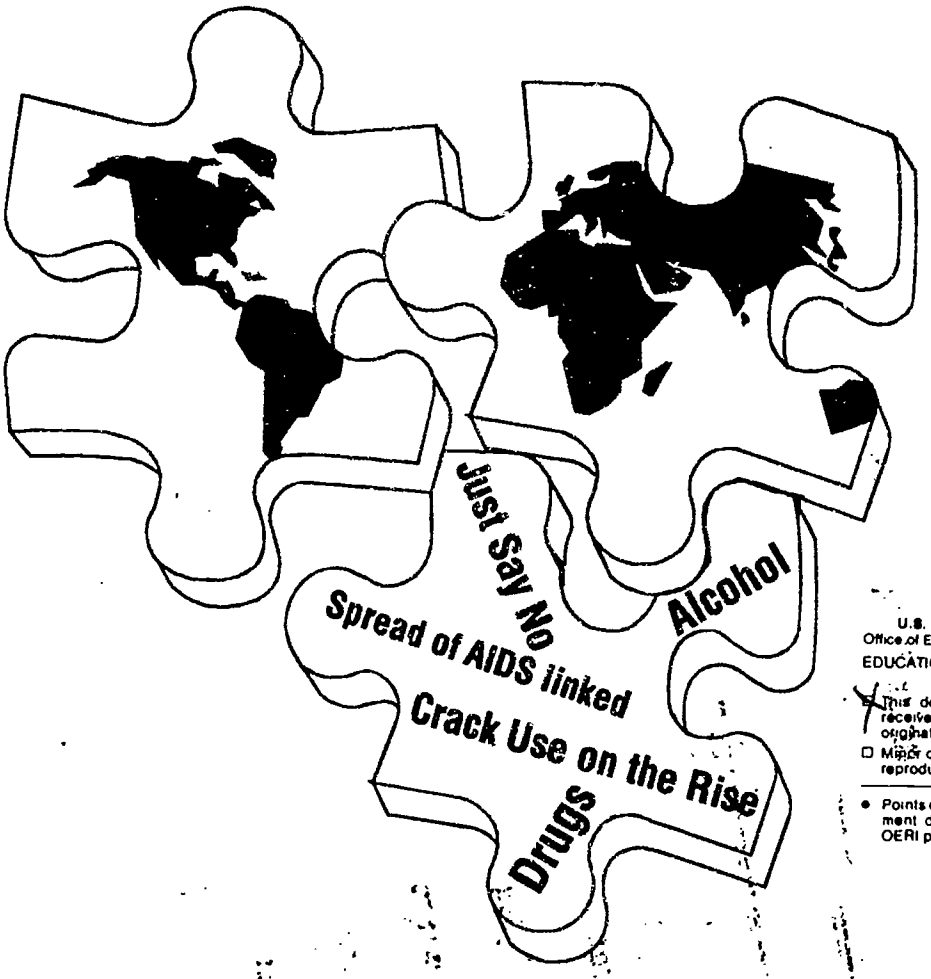
DOCUMENT RESUME

ED 368 627 SO 023 777

TITLE	Substance Abuse Prevention and Geography. Teacher's Resource Guide.
INSTITUTION	Connecticut Geographic Alliance, Storrs.
SPONS AGENCY	National Geographic Society, Washington, DC.
PUB DATE	91
NOTE	130p.
PUB TYPE	Guides - Classroom Use - Teaching Guides (For Teacher) (052)
EDRS PRICE	MF01/PC06 Plus Postage.
DESCRIPTORS	Adolescents; Children; Disease Incidence; *Drug Education; Elementary Secondary Education; *Geography; Health; *Health Education; Social Studies; *Substance Abuse; Teaching Guides
IDENTIFIERS	Connecticut

ABSTRACT

This guide integrates themes of geography with health issues of the 1990s to encourage healthy lifestyles and promote geographic literacy. Designed for use by social studies educators and educators responsible for teaching about substance abuse and related health issues, this guide includes lessons for kindergarten through 12th grade. After an overview section, the five themes of geography are presented in the second section: (1) location; (2) place; (3) human/environment interactions; (4) movement; and (5) regions. The third section gives teacher background information with five historical and geographic summaries to provide information for lesson presentations and to provide material and data for potential lessons. The fourth section contains background information for educators on cholera, the Bubonic Plague, and AIDS through historical and geographical facts, tables, charts, maps, and lessons for a variety of situations. The fifth section provides three lessons each for grades K-3, grades 4-6, grades 7-9, and grades 10-12. The final section includes information on AIDS cases, crime, substance abuse, adolescents, and programs in Connecticut along with available resources on health information, geographic information, and drug prevention videotapes. (CK)



Teacher's Resource Guide on

Substance Abuse Prevention and Geography

Connecticut Geographic Alliance - 1991

Graphics and Layout by Hayes Document Design

Teacher's Resource Guide on

Substance Abuse Prevention and Geography

"I pledge my commitment, and that of the National Geographic Society, to revitalize geography education in America's schools."

Gilbert M. Grosvenor
President and Chairman
National Geographic Society

TABLE OF CONTENTS

Grades 10-12 Lessons

Information and Resources

FOREWORD

This *Resource Guide* is the first curriculum development project of the Connecticut Geographic Alliance. The Alliance is a part of the National Geographic Society's Alliance Network. Aided by a $50,000 grant from the Society's Education Foundation for each of three years (1989-1992), the Alliance has developed a three-year program of geography education activities. Alliance activities funds will be matched each year by state funds as well as local individual, foundation and corporate funds.

Connecticut Geographic Alliance is an organization of educators and other citizens who are concerned about improving opportunities for geographic education in Connecticut's schools. The Alliance focuses on equipping teachers for more effective geographic instruction by providing leadership training so teachers can conduct workshops in local districts, offering workshops/ institutes for teachers that focus on important geographic issues, and developing materials for instructional use. Current membership includes teachers and administrators from more than half of Connecticut's towns, faculty from the state's four academic geography programs (University of Connecticut, Central Connecticut State University, Southern Connecticut State University and Manchester Community College), and concerned citizens in real estate and development, environmental agencies and international business.

Judith W. Meyer, professor of geography and department head at the University of Connecticut, and Daniel W. Gregg, social studies consultant for the Bureau of Curriculum and Instruction at the Connecticut State Department of Education, are co-coordinators of the Alliance. They are assisted by Sheila Spellacy, a teacher at East Hartford Middle School, who serves as in-service program coordinator, and an advisory board representing teachers, administrators, school board members, and members drawn from business and the community.

ACKNOWLEDGMENTS

This *Teacher's Resource Guide on Substance Abuse Prevention and Geography* was written to assist teachers in developing and implementing instruction on geography and substance abuse issues in Connecticut's classrooms. It is a direct response to meeting the goal of using the discipline of geography to address a major social issue. It is also a model for geography curriculum development to address other issues and challenges facing our schools.

This resource guide was developed by Connecticut Geographic Alliance Teacher Consultants. They included:

Ann Curtis Cox
Social Studies Teacher
Grade 7
Granby Memorial Middle School

Margaret Sonntag
Social Studies Teacher
J.M. Wright Vocational-Technical School
Stamford

Sheila Spellacy
Social Studies Teacher
Grade 7
East Hartford Middle School

Billie Kapp
Elementary Teacher
Grade 1
Coventry Grammar School

William DeGrazia
Social Studies Teacher
Grade 7
Bethel Middle School

In addition, the Connecticut Geographic Alliance is indebted to Charlie Fitzpatrick, Minnesota Geographic Alliance Teacher Consultant, for the lesson, "Geography of AIDS"; to Meryl Baxter, Massachusetts Geographic Alliance Teacher Consultant, for the lesson "Movement of Bubonic Plague in Fourteenth Century Europe"; to the National Geographic Society for use of lessons and maps from *Directions in Geography;* and to the National Council for Geographic Education and the Department of Education at Brigham Young University for the world outline map.

A special thanks to individuals who reviewed this resource guide for geography and substance abuse prevention content and pedagogy. They included:

Veronica M. Skerker
Consultant
Substance Abuse, Health and Safety
Connecticut State Department of Education
Hartford

Ellen K. Cromley
Associate Professor of Geography
University of Connecticut
Storrs

Richard C. Harper
Director
School of Education
University of Bridgeport

This resource guide was developed by a grant from the Connecticut State Department of Education.

PREFACE

The Connecticut Geographic Alliance supports projects that bring a geographic perspective to curriculum priorities of Connecticut schools. For this reason, the Alliance is pleased to offer this resource guide as one way of supporting the substance abuse prevention curriculum offered by Connecticut schools.

In addition, the Alliance offers leadership training so that teachers can conduct workshops in local districts; provides state and regional workshops/institutes for teachers on important geographic issues; and develops materials for instructional use. Teacher consultants from Connecticut's schools (K-12) and faculty from the state's college geography departments are prepared to offer in-service programs for teachers. Four options for in-service programming have been developed, each of which can meet school needs.

Full-Day Workshop: Geography content, discussion of classroom applications of content, demonstration lessons and teaching strategies. Personnel: Teacher consultant and geography faculty person or teacher consultant with content expertise.

Half-Day Workshop: Shorter version of full-day workshop, with combination of content and teaching strategies.

Awareness Workshops: Half-day or after-school session with teacher consultant who does an introduction to the Five Themes of Geography, a demonstration lesson and discusses teaching strategies.

After-school Series: Two-hour sessions, alternating between content presentations and teaching strategies and demonstration lessons. Personnel: Teacher consultant and geography faculty person.

For additional information on how to access these options, contact the Connecticut Geographic Alliance, Geography Department, U-148, University of Connecticut, Storrs, CT 06269-2148 (486-0374), or Sheila Spellacy, in-service coordinator, (235-6706), to arrange a program that fits your needs.

OVERVIEW

The purpose of this project is to encourage healthy lifestyles and promote geographic literacy. Developed by members of the Connecticut Geographic Alliance, through a grant by the Connecticut State Department of Education, lessons created by members of the geographic alliances are included. This guide is intended for use by educators whose responsibility it is to teach about substance abuse and related health issues as well as social studies educators at the K-12 level. Substance abuse prevention is only one component of a comprehensive health education program. This guide integrates the five themes of geography with health issues of the 1990s.

President George Bush and the U.S. governors have recommended that geography become one of the core subjects. The combination of skills and knowledge will empower the youth of Connecticut to evaluate their behavior, take responsibility for their health and understand the consequences of their actions. By knowing about the dangers of substance abuse, the spread of AIDS and developing and understanding the global nature of drugs and disease, the students will have the opportunity to develop a positive lifestyle, a drug-free environment, and to become geographically literate, healthy citizens as we approach the 21st century.

Although this is not a mandatory curriculum, it is based on information contained in the *Substance Abuse Prevention* module and *Prevention of Communicable and Noncommunicable Diseases* health modules funded by the Office of Policy and Management. The format, as well as the structure of the geography lessons, is found in *Directions in Geography*, published by the National Geographic
Society.

There are several definitions of "Health":
Medical Definition: Health is defined as the absence of disease. Signs and symptoms used by physicians as evidence that the body is not functioning normally and needs treatment are absent.

Sociological Definition: Health is the capacity of an individual to perform his or her social roles and tasks. Illness prevents us from doing what we normally do (go to work, go to school, take care of our families).

World Health Organization (WHO) Definition: Health is "a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity."

Of particular importance is the WHO's definition, because within its parameters, health is no longer regarded as merely the absence of disease. Substance abuse is important because it detracts from "health" as defined in this way. It prevents people from achieving a state of well-being. People who abuse substances often develop diseases like AIDS, lung cancer, or liver cancer (or pass these diseases on to unborn children), diseases that require medical care even after use of the substance stops. Violence associated with the sale of illegal substances often results in traumatic injury (for example, a gunshot wound). Substance abuse thus places demands on society's medical care resources that could otherwise be used to treat other health problems.

Background information -- historical and geographical, tables, charts, maps, and lessons related to the Bubonic Plague and Cholera -- are included within the project to give educators facts that may be used in a variety of situations. Historically, disease has always been with us. Substance abuse, and in many cases, AIDS, is different. The difference is that we have control over whether or not we will become ill. Young people must be made aware of the choices, i.e., the consequences of drugs, alcohol, and cigarettes, as well as unsafe sex.

In the Teacher Background Information section, several historical and geographic summaries are included. The purpose of including this data is two-fold: to provide information to staff involved in presenting the lessons, and to provide material/data for potential lessons, e.g., mapping the nations included in the 1990 Narcotics Control Strategy Report. The statistics on Connecticut's AIDS cases and crime rates could be similarly used.

Connecticut's future is in the hands of its youth. If education fails by not providing the knowledge and values needed for a healthy lifestyle and well-adjusted "literate" citizens, we, the educators of the 90s, have failed our state and our nation. Many students presently in Connecticut's schools have the ideal situation -- to grow and learn -- while others, especially in the urban districts, are growing up in a world where abuse, addiction, poverty, disease, depression, and extreme stress are a reality. Some of the statistics related to information in this booklet are:

1. By the end of 1990, Connecticut had 1,902 reported cases of AIDS.
2. 51% of high school students, surveyed in 1989 by the Connecticut Alcohol and Drug Commission, had actually seen drugs being sold in their schools.
3. 17.1% had, on at least one occasion, been high, drunk or stoned in class.
4. 44% of students in grades 9-12 reported they had been intoxicated at least once in the previous month.
5. 10.7% of students in grades 6-8 reported the same findings of intoxication.
6. 14% of Connecticut's teens are working through depression.

In 1989, there were 2,128 drug abuse violations/arrests for people under 18; 1,225 of those were made in the four cities of New Haven, Hartford, Bridgeport and Waterbury.

By presenting lessons and information of a geographic nature which promote health conscious young people, the goal of well-adjusted, knowledgeable citizens should be achievable.

GEOGRAPHY: THE FIVE THEMES

In 1984, the Association of American Geographers and the National Council for Geographic Education published *Guidelines for Geographic Education: Elementary and Secondary Schools*. The booklet introduces the five themes:

1. **LOCATION:** Position on the Earth's Surface
2. **PLACE:** Physical and Human Characteristics
3. **HUMAN/ENVIRONMENT INTERACTIONS:** Shaping the Landscape
4. **MOVEMENT:** Humans Interacting on the Earth
5. **REGIONS:** How They Form and Change

LOCATION: Position on the Earth's Surface

This is the most basic theme and answers the question: Where is it?

Absolute Location: The exact, or absolute position of something on the earth's surface can be identified by using a grid system of latitude and longitude. Without absolute location, we could not navigate or describe where something is. Two examples:

PAKISTAN, Asia has become the world's major exporter of heroin. Poppies are grown in the Northwest Frontier Province. In Peshawar, the provincial capital, located in the Khyber Pass, heroin is processed. Peshawar is located at 34° N - 71° E.

In COLOMBIA, South America, 6,000 feet high in the Sierra Nevada De Santa Marta (11° N - 73° W), the northernmost heights of the Andes, the coca plant grows. Knowing the absolute location of places aids us in measuring distances and finding directions between and among places on the Earth's surface.

Relative Location: Knowledge of locations is a key aspect of understanding interdependence on local, regional, national, and global scales. Examples:

The labs for processing the poppy into opium are located in remote villages in Pakistan and Afghanistan. The location of the poppy fields and heroin-producing factories determine how customs officers work. Most of it goes out from Karachi by ship or by air courier to London, Frankfurt, New York, Chicago, Houston or Montreal. Karachi is located on the Bay of Bengal.

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.

Physical Characteristics: The forces of nature that produce landforms, water bodies, climate, soils, natural vegetation and animal life.

Human Characteristics: Places may vary in their population composition -- settlement patterns, economic and recreational activities, religious tenets of the people, and economic, social and political organizations.

Consider the following examples:

In the Golden Triangle -- Burma (Myanmar), Thailand and Laos, of Southeast Asia -- poppies grow near hundreds of villages scattered at 3,000 feet or higher. Caravans of pack mules are used to transport the opium to laboratories. One scene might include a mountain trail, high in Thailand, a caravan of mules led by a native on a horse escorted by men on foot armed with auto-

matic rifles and percussion grenades attempting to take opium to the nearest laboratory.

In Peru, where many of the inhabitants are poor, young students are sent into the jungles to bring back the coca paste. Some will be caught and put into jail; others will have money to buy books and school uniforms, radios and tape recorders.

HUMAN/ENVIRONMENT INTERACTIONS: Shaping the Landscape

Theme 2 provides keys to understanding the interrelationships between people and their environment. Theme 3 addresses the question: What is the relationship between humans and the environment?

Humans depend on their natural environment which they have modified over the centuries and adapted to as necessary. These examples illustrate Theme 3:

Tasmania now holds the record yield per hectare for morphine, meeting perhaps 20% of the world's codeine needs. On the island's north coast, agricultural research and sophisticated cultivation boast the natural advantage in poppy production -- long daylight hours during the growing season.

In the Derwent River Valley -- rolling green hills, sheep and cows, a high technology crop with precision seeding -- computer-controlled herbicide spraying and harvesting with a newly designed comb and knife pull the dry poppy capsules down and slice them off. This nation was chosen for large scale poppy cultivation because it is politically stable, has conducted extensive research, and is a reliable supplier. The morphine yield doubled to 10 kilos per hectare in five years (1980 - 1985); this is the highest in the world. This is a positive way man has interacted with his environment for the good of all the world. Morphine is the number one legal painkiller.

Unfortunately, man's interaction with his environment has not always been for the good, as is the case with the uplanders of Peru. In this area of the Sierra, which offers breathtaking mountains and terrible roads, chewing the coca leaves is legal. Foremen offer the leaves to the men who build roads or work in the fields. Jungle farms have been turned into coca farms for cocaine trade. With animals, the poor make the trek to the Huallaga Valley, crossing three mountain ranges in four 18-hour days. The poor walk because the animals must carry food, chemicals and plastic sheets. The coca bushes are stripped, leaves are sun dried and packed to sell for chewing, and to make coca paste -- crude cocaine which is about 25% pure. Eventually, this will be sold to a contact man during its travel toward Lima.

