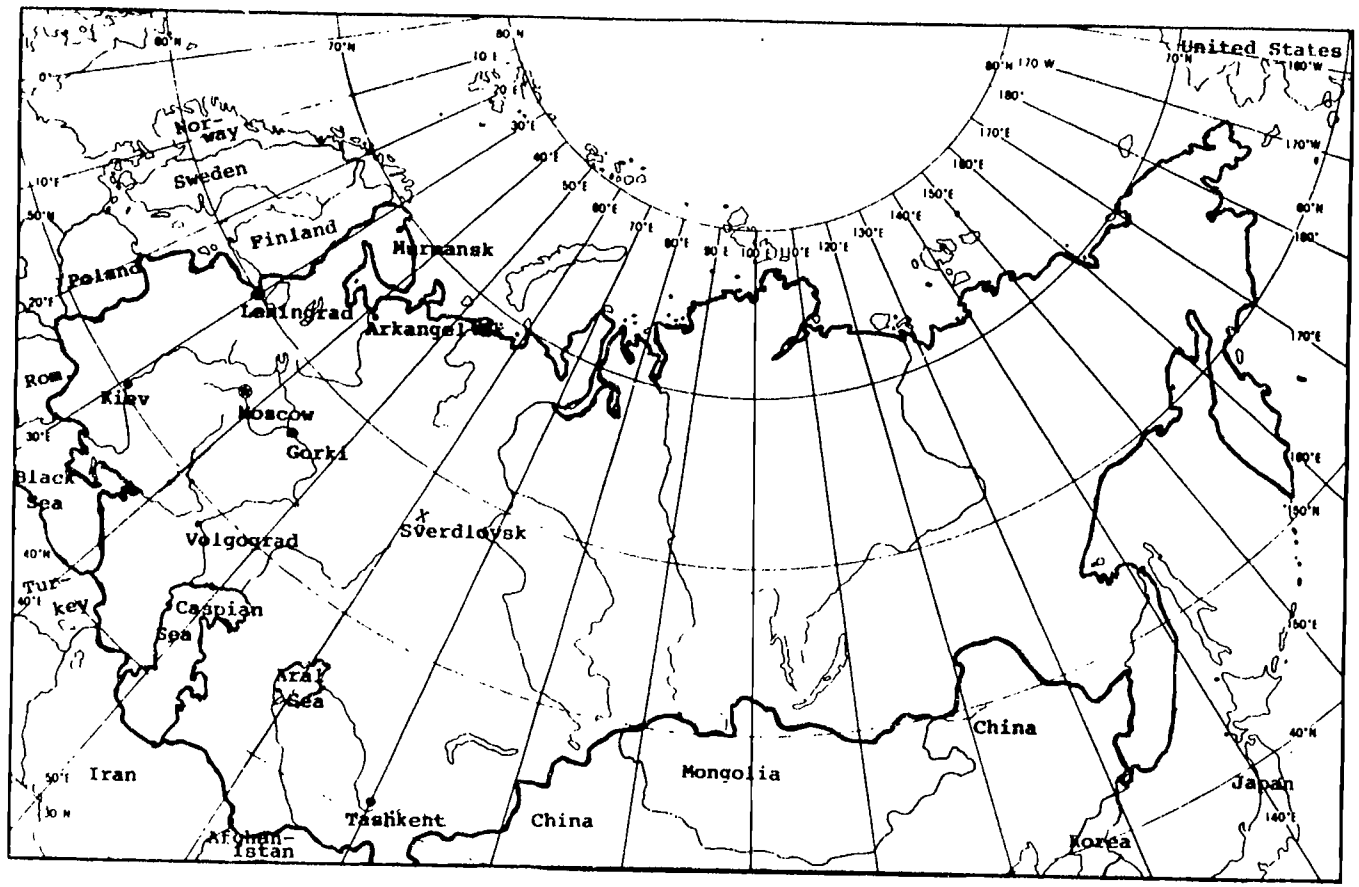
---

7 Remembering a map in my pocket, which showed alternate routes back to Pakistan and Turkey, I took off my gloves, took it out, carefully ripped it into little pieces and scattered them. One piece of incriminating evidence was gone.

---

8 I also remembered the silver dollar and took it out. Looking at it at this point, I realized the coin cover wasn't such a good idea after all. What better souvenir of the capture of a capitalist American pilot than a bright new U.S. dollar? It was one of the first things they would take. Unscrewing the loop at the end, I slipped out the poison pin and dropped it into my pocket, where there was a chance it would go unnoticed, then tossed away the coin.

THE SOVIET UNION



⊛ - National Capital

X - Spy plane shot down

U-2 Flight Coordinates

34° N	71° E
38° N	68° E
45° N	65° E
55° N	61° E
57° N	60° E
58° N	49° E
64° N	41° E
67° N	32° E
69° N	33° E
67° N	15° E

PLACE:
PHYSICAL AND HUMAN CHARACTERISTICS

8. UPS AND DOWNS—PEOPLE AND PLACES

Introduction:

This activity focuses on the physical and human characteristics of place, using elevation and population density as exemplars of such characteristics. Students' graphic skills are also enhanced.

Objectives: Students will be able to:

1. Define *elevation* and *population density* and recognize that they are examples of physical and human characteristics of place.

2. Make a hypothesis about the relationship between population density and elevation.

Time Required: 1-2 class periods

Materials and Preparation: You will need copies of Handouts 8-1 and 8-2 for all students. You will also need student atlases, colored pencils, and pieces of string for all students.

Procedure:

1. Ask students if they have ever taken a flight over any part of the United States during the daytime. Specific observations they recall can be listed on the chalkboard.

2. Next, pass out Handout 8-1 and give students a few minutes to read it.

3. Have students use pieces of string to show the route described on a physical map of North America in their atlases. A moment may be taken to clarify that a great circle route from Boston to San Francisco would follow this route and not be a direct line on a map.

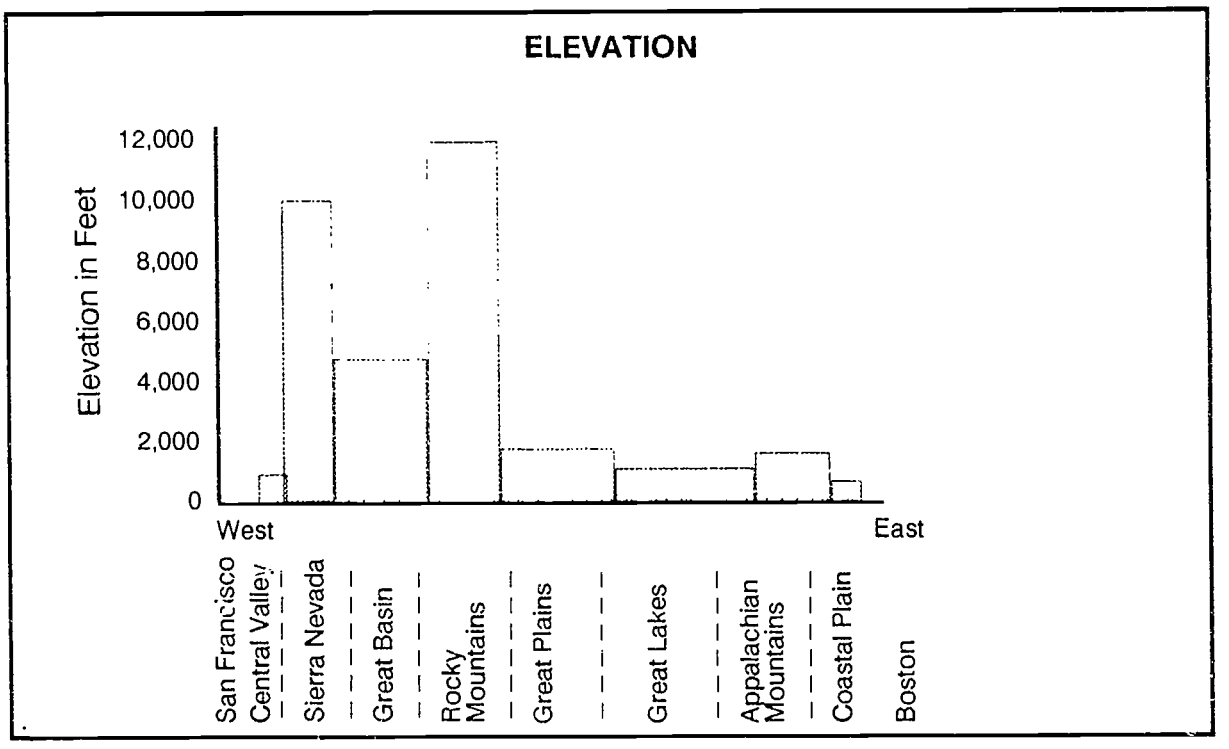
4. Ask students to describe the largest landforms crossed. List landforms on the chalkboard as students supply them. The list should include:

Central Valley
Sierra Nevada
Great Basin
Rocky Mountains
Great Plains
Great Lakes
Appalachian Mountains
Atlantic Coastal Plain

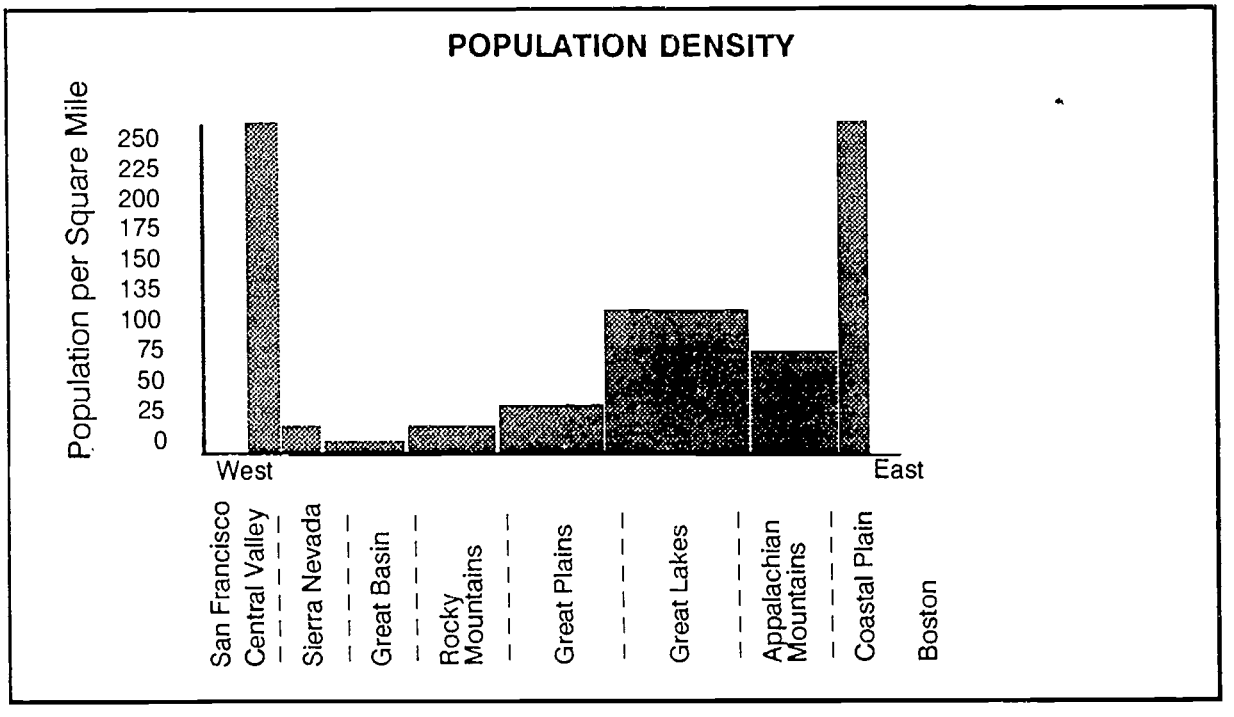
5. Distribute Handout 8-2. The eight gross landforms listed above have been printed on the horizontal axis of the bar graphs on the sheet. First, students are to use the upper graph marked "Elevation." Review the elevation system printed on the vertical axis to insure that students see the relationship between color used on the map and height on the elevation scale. Using colored pencils corresponding to the color system used on the physical relief map, students are to create a profile of the topography crossed on the plane route. It is a good idea to start all students with the color of the lowest areas and have them shade in the area all the way across the graph so that it becomes clear that they are building a profile made up of stripes of color representing layers of elevation.

Activity developed by John L. Daly, Wayland Middle School, Wayland, MA.

The profile should generally look like this:



6. Next, refer students to a population density map of the United States or North America. Make sure students understand the use of color to represent number of people per square mile. Using the lower graph titled "Population Density," students should show the population density of the gross landforms. The population density profile should look approximately like this:



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7. Focus discussion on the generally inverse relationship between elevation and population density. Specific variations in the relationship, such as the Appalachian Mountains or the Great Plains, help students realize that people's use of the natural resources of an area can impact its population density.

8. Conclude by noting that all places on earth have specific physical features (elevation in this case) and specific human characteristics (population density in this case) which distinguish them from other places. Where does your students' "place" fit into this scheme?

Follow-up:

Teachers might consider having students develop three-dimensional profiles instead of, or along with, the graphing exercise. These cross-sections could be constructed out of cardboard squares, Lego blocks, or strips of colored modeling clay.

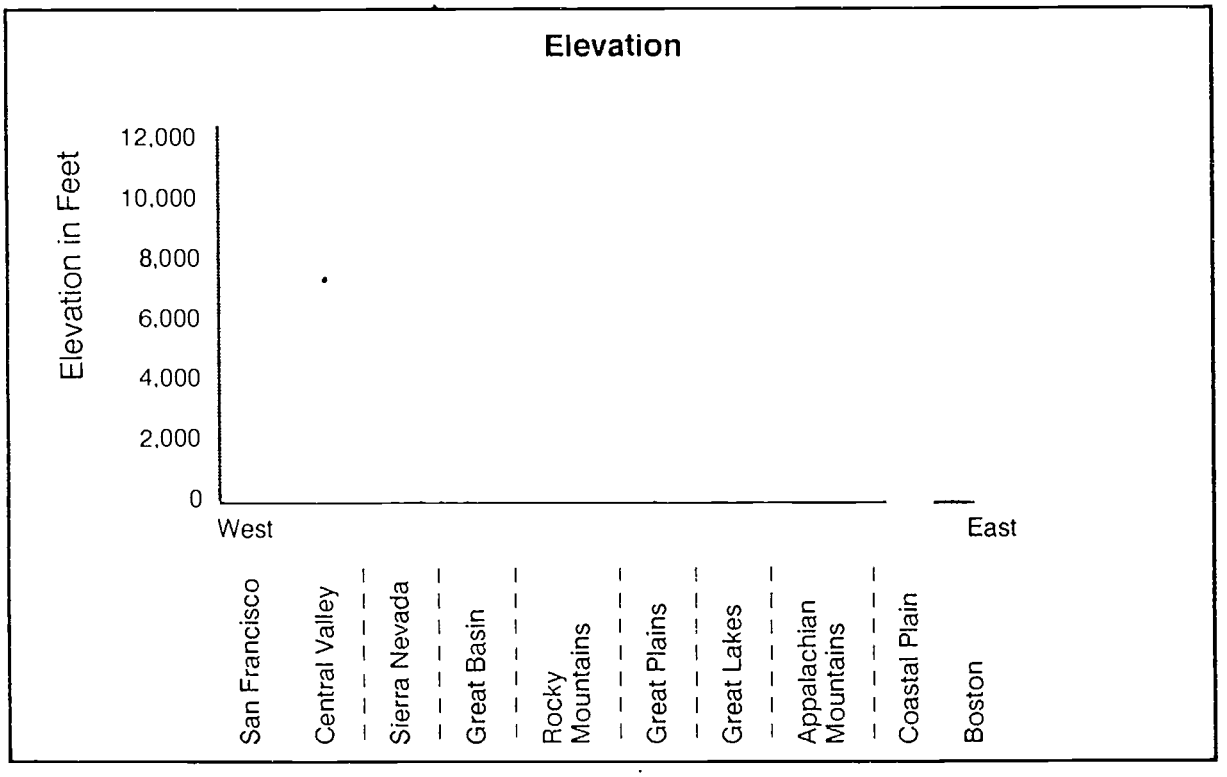
CROSSING AMERICA BY PLANE

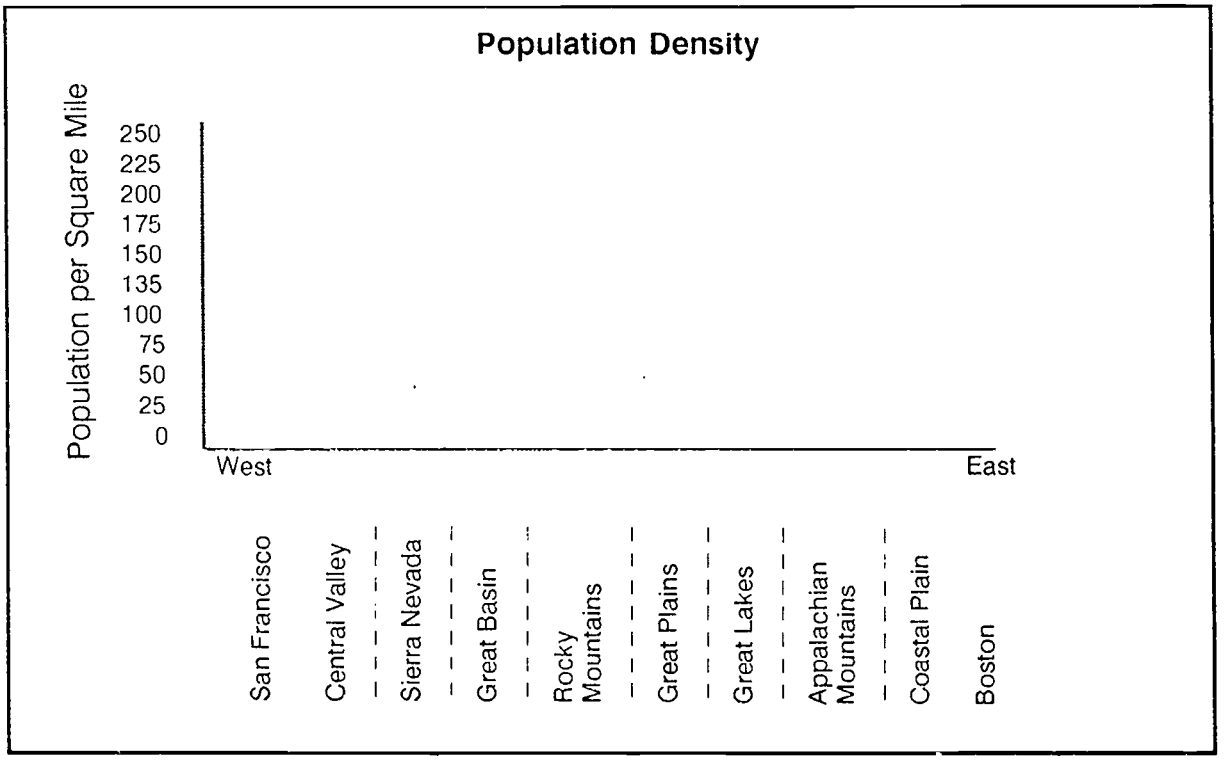
Visualize for a moment taking a flight from Boston to San Francisco. After boarding the plane at Boston's Logan Airport, you take off. The plane climbs rapidly above the city. Your view is one of major highways and large buildings in the central city. Within a few minutes, you notice that the buildings begin to grow smaller but that the area is still densely populated. As you fly across New England and New York, you see that while town centers have become more widely spaced, you can still see several towns at one glance. After flying over Buffalo and seeing Lake Ontario to the north and Lake Erie to the south, you see the farmlands of southern Ontario before crossing Lake Huron.

Crossing Michigan you see that people are more spread out while forests seem to be more common. After passing over Lake Michigan, you notice the urban area of Milwaukee to your south. This urban area quickly turns to farm country; beyond the Mississippi River you notice that the farms become more geometric and larger in size. Over Iowa and Nebraska farm buildings become farther and farther apart. The plains end abruptly as the pilot calls attention to the Rocky Mountains. You can see where ski slopes and forestry have caused the clearing of a few patches of land, but there are few towns.

After leaving the Rockies, you pass directly over Salt Lake City and see the expanse of the Great Salt Lake. Over the Great Basin there seem to be almost no towns. The land rises again in the Sierra Nevada. Suddenly the landscape below changes from brown to green, and farms reappear as the plane loses altitude over the Central Valley of California. As the plane glides into the San Francisco Bay area, you note that the amount of building and the road network look somewhat like those in Boston.

GRAPH SHEET FOR UPS AND DOWNS





9. USING CLIMOGRAPHS

Introduction:

Every location on earth has characteristics that distinguish it from all other places. Geographers describe a place in terms of physical and human or cultural characteristics. Climate is an essential part of a place's physical characteristics; it can influence many of the rest of a place's traits, such as vegetation, wildlife, cultural landscapes, and lifestyles.

One of the best and easiest ways to describe a place's climate is to use a "climograph." Although a climograph does not provide complete climate information, it does portray two of the most important elements of climate -- precipitation and temperature. Many characteristics of a place can be inferred by interpreting the climograph.

Objectives: Students will be able to:

1. Define geographic terms relating to climate.

2. Describe an essential physical feature of a place by plotting a climograph of it.

3. Make inferences about a place based on interpreting data on a climograph.

Time Required: 1-2 class periods

Materials and Preparation: Make copies of Handouts 9-1, 9-2, and 9-3 for all students; you may also want to make a transparency of Handout 9-2 for projection. Students will need colored pencils.

Procedure:

1. Discuss with students the difference between climate and weather. Write definitions on the chalkboard:

weather day-to-day atmospheric conditions (precipitation and temperature) in a particular place for a short period of time.

climate – average of precipitation and temperature patterns over a long period of time (usually 111 years of data are used by the U.S. Weather Bureau to establish normal patterns).

precipitation -- moisture in form of rain, snow, sleet, or hail.

temperature -- measure of heat and cold.

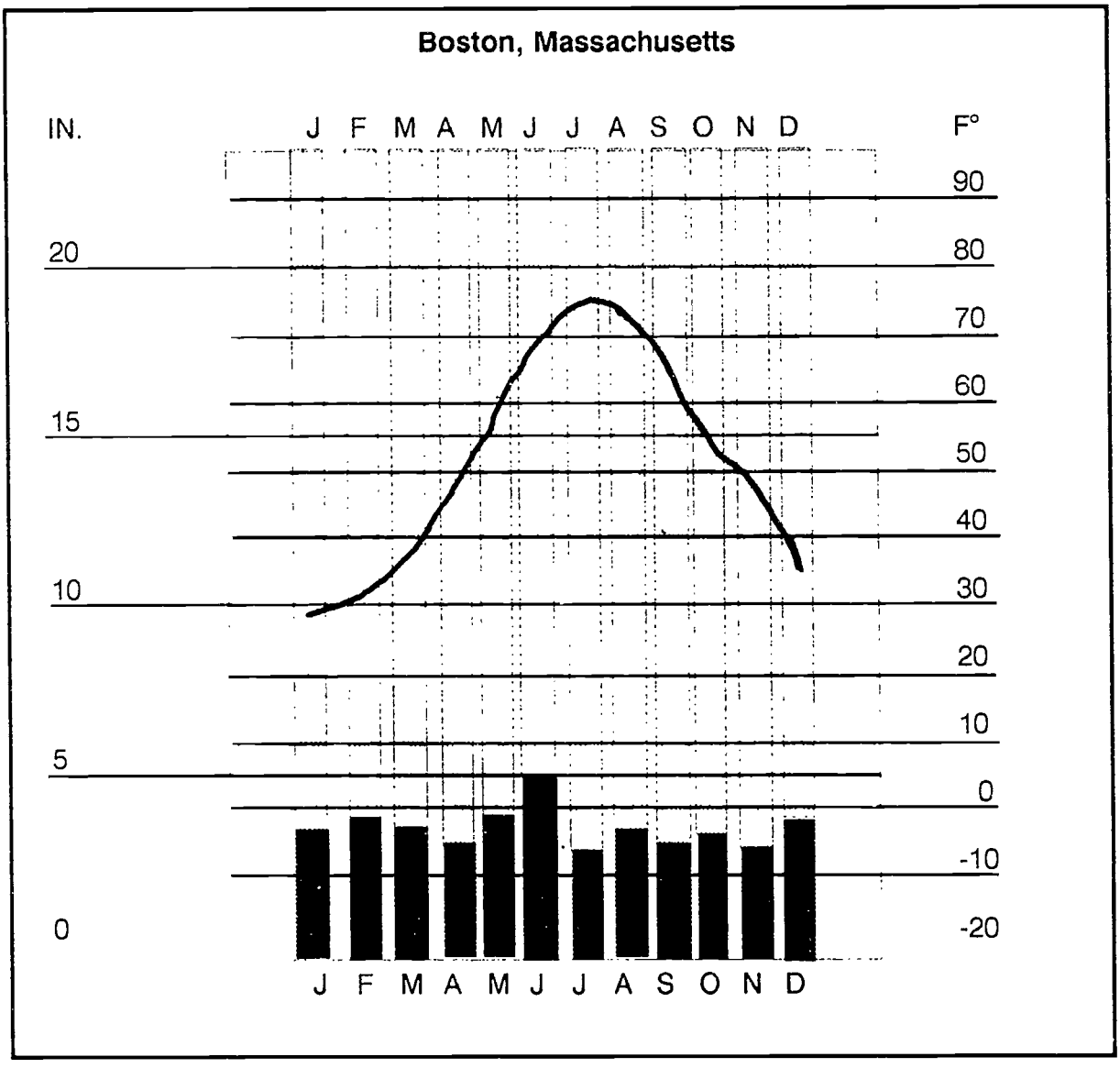
climograph -- a chart that shows a place's yearly climate patterns.

2. Give each student Handouts 9-1 and 9-2. Go over the data on precipitation and temperature with the students. You should tell students that an "average monthly temperature" would be an average of all the high and low temperatures for a month.

3. Plot the information. Show the monthly precipitation data as a bar graph using the inches scale on the left of the climograph. Show the temperature data as a line graph using the Fahrenheit scale on the right. For clarity, you can have students use one colored pencil to plot precipitation and another colored pencil to plot temperature.

Activity developed by Paula Jones, Briscoe Middle School, Beverly, MA.

Note: Teachers should do this activity along with the students on the overhead projector. A completed climograph of Boston is provided below.



4. After students have completed making the climograph of Boston, have them complete Handout 9-3.

Follow-up:

Now that students have learned what a climograph is and how to make one, they can make a climograph of their own area. Data for your area can be found in encyclopedias, geography texts, from the U.S. Weather Bureau, and even from AAA travel guides. Students can then be asked to compose questions analyzing the climograph of their home as was done in this activity.

BOSTON'S CLIMATE: DATA SHEET

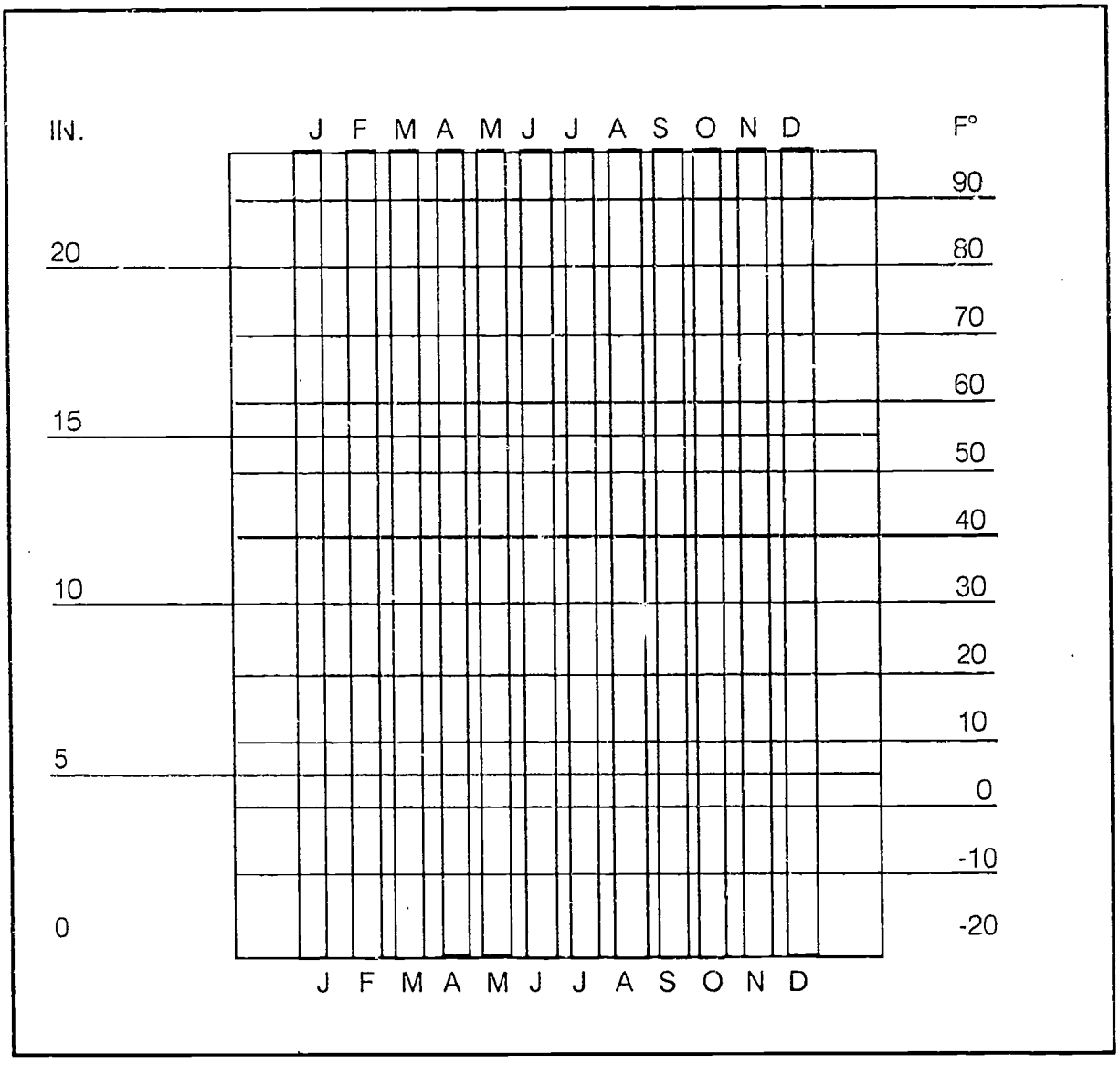
Average Precipitation (in inches)

Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
3.5	3.8	3.6	3.2	3.9	4.0	2.9	3.6	3.4	3.5	3.0	3.6

Average Temperature (Fahrenheit)

Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
29	31	38	47	58	68	74	72	65	54	47	33

CLIMOGRAPH


IN.
J F M A M J J A S O N D
F°
20
15
10
5
0
90
80
70
60
50
40
30
20
10
0
-10
-20
J F M A M J J A S O N D

ANALYZING A CLIMOGRAPH

Use the information on the climograph of Boston you have just made to answer the following questions:

1. What two months in Boston average below freezing temperatures? In which months might the precipitation come in the form of snow?

2. What is the warmest month in Boston?

3. What is the difference in degrees between the coldest and warmest months?

4. Does Boston have a "dry season"? Why or why not?

5. Which business would you rather own in Boston, air conditioning or heating? Why?

6. When would most crops be planted? Why?

7. Would grapefruits and oranges be grown? Why or why not?

8. Would you expect to find a seasonal change of clothing? What kinds of different clothing might be needed?

9. Would you expect to find skiing near Boston? Ice skating?

10. Would you play hockey indoors or out?

11. Would it be common to find outdoor swimming pools? Why?

12. How might houses in this area be built? Would roofs be flat or pitched? Why?

13. Looking at the climograph, how can you tell Boston is located in the Northern Hemisphere?

14. Add all of the months' average precipitation. What would be Boston's average yearly rainfall in inches? What is its average monthly rainfall?

15. Make up a question of your own based on the climograph.

10. SAME AND DIFFERENT

Introduction:

This activity focuses on Japan. Students are introduced to some characteristics of Japan's physical geography, comparing those characteristics with their own home area. They then look at aspects of cultural geography, again comparing Japan with the home area. The activity provides an excellent means of beginning a unit of study on Japan, or on any other nation, since the model provided activity could be applied to the study of any area.

Objectives: Students will be able to:

1. Describe various physical and human characteristics of Japan.

2. Point out differences and similarities between their living environment and that of Japan.

3. Understand that all places on earth have special features that distinguish them from other places.

Time Required: 2 class periods

Materials and Preparation: Make copies of Handouts 10-1 and 10-2 for all students; make enough copies of Handouts 10-3 and 10-4 for half the class to have each. You will also need student atlases, a wall map of the world, and crayons or felt pens. Pictures of Japan would be a useful supplement.

Procedure:

1. Begin by having students find Japan on the wall map of the world. Lead a brainstorm on what students already know about Japan, its culture, geography, and people.

2. Distribute the student atlases, Handout 10-1, and Handout 10-2. Have students read the material on the "Geography of Japan."

3. After completing the reading, each student should color the map of Japan and the surrounding bodies of water. Advise them that water is colored blue on a map and land is green or brown. Students should also label the site of Tokyo with a star, label the Pacific Ocean and the Sea of Japan, and draw in the mountains that run down the center of the islands. You may want to draw the symbol you wish to use to designate mountains on the chalkboard or allow students to choose a symbol of their own.

4. When the maps are finished, print two headings on the board -- *Same* and *Different*. Have students use what they have learned about Japan's geography to list things that are alike and different about the geography of Japan and where they live.

5. Divide the class into groups of four. Give each pair of students within a group one of the remaining handouts - Handout 10-3 or 10-4. Each pair should read the handout given them and list items that are the same and different between Japan and where they live. When the pairs have finished their work, they should share their findings with the other pair in the group.

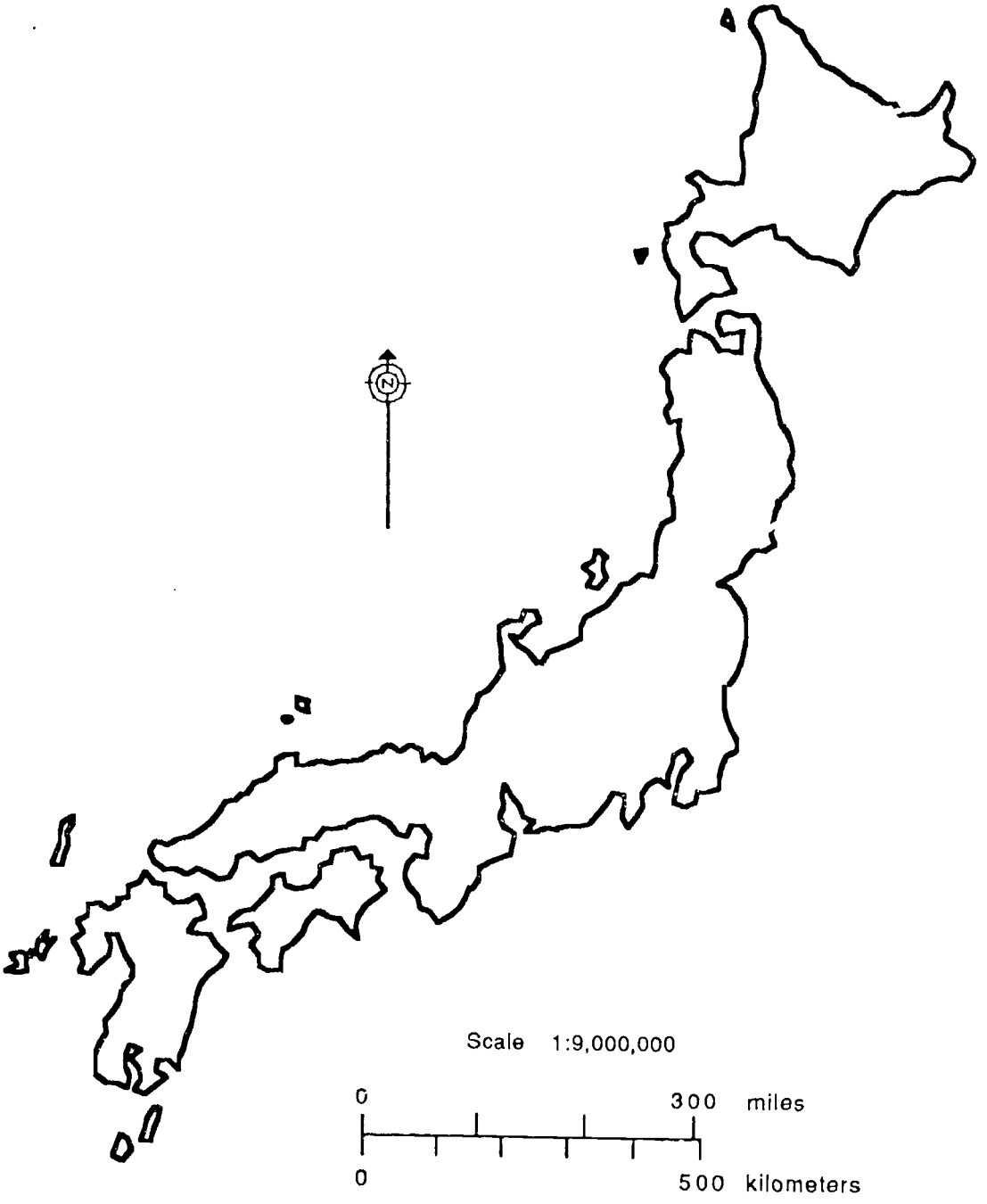
6. To conclude, draw the class back together. Go around from group to group, allowing each group to contribute one likeness or difference for a class list. Continue until the groups have all ideas posted.

Activity developed by Paul Mulloy.

Follow-up:

Students can be assigned other features of Japanese life and asked to make a report using the Same/Different approach.

JAPAN



THE GEOGRAPHY OF JAPAN

Japan is an island nation off the east coast of Asia. The Sea of Japan is to the west, the Pacific Ocean to the east. Japan has four large islands—Hokkaido, Honshu, Shikoku, and Kyushu—and thousands of smaller ones. The islands are very mountainous. Most of Japan's more than 120 million people live on the flat land on the coast. Japan is slightly smaller than California.

Japan experiences numerous earthquakes and tremors. Unless the quake is a large one, most Japanese people simply ignore it. Many homes have been built to avoid damage during earthquakes. They sway with the ground.

Japan has a varied climate with four seasons—winter, spring, summer, and fall. In the northern islands, the winters are very cold. They are not as cold in the southern islands. The mountains receive a lot of rain. Throughout Japan, the rainy seasons are in June and September.

The largest city in Japan is Tokyo, with a population of 8.4 million. Located on the Pacific coast, it has freeways, buses, cars, and high-speed trains.

THE JAPANESE HOME

The average Japanese home is smaller than the average American home. Most Japanese homes are not filled with furniture, so they do not seem crowded. The floors in most Japanese homes are covered with woven mats. The size of the room is described by the number of mats needed to cover the floor.

Along one wall in a Japanese home is a special place of honor called the *tokonoma*. The *tokonoma* usually has a table with a beautiful flower arrangement. On the wall above the table is a picture showing the season of the year. The picture is drawn on rice paper. It is not framed or covered with glass.

Many homes have no chairs. The Japanese sit on the floor on pillows or cushions. The dining table is low enough so that the family can kneel on pillows while they eat.

Many homes have no separate bedrooms. At night, the *futons* are brought out to sleep on. A *futon* is a flat sleeping map that is placed on the floor.

The floors in many Japanese bathrooms are made of sand. Family members scrub themselves while standing on the floor. They then get into the large wooden tub to rinse off.

Many Japanese families have small gardens. The gardens may include ponds for goldfish, beautiful plants, and rocks of different sizes arranged so the family can enjoy looking at them.

JAPANESE SCHOOLS

Children in Japan go to school six days a week. Monday through Friday, they attend from 8:30 in the morning until 2:00 in the afternoon. On Saturdays, they go to school until noon. High school students may go to *juko* or cram school at night to study for tests. The tests are important because the results determine what college a student will be able to attend.

The school years starts in April. August and December are vacation months. Schools are also closed on special holidays.

Elementary students in Japan wear uniforms. Boys wear white shirts and dark blue pants. Girls wear white blouses and dark blue skirts. Students wear *geta*, or white slipper socks, while they are in school. The classroom is very quiet.

Elementary students study reading, math, music, science, and physical education. They also learn penmanship. Japanese children must learn 96 characters. They learn to print them using a brush and ink pad. Japanese is written starting on the left and going down the page.

At the end of the school day, Japanese children must help clean the classroom, school halls, and school yards. They pick up trash, sweep the floor and yard, and stack chairs. They then go home to work on their assigned homework.

11. TAKING A TRIP ABROAD

Introduction:

This activity directs students' attention to characteristics of various places around the world by asking them to plan and report on a trip outside the United States. The activity also provides practice in completing forms, doing independent research, and presenting research results.

Objectives: Students will be able to:

1. Fill out a passport application.

2. Use maps, travel folders, and magazines to plan for an imaginary trip abroad.

3. Keep a scrapbook, journal, or similar record of their trip.

4. Research and report on the physical/human characteristics of selected countries.

Time Required: 2 class periods

Materials and Preparation: Make copies of Handout 11-1 for all students. You will also need magazines and travel folders (available from travel agencies), information about countries from consulates or embassies and airlines, student atlases, and a physical/political wall map of the world.

Procedure:

1. Ask students to select a country they would like to visit if they had a two-week vacation and a chance to travel outside the United States. Each student should show on the wall map where their country is located.

2. Have the class make a list of the things they would need to do before they could make such a trip. Getting a passport should be one of the first things on their list. Give students a copy of Handout 11-1 and ask them to fill out the application. You may need to provide explanations and guidance as students fill out the application.

3. After students have filled out the application, take time to discuss the kind of information requested, why this information is necessary, and the need for a passport.

4. Next, have the students continue planning their imaginary trip. Each student is to find out about the country he/she plans to visit and prepare a report of the trip. This can be done in one of the following ways:

- Write a diary or journal describing the trip.
- Write an article for a magazine or a newspaper series describing the trip.
- Give an oral presentation to the class describing the trip.
- Using pictures from magazines and travel folders, make a scrapbook of the trip.

The presentation should include the following information about the trip:

- How I got there.
- Kind of clothes I needed to fit the climate.

Activity developed by Paul Mulloy

- Geographical features I observed (landscape, mountains, rivers, etc.).
- Food I ate.
- Description of my favorite city.
- At least three major points of interest I visited (a description of each).
- Personal reactions to my trip.
- Souvenirs I brought home.

5. To conclude, have students share what they have learned with the class.

Follow-up:

1. Invite parents or local persons who have traveled outside the United States to talk to the class about their experiences

2. Ask students to write essays in which they attempt to identify the kinds of problems they might encounter if they were traveling abroad.

PASSPORT APPLICATION

UNITED STATES DEPARTMENT OF STATE
APPLICATION FOR PASSPORT / REGISTRATION
SEE INSTRUCTIONS—TYPE OR PRINT IN INK IN WHITE AREAS

1. NAME FIRST NAME MIDDLE NAME

LAST NAME

2 MAILING ADDRESS

STREET

CITY, STATE, ZIP CODE

COUNTRY IN CARE OF

☐ 5 Yr ☐ 10 Yr Issue
R O O DP Date
End # Exp

3. SEX Male Female 4. PLACE OF BIRTH City State or Province, Country 5. DATE OF BIRTH Mo Day Year 6. SEE FEDERAL TAX LAW NOTICE ON REVERSE SIDE SOCIAL SECURITY NUMBER

7 HEIGHT Feet Inches 8. COLOR OF HAIR 9. COLOR OF EYES 10. (Area Code) HOME PHONE 11. (Area Code) BUSINESS PHONE

12. PERMANENT ADDRESS (Street, City, State, ZIP Code) 13. OCCUPATION

FOLD

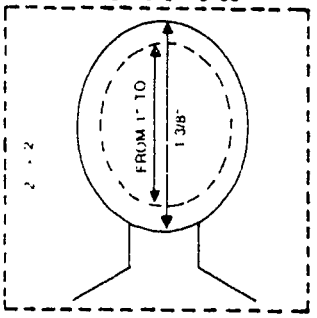
14. FATHER'S NAME BIRTHPLACE BIRTH DATE U S CITIZEN YES ☐ NO

15. MOTHER'S MAIDEN NAME BIRTHPLACE BIRTH DATE U S CITIZEN YES NO

16. TRAVEL PLANS *Not Mandatory*
COUNTRIES DEPARTURE DATE
LENGTH OF STAY

17. HAVE YOU EVER BEEN ISSUED A U.S. PASSPORT? YES ☐ NO ☐ IF YES, SUBMIT PASSPORT IF AVAILABLE. ☐ Submitted
IF UNABLE TO SUBMIT MOST RECENT PASSPORT STATE ITS DISPOSITION: COMPLETE NEXT LINE
NAME IN WHICH ISSUED PASSPORT NUMBER ISSUE DATE (Mo., Day, Yr.) DISPOSITION

SUBMIT TWO RECENT IDENTICAL PHOTOS



FOLD

18. HAVE YOU EVER BEEN MARRIED? ☐ YES ☐ NO DATE OF MOST RECENT MARRIAGE Mo Day Year
WIDOWED/DIVORCED? ☐ YES ☐ NO IF YES, GIVE DATE Mo. Day Year
SPOUSE'S FULL BIRTH NAME SPOUSE'S BIRTHPLACE

19. IN CASE OF EMERGENCY, NOTIFY *(Person Not Traveling With You)* *(Not Mandatory)* RELATIONSHIP
FULL NAME
ADDRESS (Area Code) PHONE NUMBER

20. TO BE COMPLETED BY AN APPLICANT WHO BECAME A CITIZEN THROUGH NATURALIZATION
I IMMIGRATED TO THE U S (Month, Year) I RESIDED CONTINUOUSLY IN THE U S From (Mo., Yr.) To (Mo., Yr.) DATE NATURALIZED (Mo., Day, Yr.)
PLACE

21. DO NOT SIGN APPLICATION UNTIL REQUESTED TO DO SO BY PERSON ADMINISTERING OATH
I have not, since acquiring United States citizenship, performed any of the acts listed under "Acts or Conditions" on the reverse of this application form (unless explanatory statement is attached). I solemnly swear (or affirm) that the statements made on this application are true and the photograph attached is a true likeness of me

Subscribed and sworn to (affirmed) before me (SEAL)
Month Day Year
X
(Sign in presence of person authorized to accept application)
Signature of person authorized to accept application)
☐ Clerk of Court or PASSPORT Agent
☐ Postal Employee
☐ (Vice) Consul USA At

22. APPLICANT'S IDENTIFYING DOCUMENTS ☐ PASSPORT ☐ DRIVER'S LICENSE ☐ OTHER (Specify)
ISSUE DATE Month Day Year EXPIRATION DATE Month Day Year
PLACE OF ISSUE No ISSUED IN THE NAME OF

23. FOR ISSUING OFFICE USE ONLY (Applicant's evidence of citizenship)
☐ Birth Cert. SR CR City Filed/Issued:
Passport Bearer's Name:
Report of Birth
Naturalization/Citizenship Cert No
Other:
☐ Seen & Returned
☐ Attached

APPLICATION APPROVAL
Examiner Name
Office, Date

24
FEE EXEC POST

FORM DSP-11 (12-87) (SEE INSTRUCTIONS ON REVERSE) Form Approved OMB No. 1405-0004 (Exp. 6/1/89)

UNITED STATES DEPARTMENT OF STATE

PASSPORT APPLICATION

FEDERAL TAX LAW:

Section 6039E of the Internal Revenue Code of 1986 requires a passport applicant to provide his/her name (#1), mailing address (#2), date of birth (#5), and social security number (#6). If you have not been issued a social security number, enter zeroes in box #6. Passport Services will provide this information to the Internal Revenue Service routinely. Any applicant who fails to provide the required information is subject to a $500 penalty enforced by the IRS. All questions on this matter should be referred to the nearest IRS office.

ACTS OR CONDITIONS

(If any of the below-mentioned acts or conditions has been performed by or applies to the applicant, the portion which applies should be lined out, and a supplementary explanatory statement under oath (or affirmation) by the applicant should be attached and made a part of this application.)

I have not, since acquiring United States citizenship, been naturalized as a citizen of a foreign state; taken an oath or made an affirmation or other formal declaration of allegiance to a foreign state; entered or served in the armed forces of a foreign state; accepted or performed the duties of any office, post, or employment under the government of a foreign state or political subdivision thereof; made a formal renunciation of nationality either in the United States or before a diplomatic or consular officer of the United States in a foreign state; or been convicted by a court or court martial of competent jurisdiction of committing any act of treason against, or attempting by force to overthrow, or bearing arms against, the United States, or conspiring to overthrow, put down, or to destroy by force, the Government of the United States; or having been naturalized, within one year after such naturalization, returned to the country of my birth or any other foreign country to take up a permanent residence.