MOVEMENT: Humans Interacting on the Earth

Movement of people, goods and ideas -- relationships between people in different places constitutes the fourth theme. It addresses the question: How and why are places related to one another? In the case of illegal drugs, movement is complex indeed. It is extremely difficult to monitor illegal movements of people and goods because they do not go through official channels. This information can be based only on what interdiction officers are able to uncover and piece together. Two examples of this situation follow.

Opium from the fields of Afghanistan and Pakistan is now processed along the Afghan border and smuggled out of Afghanistan. From Pakistan, it may go to Lagos, Nigeria, on the western coast of Africa, then to New York. It will travel a distance of several thousand miles and be transported on a large number of vehicles. When goods are transferred from one conveyance to another for further transportation, the economic geography term is *transshipment point.* The illegal drug has increased in value and becomes more costly each time it is sold. (The user eventually pays for it -- often 200 times more than it originally sold for.)

Smuggling of cocaine has become a worldwide business. According to one report, a van was bought in Canada and shipped to Chile via Los Angeles. It was driven to Bolivia, packed

with 200 pounds of cocaine, driven to Buenos Aires, Argentina, and then shipped to Belgium. In this case, it was intercepted in Antwerp as Canada-bound cargo.

REGIONS: How They Form and Change

A region is a basic unit of geographic study. Regions are areas that have unifying characteristics. They are convenient and manageable for organizing our knowledge of the world. They help us answer the questions: How are areas similar -- and how are they different?

Coca grows in at least six South American countries: Argentina, Bolivia, Brazil, Colombia, Ecuador and Peru. Bolivia, Colombia and Peru account for nearly 99% of the world's coca production. The coca plant grows in a wide range of ecological conditions: in poor soils and fertile soils, in wet tropical climates and in seasonally dry climates, on flat land and on steep slopes, and at low altitudes and relatively high ones. In geographic terms, these "regions" are constantly changing due to political factors, e.g., forced eradication by governments or a declaration that cocaine production is illegal.

The coca-producing regions do have some similarities -- many are in remote areas of the countries. It would be nearly impossible to grow other crops in these remote areas, as the cost of transporting citrus crops or rice from the remote areas to the urban centers becomes prohibitive. There are few roads, and no commercial airlines service these lands. Coca farmers make many times more per hectare than other farmers. The high economic returns of coca production, agricultural conditions not suited to other crops, and the remoteness of the areas appear to be similar in the "regions" that supply coca leaves for cocaine production.

GEOGRAPHIC SKILLS

In addition to the five themes, *Guidelines for Geographic Education* also outlines geographic skills that students must acquire if they are to become adept geographic thinkers and learners. These skills are grouped under five headings:

1. Asking geographic questions
2. Acquiring geographic information
3. Presenting geographic information
4. Analyzing geographic information
5. Developing and testing geographic generalizations

Throughout the lessons in this project, students are given the opportunity to increase these skills. By studying the chart on AIDS CASES OF SELECTED NATIONS, many "geographic" skills can be practiced:

1. **Asking geographic questions** --
   a. Where is each nation located?
   b. What is the total population?
   c. Is the nation developed or underdeveloped?
   d. Is the nation industrialized or agricultural?

2. **Acquiring geographic information** --
   a. Use atlases and other sources of information, e.g., newspapers and government sources to gain information.
   b. Use information on charts and graphs to expand and/or simplify data.

3. **Presenting geographic information** -- By using the data on this chart, students could construct a thematic map. It might become the basis for further research, such as a written or oral report on the factors in one nation compared to the United States. Students should be encouraged to use a variety of materials when presenting information.

4. **Analyzing geographic information** -- To analyze geographic information, students must be able to read maps, tables and graphs. To gain map-reading skills, students must learn to preview a map by inspecting the title, decoding the symbols, finding the directions, and examining the scale. They must learn to describe relationships and make comparisons and inferences. Several maps are included in this project; trade routes can be analyzed in this manner. Direction, distance, and method of transport are other possible topics for students to analyze.

5. **Developing and testing geographic generalizations** -- Students must learn to make inferences based on material presented in maps, tables and graphs. Preview the data, analyze the data, develop a hypothesis, and then gather additional information to support or reject the hypothesis.

Using the AIDS CASES OF SELECTED NATIONS table, students should make generalizations and develop hypotheses. As additional data is needed, students would need to research the causes, the cases per 100,000, the populations of the nations, the age of the infected people, the standard of living, the number of medical services available in the nation, and the reporting of diseases. In the lesson section of this project, there are several lessons related to AIDS; references listed are useful for this type of research.

AIDS CASES OF SELECTED NATIONS
1990

Japan	294
Colombia	764
Australia	2,295
Canada	4,427
Italy	7,576
France	9,718
Zaire	11,732
Brazil	12,405
Uganda	17,422
USA	154,791

There are three broad groups of diseases: first, diseases like plague or Lyme disease, which are called *vectored diseases*. They are passed from person to person by a vector (usually an insect like a mosquito) that transmits the disease agent. Secondly, there are diseases like smallpox or AIDS, called *non-vectored diseases*. These are passed directly from person to person. Someone who has active tuberculosis, for example, coughs, and another person inhales infectious droplets. A third group is called *chronic and degenerative diseases*, such as arthritis, hereditary diseases, and so on. Personal behaviors like substance abuse can also cause health problems even though they may not be strictly considered forms of "disease".

This classification is important because there are often a number of different ways we can combat disease. Students should be encouraged to make connections between what geographers do and those different disease control strategies. For example, if we are going to spray to kill insects carrying a disease, we need to understand physical geography, etc. If we have a vaccine to prevent the disease, we need to decide where we should administer it, where to locate medical clinics, and so forth. Snow was able to come up with a strategy for controlling cholera (a disease of the digestive system passed in polluted water supplies) by mapping the distribution of cases. Geographers study migration patterns which may be important in predicting how and where disease will spread. The question "Is geographical isolation a useful strategy for controlling the spread of disease?" should be asked.

Health can be improved in two ways: by changing our environments and by changing our individual behavior. When many people in a society are not healthy, it affects individuals and society as a whole. The plague and AIDS have been referred to as epidemic. Clarification on these terms may be necessary:

Endemic: A disease is said to be endemic in a community when it is consistently present. When this is the case, there are sporadic outbreaks involving relatively few cases.
Epidemic: An epidemic occurs when there is a sudden increase in the number of cases.
Pandemic: A massive epidemic occurring on a global scale.

TEACHER BACKGROUND INFORMATION

HISTORICAL OUTLINE AND GEOGRAPHIC BACKGROUND OF MARIJUANA

Marijuana is still the most widely used illicit drug in America. Mexico and Colombia supply nearly 60% of 12,585 metric tons annually. Jamaica, Thailand, Laos and the Philippines supply smaller amounts. In 1990, approximately 25% of the marijuana used in the U.S. was homegrown. Oregon, California, Hawaii, and Kentucky are considered the biggest producers. The value of "pot" grown in the U.S. varies, from $10 to $30 billion.

Marijuana and its derivators are known by a variety of names throughout the world, including "pot", "grass", "herb", "tea", "reefer", "maryjane", "kif", and "dagga". It is most often dried and smoked. It may be rolled into a cigarette or smoked in a pipe. It is estimated that 15 million Americans smoke marijuana monthly, nine million weekly, and six million daily. Marijuana use has been shown to cause a variety of physical and psychological problems.

Historically, marijuana dates to 2727 B.C., where a written record was found in China. In 2000 B.C., it was used in religious ceremonies in India, and by 500 A.D. in the Middle East for medicinal purposes.

Dates of Interest:

1378	Arabia outlawed it
1545	Spaniards imported it to Chile for the use of its fiber
1611	Hemp was grown in Virginia
1629	Hemp was grown in New England, primarily for the manufacture of rope
1850	Listed in a variety of pharmaceutical firms
1850-1900	"Hashish Houses" emerged in large American cities
1920s	Use of marijuana increased
1937	Effectively outlawed in U.S.
1960s	Became widely popular within the youth counterculture
1960-1979	Use increased and peaked in U.S.
1979-Present	Decline has been dramatic in U.S.
1971-1982	Youth ages 12-17 use nearly doubled, from 14% to 27.3%
1987	One high school senior in 25 smoked marijuana everyday; one in four were current users

HISTORICAL OUTLINE AND GEOGRAPHIC BACKGROUND OF OPIUM/HEROIN

There is evidence that opium was used as early as 1300 B.C. Five-inch-high ceramic jugs shaped like poppy capsules from Cyprus were used to hold opium dissolved in water or wine, exported to Egypt. (These jugs are in an exhibit at the Science Museum in London.) In 1200 B.C., ivory pipes were used to inhale opium fumes; these pipes were found in Cyprus. From Troy came a report that a potion "to quiet all pain and strife and bring forgetfulness of every ill" probably contained opium. As early as 400 B.C. in Greece, fathers of Western medicine recognized opium as a pain reliever.

Dates of Interest:

1530	Paracelsus dissolved opium in alcohol mixture; became known as Laudanum
1815	In Germany, the principal opium alkaloid C17H19N03 was named Morpheus after the Greek god of dreams
1840-42	Opium Wars - China
1898	Marketing of heroin in Germany
1909	International Opium Commission met in Shanghai
1955	Shah of Iran outlawed opium in an attempt to modernize the country and increase efficiency
1969	Ban was lifted, growers were licensed in Iran; opium became legal for registered addicts
1971	Turkey banned poppy growing
1973	Marseilles, France became a primary city where clandestine laboratories refined morphine into heroin
1974	Turkish government began to license farmers to grow poppy straw
1975	Mexico began aerial eradication
1979	In Iran, all intoxicants were declared illegal
1990	"Golden Crescent" produced an estimated 1,000 to 2,500 metric tons of opium, supplied about 50% of heroin sold in U.S.
1990	"Golden Triangle" produced 1.400 metric tons, supplied about 20% of heroin sold in U.S.
1990	Mexico produced about 50 metric tons of opium; 1/3 is supplied to the American market
1990	An estimated 500,000 Americans are addicted to heroin

HISTORICAL OUTLINE AND GEOGRAPHIC BACKGROUND OF COCAINE

Cocaine is considered the drug of the 1980s and early 1990s. The drug was formerly used by the wealthy. Crack, a cheap and addictive form of cocaine, became po ular in the late 1980s. Crack is now used by the poor and the young in urban as well as suburban and rural areas of the U.S. The history of coca dates to at least 1500 B.C. A three-inch ceramic head of a man with the characteristic chewer's bulge in his left cheek is a sample from the Valdiva culture. This artifact is at a museum in Guayaquil, Ecuador.

Dates of Interest:

1880s	Tried as a cure of opium addiction and alcoholism; Freud found cocaine good for asthma and stomach disorders
1903	Coca-Cola possibly contained tonic properties of the coca plant
1914	Outlawed in the U.S. except for medicinal use
1920s	Society leaders and musicians sniffed illicit cocaine
1960s	Cocaine became popular with those who could afford it
1966	U.S. authorities seized 12 kilos
1970	U.S. authorities seized 267 kilos
1980s	Crack cocaine became popular
1990	An estimated six million Americans used cocaine

STATUS OF NARCOTICS IN COUNTRIES OF THE WORLD - 1990

In hearings before the Committee on Foreign Affairs, House of Representatives, in March of 1990, the following information was reported on narcotics in the countries of the world:

AFGHANISTAN The world's second leading producer of opium. Opium poppy cultivation has increased significantly over the past decade as a direct result of the war and the continuing conflict between the Soviet-installed regime in Kabul and the Afghan resistance (Mujahidin).

ARGENTINA Transit center for cocaine bound for the U.S. and Europe and a supplier of chemicals to Bolivian traffickers. It also has potential for developing cocaine refining capacity by marrying domestic chemicals with Bolivian coca products.

THE BAHAMAS Major transit country for cocaine and marijuana destined for the United States.

BELIZE Marijuana production in 1989 was approximately 66 metric tons, about 10 percent of the peak production levels of five years ago.

BOLIVIA The world's second largest producer of coca. Coca eradication during 1989 did not keep pace with new production.

BULGARIA A vital transit country for European-bound drugs originating in Southwest Asia or Turkey.

BURMA (Myanmar) The world's major opium-producing country. Trafficking and refining activities by insurgents and trafficking groups also continued unabated during 1989.

BRAZIL Vital to international cocaine traffic as a transit area for Andean cocaine and as a source of chemicals. Also a major marijuana producer, although it is believed that virtually all of this crop is consumed domestically.

PEOPLE'S REPUBLIC OF CHINA Major producer of opiates, but international traffickers are using routes across southern China to export drugs to markets in the west through Hong Kong.

COLOMBIA Remained the processor and distributor of 80% of the world's cocaine supply despite strong enforcement measures.

CUBA Stands amidst some of the primary illicit drug trafficking routes to the U.S., though it is difficult to gauge the overall amount of trafficking that takes place in Cuba.

CYPRUS	Neither a significant consumer or producer of narcotics, yet is central to the drug trade in the Middle East, especially from Lebanon.
DOMINICAN REPUBLIC	Geographic location makes it an important focus in regional counter-narcotics efforts. The Dominican Republic is a significant transshipment point for drugs entering the United States due in some part to the estimated one million Dominicans residing in New York City.
ECUADOR	Serves mainly as a transit country for chemicals passing through to Colombian processors and cocaine products smuggled out through air and sea ports.
EGYPT	An important consumer of hashish and heroin produced in the Near East, South Asia, and Southeast Asia. It is also an important transit point for drugs destined for Europe and the United States.
GUATEMALA	The government recognizes the country's potential as a significant source of opium and took steps in 1989 to reduce opium production through an aerial eradication program supported by the U.S.
HAITI	A significant transshipment point for the movement of illegal narcotics, especially cocaine, into the United States in 1989.
HONDURAS	An important transshipment point for Colombian cocaine and marijuana destined for the U.S. and Europe.
HONG KONG	Provided excellent cooperation in the international drug control effort during 1989.
INDIA	Grows in importance as a transit route for heroin from Pakistan and Burma. Because of market changes, India, the world's leading producer of licit opium for processing into pharmaceuticals, has an increased stockpile of licit opium.
INDONESIA	Although not a significant drug-producing country, it continued to be a transit point for illicit drugs bound for Australia and Europe. Drug abuse and trafficking in Bali is a concern, as government efforts to spur tourism have led to more lenient immigration and customs procedures, attracting a greater number of foreign visitors.
IRAN	Estimated opium production continues at a level of 200 to 400 metric tons, but is not adequate to meet the needs of Iran's large addict population. As a result, opium and heroin are imported and flow across Iran from Afghanistan and Pakistan, and are then exported through Turkey and other routes for markets in Europe and the United States. Despite

	tough measures against drug abuse, including the death penalty, Iran may have as many as two million regular users of heroin.
IVORY COAST	Primarily concerned with stemming the transit of Southwest Asian heroin arriving directly from other West African countries, cocaine from South America, and cannabis from many sources. Cannabis is consumed locally or regionally.
JAMAICA	Major producer of marijuana for North America and Europe, and a transshipment point for cocaine destined for the U.S., Jamaica is committed to a vigorous anti-narcotics program. Despite increased enforcement efforts, drug traffickers still use legitimate carriers for smuggling cocaine and marijuana.
KENYA	A transit point for Southwest Asian heroin destined for Europe and the U.S., and Mandrax destined for Southern Africa.
LAOS	Took several steps in 1989 to begin cooperation with United States on narcotics control cooperation. Opium production increased in Laos along with other countries in the Golden Triangle region, due to higher yields resulting from good growing conditions and expanded cultivation.
LEBANON	A major illicit narcotics-producing and trafficking country. While continuing to supply a major share of the world hashish market, Lebanese traffickers have turned in recent years to opium production and heroin processing.
MALAYSIA	Not a producer of illicit narcotics, but is a transit site and heroin conversion center. Opium seizures increased 275 percent in 1989.
MEXICO	Based on improved survey and methodological techniques, the USG believes that both the Mexican opium poppy and marijuana crops are larger than reported in previous years.
MOROCCO	A source of cannabis, primarily for European and African markets. It is also a transit point for heroin and cocaine smuggling by air from Southwest Asia to Europe.
NEPAL	A potential transit point for heroin produced in both the Golden Crescent and Golden Triangle.
NIGERIA	A major transshipment point for heroin from Southwest and some Southeast Asia destined for Europe and North America.
PAKISTAN	Opium poppy production decreased dramatically in 1989, resulting primarily from poor weather at planting time, but in part due to increased voluntary eradication efforts. The continued operation of

	heroin production labs along the Afghan border remain a major area of concern to the U.S. Government.
PANAMA	Continued to be an important transit country for cocaine, cannabis and chemicals used in processing cocaine.
PARAGUAY	A narcotics transit country and may be developing as a money-laundering center.
PERU	Remains the leading producer of coca, with an estimated 120,000 hectares of both licit and illicit coca under cultivation.
PHILIPPINES	A marijuana producer and consumer and also faces a growing methamphetamine abuse problem. It is also a transit country for marijuana and illicit drugs from Asia.
SENEGAL	A transit country for heroin and cocaine which, arrested traffickers report, is destined primarily for Europe.
SINGAPORE	A transshipment point for Asian illicit drugs and has a drug abuse problem of its own.
SYRIA	A transit point for illicit narcotics and is a heroin refining center. Syria's military controls the Bekas Valley of Lebanon and profits from its widespread production and trafficking.
THAILAND	The massive increase in Golden Triangle opium production and heroin refining, especially in neighboring Burma, has increased U.S. Government concern that more enforcement efforts on the part of the Royal Thai Government are needed to stem the flow of illicit drugs through Thailand -- still the major conduit for drugs exported from the region.
TURKEY	One of the world's major suppliers of licit opium products utilizing the concentrate of poppy straw (CPS) method of production. Turkish authorities face a much more difficult situation with regard to trafficking, due to Turkey's geographic location between the major producing countries of Afghanistan, Iran, and Pakistan, and markets in Europe and the United States.
VENEZUELA	Believed to be a transshipment point for significant quantities of cocaine that are moved through Venezuela en route to the United States and Europe.
Source:	Review of the *1990 International Narcotics Control Strategy Report*, Committee on Foreign Affairs, House of Representatives, March 1990.