WARNING: False statements made knowingly and willfully in passport applications or in affidavits or other supporting documents submitted therewith are punishable by fine and/or imprisonment under provisions of 18 USC 1001 and/or 18 USC 1542. Alteration or mutilation of a passport issued pursuant to this application is punishable by fine and/or imprisonment under the provisions of 18 USC 1543. The use of a passport in violation of the restrictions contained therein or of the passport regulations is punishable by fine and/or imprisonment under 18 USC 1544. All statements and documents submitted are subject to verification.

PRIVACY ACT STATEMENT:

The information solicited on this form is authorized by, but not limited to, those statutes codified in Titles 8, 18, and 22, United States Code, and all predecessor statutes whether or not codified, and all regulations issued pursuant to Executive Order 11295 of August 5, 1966. The primary purpose for soliciting the information is to establish citizenship, identity, and entitlement to issuance of a United States Passport or related facility, and to properly administer and enforce the laws pertaining thereto.

The information is made available as a routine use on a need-to-know basis to personnel of the Department of State and other government agencies having statutory or other lawful authority to maintain such information in the performance of their official duties; pursuant to a court order; and, as set forth in Part 171, Title 22, Code of Federal Regulations (see *Federal Register*, Volume 42, pages 49791 through 49795).

Failure to provide the information requested on this form may result in the denial of a United States Passport, related document, or service to the individual seeking such passport, document, or service.

HOW TO APPLY FOR A U.S. PASSPORT. U.S. passports are issued only to U.S. citizens or nationals. Each person must obtain his or her own passport.

IF YOU ARE A FIRST-TIME APPLICANT, please complete and submit this application in person. (Applicants under 13 years of age usually need not appear in person unless requested. A parent or guardian may execute the application on the child's behalf.) Each application must be accompanied by (1) PROOF OF U.S. CITIZENSHIP, (2) PROOF OF IDENTITY, (3) TWO PHOTOGRAPHS, (4) FEES (as explained below) to one of the following acceptance agents: a clerk of any Federal or State court of record or a judge or clerk of any probate court accepting applications; a designated postal employee at a selected post office; or an agent at a Passport Agency in Boston, Chicago, Honolulu, Houston, Los Angeles, Miami, New Orleans, New York, Philadelphia, San Francisco, Seattle, Stamford, or Washington, D.C.; or a U.S. consular official.

IF YOU HAVE HAD A PREVIOUS PASSPORT, inquire about eligibility to use Form DSP-82 (mail-in application).

Address requests for passport amendment, extension of validity, or additional visa pages to a Passport Agency or a U.S. Consulate or Embassy abroad. Check visa requirements with consular officials of countries to be visited well in advance of your departure.

(1) PROOF OF U.S. CITIZENSHIP.

(a) APPLICANTS BORN IN THE UNITED STATES. Submit previous U.S. passport or certified birth certificate. A birth certificate must include your given name and surname, date and place of birth, date the birth record was filed, and seal or other certification of the official custodian of such records. A record filed more than 1 year after the birth is acceptable if it is supported by evidence described in the next paragraph.

IF NO BIRTH RECORD EXISTS, submit registrar's notice to that effect. Also submit an early baptismal or circumcision certificate, hospital birth record, early census, school, or family Bible records, newspaper or insurance files, or notarized affidavits of persons having knowledge of your birth (preferably with at least one record listed above). Evidence should include your given name and surname, date and place of birth, and seal or other certification of office (if customary) and signature of issuing official.

(b) APPLICANTS BORN OUTSIDE THE UNITED STATES. Submit previous U.S. passport or Certificate of Naturalization, or Certificate of Citizenship, or a Report of Birth Abroad, or evidence described below.

IF YOU CLAIM CITIZENSHIP THROUGH NATURALIZATION OF PARENT(S), submit the Certificate(s) of Naturalization of your parent(s), your foreign birth certificate, and proof of your admission to the United States for permanent residence.

IF YOU CLAIM CITIZENSHIP THROUGH BIRTH ABROAD TO U.S. CITIZEN PARENT(S), submit a Consular Report of Birth (Form FS-240) or Certification of Birth (Form DS-1350 or FS-545), or your foreign birth certificate, parents' marriage certificate, proof of citizenship of your parent(s), and affidavit of U.S. citizen parent(s) showing all periods and places of residence/physical presence in the United States and abroad before your birth.

(2) PROOF OF IDENTITY. If you are not personally known to the acceptance agent, you must establish your identity to the agent's satisfaction. You may submit items such as the following containing your signature AND physical description or photograph that is a good likeness of you: previous U.S. passport; Certificate of Naturalization or of Citizenship; driver's license (not temporary or learner's license); or government (Federal, State, municipal) identification card or pass. Temporary or altered documents are not acceptable.

IF YOU CANNOT PROVE YOUR IDENTITY as stated above, you must appear with an IDENTIFYING WITNESS who is a U.S. citizen or permanent resident alien who has known you for at least 2 years. Your witness must prove his or her identity and complete and sign an Affidavit of Identifying Witness (Form DSP-71) before the acceptance agent. You must also submit some identification of your own.

(3) TWO PHOTOGRAPHS. Submit two identical photographs of you alone, sufficiently recent to be a good likeness (normally taken within the last 6 months), 2 × 2 inches in size, with an image size from bottom of chin to top of head (including hair) of between 1 and 1-3/8 inches. Photographs must be clear, front view, full face, taken in normal street attire without a hat or dark glasses, and printed on thin paper with a plain light (white or off-white) background. They may be black and white or color. They must be capable of withstanding a mounting temperature of 225° Fahrenheit (107° Celsius). Photographs retouched so that your appearance is changed are unacceptable. Snapshots, most vending machine prints, and magazine or full-length photographs are unacceptable.

(4) FEES. Submit $42 if you are 18 years of age or older. The passport fee is $35. In addition, a fee of $7 is charged for the execution of the application. Your passport will be valid for 10 years from the date of issue except where limited by the Secretary of State to a shorter period. Submit $27 if you are under 18 years of age. The passport fee is $20 and the execution fee is $7. Your passport will be valid for 5 years from the date of issue, except where limited as above.

Pay the passport and execution fees in one of the following forms: checks—personal, certified, traveler's; bank draft or cashier's check; money order, U.S. Postal, international, currency exchange; or if abroad, the foreign currency equivalent, or a check drawn on a U.S. bank.

Make passport and execution fees payable to Passport Services (except if applying at a State court, pay execution fee as the State court requires) or the appropriate Embassy or Consulate, if abroad. No fee is charged to applicants with U.S. Government or military authorization for no-fee passports (except State courts may collect the execution fee). Pay special postage if applicable.

12. IDENTIFYING "MYSTERY" PLACES

Introduction:

This activity acquaints students with some of the physical and human characteristics that distinguish one place from another. The activity also provides an opportunity for students to practice classification and research skills.

Objectives: Students will be able to:

1. Classify characteristics of places according to the category (climate, topography, etc.) each represents.

2. Identify a place that matches a set of characteristics.

3. Use an atlas and other research materials

Time Required: 1 class period

Materials and Preparation: Make a set of the cards for the card sort activity for each pair of students. Students will also need access to atlases and other reference materials, as well as materials for making posters.

Procedure:

1. Review with students the meaning of the place theme – that all places have human and physical characteristics that distinguish them from other places. Tell students they will be developing categories of characteristics.

2. Assign students to work in pairs. Give each pair a set of the cards and have them sort the cards into categories. For younger students, you may need to provide the categories – Climate, Landforms, People, and Land Use.

3. When each pair has completed its sorting, tell the students to pick one card from each category. Then, using an atlas and other reference materials, students should identify a place that has the characteristics on the cards.

4. Pairs should then prepare posters that show the special characteristics of the places they identified, along with their locations. Display all the posters around the classroom.

Follow-up:

Have students look at these same characteristics in their own community, looking at the community as it is now and as it was in the past. To facilitate this comparison, you might invite a longtime resident of the community to visit your class and answer student questions about changes in climate, landforms, bodies of water, land use, and people.

Activity developed by Laurel R. Singleton, Social Science Education Consortium.

Flat land with some hills	Farming
Mountains with many high peaks	Mining
Hills and tablelands	Manufacturing
Beaches	Recreation/tourism
Warm in summer, cold in winter	Few people
Mild year-round	Millions of people
Cool and dry in summer, cold and snowy in winter	Mostly white people
Very dry year-round	Mostly black or brown people

RELATIONSHIPS WITHIN PLACES: HUMANS AND ENVIRONMENTS

13. SHARING OUR GLOBAL ENVIRONMENT

Introduction:

In this activity, students analyze countries that contribute to and feel the effects of changes in our global environmental system. Because the case studies deal with problematic changes, this activity could serve as an introduction to a unit on current global issues.

Objectives: Students will be able to.

1. Analyze case studies of human effects on the environment.

2. Identify the components and interactions of the global environmental system.

3. Analyze how changes in one part of our environmental system may affect people and nations who depend on the same system many, many miles away.

4. Assess human and national responsibility for changes in our environmental system.

Time Required: 1 class period

Materials and Preparation: Make a set of the Case Study Cards; also make copies of Handout 13-1. You will also need string, scissors, push pins, star stickers, a wall map of the world, and student atlases.

Procedure:

1. Review with students the fundamental geographic theme of human/environment relationships. Inform students that in this activity they will look closely at several case studies of how humans affect the environment.

2. Ask students to define the term *environment*. Students should mention the objects around them, the place they live, and so on. Have students list the components that make up their natural environment and record these on the board. Responses should include land or soil, air or sky, water, mountains, trees, and so on. Discuss why people need all these elements. How do all of these elements work together as a system?

3. Explain to students that the environmental system extends beyond their own community or even their own state or nation. As with any system, a change in one part of the environmental system may cause changes to occur quite a distance away. Geography helps us to understand the nature and effects of such changes.

4. Provide examples of the interactivity of the environmental system using local and national weather patterns. For example, have students trace on the wall map a winter storm front over several days to see how it moves from the west coast to the east coast. If a storm hits as heavy rains in California in January, what will occur in Colorado several days later? Students on the east coast or in the south might use their own experiences to discuss the progress of a hurricane from the southern Atlantic Ocean toward the southern United States and up the east coast.

Activity developed by Lynn Parisi, Social Science Education Consortium.

5. Explain that just as weather moves, other changes that begin in one part of the global environmental system can move or cause changes across state and national borders. Some natural and human-made changes can upset the balance and smooth functioning of the environment. When this happens, all the people who depend on the environment can be affected. Students will look at examples of how people around the world are linked to each other through the environment and how events in one part of the world can set off changes in the environmental system that affect people far away.

6. Divide the class into five groups and give each one a Case Study Card. Each group should read and analyze its case study. Students are to use their atlases to determine:

- In what country or location the environmental change began.
- In what direction(s) it spread.
- What other countries/places were affected.
- How it affected people, animals, or plants as it spread.

Groups should record their information on Handout 13-1.

7. When groups have completed their analysis, provide each group with a length of colored yard; push pins, thumb tacks, or a stapler, scissors, and stick-on stars. Each group should go to the wall map of the world and chart the origination point and course of their environmental change. Some groups may have to create several strings going off in different directions. Groups should glue a star on every country or place that was affected by the environmental change.

8. Have each group describe to the class the case study that they researched, explaining the changes it caused and the places that were affected.

9. To close the activity, again direct class discussion to the idea of how people influence the environment and how places on earth interact. Can such interactions be predicted? How does technology influence the environment?

Follow-up:

Use the map created in this activity as a centerpiece for a bulletin board on the ecological system. Students could make illustrations for the display and write brief (one-paragraph) essays giving their views on the changes covered in the lesson.

Case 1: The Sandoz Chemical Fire

In 1986 a fire roared through the Sandoz Chemical factory in western Switzerland. The factory was located on the Rhine River, at the border between Switzerland and France. Firefighters tried to put out the fire with their water hoses. Accidentally, the water washed some poisonous chemicals from the factory into the Rhine River. The river carried the chemicals more than 800 miles, through France and Germany. As the chemicals were carried down the river, they killed eels and fish. Ducks and gulls ate the poisoned fish. They, too, died. Some towns in France and Germany could not use the river for drinking water. Fishermen could not fish. Scientists believe that the clean-up of the Rhine River could take from two to 20 years.

Case 2: The Amoco Cadiz

The *Amoco Cadiz* was an oil tanker owned by the American oil company, Amoco. In 1978 the tanker was sailing through the Atlantic Ocean, close to the coast of France. The tanker was bringing a full cargo of oil to the United States. The ship sank off the coast of Brittany, France, spilling 68 million gallons of oil. The oil spread through the ocean and washed over the resort beaches of Brittany; 130 miles of coastline were polluted. The oil coated the bodies of fish and birds, killing them. Beaches were covered with oil and ruined. French communities, hotel owners, and fisheries filed a lawsuit against Amoco. In 1988, a U.S. court in Chicago, Illinois, ordered Amoco to pay France $85 million to help repair the damage caused by the oil spill.

Case 3: The Chernobyl Power Plant

The Chernobyl Nuclear Power Plant is located in the Soviet Union. In April 1986, the plant had an accident. Two explosions at the plant sent dangerous radiation into the air. Radiation is poisonous to people and animals. It can cause skin burns, cancer, and other diseases. Radiation can hurt people directly if they breathe it. It can also get into plants, vegetables, and other food and water. Then, people and animals who eat these things get sick. After the Chernobyl accident, radiation was carried through the air by wind and clouds. Some clouds carried the radiation northwest over Sweden, Norway, and Finland. Other clouds carried the radiation west over Germany and Poland. Clouds of radiation also spread south over Greece. In all these countries, radiation got into vegetables, water, milk, and meat. Many food products had to be thrown away so people would not get sick from the radiation. Another cloud spread over Asia and across the Pacific Ocean.

Case 4: Forest Fires

It was early November 1987. All through New York, New Jersey, Connecticut, Massachusetts, and Pennsylvania, the smell of autumn was in the air. People throughout these states commented that the air smelled like fall leaves being burned. The sky, too, was gray and smokey-looking.

In fact, it was not fall leaves being burned. People in New York, New Jersey, and as far away as Massachusetts were seeing and smelling the results of forest fires hundreds of miles away. Between October 26 and November 5 1987, over 1,000 forest fires had broken out in Texas, Kentucky, Georgia, Virginia, and West Virginia. Wind carried the smoke and ash particles all the way to the northeast. The smoke from these faraway forest fires caused problems for many people in the Northeast. People with breathing problems like asthma had to stay indoors. Visibility—the distance someone can see—was reduced by 1 1/2 miles, causing trouble for airplanes landing and taking off in New York and Massachusetts.

Case 5: Acid Rain

In the 1960s, people in Canada began to notice changes in their environment. In cities like Toronto, people noticed that the faces of statues were being eaten away. Black splotches covered buildings and statues. Canadian scientists discovered that fish in the northern lakes were dying. Trees in the forests were not growing.

Scientists traced these problems to the rain in Canada. The rain had too much acid in it. Acids are strong chemicals that burn. Acids are found in some foods – like lemons and vinegar. You may have had unsweetened lemonade, or put too much vinegar on your salad. You may have felt like your stomach was burning. That was the acid. When it falls to earth, "acid rain" can burn buildings just as vinegar or lemon juice burns your stomach. Too much acid rain falling in lakes can kill fish.

The acid rain that falls in Canada is produced hundreds of miles away in the United States. The smoke from factories in Ohio, Illinois, Indiana, and Pennsylvania contains many chemicals. These chemicals mix with chemicals already in the air to form acids. Wind carries this air north to Canada. When the moisture in this air falls to earth as rain, it carries the harmful acids with it.

For many years, Canada has asked the U.S. government to help control acid rain. Canada says the U.S. government could force factories to reduce the harmful smoke that releases the acids. So far, the United States has not done this. So Canadian buildings, statues, lakes, and wildlife continue to suffer.

Canada is not the only country that has a problem with acid rain. In Europe, countries such as Sweden and Norway suffer from acid rain produced by factories in Germany and France.

CASE STUDY WORKSHEET

Read carefully the case study that your teacher assigns to your group. Then answer the questions below. For every nation or location that you name, be sure you can locate this place on your world map.

1. In what country or location did the environmental change begin?

2. What was the change – that is, what new element was added to the environmental system?

3. Was the change carried by water, air, soil, or some other part of the environmental system?

4. In what direction(s) did the change spread?

5. What countries and places were affected?

6. How were people, animals, or plants affected?

7. Who do you think was responsible for this change in the environmental system?

14. ENDANGERED SPECIES: WHY AND WHERE

Introduction:

This activity uses a topic of intrinsic interest to students – animals – to develop understanding of human-environment interactions. Students learn about the extinction of the dodo bird and then create maps of 24 endangered species worldwide.

Objectives: Students will be able to:

1. Define the following terms: *extinct, endangered species, PCBs, DDT.*

2. Describe the relationship between human interaction with the environment and the potential endangerment of animal species.

3. Map the location of endangered species.

Time Required: 2 class periods

Materials and Preparation: Make copies of Handouts 14-1, 14-2, and 14-3. You will also need student atlases.

Procedure:

1. Ask students to read and discuss Handout 14-1. Review with students some of the possible causes of animal and plant extinction:

- Habitat destruction: People all over the world are destroying animal habitats at a rapid pace. The population of the world is growing very quickly. As a result, people need more farms to grow food and more land to build homes. As people use more land, more animals lose their homes. Animals need protected places to raise their young. If there is not enough cover or if too many people live nearby, some species will stop producing young.
- Overhunting: In many parts of the world today, people no not have to hunt animals for food. Nevertheless, animals are still hunted for sport or for products like furs and oil. Because of the efficiency of human hunters, any animal can be overhunted to the point of extinction.
- Pollution: Species are also endangered due to pollution. Pollution happens when something finds its way into the environment that does not belong there. Chemicals and artificial materials destroy habitats. Some of the worst chemical pollutants are insecticides such as DDT [dichlor-diphenyl-trichloro-ethane] and PCBs [poly-chlorinated biphenyls].
- Accidental kills: Many animals are killed accidentally by cars and boats. When a wild animal wanders onto a highway, it many times doesn't make it to the other side. Three endangered species in Florida alone have become frequent victims of accidental kills. The Key deer and the Florida panther are killed on roads and highways. The Caribbean manatee, a peaceful water creature, has been mowed down and injured by the propellers of motor boats. Environmentalists say there are probably only 1,000 surviving manatees in Florida. In one year alone, 105 were reported killed in accidents.

2. Distribute Handouts 14-1 and 14-2. Have the students find the locations of the endangered species listed on the handout and place them on the world map. They should provide a key for the map, giving the names of the species, their locations, and the causes of their possible extinction.

Activity developed by Paula Jones, Briscoe Middle School, Beverly, MA.

3. Students can further illustrate their maps with drawings of the various endangered species found in the handout, or they may use books and magazines to find pictures of the endangered species.

Follow-up:

1. Have students prepare reports, oral presentations, and bulletin board displays on selected endangered species. Students can research specific endangered species and describe why they are endangered and what measures, if any, are being taken to protect them.

2. Have students take specific actions to save endangered animals. These activities could include fundraisers, letter writing, or teaching classes of younger children.

THE END OF THE DODO BIRD

Some things money can't buy.

One of them is a dodo bird. No matter how much money you might have, you'll never find a dodo bird for sale. You might be able to find the bones of a dodo in a museum, and you can see drawings of a dodo in books. But you will never find a live one. Dodo birds lived on the island of Maritius, 500 miles east of Madagascar in the Indian Ocean. European explorers discovered the bird in the late 1500s. By the late 1600s, they had driven it to extinction.

The dodo was a very odd-looking bird. It was somewhat turkey like, but larger, with an odd shaped bill. It had probably descended from doves that had colonized the island thousands of years earlier—probably blown there by storms. On Maritius, the dodo had no natural enemies and so evolved no natural defenses. It couldn't fly and it wasn't very smart. When explorers came, their dogs easily killed the bird. The sailors eventually added the bird to their diets. Hunting a dodo was simple. The sailors walked up behind the bird and bashed its head with a club.

It wasn't surprising that the dodo bird died out. It was later remembered like a mythical animal such as a sea serpent or dragon. Later, a box of dodo bones proved they really did exist.

The dodo fit its environment well, but when it was disrupted by other animals—dogs, pigs, and especially human beings—the bird was unable to cope. The dodo can be seen as symbolic of all endangered species—unable to adapt or cope in a world increasingly dominated and changed by human beings.

When a species becomes extinct, no power or amount of money can bring it back.

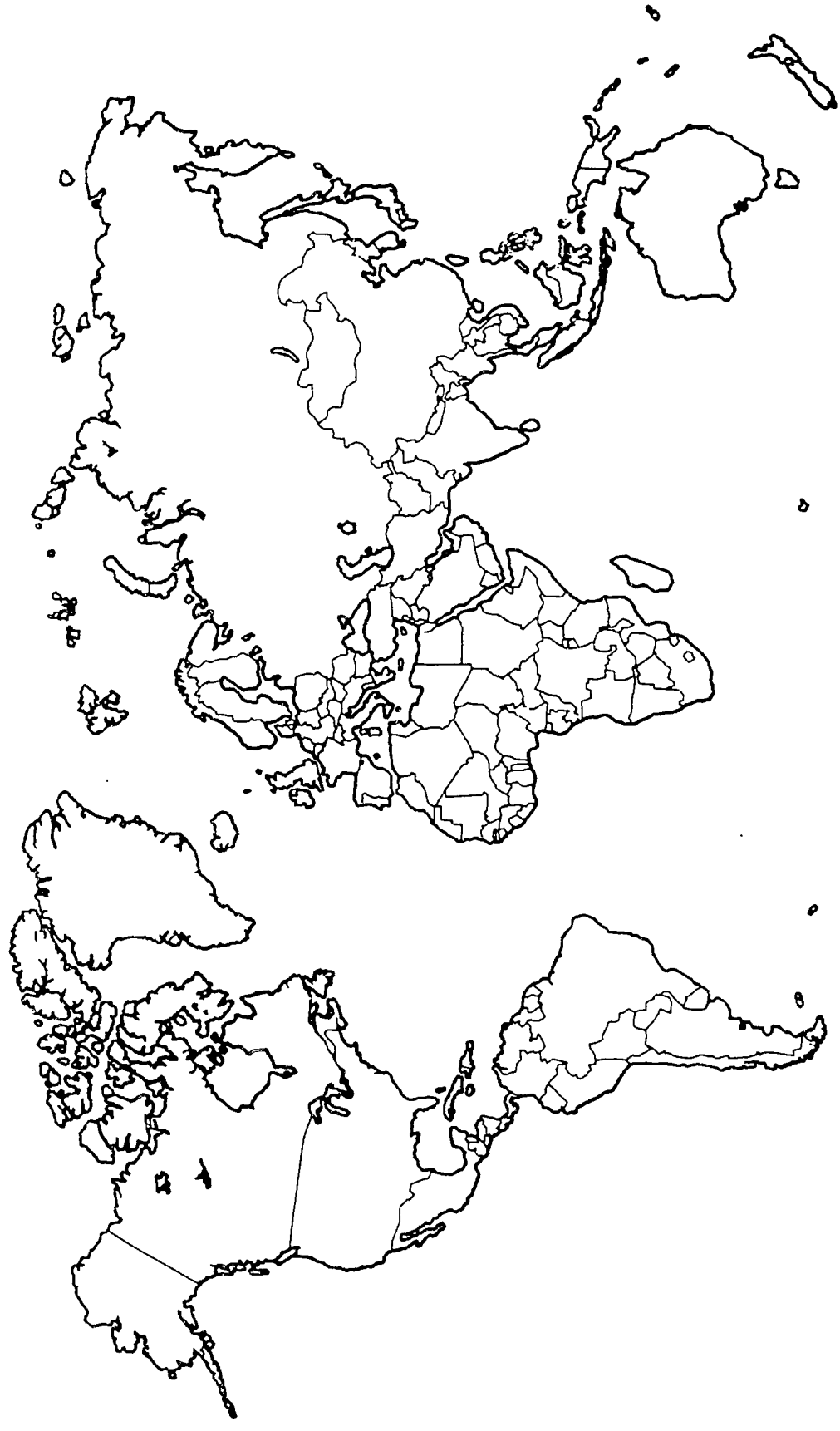
Today there are many endangered species (plants and animals) that could also be gone soon: species like the African cheetah, the South American otter, the Chinese panda, the Arctic polar bear, and almost every species of whale.

When species like these are in danger of extinction, they are classified as "endangered species." The most important reasons for the endangerment of species are: (1) habitat destruction, (2) overhunting, (3) pollution, and (4) accidental killing.