HISTORICAL OUTLINE AND GEOGRAPHIC BACKGROUND OF AIDS

6/81 Centers for Disease Control (CDC) reports five unusual cases of pneumocystic pneumonia among homosexual men in Los Angeles.

8/82 Nearly one-half of nation's cases of serious disease whose victims are primarily homosexual men have been reported in New York City. Disease has recently been termed Acquired Immune Deficiency Syndrome (AIDS).

6/83 AIDS, thought to be caused by a virus found in bodily secretions causing near-total collapse of body's immune system, is found in Haitian men and women, intravenous drug users and their female partners, and infants and children, in addition to homosexual men.

10/83 Study of 61 Haitians suspected of having AIDS, published in *The New England Journal of Medicine*, finds many lived in Haitian prostitution center and had homosexual r .tions with Americans, providing po_ .ible link in spread of disease.

11/83 Laurence K. Altman reports that AIDS is now seen as a worldwide problem with incidence doubling in Europe within one year.

11/84 New York Hospital/Cornell Medical Center researchers say six infants in New York City have contracted AIDS from healthy mothers, supporting theory that disease can exist in remissive state that can become deadly when passed on to infants.

1/85 As epidemic of AIDS continues unabated, CDC experts fear that disease may now pose a threat to heterosexuals; warnings against promiscuity issued (based only on preliminary figures, mostly from Africa and Haiti, with scant U.S. numbers).

8/85 Western Middle School in Kokomo, Indiana bars Ryan White, 13 year-old who contracted AIDS while being treated for hemophilia, for fear he might pose a health threat to other pupils.

11/85 Controversial new research results that point both for and against Africa as being the origin of AIDS fuels international furor. Origin is regarded as key factor in search for cause and cure. Also at issue is whether disease is truly new, or merely newly recognized. Some American and European scientists say it is so widespread in Central Africa that they doubt it could have been introduced there recently.

11/85 China announces strategy against AIDS, including checks on foreigners and Chinese who work with them.

12/85 International Conference on AIDS held in Brussels.

12/85 Cases of AIDS in Africa continue to mount, and doctors, lacking manpower and money, have been unable to carry out surveys needed to measure severity and nature of epidemic.

12/85 African countries start to become more open about AIDS. Some governments had, in the past, suppressed scientific reports for fear that publicity might threaten tourism and foreign exchange. World Health Organization (WHO) officials, in expression of mounting concern, say they plan new push to control global epidemic of usually fatal disease.

1/86 Saudi Arabia requires a negative AIDS test to obtain a visa to visit.

5/86 Uganda acknowledges the AIDS epidemic and launches a mass education drive to prevent its spread.

6/86 WHO reports at least 50,000 Africans may have contracted AIDS since 1980, and estimated one to two million people on continent may be symptomless carriers of virus that causes disease.

9/86 Fear of AIDS is cited as factor in shift from heroin to crack and powered cocaine as drug of choice for young drug users in New York City.

10/86 WHO reports sharp increase in number of cases of AIDS recorded worldwide in first nine months of year. Spread of viral infection has reached pandemic proportions, affecting countries in all continents of the world.

11/86 Vast majority of Persons With AIDS (PWA's) continue to be male homosexuals and intravenous drug addicts. In African countries like Zaire and Uganda, disease spreads differently, affecting men and women alike. With homosexual community acting to educate and protect itself, prime target for preventive efforts remains intravenous drug addicts. There is no proof yet that general public is equally at risk.

12/86 Beginning in 1987, all students wishing to study in China will be required to test negative for AIDS.

12/86 AIDS virus infects thousands of prostitutes who work in bars that cluster around Subic Bay Naval Station and Clark Air Base in the Philippines, stirring concern about spread of AIDS through local population and American servicemen.

1/87 British Government begins large-scale campaign to teach country that AIDS is spreading in Britain and that it is a fatal disease with no known cure. Campaign seeks to educate nation in a matter of weeks by using radio and TV and sending leaflets to country's 23 million households.

1/87 Edinburgh, Scotland experiences epidemic proportion of AIDS cases since crackdown on drug paraphernalia forced city's addicts to share dirty needles and syringes. Government had not acted on recommendation of Scottish health experts that free clean needles and syringes be provided to addicts to better contain AIDS. Glasgow, with no similar needle ban, has twice as many drug abusers but far fewer AIDS cases.

2/87 Conservative Bavarian government announces tight restrictions on some groups believed to be at high risk of exposure to AIDS, including compulsory testing for prostitutes and prison inmates, as well as for certain foreigners wishing to reside in state.

2/87 Japanese go to clinics for blood tests and prod government to start special programs to keep disease in check. Health officials report 26 cases, including 18 deaths. Experts estimate that 7,000 to 10,000 people carry AIDS virus.

2/87 Soviet weekly *Literaturnaya Gazetta* reports Soviet Union has developed and is mass-producing test for AIDS virus infection that has already been used on tens of thousands of people; includes interview with Georgi N. Khlyabich, country's chief public health inspector, which offered most detailed information to date on AIDS prevention and treatment programs underway in the Soviet Union.

3/87 Brazil ranks third after United States and France in total number of official reported cases of AIDS; alarm at disease's rapid spread has turned problem into public issue; Health Ministry is sponsoring radio and television spots recommending precautions with more explicit spots to be aired in late evenings; gradual change in sexual behavior patterns is seen.

3/87 The AIDS epidemic, which once seemed to affect Africa and the U.S. more severely than the rest of the world, hits hard in Western Europe in the last year or so.

4/87 President Reagan and French Premier Jacques Chirac announce the settle-

ment of a dispute over who discovered the AIDS-causing virus. French scientists have been credited with its initial discovery and isolation.

4/87 *Journal of the American Medical Association* reports the percentage of women who contracted AIDS from men more than doubled between 1982 and 1986, with black women 13 times more likely to get AIDS than white women.

8/87 A Florida family leaves their hometown because their children have AIDS and cannot attend school. Their home was destroyed by fire termed "suspicious" by the local sheriff. Authorities added that "blaze capped a week of bomb and death threats" and a school boycott.

9/87 Costa Rica demands that the U.S. Navy certify that all crew members test negative for AIDS before they can visit the country. Navy cancels visit.

10/87 Dr. Jonathan Mann, Director of WHO Special Program on AIDS, warns that expelling PWAs from society would only force the problem underground and "wreak havoc with health authorities' efforts to keep track of the disease". Currently 62,438 active cases of AIDS in 126 countries, projecting up to three million new cases in five years.

10/87 An airline steward from Montreal who died of AIDS in 1984 was found to have had sexual relations with four of the first 19 cases of AIDS reported in Los Angeles, and four others had sexual relations with one of his sexual partners, suggesting that this man played a key role in the early spread of AIDS in North America.

1/88 A variety of AIDS-prevention measures were adopted by the Queensland, Australia cabinet, in an effort to stem the spread of AIDS. The measures included a comprehensive AIDS and sex education program for schools, an hypodermic needle exchange program for drug abusers and funding for azidothymidine (AZT) therapy, a costly drug used in the treatment of AIDS.

1/88 A study reported in the journal *Science* found no evidence that AIDS may be spread by mosquitoes. The study attempted to explain a disproportionate number of AIDS cases in Belle Glade, Florida. The study found no AIDS cases in people under age 10 or over age 60, as would be expected if mosquitoes were responsible for the syndrome's spread.

1/88 600 health officials from more than 150 nations attend the first world summit on AIDS, sponsored by the World Health Organization and the British government. The three-day conference, held in London, was formally opened by Britain's Princess Anne, who urged attendees, including 120 national health ministers, to push their anti-AIDS efforts.

2/88 According to a report issued by Australia's National Advisory Committee on AIDS, between 50,000 and 100,000 people in Australia have been exposed to the AIDS-causing virus.

2/88 Final testing of any AIDS vaccine may have to be done in Africa rather than in the U.S., because the U.S. AIDS infection rate is not high enough to determine whether a vaccine is working, according to the National Institute of Allergy and Infectious Diseases NIAID.

2/88 Deposed Haitian President Duvalier claimed in a *Paris Match* interview that the spread of AIDS was the cause of his ouster. According to Duvalier, the AIDS epidemic and reports linking it with Haiti had caused a drop in tourism, resulting in economic problems that forced him out of office.

6/88 An Indian health officer proposes making sex between Indians and foreigners illegal, in a step to curb the spread of AIDS.

6/88 Japanese researchers report in the journal *Nature* that after analyzing the genetic structure of the AIDS-causing virus, they believe the virus

did not cross from African green monkeys to humans, as has been proposed. This "monkey connection"has been considered a possible source of the AIDS epidemic in humans.

7/88 The Fourth International Conference on AIDS is held June 12-16 in Stockholm, Sweden. Over 6,000 experts from 125 countries attend. In his opening remarks, Dr. Jonathan Mann, director of the World Health Organization's AIDS program, reports that at least five million people from 130 countries have been exposed to the AIDS-causing virus.

2/89 Soviet health officials investigate the exposure of 27 babies and five mothers to AIDS in the city of Elista, located on the Caspian Sea, 750 miles south of Moscow. The use of unsterilized syringes at a children's hospital appeared to be the source of transmission.

Source: Adapted from *AIDS Information Sourcebook*, H. Robert Malinowsky and Gerald Perry, eds., 2nd Edition 1989-90, Oryx Press, 1990.

Background Information Lessons

FIGHTING CHOLERA WITH MAPS

Preview of Main Ideas

Five hundred people -- all from the same section of London, England -- died of cholera within a 10-day period in September 1854. Dr. John Snow, a local physician, had been studying the spread of cholera for some time. An early example of *medical geography* is Dr. Snow's use of maps to prove his long-held theory that cholera was a waterborne infection. Using mapping techniques similar to Snow's, students will analyze maps to see if they can determine the sources of cholera in London. This activity can help students learn how mapping techniques can be used to understand social issues and to solve problems.

Connections With the Curriculum

This activity can be used in geography, world history, and other social studies classes.

Teaching Level: Grades 6-12
Geographic Themes: Human/Environment Interactions, Movement, Location, Place

Materials

One copy of the handouts for each student:
- Handout #1 - Cholera
- Handout #2 - Map of Cholera Deaths
- Handout #3 - Map of Cholera Deaths and Locations of Water Pumps

Overhead projector and overhead transparency of each map (Optional)

Objectives

Students are expected to:

- Examine maps to draw conclusions about cholera deaths in London.
- Understand how maps can provide useful information about an issue.
- Understand how maps can be used to solve problems.

Suggestions for Teaching the Lesson

OPENING THE LESSON

Have students use atlases to locate Great Britain and London. Tell students that in September 1854, during the last great cholera epidemic in Great Britain, 500 people -- all from the same section of London, England -- died of the disease within a 10-day period. Bacteria was still unknown. People were panicking. Distribute or read Handout #1 to students.

DEVELOPING THE LESSON

Dr. John Snow was a British doctor who had been studying cholera for many years. In trying to determine the source of cholera, Dr. Snow located every cholera death in the Soho district of London by marking the home of each victim with a dot on the map. Distribute Handout #2 to students and have them focus on the distribution of cholera deaths.

Have students formulate questions about the map. (For example: Why is there a cluster of deaths on Regent Street?) Ask students to speculate as to the spread of cholera deaths. Record student responses on the chalkboard. After discussing the distribution of cholera deaths, distribute Hand-

out #3. Ask students to formulate additional questions, such as: Why were there so many deaths near Broad Street? (You may want to explain to students that water pumps were the only sources of drinking water.)

CONCLUDING THE LESSON

Ask students what course of action they would take if they were city officials presented with the information on Dr. Snow's map. Then tell students that Dr. Snow requested city officials to remove the handle from the Broad Street pump, making it impossible to get water there. After his request was granted, the number of new cholera cases in the area declined dramatically -- almost to zero. Dr. Snow's theory was confirmed: cholera was associated with the drinking water supply, and the water was carrying the disease to its victims.

ASSESSING STUDENT LEARNING

Ask students to list the major steps that Dr. Snow took in trying to solve the cholera problem in London. Ask them to answer the following: What if the locations of deaths and locations of water pumps (shown on Handout #3) were different? How might this have altered Dr. Snow's research and course of action? Have students identify particular problems and issues that might be better understood through map development and analysis. (For example, the occurrence of auto accidents, tornadoes, earthquakes, or crimes)

EXTENDING THE LESSON

Discuss some of the questions that are important to medical geographers. Where are diseases found? How do diseases spread? Is there a pattern to the spread of disease? Are some diseases more common in some environments than in others? Are the locations of health-care facilities important? Are they related to patterns of disease?

Have students research the spread of specific diseases, for example, AIDS, smallpox, malaria, typhoid. If possible, have them use medical atlases for their research and plot the spread of diseases on blank outline maps.

Give students (or have them acquire) information on traffic accidents in your community. (This information should be available from local police or the county sheriff's office.) Plot the accidents on a map and have students formulate questions and draw conclusions based on the data. Perhaps there is need for a stop sign, traffic signal, or lower speed limit in a particular area.

Resource

Snow, John. *Snow on Cholera*. New York: Hafner, 1965.

Source: "Fighting Cholera With Maps" is a lesson taken from *Directions in Geography*, National Geographic Society. Used with permission.

HANDOUT 1
FIGHTING CHOLERA WITH MAPS

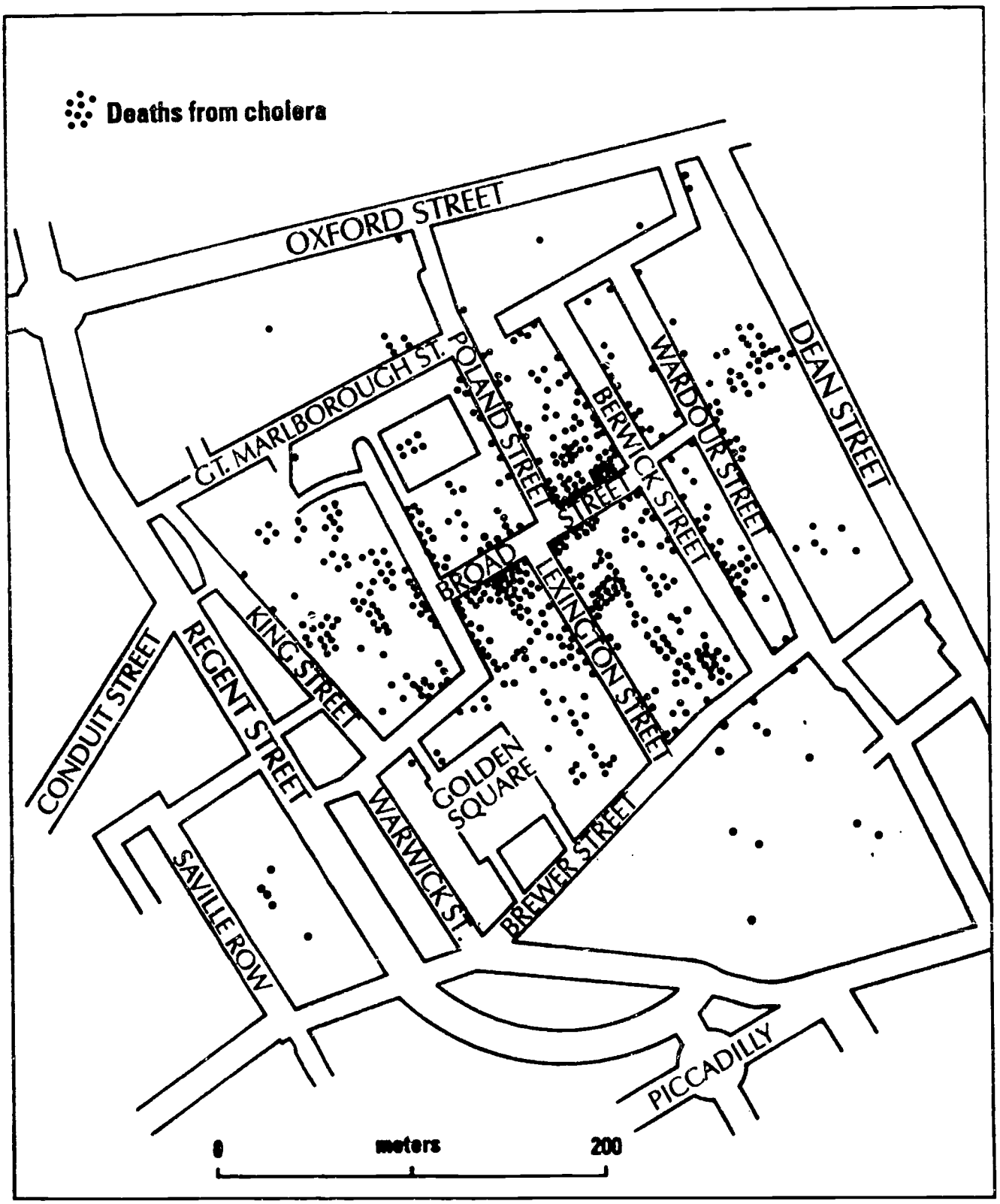
Cholera

Cholera (also called Asiatic cholera) is a severe, infectious disease of the small intestine. It is marked by heavy diarrhea, vomiting, and muscle cramps, and can even result in coma and death. For centuries, it was confined to India, but in the early 19th century it began to spread to other parts of Asia, Europe, and the Americas. In the 1970s and 1980s, cholera epidemics occurred in the Middle East and Africa, and there was a localized outbreak of the disease in Naples, Italy.