ENDANGERED OR EXTINCT SPECIES – LOCATION AND CAUSE OF EXTINCTION

Species	Location	Causes Of Extinction
1. Dodo bird	Maritius	overhunting
2. Ivory-billed woodpecker	Texas	habitat destruction
3. Brindled-tail wallaby	Australia	habitat destruction
4. Spider monkey	Brazil	habitat destruction
5. Puma	Costa Rica	habitat destruction
6. Mountain gorilla	Zaire, Rawanda	habitat destruction
7. Aye Aye	Madagascar	habitat destruction
8. Golden lion tamarin	Brazil	habitat destruction
9. Lemur	Madagascar	habitat destruction
10. Giant tortoise	Galapagos Islands	habitat destruction
11. Hawaiian goose	Hawaii	habitat destruction
12. Puerto Rican parrot	Puerto Rico	habitat destruction
13. Vicuna	Andes Mountains	overhunting
14. Red kangaroo	Australia	overhunting
15. Barbary leopard	Atlas Mountains	overhunting
16. Condor	Central California	pollution
17. Hawksbill turtle	Central California	pollution
18. Key deer	Florida	accidental kills
19. Florida panther	Florida	accidental kills
20. Manatee	Florida	accidental kills
21. Panda	China	habitat destruction
22. Snow leopard	Central Asia	overhunting
23. Python	India	overhunting
24. Elephant	East Africa	overhunting

THE WORLD



15. UNDERSTANDING THE PEOPLE OF THE RAIN FOREST

Introduction:

Understanding human-environment relationships involves understanding not only how the environment affects the way people live but also that all people must meet certain basic needs regardless of the environment in which they live. In this activity focused on one group in the rain forest, take care to ensure that students think about both of these aspects of the topic and do not focus exclusively on what is unusual about the lifestyles of the rain forest dwellers.

Objectives: Students will be able to:

1. Explain how humans and their environment interact in the rain forest.

2. Describe the lifestyle of an indigenous tropical rain forest culture.

3. Locate the major rain forests of the world and determine what they have in common.

Time Required: 2 class periods

Materials and Preparation: Make copies of Handouts 15-1 and 15-2. You will also need student atlases, scissors, and crayons.

Procedure:

1. Write the words *rain forest* on the board and ask students if they have ever heard of them. If so, what does it mean to them? Elicit as many responses as possible.

2. To continue, distribute Handout 15-1. Using the student atlases as a reference, ask students the following questions about the map:

- How many continents would we need to visit to study all of the world's rain forests?
- How many countries?
- How long will it take us to fly from (your) airport to the closest location in the rain forest? (Jets travel at about 500 mph.)
- How long would it take us to receive goods from one of the further locations if they came by large boats traveling about 20 mph?
- What latitudes do most of the rain forests have in common? (Hint: Where are they in relation to the equator?)

Note that the map on Handout 15-1 is quite generalized; a vegetation map in any world atlas will provide more detail. In addition, information on the rain forest can be obtained through articles in such periodicals as *National Geographic* or *National Geographic World*, as well as in the Social Issues Resource Series volumes on *Habitat* and *The Third World*; many school libraries and media centers will have all of these resources in the event that you or your students want more detailed information on rain forests.

3. Once students have finished gathering information about the location of the rain forests, tell them they have been invited to attend a big conference with all the world powers to help figure out the problems of the tropical rain forests. The leaders of the conference have agreed that even though the problems are complicated, it could be solved if more people in the world understood the geography of

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Activity developed by Eileen Sullivan, Action Boxborough (MA) Public Schools.

the rain forests. As a result, the class has been assigned to report to the conference on the people of the rain forest and how they interact with their environment.

4. Pass out a copy of Handout 15-2 to each student. Have the students cut the pictures apart. Then have them look at the pictures while you read "People of the Forest." The story describes how a Pygmy boy named Kebe (KEH-bay) and his little sister Alita (ah-LEE-ta) live with their family in the African rain forest. (You can pause at each place that describes one of the pictures and have the students point to the appropriate one. Pauses are marked in the story with an asterisk.)

PEOPLE OF THE FOREST

Deep in the African jungle, Kebe (KEH-bay) and his sister Alita (ah-LEE-ta) were traveling with their parents and several other families. They were looking for a place in the forest to build a new camp.

Finally, in a clearing near a small stream, the group stopped to set up camp. There was much to do. First each family needed a new hut. Ima (EE-mah), Kebe and Alita's mother, cut young trees and used them to make their hut. She bent the trees and wove them into a dome-shaped frame. Then she covered the frame with big leaves. The finished huts of all the families formed a circle in the clearing, with all the doorways facing toward the center.*

Kebe and Alita's father, Alukulu (ah-LOO-koo-loo), worked with the other men. They were making sure their bowstrings were tight and strong for the hunt the next day. Alukulu had told Kebe that he could join them on the hunt. Kebe was so excited, he could hardly wait.

When the sun came up the next morning, Kebe was the first one ready. The other boys and the men finally gathered their bows and arrows, and they all set off into the forest. Kebe knew they would probably find some small antelopes called duikers (DYE-kerz). The Pygmies hunted other animals too, but most of the meat they ate came from these small, deerlike creatures.

After they'd been walking for a while, Alukulu and several other men moved ahead, formed a half-circle, and quietly waited. Then Kebe and other others spread out and began to march through the forest toward the waiting men with bows, beating the brush and shouting. The noise frightened animals straight toward the hunters, who shot them with their arrows. On the first try, Alukulu's arrow hit a duiker. Kebe was proud of his father's skill.*

The hunters repeated their technique several times in other areas of the forest. Then they cut all the meat up, wrapped it in leaves, and divided it among themselves.

On their way back to camp, the hunters also collected other food, such as tortoises, fruit, birds' eggs, and even termites, snails, and caterpillars. As they walked, Alukulu noticed that many bees were going in and out of a hive high in the trunk of a huge tree. He knew that before too many days had passed, the group would be able to collect a special treat: honey.

While the men were out hunting, the women had been busy too. Although the men and boys in the group hunted for meat and gathered some other foods, it was the women and girls who gathered most of the foods the Pygmies ate, as well as the firewood they used for cooking the meals. Alita and all the girls and women in the group had important jobs, such as preparing the food, carrying water from the stream, and caring for small children.*

From *Ranger Rick's Naturescope: Rain Forests - Tropical Treasures* (Washington, DC: National Wildlife Federation, 1989). Used by permission.

Each day Ima, Alita, and the other women and girls searched for nuts, berries, mushrooms, roots, and firewood. Alita had made her own little basket and used it to help collect what she found.

Ima and Alita had gathered plenty of food for a good meal that night. When the hunters returned and Kebe brought their share of the duiker meat, Ima was pleased to add it to the other foods in her cookpot.

After the evening feast, the families gathered around the fires to chat. Then the men told the story of their hunt. Soon everyone began to sing and dance. Some people also played drums and other musical instruments. Many of the Pygmies danced late into the night. But Kebe and Alita were both exhausted from the day's work. They soon fell fast asleep, despite the noisy celebration.

Many days later, Alukulu decided it was the right time to collect honey from the beehive he had found earlier. He led Kebe and some of the men to the honey tree. Kebe could climb trees like an expert, so he was chosen to raid the hive. Alukulu handed him a big knife and a leaf basket filled with burning bits of wood.

Kebe climbed high into the tree until he finally reached the hive. The smoke from the burning wood calmed the bees. He began to hit the tree trunk with his knife. Whack! Whack! Whack!*

Finally Kebe broke into the hive. He reached in and pulled out some of the honeycomb. Some of the bees stung him, but it was worth it – the honey tasted so good! Kebe threw down pieces of honeycomb, and the men caught them in huge leaves they held up. The men ate their fill. Then they took the extra honeycomb back to camp for the rest of the group to enjoy.

While the men and boys were collecting honey, the women and girls had been busy gathering food near the camp. Alita had decided to look for something special. She knew that opi (OH-pee) fruit ripened at the same time of year that the men collected honey. And she knew there was absolutely nothing better than opi fruit dipped in honey!

While Ima was collecting some mushrooms, Alita had wandered off a little way until she came to one of the tall, straight opi trees where lots of the dark fruit had fallen to the ground. She had filled her basket full of the olivelike fruit, then ran quickly back to show her mother. Ima was proud of Alita. When Alita told everyone where the tree was, other families went to collect more opi fruit. What a treat they all had!

As the days passed, the Pygmy group found less and less to eat near their camp. That meant that it was time to move on. Once again, Kebe and Alita's family walked off with the others to find a new place in the forest to camp. Kebe and Alita didn't have much to carry with them. They knew that the forest would provide whatever they needed.

5. When you've finished reading the story, have the students compare how their own families live with the way Kebe and Alita's family lives. For example, ask the students:

- Find the picture that shows Ima, Kebe and Alita's mother, building a hut. How is the hut like your house? How is it different? Did your family build your house? Do Pygmy families live alone or near other families? Has your family ever moved? If so, why? Why do groups of Pygmies move from place to place?
- Find the picture that shows Kebe and his father Alukula hunting. Why do the Pygmies hunt? What is one kind of animal they hunt? How does your family get its food?

- Find the picture that shows Alita helping her mother gather food and firewood. What kinds of foods do the Pygmies gather? Do you eat any of the same kinds of foods they eat? What chores do you do to help your family?
- Find the picture that shows Kebe breaking into the beehive for honey. Do you ever eat honey? What other special foods do you like to eat?

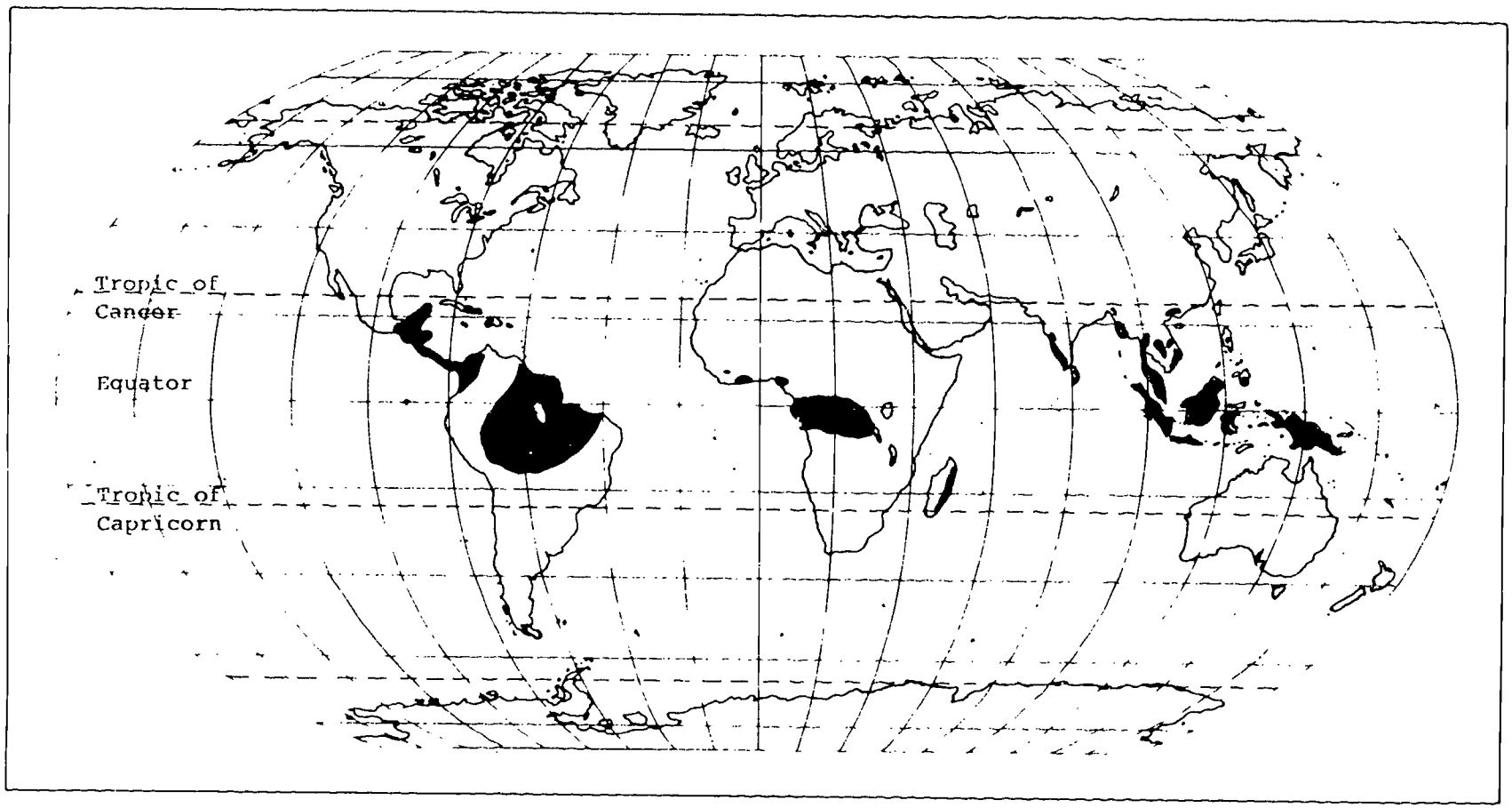
6. After your discussion, have the children color their pictures. You may want to have them glue the pictures onto pieces of construction paper to make a storybook about Kebe and Alita.

Follow-up:

1. Have students prepare a final report for the world conference describing the lifestyle and culture of the forest people.

2. On a positive note, point out that international work is being done to save the rain forest. Encourage students to bring in articles on the rain forest for display on the bulletin board.

THE WORLD'S RAIN FORESTS



FOREST PEOPLE

From *Ranger Rick's Naturescope: Rain Forests – Tropical Treasures* (Washington, DC: National Wildlife Federation, 1989). Used by permission.

16. A GLOBAL DECISION: THE FUTURE OF ANTARCTICA

Introduction:

As an undeveloped and little-explored continent, Antarctica is one of the world's last frontiers. Since 1959, a treaty honored by most nations of the world has protected Antarctica from commercial and national development, while keeping the continent open to scientific research. However, as the earth's population continues to grow, Antarctica is increasingly seen as a land of opportunity and development, as well as a possible solution to a variety of national and international problems.

In this activity, students take the roles of nations with different interests in the future of Antarctica. They present their views and interests in a simulated global treaty meeting and work together to reach a compromise solution on the future of the continent.

Objectives: Students will be able to:

1. Recount basic geography facts about Antarctica.

2. Describe the importance of Antarctica in economic, political, military, environmental, and scientific terms.

3. Recognize the advantages and disadvantages of human settlement and resource utilization in Antarctica.

4. Analyze the role national interests play in international conflicts and disagreements.

5. Develop skills of consensus and problem solving.

Time Required: 2 class periods.

Materials and Preparation: Make a set of Role Cards and copy Handouts 16-1 and 16-2. You will also need poster paper, crayons or markers, encyclopedias or reference books, and student atlases. You may want to arrange for one period of media center time.

Procedure:

1. To begin the activity, ask students to volunteer information about Antarctica. Encourage student contributions with questions regarding Antarctica's location, geography, appearance, animals, inhabitants, importance. Through student responses and class discussion, establish that:

- Antarctica is one of the earth's seven continents.
- It is the land mass that surrounds the South Pole.
- Most of the land of Antarctica is buried year-round under a sheet of ice that is hundreds of feet thick in some places.
- There is no native population and no country or government on the continent of Antarctica.
- Antarctica may have valuable natural resources.
- The Antarctic environment is very special, with many rare animals and birds.

Activity developed by Lynn Parisi, Social Science Education Consortium.

2. Explain that, as an unsettled and unknown land, Antarctica is very exciting to many countries of the world. As the world becomes more populated and experiences more problems, some countries look to Antarctica for an answer to their problems. There are many different claims and interests in Antarctica. For example:

- Seven nations claim to own pieces of Antarctica; they base their claims on explorations conducted earlier in this century; other nations claim that no one can own any part of Antarctica.
- Some nations want to use Antarctica to fill global or national needs such as the need for food, water, or natural resources; other nations would like to send their garbage or people they don't have room for to Antarctica.
- Some nations think that Antarctica should be open to scientific exploration and research; others feel that Antarctica should be preserved and protected as it is.

3. Distribute Handout 16-1, "The Antarctic Treaty of 1959." Review with students the terms of the treaty. Are any particular nations or interests favored in this treaty? Who or what? (No particular nations are favored, but scientists are.) How does this treaty show cooperation among nations? (All nations will share Antarctica, no new nations can claim ownership of Antarctic land, scientists will share their findings.) How does the treaty reflect concerns with the environment of Antarctica? Explain that only 18 nations have signed the treaty. Most other nations honor the treaty, but no one has to. Further explain that the treaty will last until 1991. At that time, a treaty nation may ask to have the treaty revoked or reconsidered.

4. Explain that over the next two days, students will simulate an Antarctic Treaty revision meeting in 1991. To prepare for the treaty meeting, students will work in small groups, each taking the role of a nation with special interests and plans for Antarctica. Each group will read and discuss their national role. Using a worksheet to guide their analysis, each group will: identify their nation's concerns and interests; write a speech supporting their position, which they will present at the treaty meeting; and prepare a poster to convince other groups to support their position.

5. Divide the class into six small groups and distribute a Role Card and a worksheet/speech outline (Handout 16-2) to each group. Ask each group to select a leader to assign tasks and coordinate tasks.

6. Allow the remainder of class and homework time for groups to analyze and discuss their roles, prepare their speeches, and create posters. You will want to have encyclopedias, atlases, and other resources available in the room for students to conduct research on Antarctica, polar animals and resources, and so on. Have poster paper and crayons or markers available to all groups at the front of the room. Circulate from group to group to check for understanding and progress.

7. On day 2, students will participate in the treaty meeting. Ask each group to select a spokesperson. Arrange chairs and desks for six students, one from each group, at the front of the room. Each group may display its poster somewhere in the front of the room.

8. Open the treaty meeting with a statement of the purpose of the meeting (to establish a new treaty that explains the future uses of Antarctica) and a review of the terms of the 1959 treaty. Allow the spokesperson from each group five minutes to read his or her speech and explain the group poster. Students at their seats should make notes of the six proposals for Antarctica. Also write a brief description of each proposal on the chalkboard for class reference.

9. Lead the class in a discussion of the pros and cons of each proposal. Who will be helped by each proposal? Would any nations be hurt by the proposal? How? Would the land of Antarctica be helped or hurt by the proposal? What would Antarctica be like 50 years from now if each proposal were adopted?

10. Conduct a vote on the six proposals for Antarctica. If no single proposal receives a majority of votes, eliminate those proposals with the least votes and vote again until the class has narrowed their decision to two or three proposals. How can the class reach a compromise – a halfway point – between

the leading proposal? What could each side give up to reach an agreement? Help the students negotiate a compromise plan for Antarctica that is agreeable to all students in the room.

11. Debrief the activity by asking the class to analyze how it made its decision. Which did students feel was more important, the needs of their own nation or the future of Antarctica? Does the continent of Antarctica have a person or group to speak for it or look out for its future? What would happen to Antarctica in 100 years if every nation tried to take a piece of the continent? How does the future of Antarctica affect the world as a whole?

Follow-up:

To extend the activity, have students return to their national groups to create another poster showing the final plan for Antarctica. Student posters should represent clearly, either in pictures or writing, how the final treaty plan will affect the world as a whole and how it will affect their own national interest (i.e., scientific research and exploration, environmental preservation, food or natural resources, military security and defense, and so on).

THE ANTARCTIC TREATY OF 1959

In 1959, 12 nations from around the world agreed on a treaty for the future of Antarctica. These 12 nations were Argentina, Australia, Belgium, Chile, France, Japan, New Zealand, Norway, South Africa, the Soviet Union, the United Kingdom, and the United States. Six other nations later signed the treaty. They are East Germany, Poland, Brazil, India, China, and Uruguay.

The treaty says:

1. Antarctica shall be used only for peaceful purposes.

2. Antarctica is open to scientific investigation.

3. Countries that sign this treaty will share plans, scientific findings, and scientists whenever possible.

4. No new claims to ownership of Antarctica can be made.

5. Nuclear explosions and tests are not allowed in Antarctica.

6. Dumping of nuclear waste is not allowed in Antarctica.

7. The treaty applies to all land areas south of 60 degrees south latitude.

8. In 1991, this treaty can be renegotiated if any one of the treaty signers requests it.

Role 1

You represent a South American nation that claims to own land in Antarctica. Your country is not very wealthy and you believe that Antarctica could help make money for your country. You want to build hotels and restaurants in Antarctica. Then, you could bring tour groups from all over the world to explore this wild land and learn about the unusual animals.

Role 2

You are an Asian country with very few natural resources. In fact, you must import almost all of the oil, coal, and natural gas you use to provide energy for industry, transportation, and heating. You believe that important resources that could help your country are located below the ice of Antarctica. It is not fair to let these valuable resources go untouched and wasted when your country – and many others – need these resources.

Role 3

You represent a nation in central Africa. Your country is poor and has many problems. For years, your country has had bad weather, with little or no rain. As a result, there is very little water or food in your country. Many people starve because of lack of food. The waters of Antarctica could solve your country's food problems. Antarctica's waters are full of fish, squid, and little shrimp called krill. You believe that poor countries of the world should have rights to the food resources of Antarctica.

Role 4

You represent a nation in the Sahara Desert. Because of its geographic location close to the equator, your country is hot and dry. The country has very little water and it is very expensive. On the other hand, your country has plenty of oil. Sale of oil makes your country rich. You would like the right to take ice from Antarctica. Your boats could pull gigantic chucks of ice through the Atlantic to your country, where it would be melted to provide drinking water and water for farming. Of course it would be expensive to ship ice so far, but you are a wealthy nation.

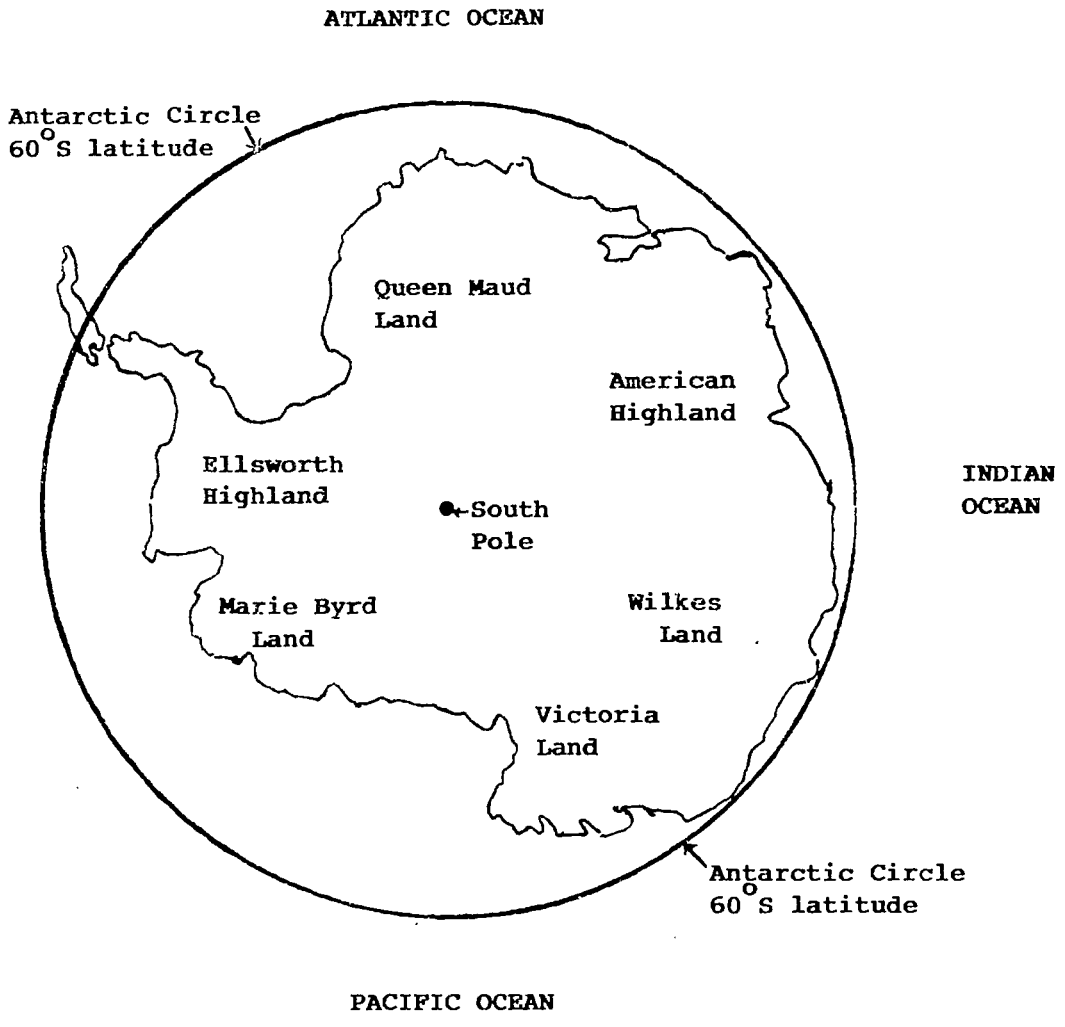
Role 5

You represent one of the countries that signed the original Antarctic Treaty of 1959. Over 50 scientists from your country are stationed in Antarctica. They conduct research and experiments on animals, plants, and rocks found in Antarctica. You would like Antarctica saved just for scientific research. But some things have to change. Because so many different countries have scientists in Antarctica, some areas are getting very crowded. Snowmobiles are ruining the area. Garbage and sewage are becoming a problem because there is no place to dispose of them. Supply boats anchored off shore drop refuse in the ocean. You believe that stricter laws must be passed to control how the land is treated by the scientists. A limit should be set on how many scientists can come to Antarctica. Maybe countries will have to take turns sending scientists.

Role 6

You represent a very industrialized, technologically-advanced country. Your country has a serious problem: toxic (poisonous) waste. For many years, your country's industries have been producing harmful waste materials—chemicals and metals that can poison the water and land and even kill people. There is no place to put these toxic wastes in your own country because all the land is already used for homes, factories, stores, and highways. You know that other countries around the world have the same problem with toxic waste that your country does. You believe Antarctica offers a solution to this problem. Antarctica is a frozen land that is not used for anything. It would be a perfect place to drop the poisonous wastes of other countries.

ANTARCTIC TREATY MEETING, 1991



1. What does your nation want to happen in Antarctica?

2. How would this action help your country?

3. How would it help other countries?

4. Would this action help the land of Antarctica? If so, how?

5. Would this action hurt Antarctica? If so, how?

Speech of Nation _____ Before the Antarctic Treaty Meeting, 1991

Our nation proposes that the continent of Antarctica should be used for:

_____

_____

_____

This plan will help our nation by:

_____

_____

_____

Other benefits of this plan are:

1. _____
2. _____
3. _____

17. ANOTHER LOOK AT THE SAHARA

Introduction:

This activity, which focuses on changes in the Sahara since 600 B.C., introduces students to the idea that changes in the environment have been occurring for hundreds of years. Although modern technologies and population growth have increased the rate of environmental change, such changes are not an entirely new phenomenon. The activity uses art and a role-playing exercise as tools for learning about human-environment relationships.

Objectives: Students will be able to:

1. Describe the impact of a changing environment on inhabitants of a region.

2. Make inferences about geography using art as a data source.

3. Understand that environmental changes have been occurring for hundreds of years.

Time Required: 2-3 class periods

Materials and Preparation: You will need copies of Handouts 17-1, 17-2, and 17-3 for all students. You will also need a map of the world on the wall for reference.

Procedure:

1. Distribute Handouts 17-1 and 17-2. Tell students that the paintings on Handout 17-2 are from somewhere in Africa. They date from 6000 B.C. to 600 B.C. Ask students to make some educated guesses about what region in Africa the paintings might be from and why. Elicit several responses and explanations.

2. Explain that the pictures were discovered in 1956 in caves on the Tassili Plateau, located 900 miles southeast of Algiers in the Sahara Desert. Have a student locate the Tassili on the wall map of the world; ask students to mark the location on their outline maps.

3. Tell students they are about to embark on a research expedition to find out more about the mystery people in the pictures.

4. Divide the class into groups of three to five and distribute Handout 17-3, which presents instructions for the role play.

5. After the role play has been completed, each group should assign one person to present their findings to the class.

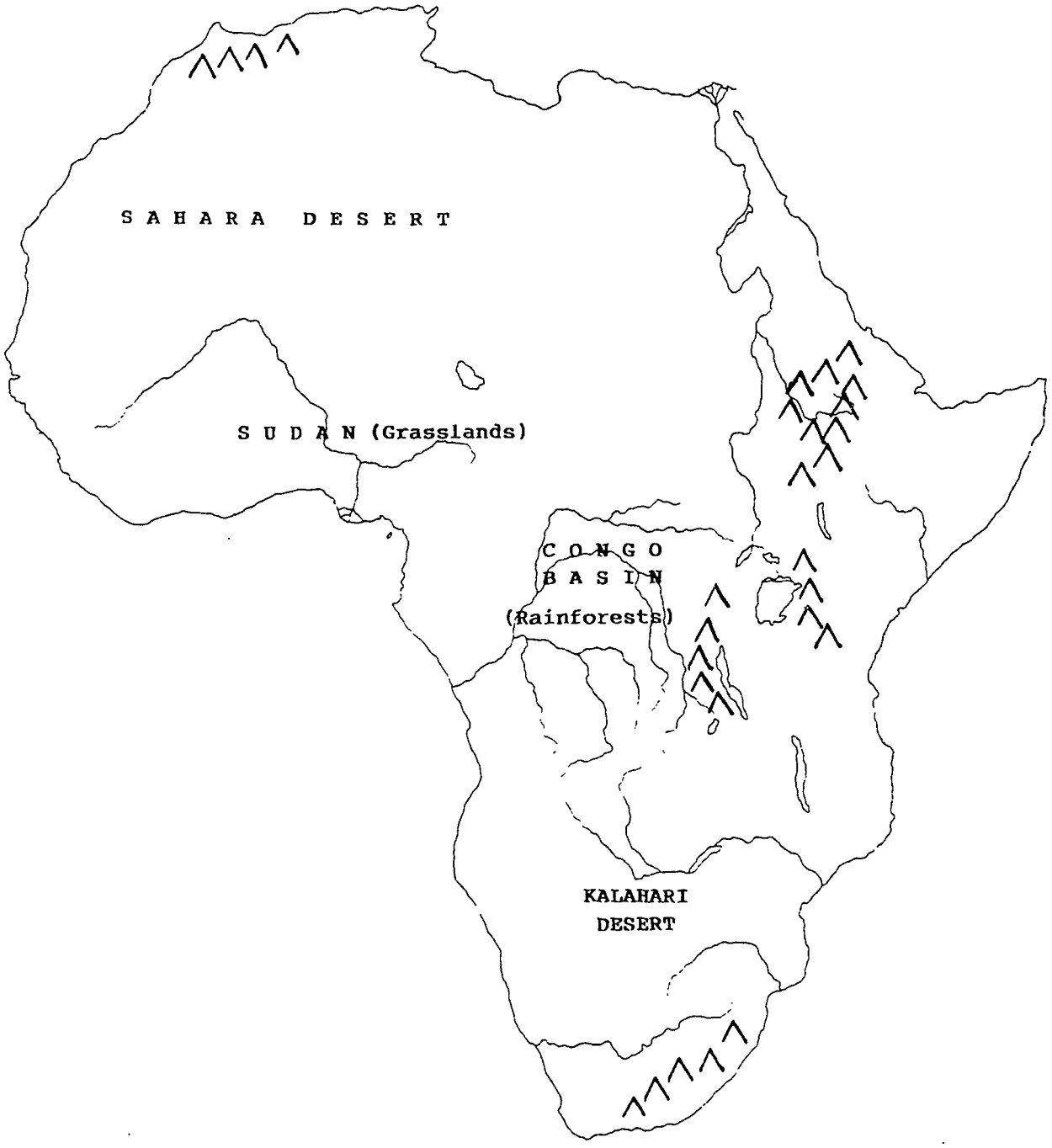
6. Conclude by having students write essays making hypotheses about the presence of these drawings in the middle of the arid Sahara Desert. They might consider in their essays who drew these pictures and why.

Follow-up:

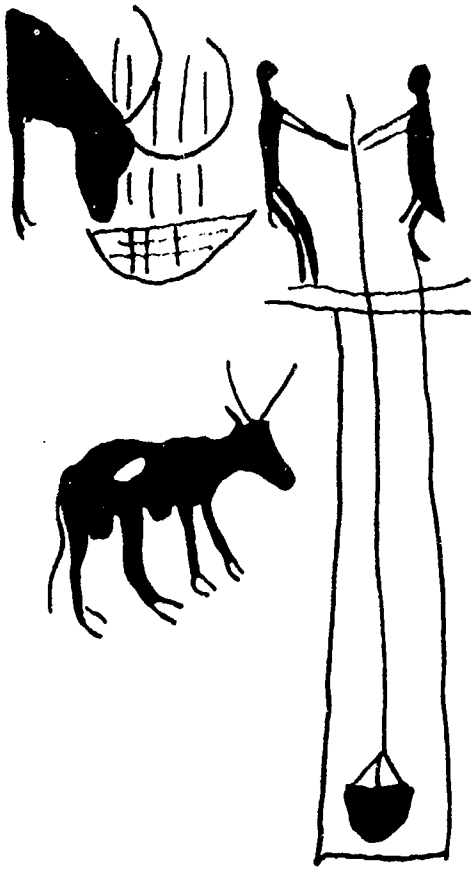
Encourage interested students to research the gradual expansion of the Sahara in recent years. Ask them to map the changes and report on their causes.

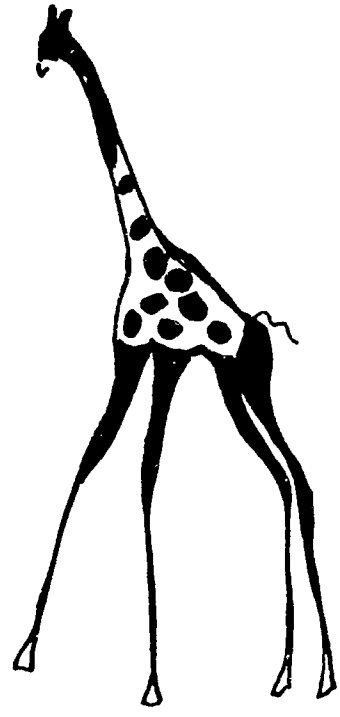
Activity developed by Patience Berkman, Newton (MA) Country Day School.

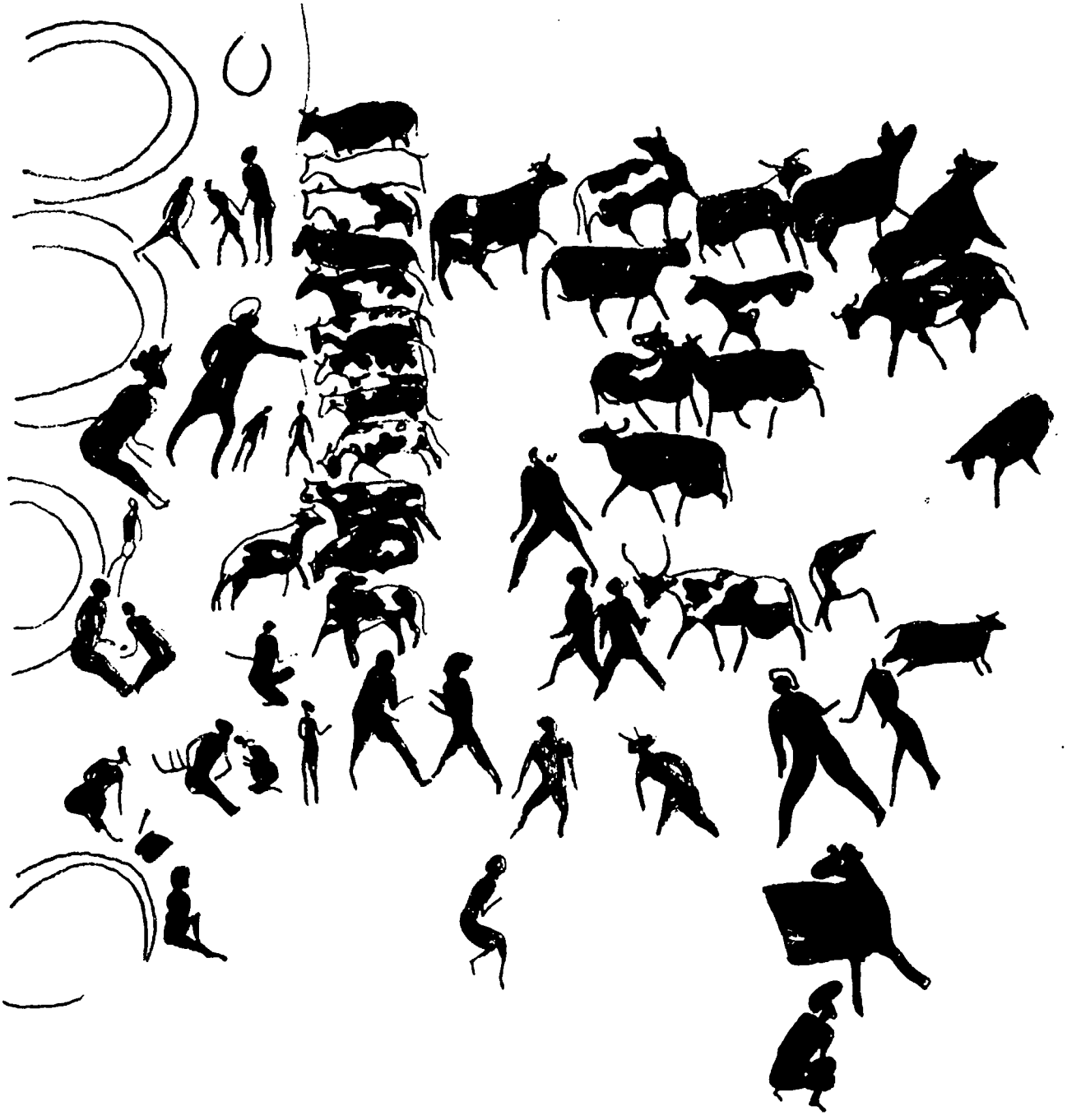
AFRICA


SAHARA DESERT
SUDAN (Grasslands)
CONGO
BASIN
(Rainforests)
KALAHARI
DESERT

AFRICAN MYSTERY DRAWINGS







ARCHAEOLOGICAL ROLE PLAY

You are a group of skilled archaeologists. Your assistant is totally incompetent and forgot to take a camera along on your latest research expedition. Instead of photographs, therefore, he has brought the group these sketches, which are reproductions of cave drawings discovered on the Tassili Plateau in the Sahara Desert. Your assistant did remember to do his carbon 14 data analysis and has determined that these drawings were made between 6000 B.C. and 600 B.C. You therefore do not fire him for total incompetence, but send him home to rest while you settle down to your task—pooling your knowledge about the mystery people in the pictures. From your observations and inferences about the pictures, formulate hypotheses about the following aspects of the mystery people's society. You should write down all ideas suggested by group members, then decide which interpretations are most valid.

	Clues	**Hypotheses**
1. **Natural Resources** (vegetation, animals, water, sources of food, clothing, shelter)		
2. **Economy** (how they made a living)		
3. **Technology** (tools, inventions, scientific understanding)		
4. **Culture** (art, religion, values)		
5. **Politics** (leadership, power, role of women, personal relationships)		

MOVEMENT: HUMANS INTERACTING ON THE EARTH

18. YOUR GLOBAL HOME

Introduction:

This activity introduces students to the notion of interdependence—a key concept related to the theme of movement—by focusing on economic interdependence. Students first discuss and define terms used in the lesson. They then read an economic products map showing raw materials exported from various nations. They identify examples of these products in the school. They then receive a manufactured products map, which they take home for use in a home inventory. They share results and construct a class bulletin board illustrating what they learned.

Objectives: Students will be able to:

1. Define the following terms: *global, depend, trade, raw materials, manufactured goods.*

2. Identify where raw materials and manufactured goods in their own school and home might have come from.

3. Read an economic products map.

4. Appreciate the economic contributions of various nations.

Time Required: 1 1/2 class periods

Materials and Preparation: Make enough copies of Handouts 18-1 and 18-2 for all students. Clear a bulletin board space for the activity-concluding project. You will need a large world map that you will not mind putting pins into, a number of pushpins, string, drawing materials, a globe, and student atlases.

Procedure:

1. Display the globe and review what a globe shows. Ask students to speculate on what the word *global* might mean. (Involving the entire world) What would it mean if you asked about their "global home"? (It might mean the earth itself or it might mean their own homes, since they have items from all parts of the world in their homes.)

2. Ask why the fact that students have items from other parts of the world in their homes shows that we depend on other people around the world. (Because we need the items that we trade with them to get.) Do these people depend on us too? (Yes, because they need the items they buy with the money we use to purchase their goods.)

3. Distribute Handout 18-1. Have students use their atlases to determine the country or countries where the products come from. Ask them to look for examples of the products shown on the map or goods made from those products in the classroom (they may include items from their lunches also). Post the items that they mention on the chalkboard.

4. Distribute Handout 18-2. Again, have students determine where the products come from. Be sure they understand the difference between raw materials and manufactured goods. Tell them that they are to look for examples of the manufactured goods shown on the map in their homes tonight. They may wish to bring in tags or labels from the items if possible.

Activity based on a lesson developed by Paul Mulloy.

5. Ask students to share the results of their home inventories. Again post the items they list on the chalkboard. If some students had few or no items you may wish to discuss the idea that some people feel it is important to buy goods made by American workers and therefore try to avoid goods made in other countries.

6. Point out that the e are also products shown on the United States on the two maps. What happens to these prod s? (Some are used in the United States and some are sold to other countries.)

7. Have studen nc k in small groups to create a bulletin board showing the results of the class research. Each group can be assigned to a particular geographic area, or groups can each be assigned an equal number of items on the chalkboard list. Provide a large world map, pushpins, string, and drawing materials for student use in preparing the display.

Follow-up:

Have students conduct an economic interdependence scavenger hunt. Divide the class into groups of about four students. Assign each group three countries, preferably on three different continents. Tell students to look in their homes or local stores for products from those three countries. The first group to find at least two products from each of its countries is the winner.

WORLD PRODUCTS: SELECTED RAW MATERIALS

Key:

O	- Oil	W	- Wheat	R	- Rubber
●	- Coal	B	- Bananas	L	- Lumber
I	- Iron ore	▨	- Cacao	C	- Cotton
●	- Copper	△	- Lumber		
◇	- Diamonds	Wo	- Wool		

WORLD PRODUCTS: SELECTED MANUFACTURED GOODS

Key:

Tr	-	Transportation equipment	M	-	Machinery
C	-	Chemicals	E	-	Electronics
Tc	-	Textiles and clothing	I	-	Iron and steel products

19. THE GLOBAL GOURMET

Introduction:

Young people are linked to a global community in many ways—some ways so commonplace that children do not recognize the connections. The wide variety of foods that young people eat every day provide one vehicle for helping students recognize their ties—both current and historical—to a global community.

Objectives: Students will be able to:

1. Identify the geographic origins of everyday foods.

2. Discuss how international influences enrich a national culture and experience.

3. Demonstrate on a world map how food products from around the world became a part of American cooking.

Time Required: 1 class period

Materials and Preparation: Make copies of Handout 19-1 for all students. If you plan to use the Follow-up activity, you will need copies of Handout 19-2. You will also need a wall map and/or blank outline maps of the world.

Procedure:

1. Ask students if they like any foods from other countries. What foreign foods do students like or eat regularly? On the chalkboard, compile a list of foreign foods that students eat and enjoy, noting where each food originated. Students' answers will probably include such items as tacos and nachos (Mexico), spaghetti and pizza (Italy), egg rolls (China), and ramen or Cup O'Noodles (Japan).

2. Tell students that, in fact, a great many of the foods they eat every day came originally from some other part of the world. If students look closely enough, they may be surprised to realize how many international foods they eat.

3. Distribute copies of Handout 19-1. As you read the story aloud to the class, ask students to stop you each time a food from another country is mentioned. Compile a list of the foreign foods students identify on the chalkboard, as well as their country or region of origin.

4. Next, ask a student volunteer to read the story aloud a second time. Using the version of the story provided in the **Teacher Background**, stop the student reader each time a food from another country is mentioned. For younger students, you may read or describe the history of each international food item. For older students, you may want to simply identify the food item, having students discover the geographic origin and history of the food in a short library research project.

5. Discuss findings in class. How many different countries is the global gourmet tied to through the foods he or she eats every day? In what ways does food tie the people of the world together? How did these foods become part of the American diet? (Trade routes, immigrant groups, travel experiences of Americans to other countries) Using a wall map, have students trace the routes some sample foods took from their place of origin to the United States. What would the American diet be like without all these foods? An alternative would be to hand out blank outline maps of the world and have students draw the routes some sample foods took from their place of origin to the United States.

Activity developed by Lynn Parisi, Social Science Education Consortium.

Follow-up:

As an extension activity, students may conduct a supermarket search to identify the variety of foods from other countries that are available in their community. Distribute Handout 19-2 to each student or to students working in groups. Ask students to accompany a parent during a grocery shopping trip and to locate as many international examples of each food group as possible. Have students compare findings in class. Make sure they use the wall map to locate the country of origin for each food item.

Possible answers are: breads: bagels, french bread, English muffins, tortillas, matzoh, pita bread, Russian black bread, Scandinavian crisp bread; fruits: papaya, kiwi fruit, coconut, banana, fig, pomegranate, lychee, mango, avocado, mandarin orange; vegetables: Chinese cabbage, mung bean sprouts, ginger root, water chestnuts, bamboo shoots, tomato, artichoke, leek, Jerusalem artichoke, chili pepper; cereals and grains: rice couscous.

Teacher Background

THE GLOBAL GOURMETS

Mrs. Gourmet has a bowl of strawberry yogurt, a piece of toast, and a cup of tea.

STOP. *Yogurt* was developed in Eastern Europe or Central Asia hundreds of years ago. It was a staple food product in Bulgaria, Russia, Turkey, Greece, and India, to name a few countries, before it became popular as a health food in the United States just 20-30 years ago. Yogurt is made from goat, sheep, or cow milk, soured and curdled by a special bacteria, called lactobacillus.

Tea was first grown in southwest China centuries ago. British traders who went to China in the 1600s brought tea back to England and Europe, where it became a very popular hot beverage. British colonists came to America in the 1700s, bringing their fondness for tea with them.

Mr. Gourmet has scrambled eggs, toast, and coffee.

STOP. *Coffee* probably first came from Ethiopia, where it still grows wild. In the 1500s, traders brought coffee up the Red Sea to Egypt. Coffee was first drunk in England and France in the 1600s. Spanish and Portuguese settlers began to cultivate coffee in South America in the 1700s.

Jennifer has oatmeal.

STOP. Eating hot *oatmeal* has been a breakfast tradition in the British Isles, especially Ireland and Scotland, for hundreds of years. British colonists brought the tradition to North America.

David has granola with dried pineapples and bananas. They each have a cup of hot chocolate.

STOP. *Granola*, which started out in the United States as a health-food cereal, is adapted from a traditional Swiss breakfast cereal called meusli. Similar to granola, meusli is made of roasted nuts, fruits, and grains.

Originally from India and Southern Asia, *bananas* are now grown all over the world in warm climates. Arab traders brought bananas into Egypt. In the 15th century, Portuguese traders brought the fruit from Africa to the West Indies and the Americas.

Pineapple is one of the world's most important and popular tropical fruits. The pineapple originated in South America and was carried from there to other tropical locations by European explorers.

Hot chocolate was a popular drink of the Aztec Indians of Mexico long before the Spanish arrived in the New World. The explorer Hernando Cortez brought chocolate back with him to Spain in 1526. Throughout Europe, chocolate became a popular drink. However, it was very expensive because the

chocolate beans had to be brought from South and Central America and then roasted and ground to get the chocolate into eatable form. Europeans who came to North America to settle brought their taste for chocolate with them.

David eats a chocolate bar with almonds.

STOP. *Chocolate* originated in South and Central America.

Almonds originated in the Mediterranean and are now grown in South Africa, Australia, Spain, Italy, and California.

Hamburgers on sesame seed buns...plenty of ketchup.

STOP. *Hamburgers* get their name from meat patties created in Hamburg, Germany. The sesame seeds that top popular hamburger buns have been grown in Africa, India, and China since ancient times. Although sesame seeds are used mostly as a condiment in the United States, the seeds are a staple food product in the Middle East. There, sesame seeds are the raw material for cooking oil and candles.

In Southeast Asia, *ketchup* is a general word that describes a variety of sauces made from fish, seafood, or vegetables. Europeans borrowed the word to describe a sauce they made from tomatoes.

Chewing gum.

STOP. *Chewing gum* is made from "chicle," a rubbery sap that comes from the sapodilla, a tree that only grows in the Yucatan Peninsula and Central America.

Corn chips.

STOP. *Corn chips* are a snack food that has become popular in the United States in the past 20 years. Corn chips are adapted from the traditional fried corn tortillas of Mexico and Central America.