The disease is contracted by swallowing food or drink -- usually water -- that is contaminated with a bacterium found in feces. After cholera bacteria are swallowed, they multiply in the small intestine, where they set off an infection that interferes with normal intestinal functions. As a result, rapid, painless diarrhea begins. This can cause a great deal of fluid loss -- water and essential salts -- in a short period of time. In some cases three to four gallons of fluid loss has been reported in a 24-hour period. In addition, vomiting and other symptoms often develop. Sometimes, however, an infected cholera victim will develop only mild diarrhea, and can get rid of the disease through excretion. With prompt treatment, recovery is almost certain. Treatment consists of replenishing the body's fluids until the diarrhea stops. Sometimes antibiotics, such as tetracycline, are administered. Unfortunately, about 50 percent of all those who contract cholera are not treated and die of the disease.

Cholera remains common in impoverished tropical and semitropical developing nations, where poor sanitation and contaminated water are common. Prevention of cholera outbreaks is based on clean food and drinking water. A vaccine can provide partial protection for a limited time, but the vaccine cannot prevent the spread of infection on a large scale.

HANDOUT 2
FIGHTING CHOLERA WITH MAPS
Map of Cholera Deaths

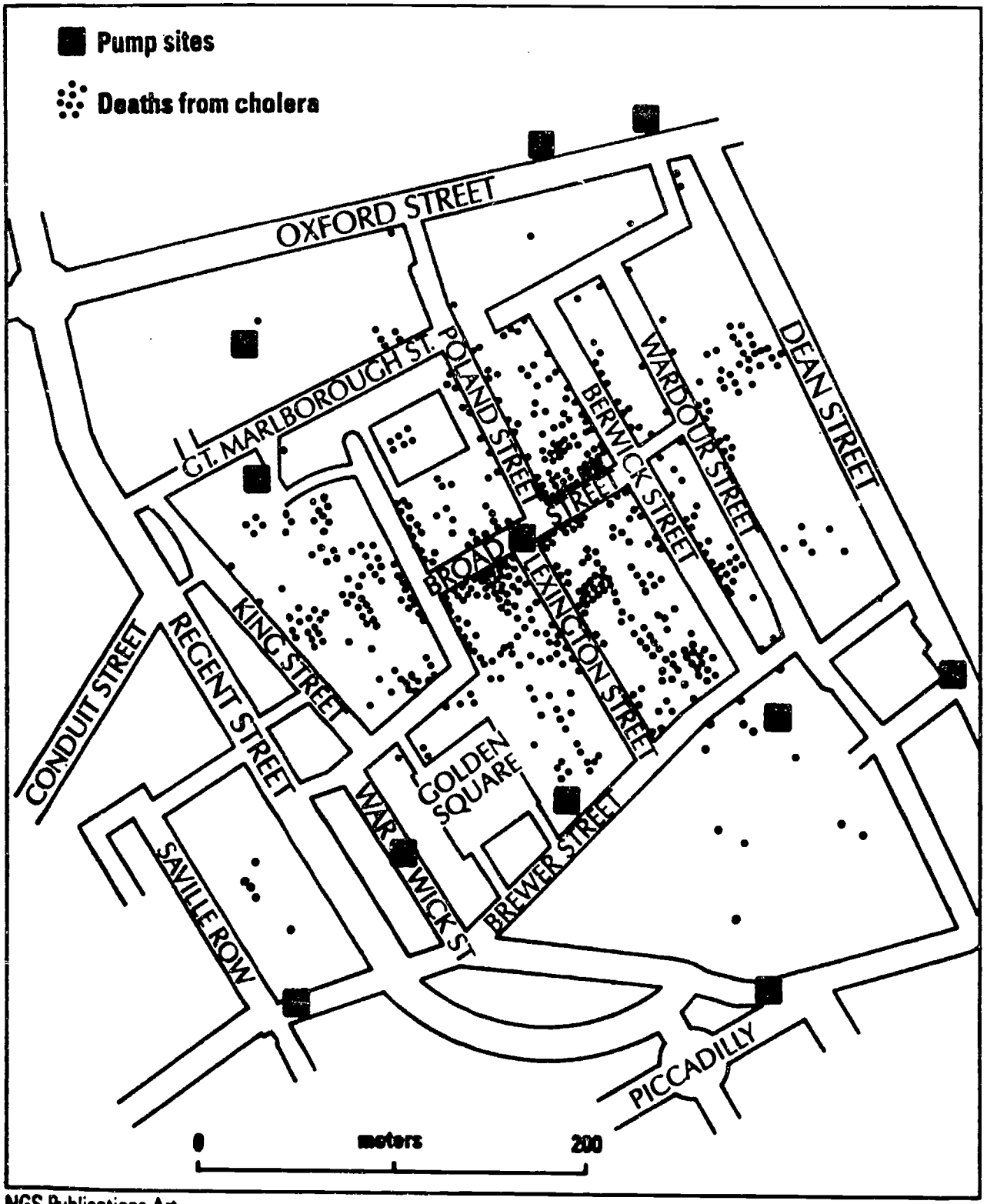


NGS Publications Art

HANDOUT 3

FIGHTING CHOLERA WITH MAPS

Map of Cholera Deaths and Locations of Water Pumps



NGS Publications Art

MOVEMENT OF BUBONIC PLAGUE IN 14th CENTURY EUROPE

Preview of Main Ideas

Nearly 25% of the population of Europe, Northern Africa and nearer parts of the Middle East died within a few years of the bubonic plague. Between 1346 and 1352, Europe lost roughly 20 million people. The disease is thought to have migrated along the Silk Route. The cycle of infection from flea to rat and rat to flea, then to humans, can be traced to medieval ships. Port cities were the major force for dissemination of the plague.

Connections With the Curriculum

This activity can be used in geography, world history and health classes.

Teaching Level: Grades 9-12
Geographic Themes: Human/Environment Interactions, Movement, Location, Place

Materials

Atlases
Handout #1 - "The Bubonic Plague"
Handout #2 - Outline Map
Handout #3 - Worksheet A: Instructions for Map
Handout #4 - Worksheet B: Data/Discussion/Questions
Handout #5 - Bubonic Plague Quiz

Objectives

Students are expected to:

- Use atlases to locate bodies of water, places and cities mentioned in the reading and listed on the instruction sheet.
- Create their own maps showing movement of the plague.
- Identify physical features that helped or hindered the spread of plagues.
- Draw conclusions that the movement of the plague illustrates the idea of global interdependence.
- Make comparisons to the spread of AIDS in the 1980s-1990s.

Suggestions for Teaching the Lesson

OPENING THE LESSON

Students should read the article and highlight each place or city when it is first mentioned.

DEVELOPING THE LESSON

The teacher might encourage the students to think of themselves as detectives investigating how and why the plague spread. Students can use clues (the atlases, the reading and the instruction sheet) to come up with the solution to the puzzle (completed outline map). The teacher will have to explain that some place names have changed. (Kaffa to Fedosiya, Constantinople to Istanbul). Students should complete Handout #3 - Worksheet A.

CONCLUDING THE LESSON

After the students have finished the outline map, the data discussion questions should be answered. Have the students read Chapter 5 of *The Distant Mirror* by Barbara Tuchman.

ASSESSING STUDENT LEARNING

Students may use their completed maps to present oral histories of the plague, and to complete quiz (Handout #5).

EXTENDING THE LESSON

Discuss some of the questions that are important to medical geographers. Where are diseases found? How do diseases spread? Is there a pattern? Why were some towns not as "hard hit" as others? What are similarities and differences to the AIDS epidemic?

Source: "Movement of the Bubonic Plague" is adapted from a lesson created by Meryl Baxter, Massachusetts Geographic Alliance Teacher Consultant, Archbishop Williams High School, Braintree, MA. Used with permission.

Resource: Tuchman, Barbara, *The Distant Mirror*. New York: Knopf, 1978.

HANDOUT 1
THE BUBONIC PLAGUE

Approximately 100 million people were living in Europe, Northern Africa and nearer parts of the Middle East by 1346. Estimates vary, but between 25 and 33 percent of these people died by 1350. Europe alone lost 20 million citizens. They were victims of an illness that spread rapidly throughout this region -- the bubonic plague. This outbreak of bubonic plague lasted from 1346 to 1352. It has been called the "Great Dying", the "Great Pestilence", and "the Black Death".

There were reports of sickness and death much earlier in China; however, the first outbreaks in 1346 were recorded at Astrakhan and Saray, caravan stations on the lower Volga River. During 1347 and 1348, reports by an Arab traveler and scholar, Ibn Battuta, indicated that a mysterious illness had hit the town of Aleppo in northern Syria. These reports give credence to the fact that the plague migrated along the Silk Route and not the Indian Ocean. The Silk Route was the Trans-Asian Route where Chinese silk and other products were sent to Europe.

The bubonic plague is considered a vectored disease because it was passed from insects to humans. It was first found in animals. According to historical reconstruction, marmots, whose fur was an article of trade, first had the disease. Trappers collected the furs that were infested and sold them to Western dealers. These wealthy businessmen, many of whom were Italian, ignored reports of illness among the trappers. From Saray, the disease is thought to have traveled down the Don River to Kaffa (or Caffa). This is a major port on the Black Sea. Today, Kaffa is the southern Russian city of Fedosia.

These ships were the actual breeding ground for the disease. The ships crawled with rats, which took over at night and dropped fleas onto the decks below. The cycle of infection from flea to rat, rat to flea, lasted until the rat population could no longer support the fleas. The fleas then attacked man. From the Black Sea, the bacteria seems to have entered a number of Northern Italian ports; Naples, Pisa and Dalmatia all reported illness and death. By 1347, the ports from Kaffa to Genoa, Italy had been infected. Florence, Pistoia, Sienna and Milan all had outbreaks. Milan used unusual tactics to prevent the spread of disease: if anyone in a household fell ill, the entire household was forced to stay inside. Although Milan experienced some deaths, it was not as hard hit as many of the other areas. Another factor that may have saved Milan is its geographic location, being further inland than other cities.

One account has to do with a ship that was docked in the Sicilian port of Messina. Victims of the disease were given medical attention, yet still the citizens of Messina panicked, running out into the fields and neighboring villages, taking the fleas with them. When some of them reached Catania (55 miles south), they were first given hospital beds, then were turned away and left to die in the streets. Hundreds of citizens of Catania were also infected. The epidemic spread quickly to the entire island. From Sicily, the plague crossed to Tunis, Africa and then spread further to Spain.

The plague continued to spread along established trade routes. Another important port along this route was Pera, a suburb of Constantinople (present day Istanbul). Pera became a major focus for dissemination of the plague. Many reports indicate that the plague spread throughout the Greek Islands and along the coasts of Anatolia (Turkey) and the Balkans, killing the majority of the population by late 1347. As the epidemic was raging on the Mediterranean, other ships were traveling to Alexandria. From there, it spread to Cairo, Egypt east to Gaza, Beirut and Damascus, and then on to Morocco.

HANDOUT 1 (continued)
THE BUBONIC PLAGUE

In early 1348, the plague had reached into mainland Europe. It probably entered southwestern France through Toulouse and then spread down the Garonne River to Bordeaux. From Bordeaux, historians believe that at least one of the ships transporting claret to the British market brought the Black Death to Great Britain. As early as 1348, it was recorded in Weymouth, London and Bristol. From Bristol it probably traveled to Ireland at the same time.

According to one story, in May of 1349 a ship left London with a cargo of wool. The ship was seen drifting off the coast of Norway several days later. Villagers, curious to see what had happened, rowed out to the ship, observed the dead crew and took the wool. Shortly after that, the villagers succumbed to the plague. From Norway, the plague spread to Iceland and Greenland as well.

In 1350, the Black Death hit the people of Denmark and Germany. In 1351 it attacked Poland. Finally in 1352, it made its way into Russia, just a few hundred miles from where it had all begun in 1346. The death rates began to subside, and although it would take Europe many years to regain its population, life in the towns and cities began to return to normal.

Source: Compiled from McEvedy, Colin. "The Bubonic Plague." *Scientific American* 258:118-123. February 1988 and Mee, Charles L. "How a Mysterious Disease Laid Low Europe's Masses." *Smithsonian* 20:66-79. February 1990.

HANDOUT 2 - THE BUBONIC PLAGUE OUTLINE MAP

HANDOUT 3
THE BUBONIC PLAGUE
WORKSHEET A - Instructions for Outline Map

Use the reading and the atlas to complete this map exercise. Be sure to follow the instructions in the numerical order in which they appear.

1. Using a lead or colored pencil, shade in the water areas on the outline map.
2. Label the continents: Europe, Africa, Asia.
3. Label the bodies of water: Atlantic Ocean, North Sea, Mediterranean Sea, Black Sea, Caspian Sea.
4. Label: Sicily, Sardinia, Spain, Ireland, England, Norway, Denmark, Germany, Poland, Russia.
5. Label rivers: Garonne, Don, Volga.
6. Place a dot to show the location of Aleppo in northern Syria where the Arab traveler and scholar Ibn Battuta first heard of the plague.
7. Begin placing cities/towns on your outline map by finding Astrakhan at the mouth of the Volga River. Use a dot to show its location. Write in Astrakhan, 1346. Now continue to find each city/town as it is mentioned in the reading and place it on your map. Remember to use a dot to show the location. Include the date if it is given.
8. Show how the plague spread by connecting the dots and using arrows to indicate movement and direction.

Students are encouraged to add color to the completed maps.

HANDOUT 4
THE BUBONIC PLAGUE
Worksheet B - Data/Discussion Questions

Use all your "clues" to answer the following questions:

1. What percentage of the total population of Europe, northern Africa and the nearer parts of the Middle East died of the plague?

2. How many Europeans died?

3. What are other names for the plague?

4. What evidence do we have that the plague was brought along the Silk Route?

5. How was the disease transmitted to humans?

6. Why was a medieval ship an efficient vehicle for spreading the disease?

7. What geographical features in this area of the world helped spread the disease?

8. What pattern did the spread of the disease take?

9. Locate the city of Milan, Italy. Why do you think this city was able to escape the plague?

10. Study the physical map of Europe in your atlas. Can you identify any physical barriers to the spread of the disease?

11. Having completed the exercise, what was the common link between a family in Kaffa and a family in Bordeaux or Bristol? Can you think of a similar situation in today's world? Explain.

12. What is the modern day name of Constantinople?

HANDOUT 5
QUIZ: MOVEMENT OF THE BUBONIC PLAGUE

Name_____ Date_____

1. Another name for bubonic plague was _____.
2. Approximately how many Europeans died of the plague between 1346 and 1350? _____
3. The bubonic plague entered Europe along _____.
4. What was the vehicle for spreading the disease? _____
5. Why was this vehicle so effective? _____

_____

6. Name at least two bodies of water and at least two rivers over which the disease passed:

_____

7. What continents were affected by the plague in the 14th century?

_____

8. Name three European cities affected by the plague:

_____

9. Name one city in North Africa affected by the plague: _____
10. Name one city in the Middle East affected by the plague: _____
11. Name one island in the Mediterranean Sea affected by the plague: _____
12. What pattern did the spread of the plague take? Explain how this happened.

_____

_____

13. What geographic features helped the spread of the plague?

_____

14. The plague spread from Kaffa to Constantinople over what body of water? _____
15. What is the name of the modern city located on the site of Constantinople? _____
16. In what city did Ibn Battuta first hear of the plague? _____
17. In what modern country is this city located? _____
18. The plague spread from London to Bergen.over what body of water? _____

THE GEOGRAPHY OF AIDS

Preview of Main Ideas

AIDS (Acquired Immune Deficiency Syndrome) has spread into every state since 1980. By the end of 1990 there were more than 1,900 cases in Connecticut. Compared to earlier epidemics in the history of the world, AIDS is spreading rapidly. Using data, students will construct quartile maps.

Connections With the Curriculum

This activity can be used in health, U.S. history, and social studies classes.

Teaching Level: Grades 6-9 (adaptable to other grades)
Geographic Themes: Location

Materials

Handout #1 - Basic Questions and Answers About AIDS
Handout #2 - Information Sheet on AIDS Quartile Maps
Handout #3 - AIDS Data Sheet
Handout #4 - Blank outline of USA, colored pencils or pens
Handout #5 - Futures Wheel

Objectives

Students are expected to:

- Discuss basic information about AIDS.
- Improve map/chart skills.
- Construct and analyze quartile maps.
- See how many geographic themes relate to AIDS.

Suggestions for Teaching the Lesson

OPENING THE LESSON

The students will discuss the basic questions and answers about AIDS. The students will receive data sheet on AIDS and instruction sheet.

DEVELOPING THE LESSON

The students will use the data to construct two different quartile maps. The first is AIDS cases. The second map is Cases/100,000. Following the directions on Handout #2, the students will use colored pencils to complete the maps.

CONCLUDING THE LESSON

The "quartile maps" that have been constructed are powerful tools for geographers. Turning the raw data into a map makes it easier to see patterns. Students can list "hot spots" -- high number: of cases and high proportions, or "cool spots" -- low numbers of cases and low proportions. Discuss the epidemic and analyze the maps.

EXTENDING THE LESSON

Complete the Futures Wheel - see Handout #5.

Source: "The Geography of AIDS" is a lesson created by Charlie Fitzpatrick, Minnesota Geographic Alliance, Teacher Consultant, St. Paul Academy, St. Paul, MN. Used with permission.

HANDOUT 1
THE GEOGRAPHY OF AIDS
Basic Questions and Answers About AIDS

Q-1. **What is AIDS?**
A-1. AIDS stands for "Acquired Immune Deficiency Syndrome". It is a disease caused by a virus called HIV, or the "human immunodeficiency virus". It affects a person's immune system, reducing the chance of overcoming infection by other diseases. That is, a person does not die from AIDS, but from diseases that ordinarily s/he could have survived. The two diseases most often found in AIDS patients are a form of pneumonia and a form of cancer.