Hot dogs, salad, and rice.

STOP. *Hot dogs* are a popular American food that originated in Germany. Hot dogs are the common name for frankfurters, German smoked sausages. The name hot dog was adopted during World War I, when the United States was fighting against Germany. At that time, patriotic Americans did not want to use German words for their foods.

Rice has been a staple food grain of Asia for over 5000 years. Arabs carried rice from Southern Asia to the Middle East, Italy, and Spain. Rice is now grown all over the world, including Spain, Portugal, France, the United States, and most countries of Asia.

THE ALL-AMERICAN GOURMETS

It's Monday morning. The Gourmet family sits down to breakfast at 7:00. Mrs. Gourmet has a bowl of strawberry yogurt, a piece of toast, and a cup of tea. Mr. Gourmet has scrambled eggs, toast, and coffee. The two Gourmet children, Jennifer and David, each have cereal. Jennifer has oatmeal. David has granola with dried pineapples and bananas. They each have a cup of hot chocolate with their cereal.

Later that morning, at school, David begins to feel hungry. He searches in his lunch bag and finds that his mother has included a chocolate bar with almonds for his dessert He eats it at about 11:00. Still hungry, David waits patiently until the lunch bell rings at 12:00.

At 12:00, David races to the cafeteria to eat. At the lunch table, he opens his sack to find that his mother has packed him a tuna fish sandwich and an apple. "Yuck," David thinks, "I hate tuna fish." David gives his lunch away to a friend. He gets in line to buy lunch. It's a choice between fried chicken and hamburgers on sesame seed buns, cole slaw, and french fries. David picks the hamburger, with pickles, lettuce, and plenty of ketchup.

After lunch, the afternoon drags slowly. A friend gives David a piece of chewing gum, which picks him up. After school David races home. Jennifer is already home. She is eating corn chips and drinking a Coke while she works on her computer. David helps himself to chips. He goes to his room to study but falls sound asleep until his mother calls him for dinner.

For dinner the Gourmet family has hot dogs, salad, and rice, with brownies for dessert.

SUPERMARKET SEARCH

Go on a grocery shopping trip with one of your parents. For each of the categories below, try to find as many different national or ethnic examples of this food product as you can. You can get clues about the origin of the food from product names, written information on the wrapper, or pictures. Make sure you can identify on a world map the country of origin for each food item.

Breads

Try to find at least five breads from different places around the world.

	Name	Country of origin
1.		
2.		
3.		
4.		
5.		

Vegetables

Write the names of at least five vegetables that were originally grown in another part of the world. Your parent or a grocer may be able to help you.

	Name	Country of origin
1.		
2.		
3.		
4.		
5.		

Fruit

Identify at least five fruits brought to the United States from another country.

1.

2.

3.

4.

5.

20. THE COMMUNICATIONS NETWORK

Introduction:

Recent advances in communications technology have greatly increased the interactions of people who are separated by long distances. There are, however, inequities in the ownership and use of communications technologies, with governments and companies in the Northern Hemisphere owning most of the hardware and expertise. In this activity, students construct a timeline showing some of the advances that have made the communications revolution possible. They also analyze a map of one example of communications technology to see where such technologies are concentrated.

Objectives: Students will be able to:

1. List advances in technology that have contributed to the communications revolution.

2. Construct a timeline showing advances in communications technology.

3. Use a map to determine that more communication technologies are concentrated in the Northern Hemisphere than the Southern.

Time Required: 1-2 class periods

Materials and Preparation: You will need a large sheet of shelf paper that can be taped on the wall for use in constructing the timeline. You will also need copies of Handouts 20-1 and 20-2 for all students.

Procedure:

1. Ask students to brainstorm some of the ways in which they interact with people who are living in other parts of the country or world. Write their answers on the board, putting items that relate to communication technology (television, radio, telephone, and so on) in a separate list. Ask students what these items have in common.

2. Tell students that advances in communications technology have greatly increased interactions among people in various part of the world. You may want to use the following examples to illustrate the power of modern communication: Twelve volumes of *Encyclopaedia Britannica* can be transmitted around the world in just a few seconds. Indonesia has been able to link its 3,000 islands by satellite. This was not possible with conventional radio and telephone technologies.

3. Tell students that they are going to construct a timeline showing advances in modern communications technology. Review with them basic facts about a timeline—it shows when events happened and it is drawn to scale.

4. Distribute Handout 20-1 and allow time for students to read it. Help them develop the parameters of the task by asking such questions as:

- When should the timeline begin?
- When should the timeline end?
- Given the amount of space we have and the number of years to be covered, how many years should each foot on our timeline represent?

Activity by Laurel R. Singleton, Social Science Education Consortium.

Help students create the base for the timeline. Then divide the class into several working groups and assign each group a particular number of years to complete on the timeline. Students can write directly on the timeline or they can write on index cards or other pieces of paper that can then be taped to the timeline. Encourage students to illustrate the timeline.

5. Tell students they are going to focus on one kind of technology—submarine cables that can carry thousands of telephone calls simultaneously. Distribute Handout 20-2 and allow time for students to answer the questions.

6. Tell students that the concentration of communications technology shown in this map also applies to many other technologies. Conclude with a discussion of the importance of the unequal ownership of communications. Help students understand that in areas where literacy rates are low, as they are in some parts of the Southern Hemisphere, broadcasting could provide vital health and other information to small rural communities that have not had many opportunities to interact with the "outside" world. Remote sensing satellites can provide information that makes it possible to predict such dangers as cyclones or other storms, blights, and so on. This information can be useful to governments in making policy decisions.

Follow-up:

1. Encourage students to research satellites. How many are currently in operation? How much of the world can one satellite service? Why is the speed of a satellite matched to that of the earth's rotation?

2. Older students might research other examples of Northern Hemisphere dominance in the communications network. For example, which countries have the most television sets, telephones, and radios? Where does most of the news that is printed in newspapers worldwide come from? Who owns most of the satellites now in operation?

DEVELOPMENTS IN COMMUNICATION TECHNOLOGY

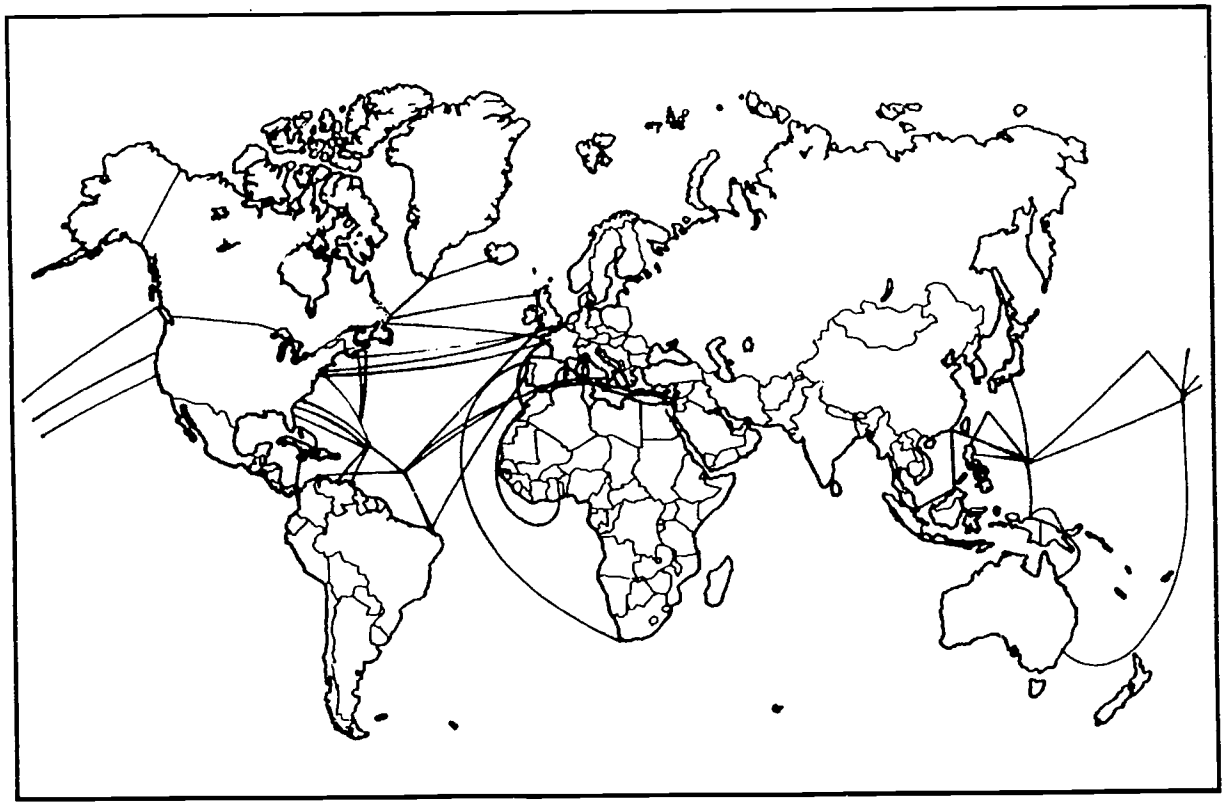
The earliest forms of long-distance communication required coding of information into symbols. Drummers in Africa would communicate over long distances at the speed of sound. Beacon and flag systems were also examples of early long-distance communications. The printing press was a giant step forward in communications, giving many more people access to printed information.

In 1837, the first electric telegraph system was invented. Many other discoveries have followed:

1837	Samuel Morse invented the telegraph.
1866	Undersea cables linked the United States and Europe, allowing telegraph messages to be sent from continent to continent.
1876	Alexander Graham Bell invented the telephone, allowing direct two-way communication.
1877	Thomas Edison invented the phonograph.
1885	Marconi invented the wireless telegraph, or radio.
1906	Successful radio broadcasts made.
1922	Regular radio broadcasts began.
1927	Sound motion pictures appeared.
1936	Television broadcasts began.
1957	First artificial satellite, Sputnik 1, launched.
1962	Satellite television broadcasts began.
1950s	First computers built.
1970s	Personal computers became available.

COMMUNICATIONS POWER

The map below shows one kind of communications technology—submarine cables. Each such cable can carry thousands of telephone calls at the same time. Use the map to answer the questions that follow.



1. How many cables connect the United States with other areas?

2. Which has more cables linking it with other places—North America or Europe?

3. How many cables link Africa with other areas?

4. Which have more cables linking them with other places—locations in the northern hemisphere or the southern hemisphere?

   Why might this be true?

   Why might this be important?

21. MIGRATIONS: PEOPLE ON THE MOVE

Introduction:

Throughout history, individuals and groups of people have moved from one location to another. These moves, motivated by political, economic, climatic, and social events, have been the basis for many of the cultural connections among nations in today's world. This activity asks students to examine the origins of their own families and the reasons for their current locations.

Objectives: Students will be able to:

1. Trace the national origins of their families.

2. Classify reasons for moving into various categories.

3. Show movements on a world map.

Time Required: 3-5 class periods

Materials and Preparation: Make copies of Handouts 21-1 and 21-2. Prepare a transparency of the world political map provided with the activity and project the map onto a wall as large as possible. Tape posting paper to the wall and trace the map onto it. You will also need markers or crayons. If you plan to extend the activity to the entire school, as suggested in the Follow-up section, you will also need yarn and a copy of Handout 21-3 for everyone in the school. Student atlases are also needed.

Procedure:

1. Introduce the topic of migration of people. Brainstorm with the class reasons people leave one place and are attracted to another. List these reasons on the chalkboard as they are suggested. Create these categories: political, economic, social, religious, climatic, other. Briefly explain each category. Go through the list of ideas generated by students and have students decide which category each reason best fits. Enter each reason under its correct category.

2. Have students think about how their families came to live where they do. Distribute Handout 21-1 and read through the questions with the students. Assign this as homework; allow 2-3 days for its completion.

3. Write the categories of reasons for migrating on the chalkboard again. Have students discuss the responses they obtained on the questionnaires, focusing on the reasons for migrating. Into which categories do the reasons fall? Which kinds of reasons were most common? Least common? Why? What historical events influenced movement into the area where you live?

4. Transfer the information on the questionnaires to the world map. Write each person's name in the original location and use a yardstick to draw a line to the location of the school. Use the atlases to locate the nations, states, and towns that appear in the questionnaires.

5. Distribute Handout 21-2 and have students complete the exercise. Correct answers are: **1.** C or E; **2.** E; **3.** E; **4.** P or R; **5.** E; **6.** P; **7.** P; **8.** P; **9.** R. As you review the answers, make sure that you identify on the world map the nation(s) of origin of each group described in the activity.

Activity by Robert D. LaRue, Jr., Casey Junior High, Boulder, CO.

Follow-up:

The activity could easily be expanded to include the entire school. Ask other teachers to have their classes complete the forms. Then collect the forms and have students sort them by nation or state of origin. On colored paper, create a list of the people born in each state or nation. Tape the lists on the map near the correct locations and run a piece of yarn from the list to the location of the school. This makes an excellent display for schoolwide multicultural or international celebrations.

MIGRATION QUESTIONNAIRE

1. Your Name:

2. Where were you born? Nation_____ State_____ Town_____

3. Name of relative you interviewed:

4. Relationship to you:

Ask these questions to the person you interview:

1. Where were you born?

2. Where did you live before you moved here?

3. When did you move here?

4. Why did you move here?

5. If you have always lived here, who was the first member of your family to live here and why did they move here?

You do not have to write down the answer to this question, but ask the person you are interviewing to tell you a favorite story about moving.

REASONS FOR MIGRATING

You have learned that the United States is a country of immigrants. People have migrated to the United States for all the reasons you have talked about in this activity. Below are listed some groups who have left their home countries and come to the United States. In front of each, write a P if the group migrated for political reasons, an E for economic reasons, an S for social reasons, an R for religious reasons, a C for climatic reasons, or an O for other reasons.

1._____ Potato crop ruined in Ireland. Many Irish people starve. Irish families migrate to the east coast of the United States (1840s and 1850s).

2._____ The transcontinental railroad is begun in California. Many Chinese men come to the west coast of the United States (1850s and 1860s).

3._____ The industrial revolution in eastern United States offers thousands of factory jobs. Italians and Eastern Europeans come to the east coast (1880s-1910).

4._____ The Russian government passes laws against Jews. Russian immigration to the United States increases (1890-1900).

5._____ World War II ends. Many people are homeless in Europe. Europeans from all countries arrive in the United States (1945-1950).

6._____ There is a revolution in Cuba. Thousands of Cubans arrive in Florida (1960).

7._____ New governments take control in Southeast Asia. Hundreds of thousands of Southeast Asian immigrants come to the United States (1970s-1980s).

8._____ Civil war in Nicaragua and El Salvador causes people from these countries to enter the United States (1980s).

9. _____ Pilgrims came to the United States to practice their religion (1600s).

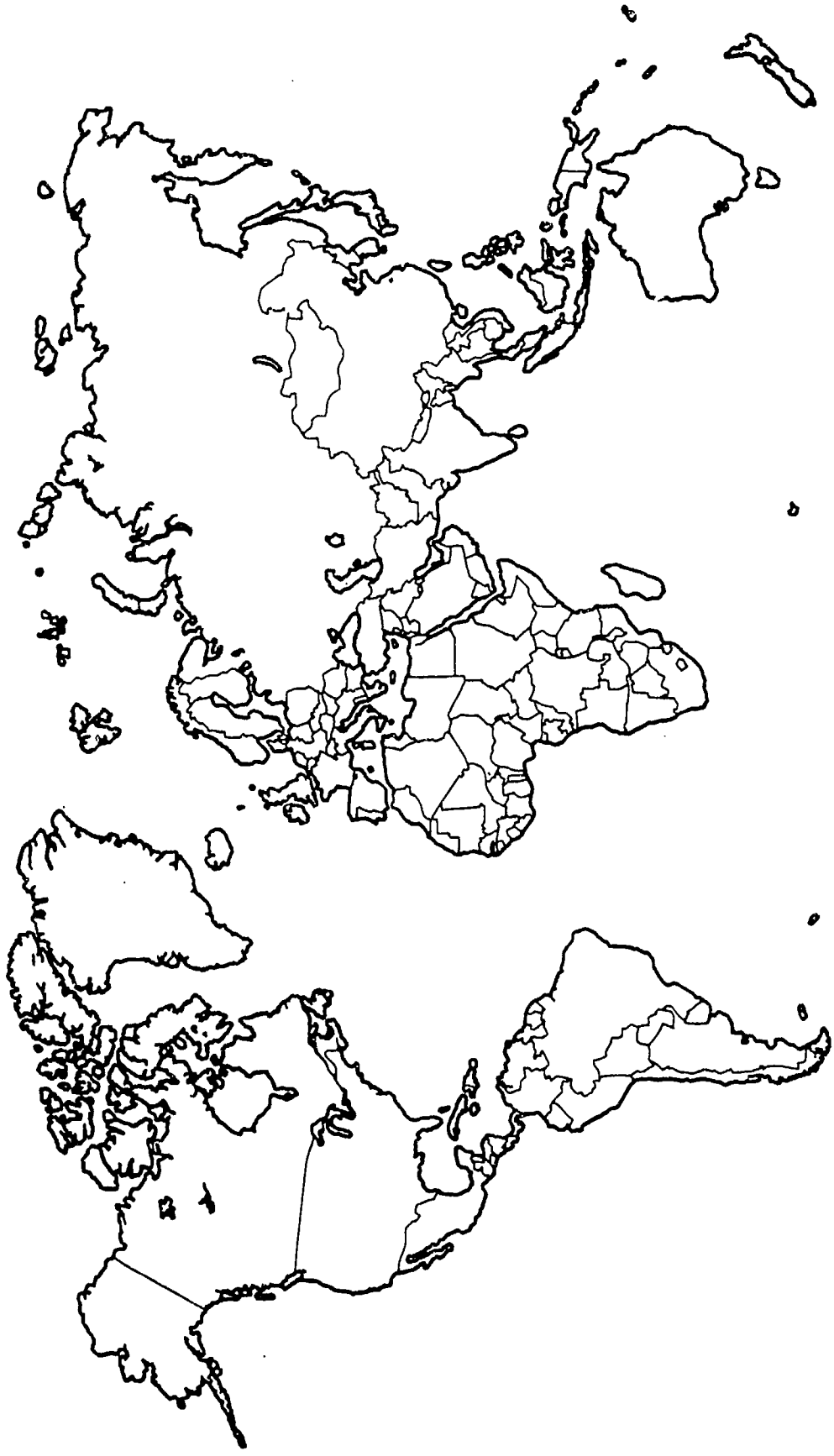
These immigrants have created cultural connections between the United States and countries around the world.

MY SCHOOL AND THE WORLD

1. My name is:

2. I was born in: Nation_____ State_____ Town_____

3. My family moved here because...



22. THE SPREAD OF THE BUBONIC PLAGUE

Introduction:

The spread of disease from one part of the globe to another illustrates a kind of movement and interdependence that began hundreds of years ago and persists today. This activity focuses on the spread of the bubonic plague – the Black Death of the 14th century. Students trace the route of the plague and consider how particular geographic features encourage or prevent spread of disease. For older students, research into the AIDS analogy can be an excellent way to extend the activity.

Objectives: Students will be able to:

1. Locate cities and places affected by the plague.

2. Trace the spread of the plague in a circular pattern.

3. List physical and cultural features that helped/hindered the plague's spread.

4. Determine that the movement of the plague was an early example of global interdependence.

Time Required: 1 class period

Materials and Preparation: You will need student atlases and copies of Handouts 22-1 and 22-2. You may find it helpful to have an overhead projector and transparency of the outline map provided in Handout 22-1.

Procedure:

1. Begin the activity by explaining that one of the persistent problems of urban life in the Middle Ages was the spread of disease. This reached a catastrophic level when millions of Europeans died of bubonic plague in the 14th century.

2. Spend a few minutes asking question to see what students know about the subject: Has anyone ever heard of bubonic plague? What is it? How do you get it? What are the symptoms of the disease? Does bubonic plague still occur today?

3. Distribute the atlases and Handout 22-1. Have the students complete questions 1-6.

4. Next, distribute handout 22-2. As students read the article, they should locate and place each city on the outline map as it is mentioned in the article. (**Note:** Saray no longer exists; students should locate Kuybychev instead. Kaffa today is called Feodosiya. Constantinople today is called Istanbul.) They should also include the specific date (if given) when the city was affected by the plague.

5. Continuing, the students should use arrows on their outline map to show the spread of the plague from one city or place to another. Students should begin to see that the plague spread in a circular pattern, beginning and ending in Western Asia.

6. When the reading and map exercises are completed, use the following questions to focus discussion. The questions are designed to help students understand the importance of the geographic theme of movement.

   - What percentage of the population in the areas discussed in this article died of the plague? How many Europeans died?

Activity developed by Meryl Baxter, Archbiship Williams Junior/Senior High School, Braintree, MA.

- What evidence do we have that the plague was brought along the Silk Road?
- How was the disease transmitted to humans?
- Why was a medieval ship an efficient vehicle for spreading the disease?
- What geographical features in this area of the world helped spread the disease?
- What pattern did the spread of the disease take?
- Using the physical map of Europe in your atlas, can you identify any physical barriers to spread of the disease?
- Some medieval towns and cities were not as "hard-hit" as others. What might be some of the cultural and economic reasons for this?
- Having completed the exercise, explain the common link between a family in Kaffa (Feodosiya) on the Black Sea and one in Bordeaux or Bristol. Can you think of a similar situation in today's world? Explain.

Follow-up:

The AIDS epidemic today has been compared to the Black Death of the 14th century. Encourage students to discuss the similarities and differences. Are there past and presentday examples that could be used to show the movement of disease around the world?

EUROPE AND WESTERN ASIA IN THE 14TH CENTURY

1. Label the three continents shown on the map below: Europe, Asia, Africa.

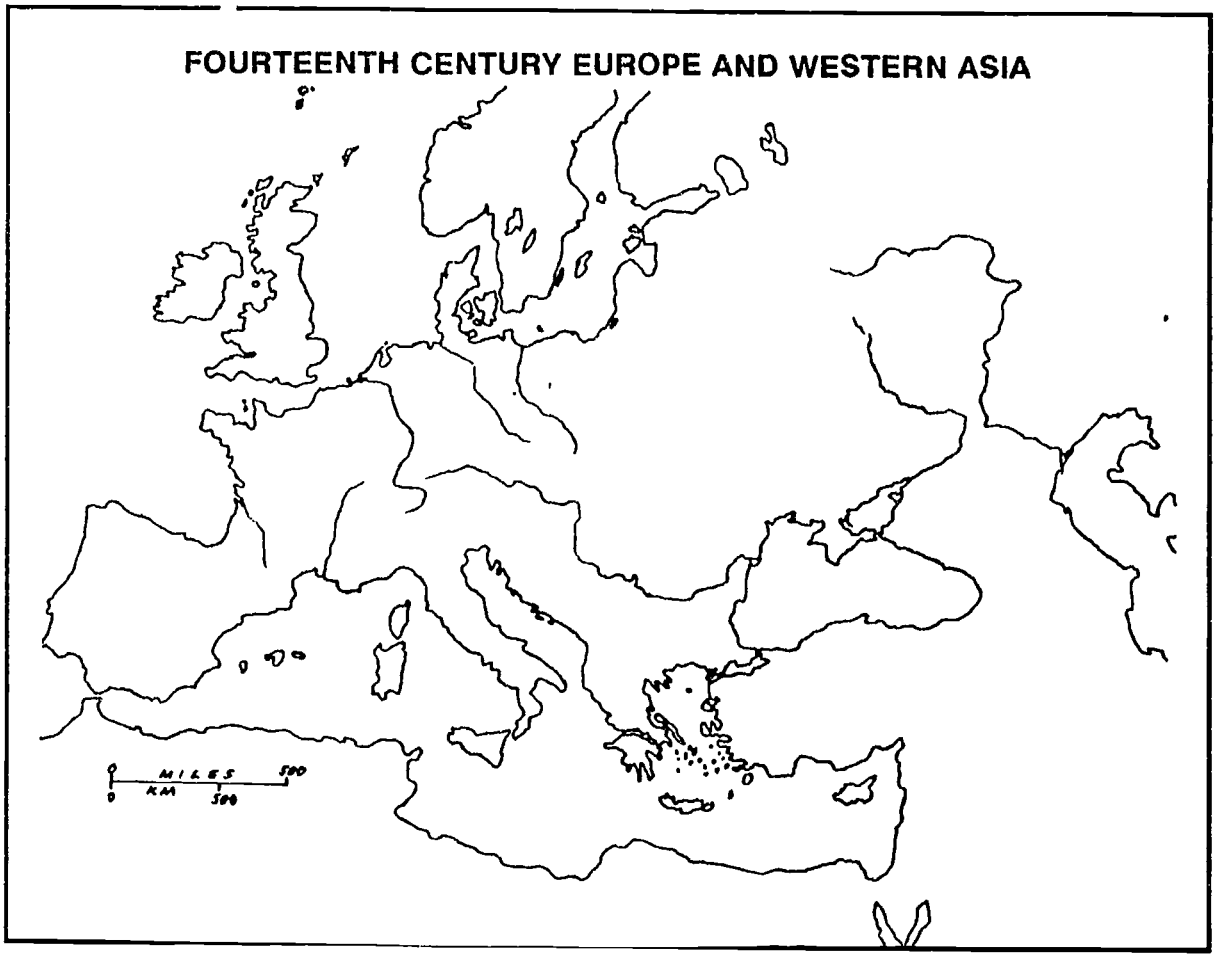
2. Label these bodies of water: Caspian Sea, Black Sea, Mediterranean Sea, Atlantic Ocean, North Sea.