Q-2. **Who can get AIDS?**
A-2. Anyone. AIDS is not restricted to any portion of the population. Certain groups are at higher risk of becoming infected, but anyone can be infected, regardless of race, sex, sexual preference, or place of residence. Engaging in unsafe sexual activity or needle-sharing drug use increases the chance of infection. Sexual contact with multiple partners, with anyone who has been involved with multiple partners, or with anyone who was ever involved in unsafe sex or needle-sharing increases the risk.

Q-3. **Does everyone get AIDS?**
A-3. No. Only those people infected with the virus can develop it. Of the infected people, only some develop AIDS. Some develop ARC, or "AIDS-Related Complex", a condition somewhat less severe than AIDS. Some who carry the virus will remain in apparent good health. All carriers are able to transmit the virus to others.

Q-4. **How is the virus transmitted?**
A-4. Transmission occurs through exchange of body fluids (blood, semen, or vaginal fluids). Such exchange occurs during sexual contact with an infected person; through sharing needles with an infected person; transfusion of blood or blood products from an infected person; and by an infected mother passing it to a baby before, during, or after birth.

Q-5. **How is the virus <u>not</u> spread?**
A-5. The virus is <u>not</u> spread through casual contact such as: saliva, sweat, tears, urine, or bowel movement; a kiss; hugging or shaking hands with an HIV-carrier; using the same telephone, clothes, bathroom facilities (toilets, sinks, bathtubs), or swimming pools; sneezing, coughing, or spitting; using dishes, utensils, or food handled by a carrier; being bitten by an insect; or being in the same environment with a carrier. The virus is also not transmitted by <u>donating</u> blood. (It has been passed by <u>receiving</u> transfusions of infected blood, but the blood services now effectively screen against this happening again.)

Q-6. **Is there a cure or vaccine for AIDS?**
A-6. No. Researchers think it will be years before either is found. The most effective means of disease control right now is prevention.

Source: Information from U.S. Department of Health & Human Services, *"Understanding AIDS"*, and American Red Cross, *"AIDS: The Facts"*.

HANDOUT 2
GEOGRAPHY OF AIDS
AIDS Quartile Maps

Look at the sheet of statistics on AIDS cases in the United States. There may be a geographic pattern which doesn't show up just by looking at the raw data. We need to map the data. Notice that there is more than just one way to rank the data. We could list according to the sheer number of cases in a state; that could tell us which state might need to think about putting more of their resources toward dealing with the disease and its victims. But the more heavily populated states might be expected to have more cases reported per 100,000 residents living in a state; this could show a different set of states which also might need to start devoting more of their resources to the AIDS problem.

TASK: Using the data sheet and your U.S. map blanks, prepare two "quartile maps" of AIDS cases in the U.S. **A quartile map is one which divides a set of data into four even quarters.** Read and follow the directions below.

1. In the column titled **"#.1.1.91"**, put a dot next to all the numbers greater than 2295. (You should find 11 states, DC, PR, plus the U.S., over 2295.) Shade in those 11 states, DC, and PR in solid pattern on the upper map.
2. In the same column, put a double dot next to all numbers between 1000 - 2295. (You should find 13 states in that range.) Shade in those 13 states with stripes on the upper map.
3. In the same column, put an arrow next to all numbers between 325 - 1000. (You should find 13 states in that range.) Shade in those 13 states with speckles on the upper map.
4. Notice that 13 states do not have a mark by them, as they have fewer than 325 AIDS cases in the state. Do not shade these on the map.

Now do the same thing with the **"C/100,000"** column and the lower map.

5. Put a dot next to all the numbers greater than 53.0 in the "Cases/100,000" column. Again, you should find 11 states, DC, PR, the U.S., and the Virgin Islands in that category. Shade in the 11 states, DC, and PR (not Virgin Islands) with solid pattern on the lower map.
6. In the same column, put a double dot next to all numbers between 25.3 - 53.0. Again, you should find 13 states in that range. Shade them in with stripes on the lower map.
7. In the same column, put an arrow beside all numbers from 17.7 - 25.3. You should find 14 states (including a 3-way tie at the bottom) in that range. Shade these in speckles.
8. Finally, notice that 12 states do not have a mark by them. They all have fewer than 17.7 cases per 100,000 residents. Don't shade these.

You have just completed two "quartile maps" by dividing data into four roughly even portions and mapping the results. This is a powerful tool for any geographer -- turning raw data into a map. Do any areas appear as "hot spots" for AIDS cases -- high number of cases and/or high proportion? Do you see any "cool spots"? On the back of the map, make a quick list of the "hot spots" and "cool spots".

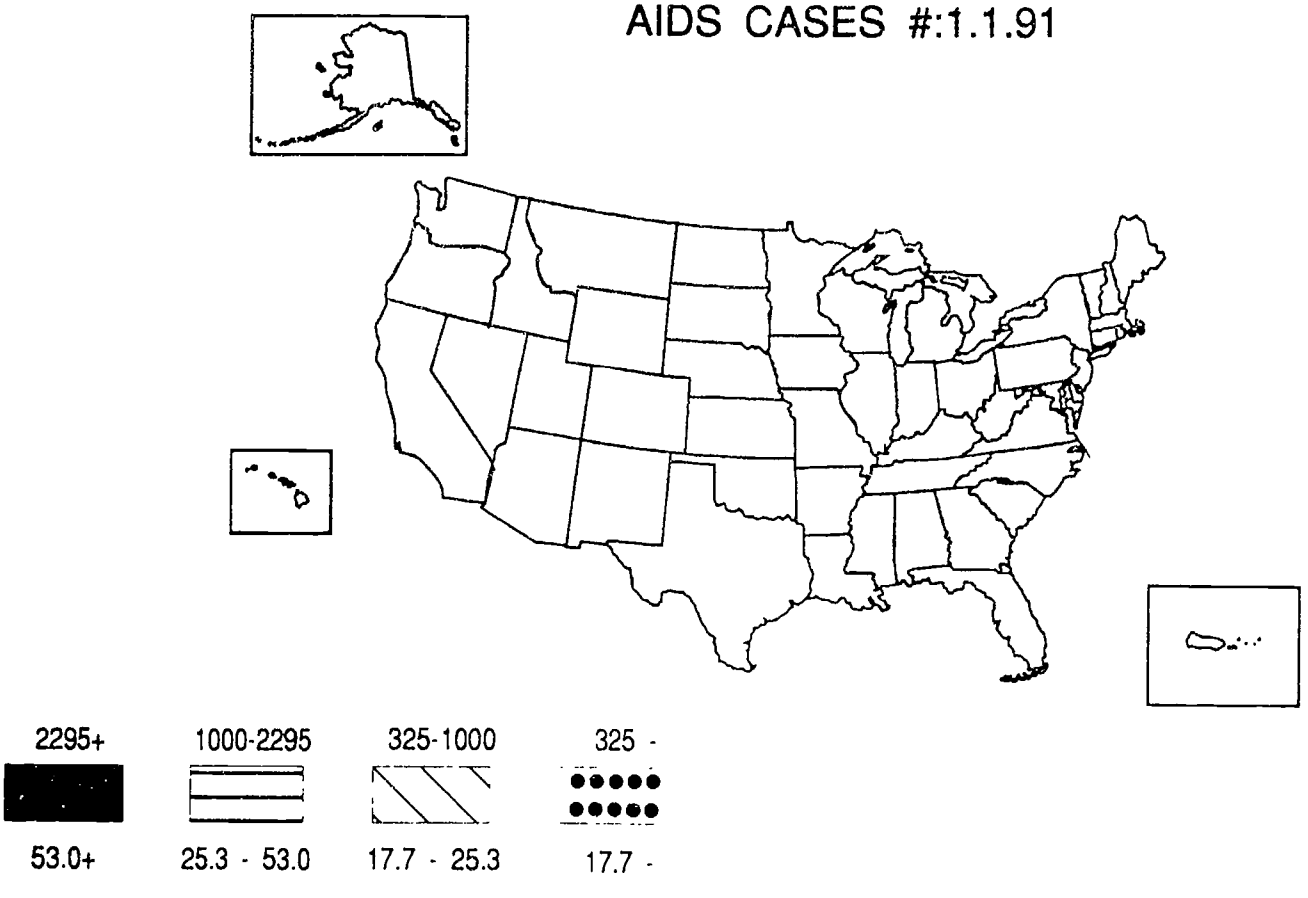
HANDOUT 3
THE GEOGRAPHY OF AIDS
AIDS Data Sheet

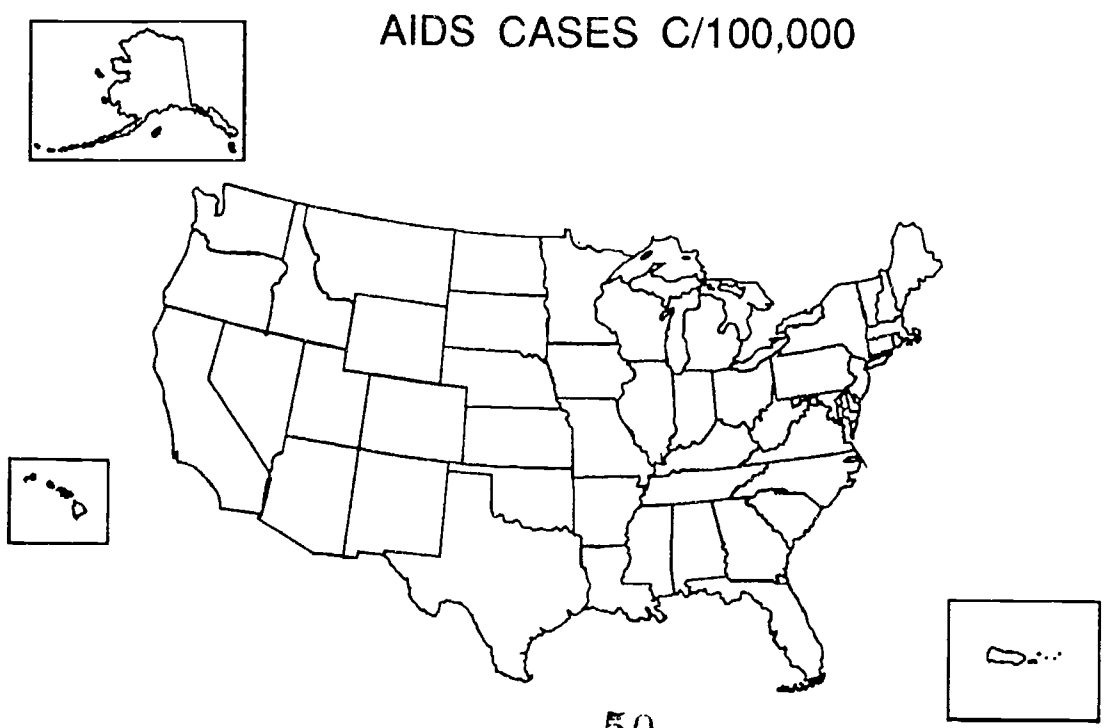
STATE	POP 1000S	POP. RANK	#1.1.90	(NEW 90)	(%INC 90)	#1.1.91	R:1.1.91	C/ 100,000	R/ 100,000
ALABAMA	4062	22	655	239	36.5	894	25	22.0	29
ALASKA	552	49	74	25	33.8	99	44	17.9	36
ARIZONA	3678	24	983	315	32.0	1298	20	35.3	21
ARKANSAS	2362	33	247	208	84.2	455	33	19.3	33
CALIFORNIA	29839	1	23328	7346	31.5	30674	2	102.8	4
COLORADO	3308	26	1230	364	29.6	1594	19	48.2	13
CONNECTICUT	3296	27	1443	425	29.5	1868	16	56.7	8
DELAWARE	669	46	220	94	42.7	314	38	46.9	14
DIST.COLUMBIA	610		1971	741	37.6	2712		444.6	
FLORIDA	13003	4	9946	4047	40.7	13993	3	107.6	3
GEORGIA	6508	11	3047	1223	40.1	4270	8	65.6	6
HAWAII	1115	40	473	156	33.0	629	30	56.4	9
IDAHO	1012	42	51	28	54.9	79	45	7.8	46
ILLINOIS	11467	6	3450	1278	37.0	4728	6	41.2	16
INDIANA	5564	14	735	282	38.4	1017	24	18.3	35
IOWA	2787	30	163	69	42.3	232	39	8.3	45
KANSAS	2486	32	308	137	44.5	445	34	17.9	36
KENTUCKY	3699	23	316	189	59.8	505	32	13.7	41
LOUISIANA	4238	21	1587	703	44.3	2290	12	54.0	11
MAINE	1233	38	154	67	43.5	221	40	17.9	36
MARYLAND	4799	19	2141	1002	46.8	3143	10	65.5	7
MASSACHUSETTS	6029	13	2498	844	33.8	3342	9	55.4	10
MICHIGAN	9329	8	1428	577	40.4	2005	15	21.5	30
MINNESOTA	4387	20	627	204	32.5	831	26	18.9	34
MISSISSIPPI	2586	31	381	279	73.2	660	28	25.5	24
MISSOURI	5138	15	1250	583	46.6	1833	17	35.7	19
MONTANA	804	44	39	17	43.6	56	47	7.0	48

AIDS Data Sheet (Continued)

STATE	POP 1000S	POP. RANK	#1.1.90	(NEW 90)	(%INC 90)	#1.1.91	R:1.1.91	C/ 100,000	R/ 100,000
NEBRASKA	1585	36	128	58	45.3	186	42	11.7	43
NEVADA	1206	39	442	191	43.2	633	29	52.5	12
NEW HAMPSHIRE	1114	41	129	66	51.2	195	41	17.5	39
NEW JERSEY	7749	9	7907	2464	31.2	10371	5	133.8	2
NEW MEXICO	1522	37	240	109	45.4	349	36	22.9	26
NEW YORK	18045	2	26097	8399	32.2	34496	1	191.2	1
NORTH CAROLINA	6658	10	1106	558	50.5	1664	18	25.0	25
NORTH DAKOTA	641	47	18	2	11.1	20	50	3.1	50
OHIO	10887	7	1639	660	40.3	2299	11	21.1	31
OKLAHOMA	3158	28	507	203	40.0	710	27	22.5	28
OREGON	2854	29	684	335	49.0	1019	23	35.7	19
PENNSYLVANIA	11925	5	3240	1197	36.9	4437	7	37.2	18
RHODE ISLAND	1006	43	294	88	29.9	382	35	38.0	17
SOUTH CAROLINA	3506	25	702	342	48.7	1044	22	29.8	23
SOUTH DAKOTA	700	45	16	9	56.2	25	49	3.6	49
TENNESSEE	4897	17	765	342	44.7	1107	21	22.6	27
TEXAS	17060	3	8070	3361	41.6	11431	4	67.0	5
UTAH	1728	35	241	98	40.7	339	37	19.6	32
VERMONT	565	48	56	22	39.3	78	46	13.8	40
VIRGINIA	6217	12	1315	738	56.1	2053	14	33.0	22
WASHINGTON	4888	18	1522	637	41.9	2159	13	44.2	15
WEST VIRGINIA	1802	34	117	62	53.0	179	43	9.9	44
WISCONSIN	4907	16	418	209	50.0	627	31	12.8	42
WYOMING	456	50	31	3	9.7	34	48	7.5	47
xPUERTO RICO	3290		3230	1730	53.6	4960		150.8	
xUSA(50+DC+PR)	249090		117659	43325	36.8	160984		64.6	
zGUAM	128		6	2	33.3	8		6.3	
zPACIFIC ISLANDS	185		1	1	100.0	2		1.1	
zVIRGIN ISLANDS	106		68	11	16.2	79		74.5	

HANDOUT 4 - THE GEOGRAPHY OF AIDS USA MAP





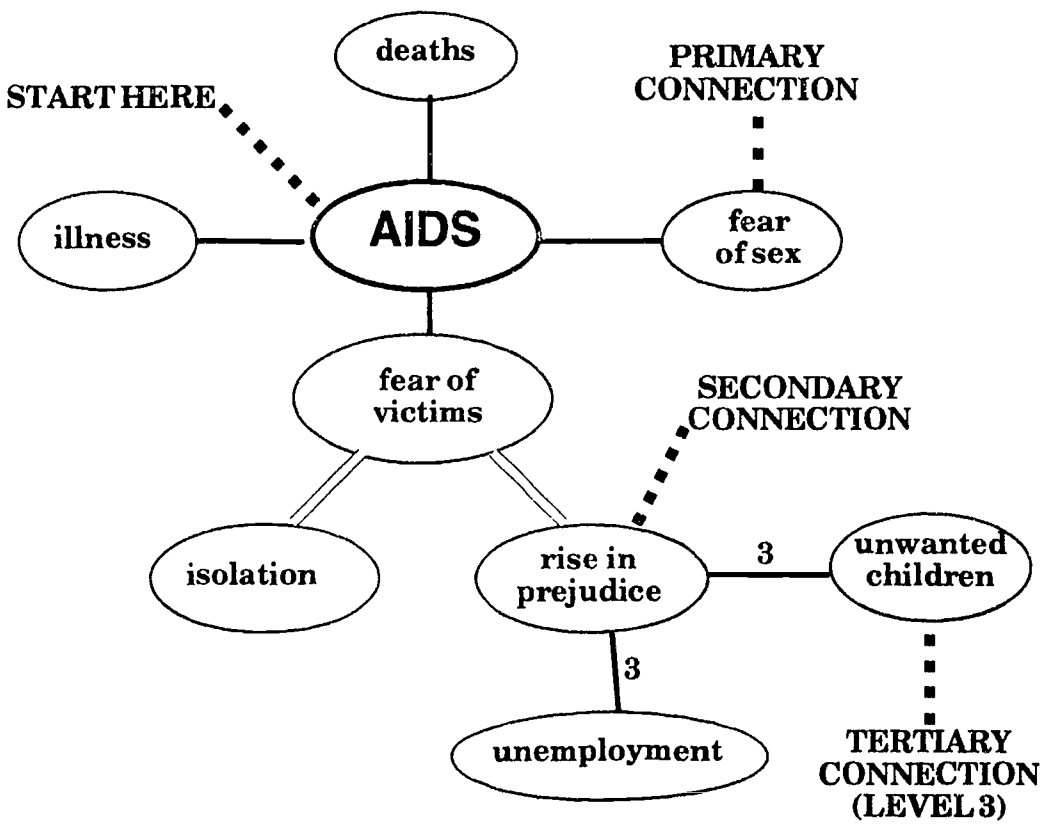
HANDOUT 5
GEOGRAPHY OF AIDS
Futures Wheel

A "Futures Wheel" is a forecasting tool, a device to permit thinking about the future. It is simply a tree-branching exercise using a full 360 degrees. It is a series of words (expressing any thoughts or ideas) which have a relationship to each other.

To make a futures wheel, start with one main idea (event, condition, or whatever) in a center circle. (Call this "main" circle.) Off of it, list the ideas directly related to the center; these should be obvious connections. (Call these "primary" and connect them to the "main" with one line.) Off each of the "primaries", list the "secondaries", the next ring of ideas, connecting them with double lines. Continue as far as desired, to as many levels as desired, indicating with lines and numbers the extent of connection. Sometimes there will only be one circle branching off another; sometimes there will be many branches. The number of circles doesn't matter.

For example, start with "AIDS" as the main circle. It might make you think of these primary circles: "illness", "deaths", "fear of sex", and "fear of victims". Next, look at the secondary circles around one of the primaries. For example, surrounding "fear of victims" might be these: "isolation" and "rise in prejudice". Surrounding "rise in prejudice" might be "unwanted children", "unemployment", and so on.

The importance of the wheel is the exploration of potential outcomes. Once outcomes have been identified, the next step is to see how many people are affected, if such-and-such is a positive or negative outcome, and how to work toward (if positive) or avoid (if negative) some potential outcome. The purpose is to key on planning for improved future conditions, rather than simply react to bad present conditions.



GRADES K-3
LESSONS

Lessons created by Billie Kapp, Connecticut Geographic Alliance Teacher Consultant, Coventry Grammar School, Coventry, CT.

DELIVERING "DON'T SMOKE" MAIL TO STORY LAND

CONNECTICUT GEOGRAPHIC ALLIANCE

Preview of Main Ideas

Stories and nursery rhymes, especially those written before research proved that smoking is dangerous to one's health, had main characters smoking. This lesson encourages students to use their knowledge of the dangers of smoking to "write" to characters in Story Land to alert them to the health hazards. The setting will be Story Land with a map of the characters' homes to enable the "Concerned Mail Carrier" to deliver letters of warning to the Story Land residents.

Connections With the Curriculum

This lesson can be used in conjunction with study of Health and Substance Abuse, Language Arts, and Geography.

Teaching Level: Grades K-2
Geographic Themes: Place, Movement

Materials

Books: *Curious George* by H.A. Rey (Boston: Houghton Mifflin Company, 1941)
The Jolly Postman by J. & A. Ahlberg (Boston: Little, Brown & Company, 1986)
Mother Goose by Brian Wildsmith (New York: Franklin Watts Incorporated, 1964)
The Night Before Christmas by Clement C. Moore (New York: Random House, 1975)
Envelopes
Handout #1 - Map of Story Land
Handout #2 - Directions and Story Land Characters

Objectives

Students are expected to:

- Understand the dangers of smoking.
- Take responsibility for alerting others to the dangers of smoking.
- Write a letter.
- Gain map skills by "delivering mail" to Story Land.

Suggestions for Teaching the Lesson

OPENING THE LESSON

1) Read *Curious George*. Talk about "the Man with the Yellow Hat" and his smoking and how he influenced George's behavior in the story. (Check date of book and discuss how the book was written before the Surgeon General's declaration.)

2) Read the nursery rhyme "Old King Cole" and the section from *The Night Before Christmas* where Santa has "a stump of a pipe he held tight in his teeth; and the smoke, it encircled his head like a wreath." (Popeye the Sailor Man can be included, or any other storybook character that is appropriate.)

3) Discuss one's responsibility to warn others about smoking.

4) Talk about sending letters to characters. Show the book, *The Jolly Postman*, and read a few letters.

DEVELOPING THE LESSON

5) Brainstorm about what ideas should go into the letter. List the ideas on the chalkboard or a chart. Compose a group letter to send or have the students write their own letters to the character of their choice. Each character should receive at least one letter. Below is a sample letter.

> Dear Curious George:
> Smoking is bad for you. You can get very sick from smoking.
> Please don't ever do that again.
>
> Please tell the Man in the Yellow Hat too.
> Love,

6) Talk about how to deliver the mail and the need for a map to show where the characters live.

7) Pass out Handouts #1 and #2. Follow the directions on Handout #2.

CONCLUDING THE LESSON

Have students share their letters if individual letters are written. Check to see that students can describe geographically the route which they used to deliver their mail.

ASSESSING STUDENT LEARNING

Use the letters which the students write to assess their understanding of the dangers of smoking. While students are completing their project of pasting the characters in Story Land, check individually to determine whether each student understands the compass direction and can deliver mail by going "south", etc.

EXTENDING THE LESSON

1) Divide the class into four groups. Pass out large paper and have students in the group draw their own map of how they envision Story Land, complete with street names, directions, and physical features such as mountains, lakes, etc. Put the characters into the map. Handout #2 with the storybook characters can be enlarged to match the floor map size.

2) Write a letter to a friend or family member about the dangers of smoking.

HANDOUT 1 - MAP OF STORY LAND

HANDOUT 2

DIRECTIONS FOR DELIVERING "DON'T SMOKE" MAIL TO STORY LAND

1) Pass out the map of Story Land. Talk about the map, focusing in on:
   a. Directions. "Who lives in the eastern part of Story Land? Find the Post Office. Who lives south of the Post Office?"
   b. Physical Features. "Is the lake closer to Old King Cole's castle or to the Post Office? Is there a forest in Story Land?"

2) Color the map and the Story Land characters. Cut out the characters and paste them near their houses.

3) Pretend to be a mail carrier and give directions for finding the house of the recipient of the letter written, warning the character of the dangers of smoking.

"ME TOO" - OR - "NOT ME"

CONNECTICUT GEOGRAPHIC ALLIANCE

Preview of Main Ideas

There are times to say "Me Too" and there are times to say "Not Me". It is important to know when to use these responses when decision-making situations arise. An easy reader, *Me Too*, introduces the lesson. Mapping a walk around a neighborhood provides opportunities for students to become involved in decision making where the responses "Me Too" and "Not Me" are appropriate.

Connections With the Curriculum

This activity can be used in health and substance abuse, language arts and geography classes.

Teaching Level: Grades K-2
Geographic Themes: Location, Place, Movement

Materials

Book *Me Too* by Mercer Mayer (New York: Western Publishing Company, 1983)
Handout #1 - "Refusal-Skills Model" - *Substance Abuse Prevention* Module, State of Connecticut Board of Education, 1991.
Handout #2 - Map for "Me Too" and "Not Me"
Handout #3 - Directions and Creatures for Maps
Overheads of three handouts, optional
Puppets, optional

Objectives

Students are expected to:

- Learn when to say "Me Too" or "Not Me"
- Create simulated circumstances for saying "Me Too" or "Not Me"
- Gain a better understanding of mapping concepts

Suggestions for Teaching the Lesson

OPENING THE LESSON

Read *Me Too*. Brainstorm about other times to say "Me Too". A chart can be made with ideas generated by the students.

DEVELOPING THE LESSON

Create a setting around the classroom where a student can encounter other students involved in an activity where the response would be "Me Too". For example, a few students could be playing a game and the "main character" could be invited to join with a "Me Too, Thank You" line.

Brainstorm about times to say "Not Me". These can be listed on a chart. Play-acting with "Not Me" responses can follow. (Review or become familiar with the "Refusal-Skills Model" from *Substance Abuse Prevention*.)

Pass out the map of the neighborhood (Handout #2) and the creatures from Handout #3. Follow the directions on Handout #3.

CONCLUDING THE LESSON

Ask students to share with the class one situation for saying "Me Too" and another for the "Not Me" response.

ASSESSING STUDENT LEARNING

While students are doing the neighborhood map, assess the situations which the students have created for "Me Too" or "Not Me" responses. For geographic growth, ask individual children to point out what lies in the "north" on the map, etc.

EXTENDING THE LESSON

1) Use an overhead projector and a copy of the neighborhood map. Have a student use a small plastic animal to walk through the map, stopping at each stop marked with an "x". Have another student describe what is happening at that stop. The student with the animal responds with a "Me Too" or "Not Me".

2) Puppets can be used for the third activity described under "Developing the Lesson".

3) Make a large floor map from oak tag of Handout #2. Give directions such as "Go east to the school" and have a student walk in that direction. Role play with appropriate "Not Me" and "Me Too" responses. (A chalk map can be drawn on the playground, with students using geographic directions when moving from place to place.)

HANDOUT 1
"ME TOO" - OR - "NOT ME"
Refusal-Skills Model

Listed below is a suggested procedure for helping students to say "no." Refusal skills are techniques which can be used to reinforce decisions and show respect for the individuals in the situation, while following a path that is safe and consistent. The refusal of one individual to engage in unsafe or undesirable behavior can help others to support their inclination to say "no." In using this model students should:

1. Ask questions
   - Why are we going ...?
   - What are we going to do ...?

2. Name the potential trouble
   - That's ...

3. Give a reason for their refusal
   - I do not want to do that because ...
   - If I do that ...

4. Provide alternatives
   - Instead let's ...
   - Why don't we ...

5. Take definite action
   - I am not going, but if you change your mind you can ...
   - Physically leave the encounter

A student under pressure should think of the following tips:
- Stay calm
- Look directly into the eyes of the other person
- Use "I" statements in the refusal process
- Say the person's name
- Pause
- Do not waver with the decision
- Repeat the decision
- Do not try to argue - continue following the refusal-skill model

HANDOUT 2 - MAP FOR "ME TOO" - OR - "NOT ME"

HANDOUT 3
DIRECTIONS FOR "ME TOO" - OR - "NOT ME" MAP

1) Pass out the maps and talk about:
   a. Directions: "Where is the little creature's house? Is it in the north?"
   b. Physical Features: "Where is Happy River? Is there any more water on the map?"

2) Trace possible directions that the little creature could walk. "Start at the creature's house. Walk to the river," etc.

3) Recall situations acted out under **Developing the Lesson**. Tell the students to stop at the "x"on the map and recreate a "Me Too" situation. Do the same for "Not Me" scenarios.

4) Color the map and small creatures. Cut out the two small creatures and paste them on the map at any "x" location. One creature says "Me Too" and the other says "Not Me". Share responses.

"ME TOO"

"NOT ME"

CONNECTICUT CARES ABOUT ME

Preview of Main Ideas

The State of Connecticut cares about the students in its schools. The Department of Education requires students from kindergarten through Grade 12 to learn how to take charge of their lives, to make healthy decisions, and to respect their bodies and minds as well as those of others. Do other states require their students to have lessons on "Substance Abuse"? Through letter writing, tee shirt geography, and graphing, students can research whether other states have this curriculum requirement. (An alternative lesson is provided if correspondence to other states is not feasible. This lesson does not research whether other states have drug and alcohol abuse mandates; it includes some study of the geography of Connecticut.)

Connections With the Curriculum

This activity can be used in health and substance abuse, language arts, geography and math classes.

Teaching Level: Grade 3 and above
Geographic Themes: Location

Materials

Atlases
Handout #1 - List of State Department of Education Offices in 50 States
Handout #2 - Sample Letter
Handout #3 - Tee Shirt Pattern
Envelopes - Stamps

Objectives

Students are expected to:

- Gain an understanding about Connecticut's mandated Drug and Alcohol Abuse policy for schools.
- Understand why the policy was mandated.
- Draft a letter to send to other states to inquire about their drug and alcohol abuse requirements, if any.
- Copy and identify an outline of a state map.
- Draw conclusions from the survey.

Suggestions for Teaching the Lesson

OPENING THE LESSON

Brainstorm and make a chart of the reasons why Connecticut has a Drug and Alcohol Abuse mandate, K-12. Refer to page 17 of *Substance Abuse Prevention* health module publication or see goals on page 53.

Talk about the probability of other states having the same curriculum requirements. Estimate how many states have mandated drug and alcohol abuse lesson requirements. Make a graph of the estimates. This can be done by naming each state and tallying the results of the estimations. Discuss ways of gathering this information from other states.

DEVELOPING THE LESSON

Draft a letter as a class or use the suggested letter provided. Assign or have students choose one or two states to send a letter to, asking if that state has drug and alcohol abuse lesson requirements. State names can be drawn from a hat. Ideally, all states should be represented. If this is not feasible, two classes may share the project, or the number of states to be written to may equal the number of students in the class. The states may be chosen from every geographic location, or by region; for example, the northeast.

Pass out the tee shirt Handout #3. Using an atlas, have each student draw her/his assigned or chosen state on the tee shirt. Print or write the name of the state ABOVE the outline. If possible, hang up the completed tee shirts around the room or on a bulletin board awaiting responses to the letters.

As responses come in, write "RHODE ISLAND CARES", etc. UNDER the state outline on the appropriate shirt. Another activity would be to put a pin in a map as each response arrives from the states.

Finalize the results coming back from the states. Compare original estimates with the final numbers. Draw conclusions. States can be categorized by region to compare which areas mandate drug and alcohol abuse lessons.

ALTERNATIVE LESSON

If writing to state boards of education is not feasible, the State map of Connecticut can be used in the following ways.

1) Have students trace an oak tag shape of the state of Connecticut on their tee shirt handout.
2) Have students locate different towns or counties and draw either one on their tee shirt.
3) Print, "Middletown Cares" below the Connecticut map on the tee shirt.
4) Students can alphabetize the tee shirts before hanging them.

CONCLUDING THE LESSON

Ask students what reason they would give, if they were in the State Department of Education, to justify a drug and alcohol abuse program in schools. Have the students write down one compelling reason. Share the reasons and identify the justification which had the most support.

ASSESSING STUDENT LEARNING

Use the concluding activity to evaluate the students' understanding of a rationale for the substance abuse program. Encourage students to talk about what learning took place when doing the geography segment of this lesson.

EXTENDING THE LESSON

The teacher can draw eight states which have mandated substance abuse programs, or students can do freehand drawings of eight states. Students can exchange their completed drawings, without state names, with a partner for identification and labeling of the states' names.

CONNECTICUT CARES

Goals - Substance Abuse Prevention

These goals will help teachers to provide students with opportunities to gain an understanding of:

- accurate information on all types of drugs and their effects on one's health;
- the social consequences of substance abuse;
- the legal consequences of substance abuse;
- the practice of skills in understanding, interpreting and evaluati ıg substance abuse information;
- the application of the decision-making process and the refusal-skill model to a variety of situations;
- the need to accept responsibility for personal health and protection, as well as family and community health; and
- how to use available health services and resources when help is needed.

HANDOUT 1
CONNECTICUT CARES
State Departments of Education

111 Coliseum Blvd.
Montgomery, **Alabama** 36193

P.O. Box F
Juneau, **Alaska** 99811

1535 West Jefferson
Phoenix, **Arizona** 85007

#4 Capitol Mall, Room 405-B
Little Rock, **Arkansas** 72201

P.O. Box 944272
Sacramento, **California**
94244-2720

201 E. Colifax Avenue
Denver, **Colorado** 80203

Townsend Building
Federal St./Loockermann St.
Dover, **Delaware** 19901

Knott Building
Tallahassee, **Florida** 32399

1954 Twin Towers East
Atlanta, **Georgia** 30334

189 Lunalilo Home Rd.
Honolulu, **Hawaii** 96825

650 W. State Street
Boise, **Idaho** 83720

100 North First Street
Springfield, **Illinois** 62777

229 State House
Indianapolis, **Indiana** 46204

Grimes Building
Des Moines, **Iowa** 50319-0146

120 East 10th Street
Topeka, **Kansas** 66612

1830 CPT
Frankfort, **Kentucky** 40601

P.O. Box 94064
Baton Rouge, **Louisiana** 70804

Statehouse 23
Augusta, **Maine** 04333

200 W. Baltimore Street
Baltimore, **Maryland** 21201

1385 Hancock Street
Quincy, **Massachusetts** 02169

P.O. Box 30008
Lansing, **Michigan** 48909

731 Capitol Square Building
550 Cedar Street
St. Paul, **Minnesota** 55101

P.O. Box 771, Suite 1304
Jackson, **Mississippi** 39205

State Capitol
Helena, **Montana** 59620

301 Centennial Mall South
P.O. Box 9498
Lincoln, **Nebraska** 68509

Capitol Complex
Carson City, **Nevada** 89710

101 Pleasant Street
Concord, **New Hampshire** 03301

225 West State Street CN 500
Trenton, **New Jersey** 08625

DeVargas & Don Gaspar Streets
Santa Fe, **New Mexico** 87503

Washington Avenue
Albany, **New York** 12234

Education Building
Raleigh, **North Carolina** 27611

State Capitol - 9th Floor
Bismark, **North Dakota** 58505

65 S. Front Street
Columbus, **Ohio** 43266

2500 North Lincoln Blvd., Room 315
Oklahoma City, **Oklahoma** 73105-4599

700 Pringle Parkway SE
Salem, **Oregon** 97310

333 Market Street
Harrisburg, **Pennsylvania** 17126

22 Hayes Street
Providence, **Rhode Island** 02908

1429 Senate Street
Columbia, **South Carolina** 29201

Kneip Building
Pierre, **South Dakota** 57501

P.O. Box 24471
Johnson City, **Tennessee** 37614

1701 North Congress Avenue
Austin, **Texas** 78701-1494

250 East 500 South
Salt Lake City, **Utah** 84111

State Office Building
Montpelier, **Vermont** 05602

P.O. Box 6-Q
Richmond, **Virginia** 23216

7510 Armstrong St., S.W.
Tumwater, **Washington** 98504

Capitol Complex, Building 6
Room B-330
Charleston, **West Virginia** 25305

125 S. Webster Street
P.O. Box 7841
Madison, **Wisconsin** 53707

Hathaway Building
Cheyenne, **Wyoming** 82002

HANDOUT 2
CONNECTICUT CARES - Sample Letter

Coventry Grammar
Main Street
Coventry, CT 06238

To: Department of Education:

My class is doing a project on "Drug and Substance Abuse."
We are writing to all 50 states and we need your help.
Does your state, _____, require that public schools have lessons on "Drug and Substance Abuse"?