3. Label the following rivers: Volga, Don, Elbe, Oder, Rhine, Danube, Rhone, Garonne.

4. Label the Balkans, Anatolia, Sardinia, Spain, Ireland, Norway, Russia, Germany, Poland, Denmark.

5. Draw in the Silk Road.

6. Locate Aleppo in northern Syria. This is where an Arab traveler and scholar, Ibn Battuta, first heard of the plague.



THE BUBONIC PLAGUE

When: The years 1346-1352

Where: Europe, northern Africa, and Middle East

What: The death of 25 million people—one-fourth of the entire population—from the bubonic plague. This epidemic is known as the Black Death.

The plague probably started among marmots. Marmots are rodents found in central Asia. Marmot furs were traded in that area. Trappers took furs of dead animals and sold them to buyers from Europe or North Africa.

The marmot furs were sent west along the Silk Road. The Silk Road was a route across Asia from China to Europe. When furs were opened in Astrakhan and Saray, fleas jumped out looking for blood. The first cases of plague were reported in Astrakhan and Saray in 1346.

Historians then think the disease moved from Saray down the Don River to Kaffa on the Black Sea. A large rat population in Kaffa provided a breeding ground for the disease. Many of the rats lived on ships that sailed to Europe, thus spreading plague farther west. By 1347, plague had broken out in nearly every port city between Kaffa and Genoa, Italy.

Two key cities were Pera (near Constantinople) and Messina (in Sicily). From Pera, the disease spread through the Greek Islands and into the Balkans. From Messina, plague spread to North Africa to Sardinia to Spain. By 1348, plague had spread through the heart of Europe, even jumping to the Atlantic coast.

In 1348, the first Black Death cases were seen in England. From there it spread across the North Sea to Scandinavia, carried by a ship that left London in May 1349. When the ship was seen off the coast of Norway, people who rowed out to investigate found the crew dead.

In 1350, the plague swept through Denmark and Germany, Poland in 1351, and Russia in 1352. Here, the circle of its travel was complete.

REGIONS:
HOW THEY FORM AND CHANGE

23. WHAT IS A REGION?

Introduction:

Because the concept of region may be difficult for students to grasp immediately, this section contains a greater focus on the United States (i.e., the familiar) than others. The first activity involves students in researching what makes various U.S. regions unique. A rather elaborate follow-up activity is suggested in order to deepen student understanding of the region studied.

Objectives: Students will be able to:

1. Describe the physical and human characteristics that help define selected regions of the United States.

2. List various kinds of regions in the United States.

3. Identify the extent of a particular U.S. region and show it on a map.

Time Required: 2 class periods

Materials and Preparation: You will need blank U.S. maps, U.S. atlases, encyclopedias, and reference books on U.S. states and regions. Before the lesson, copy the following list onto the chalkboard:

New England	Sun Belt
East Coast	Frost Belt
West Coast	Great Lakes Region
Pacific Northwest	Corn Belt
Mid-Atlantic States	Cotton Belt
Midwest	Northeast Corridor, Boston-Washington
Appalachia	Bible Belt
Rocky Mountain	Rust Belt
Mississippi Valley	Silicon Valley
Great Plains	Southwest

Procedure:

1. Explain to students that in order to study any part of a country more closely, geographers divide the country into smaller units called regions. U.S. regions can vary in size from those that cover several states to those that include only part of a city. They can be defined by physical or human characteristics. Some regions are defined by one unifying characteristic like a governmental unit (a state) or a landform type (mountainous region). Some regions may share a complex blend of features (economic, ethnic, religious, climatic, or historic).

2. Direct students' attention to the list of regions you have written on the chalkboard. Ask each student to pick one of the regions.

3. Next, distribute or make available U.S. atlases, encyclopedias, and reference books. Allow student at least one class period to gather as much information as they can about their regions (alternatively, this research may be done as a homework assignment).

Activity developed by Paula Jones, Briscoe Middle School, Beverly, MA; follow-up by Richard Kollen, William Diamond Middle School, Lexington, MA.

4. After students have completed their research, have them show the extent of their region by coloring the area on a blank map of the United States. Students can also illustrate some of the distinctive features of their area around their map. For example, the Sun Belt may show palm trees, citrus fruit, houses with swimming pools, air conditioners, etc.

5. To conclude, students should share their findings, answering the following questions:

- Where is it? [refer to completed maps]
- What do the areas or places inside the region have in common?
- What are the distinctive physical characteristics, if any?
- What are the distinctive human characteristics, if any?

Follow-up:

Working in groups of four, have students plan trips through selected U.S. regions, visiting four attractions in the region on their trips. Each member of the foursome should have specific duties, as follows:

NAVIGATOR: Charts the course to be taken, being as energy-efficient as possible. The route should be drawn on a U.S. outline map, with the states traveled through, the tourist attractions visited, and the towns the group stayed in overnight all labeled.

TIME MANAGER: Figures the time it will take from one sight to another (averaging 55 mph) using the map scale; decides arrival and departure times, what towns to seek accommodations in, etc. The key is not to waste time, but have at least a day at each tourist attraction. The time manager will fill in a calendar with the day's schedule, including states and important cities traveled through, major rivers crossed, attractions seen, etc.

CORRESPONDENTS (2): Read, using travel guides, about two of the four historical sites and write a postcard from each so that all four are covered. The postcard should include what town and state the group is in, the weather (use average temperature for that time of year), what attraction was seen that day, and a couple of interesting facts regarding the attraction. The other side of the postcard should, of course, include a picture.

Each group should plan a class presentation describing what they learned. Once the presentations are completed, the postcards can be displayed around the wall map with yarn connecting each postcard to the correct location. If the map is inexpensive, each group can draw their route on the wall map in a different color.

24. WINTER WONDERLAND

Introduction:

This seasonal activity is appropriate for use during the weeks before the December holidays when students and teachers alike have visions of glistening white landscapes. The lesson focuses on the chances that students in various regions will have snowy vacations.

Objectives: Students will be able to:

1. Identify conditions common to U.S. snowfall regions.

2. Describe why snow is important.

3. Locate snowfall regions on a U.S. map.

Time Required: 1 class period

Materials and Preparation: You will need copies of Handouts 24-1, 24-2 (on colored paper), and 24-3. You will also need bottles of correction fluid or white crayons.

Procedure:

1. Explain to students that some people associate December holidays with snow. Have students give examples of this – Frosty the Snowman, snowflakes on windows, sleigh rides, music (such as Bing Crosby singing *I'm Dreaming of a White Christmas*).

2. Ask students to speculate on which regions of the United States *do* have snow in December. Which regions do not?

3. Distribute Handout 24-1. Read and discuss it with students. Have students underline or highlight regions of the United States that are described as snowfall regions.

4. Hand out the blank physical relief map of the United States (Handout 24-2) printed on colored paper. Have students use correction fluid or white crayons to whiten the snowy regions mentioned in the handout. Then have them label these regions on the map.

5. Conclude by having students complete Handout 24-3.

Follow-up:

1. Have students use newspaper weather report maps to document which U.S. regions did receive snow during December.

2. Have students do reports on western states that are semi-arid and depend on snow packs in nearby mountainous regions for their water supplies (e.g., Colorado River and associated dams that bring water to Southern California).

Activity developed by Paula Jones, Briscoe Middle School, Beverly, MA.

SNOWY REGIONS – FACT SHEET

Snow is precipitation made of masses of tiny ice crystals. These crystals develop from water vapor in cold clouds. Water vapor freezes onto an ice crystal, causing it to grow and form a snowflake. Snowflakes range in size from just one or two crystals to large puffy flakes that can be over an inch in diameter.

Snow contains differing amounts of moisture. A heavy, wet snow may contain up to 1 inch of meltwater for every 10 inches of snow (a 1-10 ratio). A light, fluffy snow, on the other hand, may contain 1 inch per 12 inches of snow (a 1-12 ratio).

The heaviest snowfalls in the world *do not* occur in the polar regions. The annual snowfall is low there because the very cold winter air temperatures reduce the capacity of the air to hold moisture. Northern Canada and Siberia average less than 60 inches of snow a year.

The heaviest annual snowfalls occur in the mountains of the middle latitudes, in such places as the Alps of Europe and the Cascades, Sierra Nevadas, and Rockies in the United States. Record snowfalls include 1,122 inches on Mt. Rainier in Washington State in 1972, and a 24-hour snowfall of 72 inches in the Colorado Rockies in 1921.

Heavy mountain snowfalls are almost always *orographic* in origin. That means they are caused by air being cooled when forced up and over a mountain range. The Appalachians of North Carolina and the Green and White Mountains of New England receive heavier snowfalls than surrounding areas for this reason.

Other regions known for heavy snowfalls are the *leeward* (the side or direction sheltered from the wind) *sides of lakes*. A good example of this would be the snows that fall on the east sides of the Great Lakes in Canada and the United States (upper peninsula of Michigan, northeastern Ohio, northwestern Pennsylvania, and parts of New York State that border Lake Erie and Lake Ontario). These "lake effect" snows may be more prevalent just before the lakes freeze in mid-winter.

So, what are the chances of having snow for the holidays? For places like Miami or Los Angeles, the chances are none. The chances increase as one moves northward. Chances are pretty good in mountainous regions. The best bet for a snowy Christmas would be the Rockies, Sierra Nevadas or Cascades, around the Great Lakes, the highest Appalachians, and the Adirondack Mountains of New York.

Lastly, it is important to realize that snowfall is important for other reasons besides setting a winter holiday backdrop. Snowfall is a good insulator for vegetation. It protects plants from cold and drying winds.

In the semi-arid lands in the western United States, residents depend for their water supply on the snow deposited during winter in the high mountain regions. The spring run-off is important to many dry areas of California, Nevada, Arizona, Colorado, and New Mexico. This spring thaw is held in huge reservoirs behind dams and is used for city water and irrigation throughout the year.

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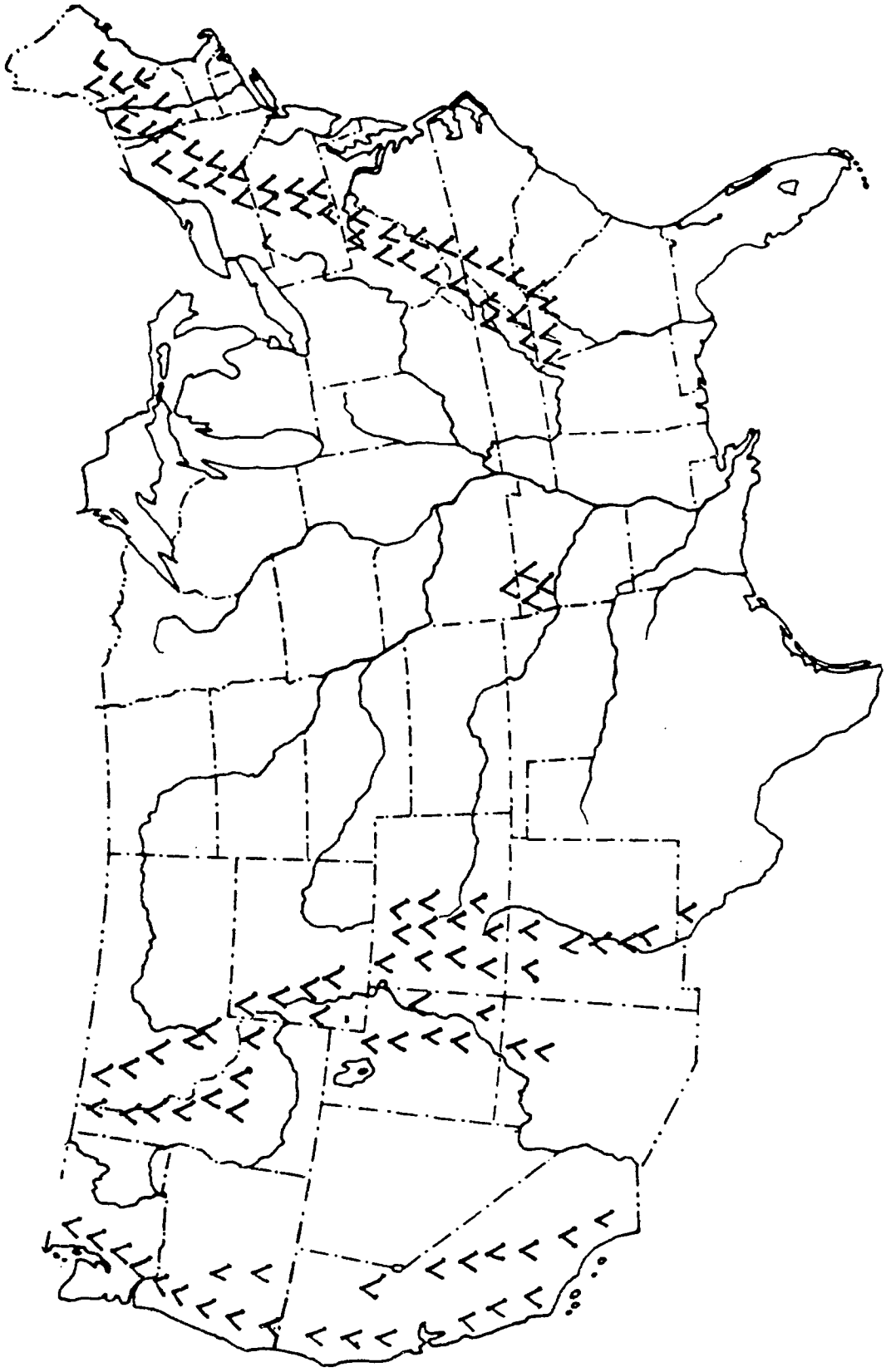
MAPPING SNOWY REGIONS



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U.S. SNOWY REGIONS
QUESTION AND ANSWER SHEET

Use information found in Handout 24-1 and atlases to answer the following questions:

1. Why wouldn't the northern parts of Alaska receive a lot of snow?

2. How many inches of meltwater would there be for an area that received an 8-inch snowfall of light powdery snow?

3. Define *orographic snowfall*.

4. Name four or five U.S. cities that have heavy snowfalls caused by the "lake effect."

5. Name two or three *specific* locations in the United States where one could most probably have a white holiday season.

6. List three important benefits of snow.

25. WHATEVER HAPPENED TO MEGALOPOLIS?

Introduction:

One type of region studied by geographers is the urban area. This activity focuses on urban centers in the United States, particularly the agglomerations of cities called megalopolises. When students have completed this introductory activity, they could move on to study of international cities.

Objectives: Students will be able to:

1. Describe the continuing trend of urbanization in the United States.

2. Define the following terms: *urban, rural, urbanization, metropolitan area, suburbs, megalopolis.*

3. Locate the largest U.S. metro regions.

4. Use census data transferred onto maps to understand population distribution patterns.

5. Identify the relationship between population density and the physical/human characteristics of a megalopolis.

Time Required: 1-2 class periods

Materials and Preparation: Make copies of Handouts 25-1, 25-2, 25-3, and 25-4 for all students. You will also need student atlases.

Procedure:

1. Present the following geographic terms to the students on the chalkboard or overhead projector:

urban area – from Latin word "urbs" meaning city
rural – term borrowed from Latin word meaning countryside
urbanization – large-scale movement of people from rural to urban areas
metropolitan area – both the city proper and surrounding cities and suburbs
suburb – smaller communities just outside cities
megalopolis – super-region consisting of several cities that have grown together, either completely or nearly so

2. Show students the following chart:

Urbanization of the United States

Date	**1790**	**1850**	**1900**	**1920**	**1990**
% of U.S. people living in cities	5%	15%	40%	51%	77%

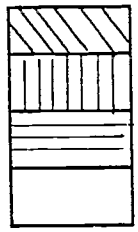
Tell students rural and urban populations have changed dramatically since 1790. In 1790, most people in the United States were farmers; 95 percent of the people lived in the countryside. Only 5 percent lived in cities. Today, only 23 percent of the people live in rural areas, and only 5 percent of those live on farms; 77 percent of Americans live in metropolitan regions.

Based on activities by Charles Hardy, Walpole (MA) Public Schools, and Paula A. Jones, Briscoe Middle School, Beverly, MA.

3. Distribute Handout 25-1 and student atlases. Have students find the locations of the top 24 metro areas and draw a dot with the corresponding number of each city on the handout map. Ask students what they observe about the east coast of the United States.

4. Jean Gottman "discovered" the east coast megalopolis in the 1950 census by mapping the population density. He called it Novus Ordo Seclorum (see the great Seal of the United States), the "new order of the ages"; that is, a model of the super-cities that might eventually appear around the world as a result of urban sprawl. He said Megalopolis is the Main Street of the Nation, a concentration of power that dominates the politics, economy, communications, and arts of the American nation. He took the name from the ancient Greek name of a planned city-state that was never built.

5. Distribute Handout 25-2 and 25-3 and divide the class into pairs. One person will map county data in 1960, the other 1980, using the same coloring scheme. The result will be two maps that are comparable. (Advanced groups may discuss what grouping of the data would be appropriate.) Write a title on the map, and draw in boxes for the key.



Over 10,000 persons per square mile

1,000 to 9,999 persons per square mile

200 to 999 persons per square mile

Under 200 persons per square mile

6. After the mapping has been completed, be sure that students understand how population density is a major criterion for defining the following: central city (high density code), suburbs (a range of densities), and rural (low density).

7. Now distribute Handout 25-4. Using the atlases as a reference, have students complete the worksheet and be prepared to discuss what has happened to Megalopolis since 1960.

Follow-up:

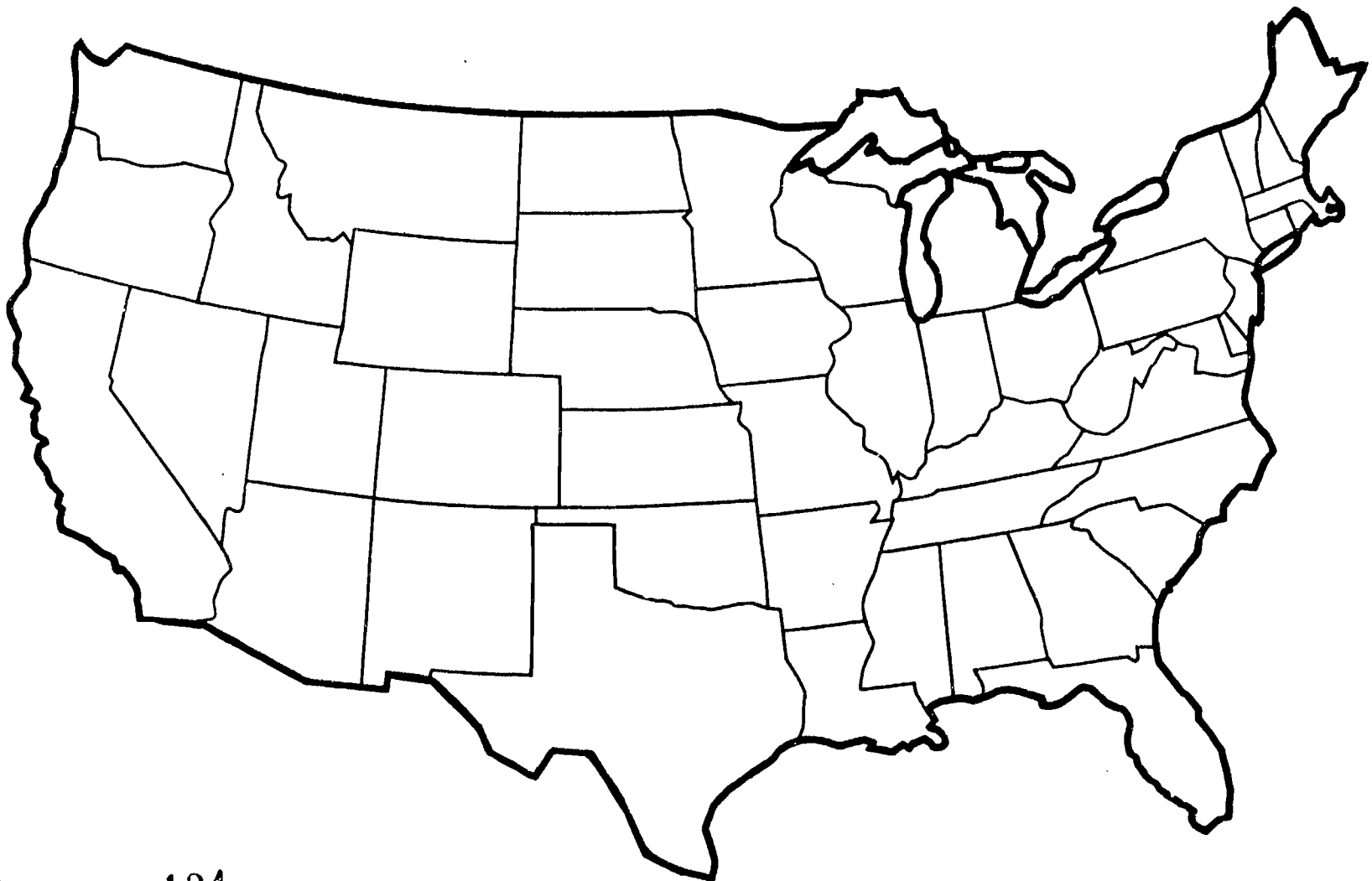
1. Based on population density, encourage students to speculate about other megalopolises being formed in the United States and around the world. You might give students an outline map of another urban corridor, San Diego to San Francisco, for example, and the density data.

2. Have students use their maps and atlases to answer the following:

- Does the *eastern* or *western* half of the United States have more large metropolitan areas? What *geographic reasons* could account for your answer?
- Of the top 10 largest metro regions in the United States, how many are located next to water? What are the cities' names? Use an atlas and tell on what body of water each is located.

If a "U.S.A. at Night" map from the Census Bureau is available, ask students to name five states that seem to be the most *rural* and five states that seem to be the most *urban*.