Please take a moment to fill out and return the form below.

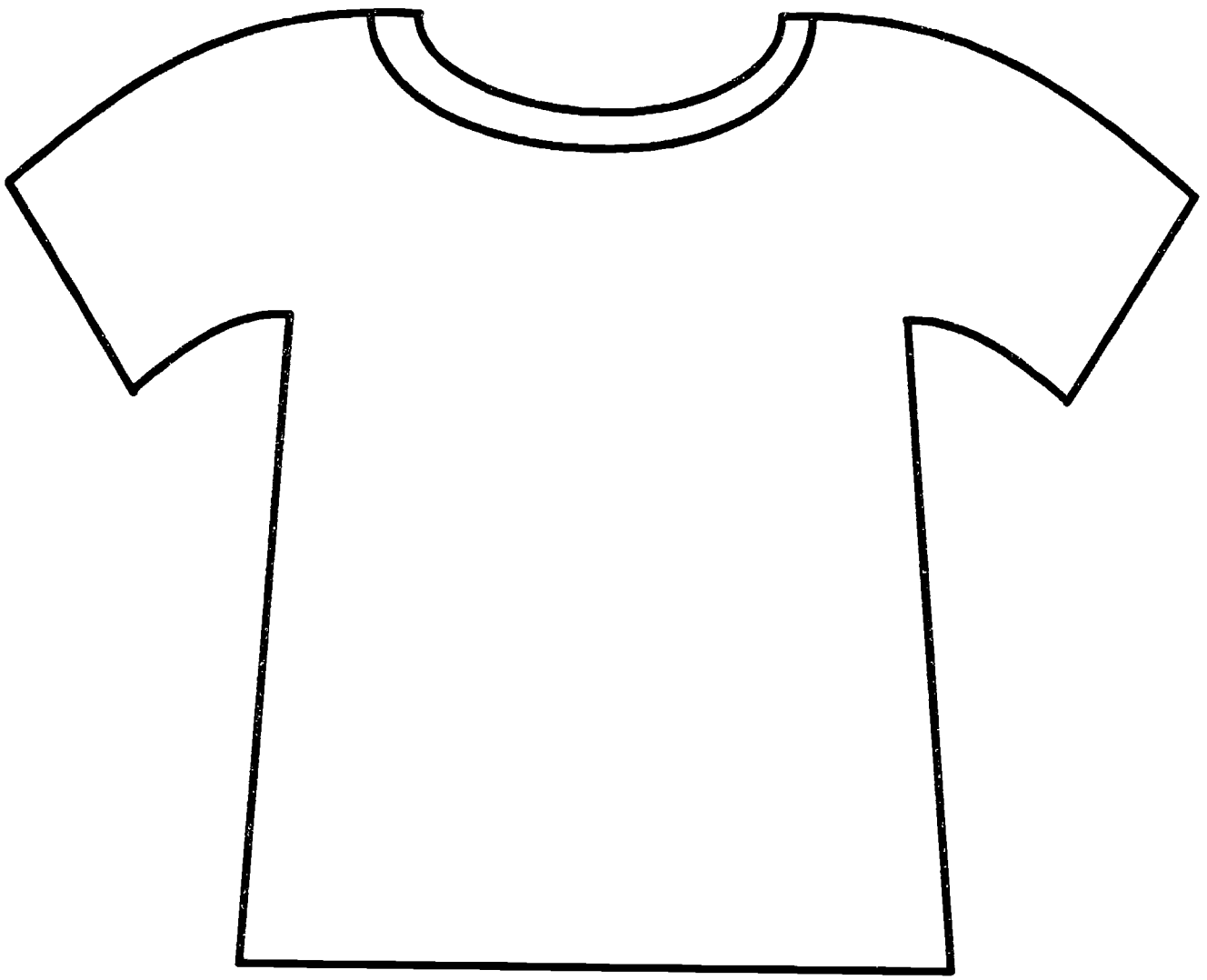
Thank you.
Sincerely,

Grade ____

- -

[ ] My state, _____, does require lessons on substance abuse.
[ ] My state, _____, does not require lessons on substance abuse.

HANDOUT 3
CONNECTICUT CARES
Tee Shirt Pattern



GRADES 4-6
LESSONS

Lessons created by William DeGrazia, Connecticut Geographic Alliance Teacher Consultant, Bethel Middle School, Bethel, CT.

WHERE IN THE WORLD WILL YOU FIND AIDS?

CONNECTICUT GEOGRAPHIC ALLIANCE

Preview of Main Ideas

In the last ten years, AIDS has gone from an unknown disease to a worldwide problem. Using statistics from the World Health Organization, students will construct a floor-size map of the world and visually represent where AIDS cases are in the world. This activity will help students learn how mapping techniques (grid system and scale) can be used to understand social issues and to solve problems.

Connections With the Curriculum

This activity can be used in health, geography, mathematics, science and other social studies classes.

Teaching Level: Grades 4-6 (can be extended to higher grades)
Geographic Themes: Location, Movement

Materials

One copy of bar graph handout for each student
Yardsticks and marking materials for floor (chalk, string, or masking tape, depending on surface)
Directions for lesson

Objectives

Students are expected to:

- Construct floor map of world with grid system of latitude and longitude.
- Use division to show how a small group (class) can represent a larger number (number of AIDS cases).
- Examine map to draw conclusions about AIDS worldwide.
- Describe how AIDS can and cannot be transmitted.

Suggestions for Teaching the Lesson

OPENING THE LESSON

Have students use knowledge of latitude and longitude to map a grid system on the tile floor of the classroom. Chalk or masking tape can be used. If the classroom floor is carpeted, use string or strips of paper as an alternative. Divide class into 7 groups and have them draw continents to scale using an atlas or a Mercator projection map. The students can outline continents in chalk, masking tape or string, or cut out large sheets of construction paper to make continents to scale.

DEVELOPING THE LESSON

Using handout, students will be assigned to continent based on one student for every 15,000 cases (over 25 students, one for every 10,000 may be used).

Students will decide how many people will go to each continent (see following chart).

5 for Africa	78,000
3 for Europe	40,000
1 for Asia	750
1 for Australia	2,300
0 for Antarctica	
9 for North America	130,000
3 for South America	40,000

Have students formulate questions about the map (for example: Which continents have the most? Which the least? Why are there are so many in Africa and the United States?)

CONCLUDING THE LESSON

Ask the students what they know or don't know about the disease. Give them the facts about what AIDS stands for. What is HIV? What are some of the ways you can/can't get AIDS?

ASSESSING STUDENT LEARNING

Ask students to list continents of the world where AIDS is a serious problem. Ask students what can be done to slow down the advance of the AIDS virus worldwide? Have students give a list of particular problems and issues that could be better understood by the mapping method we used in class (e.g., drug deaths, crimes, or environmental issues).

EXTENDING THE LESSON

Discuss the number of cases in the United States and groups it affects (Centers for Disease Control statistics). How has AIDS affected your community? Are their public health issues of greater concern than AIDS in your community? Another way to show the spread of the AIDS virus would be through an activity with ping pong balls (or marbles). A bag could contain one different colored ball than the rest. If a student picked that out, they have to add another ball of that color to show the increasing risks of contracting the disease.

Resources

The SIRS AIDS Crisis 1990, CID/DHA/TIA. Center for Disease Control, Mailstop 6-29, Atlanta, GA 30333.

"HIV/AIDS Surveillance Report", World Health Organization.

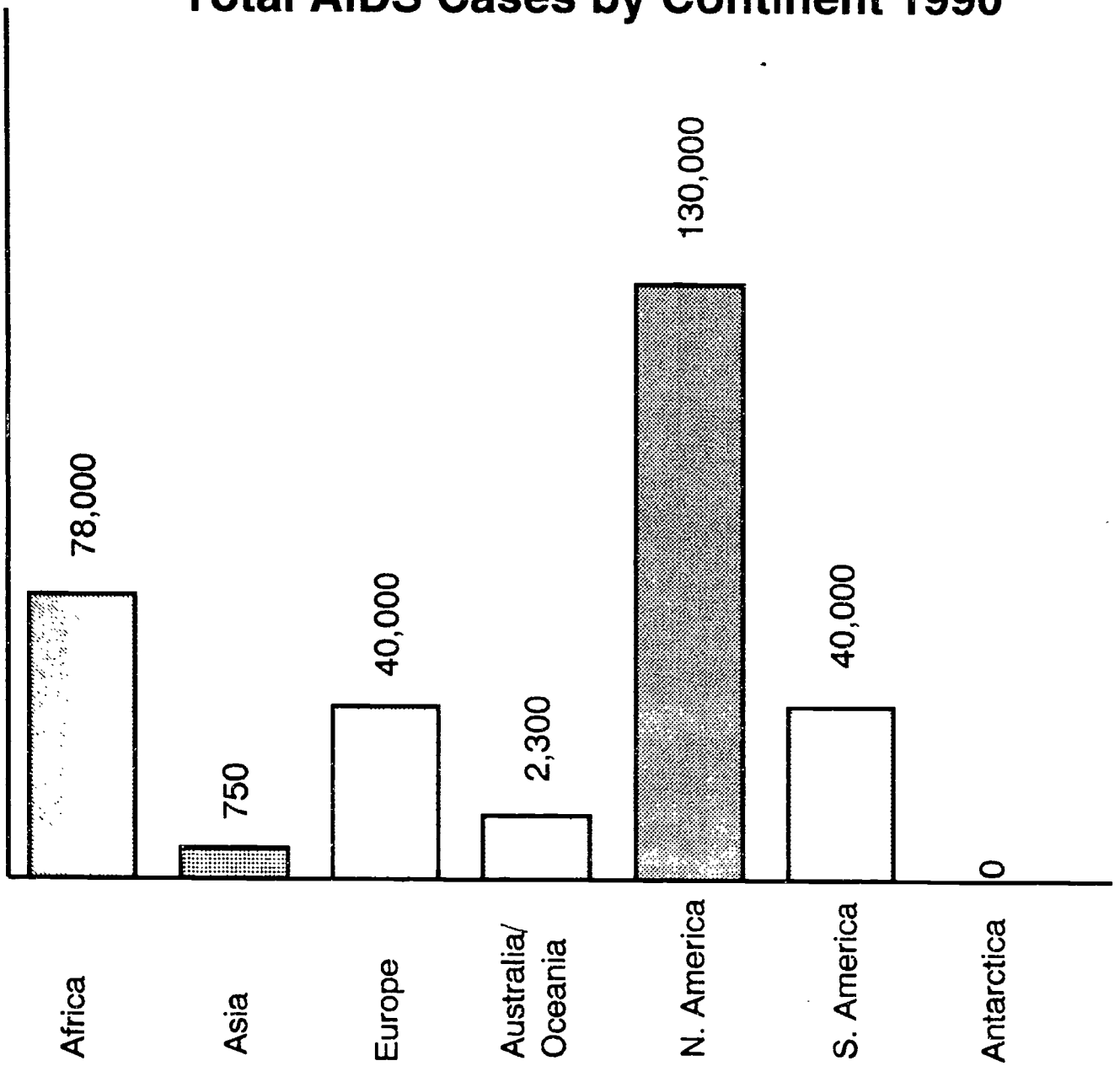
National AIDS Information Clearinghouse, P.O. Box 61003, Rockville, MD 20850.

"Geography of AIDS", Charlie Fitzpatrick, St. Paul Academy, St. Paul, Minnesota.

Prevention of Communicable and Noncommunicable Diseases, State of Connecticut Board of Education, 1990.

HANDOUT - WHERE IN THE WORLD WILL YOU FIND AIDS?

Total AIDS Cases by Continent 1990



Source: World Health Organization, Centers for Disease Control.
Numbers have been rounded off to make math easier for upper-elementary students.

DRUGS AROUND THE WORLD

CONNECTICUT GEOGRAPHIC ALLIANCE

Preview of Main Ideas

Drugs are a way out of poverty for many farmers in underdeveloped economies. This lesson will expose students to where various drugs are produced and consumed. The mapping technique of location will be used, students will become aware of social issues, and try to come up with alternative ways for farmers to make a living.

Connections With the Curriculum

This activity can be used in health, geography, economics, and other social studies classes.

Teaching Level: Grades 4-6 (can be extended to higher grades)
Geographic Themes: Location, Human/Environmental Interactions

Materials

Handout #1 - List of Producers and Consumers of Drugs
Handout #2 - Map of World
Colored pencils
Hammond Comparative Atlas or equivalent atlas

Objectives

Students are expected to:

- Construct a thematic map showing where various drugs are produced and consumed.
- Brainstorm ways of dealing with problem.
- Practice decision-making and alternatives for economics being practiced today.

Suggestions for Teaching the Lesson

OPENING THE LESSON

Have students list drugs that they have heard of that are being used in the United States. Then, have them match the drug with the country(ies) where they think it might be produced.

DEVELOPING THE LESSON

Distribute Handout 1, a list of countries that lead in production of various drugs and consumption of those drugs. Distribute Handout 2 and assign a color to producing countries and one to consuming countries. If they are both major producers and consumers for a drug, pick a third color or split country in half by shading with pencil.

CONCLUDING THE LESSON

Analyze the theme map and formulate questions for discussion:

1. Where are the producers?
2. Are they near the sea?
3. How do drugs get to consumers?
4. What about the economics of consumers? (i.e. wealthy countries)
5. What other ways can people make a living in these producing countries?
6. Why would they change if they are making so much money?

ASSESSING STUDENT LEARNING

Ask students to list countries that lead in producing drugs. Ask them to list five countries that lead in the consumption of these drugs. Have them give their assessment of whether farmers in these countries might change to other crops.

EXTENDING THE LESSON

Discuss the number of cases of drug deaths in their states. How have drugs impacted on your community? Bring in a DARE representative or start a program with the local authorities.

Resources

"A Big Business", *SIR Digest*, Drugs, 1989.
"Brewers Almanac", Beer Institute, 1989.
"Cocaine's Deadly Reach", *National Geographic*, January 1989, pp. 3-47.
"Drug Production Rising Worldwide", *New York Times*, March 2, 1989.
"Drug Traffickers Link Up in 1990", *The Christian Science Monitor*, January 9, 1991.
Hudson, Tim, "A Geography of Cocaine", *Focus*, January 1985.
Cooper, Mary H., Washington, DC: Congressional Quarterly Publications, *"The Business of Drugs"*, 1989.

HANDOUT 1
DRUGS AROUND THE WORLD
MAJOR PRODUCERS AND CONSUMERS

MAJOR PRODUCERS (DRUGS AND ALCOHOL)

Marijuana	Mexico, Jamaica, Colombia, Bolivia, United States
Hashish	Afghanistan, Pakistan, Lebanon
Coca Leaf	Colombia, Peru, Bolivia
Opium Poppy for Heroin	Thailand, Burma (Myanmar), Laos, Morocco, Mexico
Crack	Jamaica
Alcohol	Germany, Canada, United States, Netherlands, France
Tobacco	

MAJOR CONSUMERS (DRUGS AND ALCOHOL)

United States
Japan
Soviet Union
United Kingdom
Mexico
Germany
Italy
France
Netherlands

Sources: *"The Business of Drugs"*, 1991
"The Brewers Almanac", 1989

HANDOUT 2
DRUGS AROUND THE WORLD

79

78

I WOULD LIKE TO BE YOUR NEIGHBOR

CONNECTICUT GEOGRAPHIC ALLIANCE

Preview of Main Ideas

Substance abuse is a major concern in America today. Upper-elementary students need to gather information, see the positive and negative consequences of an issue, and then make a decision. In this role-play situation, the class will be divided into groups and debate the merits of a substance abuse rehabilitation center coming into their neighborhood.

Connections With the Curriculum

This activity can be used in health, geography, current events, and other social studies classes.

Teaching Level: Grades 4-12
Geographic Themes: Human/Environment Interactions, Movement, Place

Materials

Handout - One set of directions for a "town meeting"

Objectives

Students are expected to:

- Brainstorm ways of dealing with problems.
- Practice positive ways to ask for what they want.
- Learn ways to cooperate with others.
- Role play decision-making and accept the consequences of their own behavior.

Suggestions for Teaching the Lesson

OPENING THE LESSON

Divide students into six groups in the community: parents, store owners, students (their grade level), senior citizens, drug abusers, and drug counselors. Give them paper and have them pick a writer and a spokesperson for each group.

DEVELOPING THE LESSON

Each group will brainstorm the positive and negative aspects of a substance abuse center being put in their neighborhood. Many groups will list concerns they have. Others will list benefits or try to answer possible concerns of other groups. The teacher (or a student) will lead the group in a town forum. Each individual group will have their say, while others will listen without comment (they may take notes to show agreement or disagreement). Each group will get a turn drawn by lot and use up to two minutes. They will get to give a 30-second summation of their thoughts before the town vote. The town will vote on whether or not to approve the rehab center.

CONCLUDING THE LESSON

Discuss the consequences of the vote. Are there similar places in our community? Are they working or are they not working?

ASSESSING STUDENT LEARNING

Review group notes with appropriate initials next to comments. Ask them what other issues can be discussed in this format.

EXTENDING THE LESSON

Have a counselor or recovering abuser come into the classroom for discussion and exchange of ideas. Link with DARE programs in various communities in our state. Show video such as "Lots of Kids Like Us" or read a book like *I Wish Daddy Didn't Drink So Much* aloud to the class. Students may discuss or respond in writing.