THE 24 LARGEST METROPOLITAN REGIONS IN THE UNITED STATES



1. New York-Northern New Jersey-Long Island, NY-NJ-CT—18,120,200
2. Los Angeles-Anaheim-Riverside, CA—13,769,700
3. Chicago-Gary-Lake County, IL-IN-WI—8,180,900
4. San Francisco-Oakland-San Jose, CA—6,041,800
5. Philadelphia, Wilmington,Trenton, PA-NJ-DE-MD—5,963,300
6. Detroit-Ann Arbor, MI—4,620,200
7. Boston-Lawrence-Salem, MA-NH—4,109,900
8. Dallas-Fort Worth, TX—3,766,100
9. Washington, DC-MD-VA—3,734,200
10. Houston-Galveston-Brazoria, TX—3,641,500
11. Miami-Fort Lauderdale, FL—3,000,500
12. Cleveland-Akron-Lorain, OH—2,789,000
13. Atlanta, GA—2,736,600
14. St. Louis, MO-IL—2,466,700
15. Seattle-Tacoma, WA—2,420,800
16. Minneapolis-St. Paul, MN—2,387,500
17. San Diego, CA—2,370,400
18. Baltimore, MD—2,342,500
19. Pittsburgh-Beaver Valley, PA—2,284,100
20. Phoenix, AZ—2,029,500
21. Tampa-St. Petersburg-Clearwater, FL—1,995,100
22. Denver-Boulder, CO—1,858,000
23. Cincinnati-Hamilton, OH-KY-IN—1,728,500
24. Kansas City, MO-KS—1,575,400

Source: U.S. Census Bureau

PEOPLE PER SQUARE MILE FOR COUNTIES IN MEGALOPOLIS

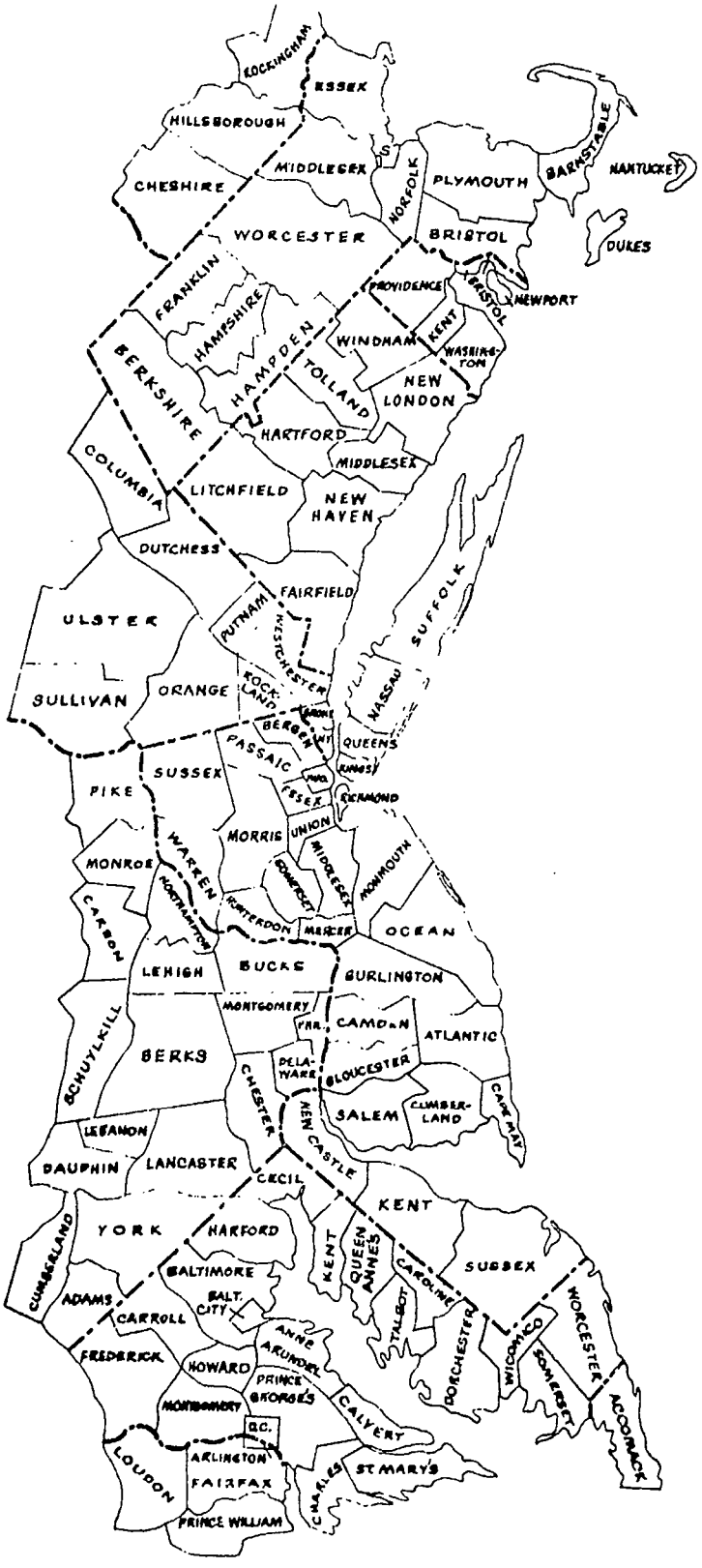
	1960	1980
New Hampshire		
Cheshire	60	87
Hillsborough	200	315
Rockingham	145	272
Massachusetts		
Barnstable	175	370
Berkshire	150	156
Bristol	700	853
Dukes	50	88
Essex	1,140	1,280
Franklin	75	92
Hampden	700	717
Hampshire	200	263
Middlesex	1,500	1,664
Nantucket	75	107
Norfolk	1,300	1,518
Plymouth	375	619
Suffolk	14,000	11,472
Worcester	380	427
Rhode Island		
Bristol	1,500	1,808
Kent	650	896
Newport	700	757
Providence	1,350	1,373
Washington	180	280
Connecticut		
Fairfield	1,000	1,276
Hartford	900	1,093
Litchfield	125	170
Middlesex	240	346
New Haven	1,000	1,248
New London	275	356
Tolland	165	279
Windham	130	179

	1960	1980
New York		
Bronx	33,000	28,000
Columbia	73	93
Dutchess	200	300
Kings	34,500	31,762
Nassau	4,500	4,600
New York	77,000	64,400
Orange	220	314
Putnam	140	335
Queens	16,000	17,400
Richmond	3,700	6,000
Rockland	770	1,480
Suffolk	720	1,400
Ulster	100	140
Westchester	1,800	2,000
Pennsylvania		
Adams	100	130
Berks	300	360
Bucks	500	780
Carbon	130	140
Chester	275	418
Dauphin	420	440
Delaware	3,000	3,000
Lancaster	300	380
Lebanon	250	300
Lehigh	650	780
Monroe	60	114
Montgomery	1,000	1,325
Northampton	540	600
Philadelphia	16,000	12,400
Pike	15	33
Schuylkill	225	200
York	250	345
Delaware		
Kent	100	165
New Castle	700	1,000
Sussex	75	100

Source: U.S. Census, 1960 and 1980.

	1960	1980
New Jersey		
Atlantic	280	342
Bergen	3,300	3,570
Burlington	280	450
Camden	1,800	2,113
Cape May	180	313
Cumberland	200	270
Essex	7,200	6,700
Gloucester	400	611
Hudson	13,500	12,000
Hunterdon	120	200
Mercer	1,200	1,360
Middlesex	1,400	1,885
Monmouth	700	1,065
Morris	560	866
Ocean	170	540
Passaic	2,000	2,400
Salem	170	191
Somerset	470	667
Sussex	100	220
Union	4,900	4,886
Warren	180	235
Maryland		
Anne Arundel	500	886
Baltimore	800	1,100
Baltimore City	12,000	9,793
Calvert	72	162
Caroline	60	72
Carroll	110	213
Cecil	140	170
Charles	70	160
Dorchester	50	52
Frederick	100	173
Harford	170	326
Howard	150	472
Kent	50	60
Montgomery	700	1,170
Prince George's	730	1,370
Queen Anne's	44	70
St. Mary's	106	161
Somerset	60	57
Talbot	75	100
Wicomico	130	170
Worcester	50	65
District of Columbia	12,500	10,181
Virginia		
Accomack	60	66
Arlington	6,500	5,880
Fairfax	700	1,516
Loudon	50	110
Prince William	NA	427

COUNTIES OF THE EASTERN SEABOARD



ANALYSIS OF THE MEGALOPOLIS MAPS

1. What are the major similarities and differences in the distribution of population in Megalopolis from 1960 to 1980? Is there a continuous strip of urbanized counties in 1960? In 1980?

2. What are the five great metropolitan areas that have expanded so much that their suburbs have grown together? List them in order, from north to south.

3. What happened to Baltimore City between 1960 and 1980? Look at the data sheet to see if the same phenomenon is happening to other central cities in Megalopolis. How do you explain this phenomenon?

4. Look at the data for counties that are not as heavily urbanized, such as Windham and Litchfield, CT: Cecil, MD; and Salem, NJ. What is happening to these counties?

5. We call Megalopolis a **region** because we found that many counties along the eastern seabord had something in common: they were densely settled and together formed a nearly continuous urban strip. What other criteria might we use to delineate the Megalopolis region? Would the following criteria, if mapped, also reveal Megalopolis?

   Per capita income

   Number of newly arrived immigrants

   Percent of farm workers in the labor force

   Number of roads and highways

   Number of colleges and universities

List three criteria to add to this list, and explain why each would work to reveal Megalopolis if mapped.

26. THE NINE NATIONS OF NORTH AMERICA

Introduction:

Political divisions are generally so taken for granted that we rarely think about characteristics that distinguish our state from another or one nation from another. By asking students to consider dividing North America into nine nations, this activity forces them to reflect on what is unique about various regions of the continent.

Objectives: Students will be able to:

1. Understand the physical and human characteristics that help to define a region.

2. Create a new division of North America by applying what they know about regions.

3. Examine trends that lead to expanded contacts and interrelationships between nations.

Time Required: 1-2 class periods

Materials and Preparation: You will need copies of Handouts 26-1 and 26-2, as well as student atlases. One or more copies of the book *The Nine Nations of North America* (Boston, MA: Houghton Mifflin, 1981) would also be useful.

Procedure:

1. Ask students to think about what it would mean to have nine nations in North America instead of three. (North America is defined in this activity as Canada, United States, and Mexico.) What would be the implications for travel, trade, currency, government, and foreign policy?

2. Tell students that a *Washington Post* journalist named Joel Garreau made a yearlong trip through North America. He "discovered" what he viewed as nine separate nations based on similarities and differences among regions. He later wrote a book about his experience, *The Nine Nations of North America*. Tell students in which of Garreau's nine nations their community is located. Read the definition of this nation from Handout 26-2. Having some idea how Garreau divided the nations will help students with the next part of the lesson.

3. Distribute Handout 26-1 and the student atlases. Working in pairs, students should divide the map into nine nations based on such factors as:

language and culture	topography
trade and manufacturing	population density
natural resources	climate

Note: Make sure students work within the boundaries of Garreau's trip, which are shown on the map.

4. Have students defend their reasons for division of the continent in a class discussion.

5. Distribute Handout 26-2 and have students compare their "nations" and those created by Garreau. Which criteria were most important to them? to Garreau?

Activity developed by Paul Mulloy.

6. Discuss with students why the idea of nine nations might be important. For example, you might discuss whether one government can adequately represent people with interests and needs as diverse as those in Mexamerica and New England.

With older students, you might explain that Garreau ends the first chapter of his book with a story about a newspaper reporter who decided to move from the nation's capital back to the west, where he had grown up. The reporter was concerned about whether he was making a good decision until he reached Cheyenne, Wyoming. Here is what Garreau says:

> It was there, he said, that suddenly a knot disappeared from his stomach, a knot he hadn't known was there. It was there that he discovered a feeling of familiarity with the colors, the horizon, the names of the towns.
>
> Every North American knows a place like that, a place where, on your way back from your wanderings, surroundings stop feeling threatening, confusing, or strange.
>
> Ultimately, that's the reason we are Nine Nations. When you're from one, and you're in it, you know you're home.

Students might discuss this observation with their parents. Do parents feel an intense loyalty to the region in which they were raised, even if they no longer live there? Why is this important to them?

Follow-up:

1. Using the same variables, ask students to research regions of the world where national boundaries may not indicate the physical/human characteristics of the region (Africa, for example, where tribal loyalties may be more important than political boundaries artificially created by colonial powers).

2. Older students may want to read and report on excerpts from Garreau's book.

CREATING THE NATIONS OF NORTH AMERICA

The map below shows the area Joel Garreau divided into the "nine nations of North America." Study maps of this area in an atlas. With a partner, decide how you would draw nine nations in this area. Consider such factors as language and culture, trade and manufacturing, natural resources, topography, population density, and climate.

Give each nation a name that indicates what characteristics set it apart from the others.

GARREAU'S NINE NATIONS

Quebec

History, language, culture, food, music are all distinct as a result of French heritage; strong movement to separate from the rest of Canada; tremendous source of hydroelectric power.

New England

Few natural mineral resources; moving away from imported oil towards hydroelectric power and conservation; strength in the fishing industry; heavy immigration from maritime Provinces; stormy historical/cultural traditions merging the past with the future; major base for high-tech industries.

Foundry

Emphasis on traditional 19th-century manufacturing, iron, steel, autos; heavily urbanized and unionized; includes Southern Ontario; relatively high levels of unemployment, plant closings, and decaying urban areas; needs to move into the next century without losing its traditional manufacturing base.

Dixie

Non-union, mostly rural; strong growth in the past 15 years, but mostly of the catch-up variety; heavily agricultural pockets of extreme poverty; distinct architectural styles; other industries include fishing, shipbuilding, steel, and tourism; selected movement towards power sharing between blacks and whites.

The Islands

Two-way flows in immigration, trade, drug traffic, and tourism between southern Florida and the Caribbean; Miami, the drug capital of the Caribbean; 53 different ethnic groups in south Florida with Cubans dominant in accumulation of wealth; Spanish the predominant language in many sections of Miami, including downtown.

Mexamerica

Growing influence of Spanish culture on food, language, customs, etc.; legal and illegal immigration; the "Sun Belt"; heavy growth but water and energy are problems; growing Mexican-American middle class with expanding ties to Latin America; Los Angeles now the second largest Spanish-speaking city in North America after Mexico City.

Ecotopia

Little concern about foundry-like unemployment, its industries are service-oriented and high tech; natural markets and cultural lifestyle coming from Pacific Rim countries; similar to New England in its concern for conservation and alternative energy sources; high tolerance for alternative lifestyles.

The Empty Quarter

Open space, sparsely populated; mineral resources; strong anti-government, anti-Washington feelings; water a major problem; high growth "boom towns" based on energy development now on the decline; includes major portions of Western Canada.

The Bread Basket

Very stable economic growth; very sensitive to foreign markets; most insular yet tied to the world through its agricultural exports; people in Manitoba have more in common with American farmers of the Midwest than to their eastern Canadian counterparts; conflict between small farmer vs. large multinational business.

Aberrations

N.Y. – Information processing, financial markets, communications center.

Washington – Government, bureaucratic structure.

Alaska and Hawaii – Geography, location, ethnic characteristics.

27. DESERTS, MOUNTAINS, FORESTS, GRASSLANDS

Introduction:

In this activity, students compare U.S. and world regions based on physical characteristics – deserts, mountains, forests, and grasslands. In cooperative learning groups, students conduct research and prepare class presentations on the climate, resources, wildlife, and people of these regions.

Objectives: Students will be able to:

1. Identify desert, mountain, forest, and grassland regions on the map.

2. Describe the climate, resources, wildlife, and people of one region.

3. Conduct research and help prepare a class presentation on findings.

Time Required: 3-4 class periods

Materials and Preparation: Make enough copies of Handouts 27-1, 27-2, 27-3, and 27-4 so one-fourth of the students can have each. You will need a variety of atlases and other reference books available for student use, or you may arrange for students to spend a day in the library doing research.

Procedure:

1. Review with students the definition of *region*. Ask students in what ways their community might be more like a region in Asia or Africa than like another region in the United States. (It might have climate, landforms, or vegetation similar to the more distant region.)

2. Tell students that in this activity they will be studying four kinds of regions based on physical characteristics – mountains, deserts, grasslands, and forests. With the class, develop some simple definitions of these terms:

- Forests are large areas covered by trees.
- Deserts are dry, often hot areas with few trees or grasses.
- Grasslands are large, flat areas with many grasses but few trees.
- Mountain regions have huge masses of land that rise high above the surrounding area. Vegetation varies with the height or elevation on the mountains.

Ask students to identify in which kind of region they live.

3. Divide the class into four groups, giving members of each group one of the handouts. Explain that each group is to conduct research on its assigned region. It will then make a class presentation of the information gathered. The information can be presented through a mural, oral reports, a simulated news broadcast, or any other format students prefer.

Each student within a group should have an assigned role. Four students in each group can be "primary researchers" for the four areas listed on the handout. Other students can serve as "presentation coordinators," "research assistants," and "research coordinators."

Activity developed by Laurel R. Singleton, Social Science Education Consortium.

4. Allow one class period for students to conduct their research. At the beginning of the following class period, check student progress and remind them to plan presentations that will be both interesting and informative.

5. When students have planned and made their presentations, ask each student to write a paragraph telling in which of the 16 areas covered in the activity he/she would rather live and explaining the reasons why.

Follow-up:

1. Have students create mobiles showing the wildlife (both plants and animals) of the regions covered in the activity.

2. Encourage interested students to research yet another region – the tundra. Allow time for their findings to be shared with the class.

DESERT REGIONS

For each of the deserts listed below, find out about its climate, resources, plants, and animals. Try to find out how the people of this desert live.

When your research is complete, your group will prepare a presentation to share what you have learned with your class.

Mohave Desert, Southwestern United States

Sahara Desert, Northern Africa

Gobi Desert, Central Asia

Australian Desert, Central and Western Australia

GRASSLANDS REGIONS

For each of the grasslands listed below, find out about its climate, resources, plants, and animals. Try to find out how the people of this grassland live.

When your research is complete, your group will prepare a presentation to share what you have learned with your class.

Great Plains, Central United States

Pampas, South America

Steppes, Soviet Union

Savanna, West Africa

FOREST REGIONS

For each of the forests listed below, find out about its climate, resources, plants, and animals. Try to find out how the people of this forest live.

When your research is complete, your group will prepare a presentation to share what you have learned with your class.

Pacific Coast Coniferous Forest, Western United States

Amazon Forest, South America

Black Forest, Europe

Malaysian Jungle, Southeast Asia

MOUNTAIN REGIONS

For each of the mountain regions listed below, find out about its climate, resources, plants, and animals. Try to find out how the people of this mountain region live.

When your research is complete, your group will prepare a presentation to share what you have learned with your class.

Appalachian Mountains, Eastern United States

Alps, Central Europe

Himalayas, South Asia

Great Dividing Range, Australia

RESOURCES FOR TEACHERS

The lists below suggest the variety of resources available in the area of global geography and major organizations with interests in the area. Coordinators of the state geographic alliances are also listed. Many of the materials listed contain bibliographies of additional materials, and all of the organizations can provide more information about specific or general topics related to the field. These lists are provided simply as starting points for developing your own resource collection.

Materials

Atlas of Mankind (Chicago: Rand McNally, 1982).

This book presents world maps on the universal features of society: language, economic and political systems, religions, kinship patterns, and social organization. A wealth of information is provided.

Atlas of North America: Space Age Portrait of a Continent (Washington, DC: National Geographic Society, 1985).

This atlas presents a detailed examination of the continent through 200 maps and 100 space images.

Bringing a Global Perspective to World Geography, by Robert B. Woyach and others (Columbus, OH: Mershon Center, 1983).

This resource contains nine units focusing on economic, political, and social interactions among world regions.

Caravans: An Adventure Simulation (Lakeside,CA: Interact, n.d.).

This simulation involves students in planning hypothetical journeys around the world. Students learn about world geography as they participate in the simulation. This publisher offers several other simulations that develop geographic understanding.

Classroom Atlas (Lexington, MA: D.C. Heath, 1985).

This student atlas designed specifically for the elementary grades provides a range of special purpose maps on regions of the United States and the world.

Culturgrams: The Nations Around Us, by the David M. Kennedy Center for International Studies, Brigham Young University (Garrett Park, MD: Garrett Park Press, 1986).

These two volumes – one on the Americas and Europe and the other on the Middle East, Asia, Africa, and the Pacific Area – present four pages of background information on approximately 100 nations.

Elementary Population Activities Kit (Washington, DC: Zero Population Growth, 1984).

This kit contains 20 modules for K-6 classrooms. The modules, which focus on such topics as exponential growth and migration, can be used individually or can be combined as a unit.

Geographic Perspectives: Content-Based Activities, by Heidi Hursh and others (Denver, CO: Center for Teaching International Relations, 1990).

This guide presents activities that develop students' understanding of the five themes of geography as they learn about major areas of the world.

Geography: A Resource Book for Secondary Schools, by A. David Hill and Regina McCormick (Santa Barbara, CA: ABC-CLIO, 1989).

This reference work includes an introduction to the history and nature of geography, and the data geographers analyze. Extensive bibliographic listings are provided.

Geography: A Voyage of Discovery (Washington, DC: National Geographic Society, 1987).

This video program is designed to motivate students to learn more about geography through interest-capturing photographs of the world and its people.

Global Issues in the Intermediate Classroom, by Jacquelyn Johnson, John Benegar, and Laurel R. Singleton (Boulder, CO: Social Science Education Consortium, 1989).

Designed to make full use of students' natural curiosity, the lessons and activities in this newly revised book will help students discover how global issues affect their community and how local decisions and actions affect people around the world.

Global Perspectives: A Geography Based Program (Indianapolis, IN: Cram, n.d.).

This series presents activities to help students develop map, table, graph, and thinking skills as they learn about various regions of the world. Components of the program include desk maps, copy masters, and computer software.

Guidelines for Geographic Education: Elementary and Secondary Schools (Washington, DC: Association of American Geographers, 1984).

This report introduced the five fundamental themes of geography and spelled out a sequence for geographic education, K-12.

Headline World Atlas (New York: Hammond, 1986).

Along with thematic maps of the world's regions, this atlas presents statistical tables and drawings of national flags.

Images of the World: An Atlas of Satellite Imagery and Maps (Chicago: Rand McNally, 1983).

This fascinating resource contains full-color satellite views of the earth's major land formations. Each of the images is accompanied by a map that explains the principal landforms shown.

Map Corner, The, by Arnold B. Cheyney and Donald L. Capone (Glenview, IL: Good Year Books, 1983).

This teacher resource contains 72 activities that develop location skills.

Map Games: Geography (South Windham, ME: Educational Materials Associates, n.d.).

This product includes 31 games designed to reinforce place location. Individual games focus on particular regions of the world, including the United States.

National Geographic Global Pursuit (Washington, DC: National Geographic Society, 1987).

This geography trivia game motivates student interest in geography while simultaneously providing students with new views of the world.

National Geographic Kids Network (Washington, DC: National Geographic Society, 1989).

This science and geography curriculum is composed of six-week units that involve hands-on activities as well as computer-based lessons. Participating students share results with classes around the nation.

New State of the World Atlas, The, by Michael Kidron and Ronald Segal (New York: Touchstone Books, 1987).

This atlas contains unusually designed maps that capture student interest. Among topics covered in maps are population, life expectancy, hunger, and energy resources.

Nystrom Reference Atlas for Students (Chicago, Nystrom, n.d.).

Among the many map and atlas products from this company, the Nystrom Reference Atlas presents numerous maps. A Spanish atlas is also availble.

One World: Countries Database (Culver City, CA: Social Studies School Service, 1985).

This computer data base—available in a variety of Apple, Commodore, and IBM versions—contains information on 178 nations. The data base covers information in 33 geographical, economic, and demographic categories and can be searched using multiple criteria.

Our World: Its Land People, by Lynn S. Parisi (Waterbury, CT: Graphic Learning, 1986).

This desk map and worksheet program presents physical and cultural geography of ten world regions. A broad range of skills is covered.

People and Places of the Past (Washington, DC: National Geographic Society, 1983).

This oversize atlas provides overviews of the world's regions, along with a chronology of events in the ancient world.

Scott, Foresman World Atlas (Glenview, IL. Scott, Foresman, 1982).

Designed for secondary students, this atlas not only provides numerous world and regional maps, it also contains an introduction to maps and explanatory graphics, including photos of vegetation zones.

State of the World, The, by Lester R. Brown and others (Washington, DC: Worldwatch Institute, annual).

The Worldwatch Institute annually publishes this report on the world's resources and how they are being used. While not suitable for use by elementary students, the book provides valuable information for teachers.

Student's World Atlas (Chicago: Rand McNally, 1988).

This atlas contains a range of useful material, including maps, essays, photographs, statistical data, and an introduction to map reading.

Teaching Geography: A Model for Action Handbook (Washington, DC: National Geographic Society, 1988).

This three-ring binder provides a range of resources teachers can use to expand their teaching of geography. Included are lesson plans, resource lists, and other helps.

Weather Machine, The (Washington, DC: National Geographic Society, 1988).

This multimedia kit includes lesson plans, worksheets, and a computerized data base containing weather maps and archival data students can analyze and manipulate. A subscription service providing daily weather information is also available.

Where in the World? (Ann Arbor, MI: Aristoplay, n.d.).

This board game has several variations for various skill levels. The game reinforces students' place location skills, as well as familiarizing them with facts about nations and regions.

Windows to the World/More Windows to the World, by Nancy Everix (Carthage, IL: Good Apple, 1984-1985).

In these two softbound books, students "take a trip around the world," learning about the geographical and historical background of seven countries in each book. Students experience the excitement of exploring language, food, native plants, and animals.

World Around Us, The: Cultural Geography (New York: Franklin Watts, 1987-88).

This series of student books covers the climate and features of deserts, grasslands, mountains, Islands, tropics, polar regions, and maritime regions. Three countries are featured in each region.

Worldlink (Burbank, CA: Worldlink, annual).

Worldlink is a series of six videotapes produced each year. Each video looks at global issues and contains international news clips as well as interviews with young people from various cultures.

Worldways: Bringing the World into the Classroom, by Pamela Elder and Mary Ann Carr (Menlo Park, CA: Addison-Wesley, 1987).

This teacher resource book provides a "broad-based rationale for teaching with a global perspective," supported by 76 activities and an extensive resource section.

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