Resources

"Lots of Kids Like Us" Video, Coronet/MTL, 108 Wilmont Rd., Deerfield, IL 60015.

Vigna, Judith, *I Wish Daddy Didn't Drink So Much, Niles, IL: A Whitman, 1988.*

O.S.A.P. National Clearinghouse for Alcohol and Drug Information, P.O. Box 2345, Rockville, MD 20852.

Milgram, Gail G., *Coping With Alcohol*, New York: The Rosen Publishing Group, Inc., 1985.

Social Issues Resources Series, *Alcohol Digest*, P.O. Box 2507, Boca Raton, Florida 33432.

Health Module in Substance Abuse Prevention, State of Connecticut Board of Education, 1991.

HANDOUT
I WOULD LIKE TO BE YOUR NEIGHBOR
DIRECTIONS FOR TOWN MEETING

Students will be divided into six groups representing the community:

Parents
Store Owners
Students (at their own grade level)
Senior Citizens
Drug Abusers
Drug Counselors

Procedures for each group:

1. Assign a recorder.
2. Assign a spokesperson.
3. Brainstorm the positive and negative aspects of a substance abuse center being put in the neighborhood.
4. List concerns and/or benefits.
5. Attempt to anticipate the concerns of the other groups and answer those concerns.

The teacher (or a student) will then lead the class in a town forum.

Procedures for the Town Forum:

1. Draw lots to establish order of reporting.
2. Each group spokesperson will have their say (groups may use up to two minutes). All others will listen without comment but may take notes to indicate agreement or disagreement.
3. After each group has reported, a 30-second summation will be heard.
4. The town will vote on whether to put the substance abuse center in their neighborhood.

GRADES 7-9
LESSONS

Lessons created by Ann Curtis Cox, Connecticut Geographic Alliance Teacher Consultant, Granby Memorial Middle School, Granby, CT.

THE GEOGRAPHY OF THE POPPY

CGA CONNECTICUT GEOGRAPHIC ALLIANCE

Preview of Main Ideas

This lesson gives students the background of the European (opium) poppy and where it is grown illegally in the world. Students locate and identify the three main opium poppy growing areas in the world and then classify these countries as to latitude, climate, and GNP per capita. With the use of the information, students will determine what characteristics these countries have in common and why the illegal growing of poppies is so attractive to these peasant farmers.

Connections With the Curriculum

This activity can be used in geography, contemporary world affairs, economics, and other social studies classes.

Teaching Level: Grades 7-12 (adjust for level of difficulty)
Geographic Themes: Location, Place, Movement, Human/Environment Interactions, Regions

Materials

Handout #1 - Background Information on the Opium Poppy
Handout #2 - Outline Map of the World
GNP Per Capita information from *The Development Data Book: A Guide to Social and Economic Statistics*. The World Bank, 2nd Edition, Washington, DC, 1988, pp. 8-9. (Teachers will need to locate and make copies of this information for students.)
Atlases
Colored pencils

Objectives

Students are expected to:

- Locate illegal opium poppy-growing nations.
- Understand what these countries have in common with respect to climate, location, and GNP per capita.
- Use maps to understand how and why opium is illegally grown and transported around the world.

Suggestions for Teaching the Lesson

OPENING THE LESSON

Distribute Handout #1, The Poppy, and ask students to read it. Ask students why farmers illegally cultivate poppies.

DEVELOPING THE LESSON

Distribute Handout #2, Outline Map of the World, and GNP Per Capita information from *The Development Data Book*. Using the outline map and an atlas, have students locate and label the following opium-producing countries of the world (see following chart).

Legal Cultivation	Illegal Cultivation	
India	Mexico	Pakistan
	Egypt	Burma (Myanmar)
	Iran	Laos
	Afghanistan	Thailand

Make sure that students color code the countries as to which opium-producing region it belongs (see Handout #1).

Also, using the atlases and a climate map of the world, have students give the range of latitudes for these countries, the climate, and the GNP per capita as it is classified on the information from *The Development Data Book*.

CONCLUDING THE LESSON

Have students refer to their maps and consider the following:

1. In what latitudes are most of the countries located? *(Ranges from 23.5° N - 23.5° S Latitude, mid-and low-latitude countries)*
2. What are the climates of these countries? *(temperate, subtropic, etc.)*
3. How are opium-growing countries classified according to GNP per capita? *(Low-income developing countries)*

ASSESSING STUDENT LEARNING

Ask students to answer the following:

1. Identify the opium-growing countries of the world.
2. What do these countries have in common?
3. What is the motive for farmers to grow opium poppies even though it is illegal?

EXTENDING THE LESSON

1. Have students research other crops of opium-growing countries to find out why they prefer to grow this illegal crop.
2. Have students graph the table on Handout #1 (Computer-generated or on graph paper)
3. Have students postulate what has caused an increase/decrease in illegal opium production in each country/region.
4. Have students research illegal drug use in their state/community and its harmful effects.
5. Have students research the purpose for legal cultivation of the opium poppy.

Resources

White, Peter T. "The Poppy". *National Geographic* 171:143-188. February 1985.

Cooper, Mary H. *The Business of Drugs*. Washington, DC: Congressional Quarterly Publications, 1989

United States Department of Justice, Drug Enforcement Administration, *Drugs of Abuse*. Washington: GPA, 1988.

HANDOUT 1
BACKGROUND INFORMATION ON THE OPIUM POPPY

The main source of nonsynthetic narcotics is the plant *Papaver somniferum*, commonly called the opium (European) poppy. The milky fluid from the unripened seedpod is scraped by hand or by other modern methods, and air-dried to produce opium gum. As early as 300 B.C., it was grown in the Mediterranean regions. It is native to Asia Minor and is cultivated in the Middle East, Far East, Western Europe, and Mexico as a source of heroin, morphine, codeine, and for its seeds used in food and birdseed. Grown in temperate and subtropic climates, it has been illegal since 1946 to grow the opium poppy in the U.S., and legitimate poppy production is monitored under a United Nations treaty signed by 116 countries.

The opium poppy is the source of heroin sold in the United States and is grown in Southeast and Southwest Asia and Mexico. The powder is refined near where it is grown and then is smuggled to various destinations around the world. Most of the opium grown in the world is cultivated by peasant farmers for illegitimate use. It is smuggled into the United States where it touches at the roots of all communities and every aspect of society. Not only does it cause addiction and destruction for hundreds of thousands of people -- the theft for funds to buy heroin is one of the major causes of crime in U.S. cities as well.

It is estimated that a poppy grower in Afghanistan receives approximately $60 - $130 per kilo of opium, while its final street value in the United States is $1,500,000 - $2,000,000. Although this is roughly equivalent to $1 for the $42,000 their crop brings on the retail market, it is still greater than the amount of income growers could receive for any other cash crop.

The Heroin Connection

(To be used to map the opium-growing/producing nations)

1. Mexico (accounts for one-third of U.S. heroin)

2. Southwest Asia's Golden Crescent (produces 1,000-2,500 metric tons illicitly per year
   Iran, Afghanistan and Pakistan

3. Southeast Asia's Golden Triangle (the world's largest opium producer)
   Burma (Myanmar), Laos and Thailand

HANDOUT 1
(continued)

Worldwide Production of Opium (in metric tons), 1985 - 1989

COUNTRY	1985	1986	1987	1988	1989
Southwest Asia					
Afghanistan	400-500	400-500	400-800	700-800	700-800
Iran	200-400	200-400	200-400	200-400	200-400
Pakistan	40-70	140-160	190-220	190-220	105-178
TOTAL	640-970	740-1,060	790-1,420	1,090-1,420	1,005-1,378
Southeast Asia					
Burma (Myanmar)	490	770-1,100	925-1,230	1,065-1,500	1,100-1,538
Laos	100	100-290	150-300	210-300	210-300
Thailand	35	20-25	20-45	23-33	23-38
TOTAL	625	820-1,415	1,095-1,575	1,298-1,833	1,333-1,868
Mexico	25-45	35-50	45-55	45-55	40-50
GRAND TOTAL	1,290-1,640	1,595-2,525	1,930-3,050	2,433-3,308	2,378-3,293

Source: U. S. Department of State, Bureau of International Narcotics Matters, *International Narcotics Control Strategy Report,* March 1989.

HANDOUT 2
THE GEOGRAPHY OF THE POPPY

MAPPING THE COCA PLANT

Preview of Main Ideas

Students will read an excerpt from a January, 1989 *National Geographic* article by Peter T. White on the coca plant (copies to be obtained by teachers from library resources). After reading this article, students locate all of the places mentioned in the article on an outline map of the world. Using the five themes of geography, students discover what these countries have in common. Students then draw conclusions as to why farmers in certain countries grow this illicit plant. This activity will help students learn how the mapping of where the coca plant is grown illegally is based on the economics of a country, and how this problem might be addressed.

Connections With the Curriculum

This activity can be used in geography, economics, and social studies classes, or drug prevention programs.

Teaching Level: Grades 7-12 (adjust for level of difficulty)
Geographic Themes: Location, Place, Human/Environment Interactions, Movement, Regions

Materials

Atlases
Excerpt from "Coca" article, to be obtained by teachers
Handout #1 - Outline Map of the World
Handout #2 - Data Table
Current world almanac or chart with Gross National Products (GNPs) of countries

Objectives

Students are expected to:

- Learn how the location of coca plant-growing countries is affected by economics.
- Locate the coca plant-growing countries on a world map.
- Describe and understand what the coca plant-growing countries have in common by discussing the five themes of geography.

Suggestions for Teaching the Lesson

OPENING THE LESSON

Ask students what they know about the coca plant. Write these ideas on the chalkboard. (Encourage students to name products made from this plant.)
Ask students where the coca plant is grown.
Distribute copies of "Coca" article handout you have obtained and have them read it. (This is a perfect activity for cooperative learning groups.)

DEVELOPING THE LESSON

Instruct students to underline the places/locations in the article mentioned in connection with where the coca plant is grown. (*Andean Highlands, Peru, Colombia, Caribbean, Bolivia, Sierra Nevada de Santa Marta, Calamar, Unilla River, Vaupes River)*

Distribute Handout #1 and have students locate and label these places on the outline map of the world.

Have students answer the following questions on the excerpt from the "Coca" article:

1. What is the range of absolute and relative locations of these places?
2. What are the climates and physical characteristics of these places?
3. How have the people changed this environment?
4. In what region of the world is this location? *(They may use cultural regions, economic regions, language regions -- regions can be defined in many ways.)*
5. Using an almanac, how do the GNPs of these nations compare to the GNP of the United States, Great Britain, and Germany? *(GNPs are much lower than those of developed countries.)*
6. What ancient culture chewed the coca leaf and why? *(Valdivia culture, 1500 B.C., a tonic)*
7. What is the lawful use of cocaine?
8. Although it is illegal to produce or possess cocaine in the United States and 125 other nations, except for the prescribed medical uses, why is it grown? *(money, economic survival)*
9. What kind of journey did the reporter make to get to the farm?
10. According to the article, what is FARC and how does it protect growers?

CONCLUDING THE LESSON

Ask students why countries grow the coca leaf? Ask students what actions they would take to stop the illicit growing of this product.

ASSESSING STUDENT LEARNING

Have students participated in all activities?
Ask students to list the three major coca-growing countries.
Ask students to list what these countries have in common.

EXTENDING THE LESSON

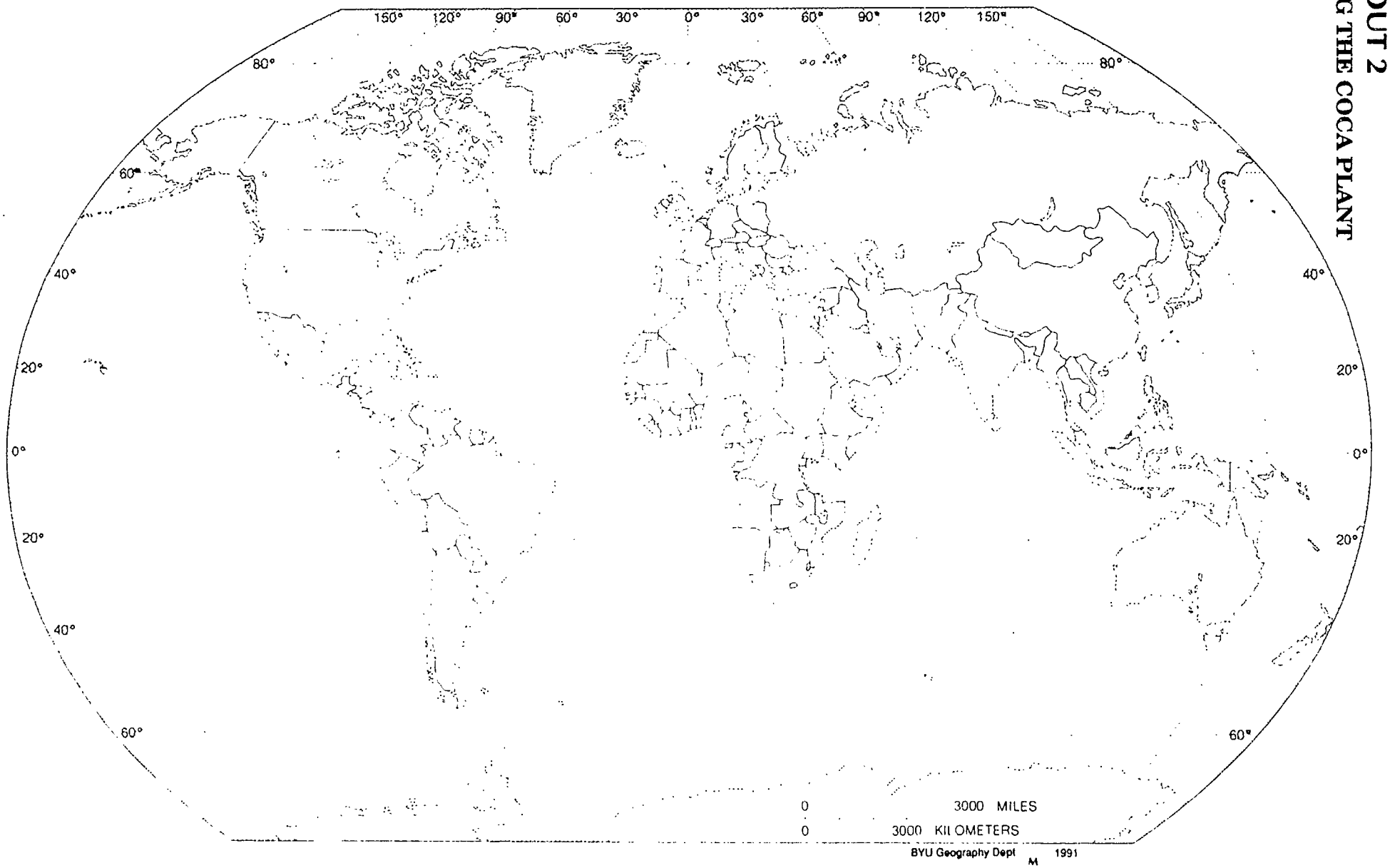
Have students look at Handout #2 - Data Table. Have students compare the total external public debt as a percentage of GNP for Peru, Bolivia, and Colombia with that of the United States, Canada, and the United Kingdom. Ask them what this suggests.

Have students research the United Nations Fund for Drug Abuse Control, UNFOAC, and how it encourages rural development and substitute products for the coca leaf.

Resources

Source for Data Table: Sheram, Katherine, *The Development Data Book: A Guide to Social and Economic Statistics.* The World Bank, 2nd Edition. Washington, DC. 1988, pp. 12-13.

White, Peter T. "An Ancient Indian Herb Turns Deadly: COCA". *National Geographic* 175:3-47. January 1989.


150° 120° 90° 60° 30° 0° 30° 60° 90° 120° 150°
80°
60°
40°
20°
0°
20°
40°
60°
0 3000 MILES
0 3000 KILOMETERS
BYU Geography Dept 1991

HANDOUT 2

MAPPING THE COCA PLANT DATA TABLE

Total external public debt as percentage of GNP

COUNTRY	1970	1986
PERU	12.3	45.0
BOLIVIA	46.1	78.5
COLOMBIA	18.5	36.6
UNITED STATES		
CANADA		
UNITED KINGDOM		

CURRENT EVENTS AND ILLICIT DRUGS

Preview of Main Ideas

Students learn about illicit drugs by collecting articles from current newspapers and news magazines dealing with this topic. Working in cooperative groups, students fill out a worksheet dealing with the five themes of geography and student-selected articles. Each group then presents its articles to the class, and identifies the locations mentioned in the articles on a large laminated world map. As a result of this activity, students will discuss patterns in illicit drug growing/use throughout the world.

Connections With the Curriculum

This activity can be used in geography, contemporary affairs, social studies, and drug education classes.

Teaching Level: Grades 7-12 (adjust for degree of difficulty)
Geographic Themes: Location, Place, Human/Environment Interactions, Regions, Movement

Materials

Current newspapers and news magazines
Atlases
Handout #1 - The Five Themes of Geography (three copies for each group)
Handout #2 - Outline Map of the World
Large laminated map of the world
Colored sticky dots

Objectives

Students are expected to:

- Learn how local, national, and international news articles can help to map illicit drug production and use.
- Locate the places mentioned in their news articles.
- Use the five themes of geography to draw conclusions as to what these countries have in common.
- Use maps to understand how news articles reflect what is happening in illicit drug production.

Suggestions for Teaching the Lesson

OPENING THE LESSON

Ask students to bring in current newspapers and news magazines to class. Discuss why news is important. Ask students to discuss the kinds of news: local, national, and international.

DEVELOPING THE LESSON

In cooperative learning groups of three to four members, have students look through their newspapers and news magazines and select one local, national and international news story. (This is done to make sure that students understand the difference between the three kinds of news.) Next, distribute Handout #1 - The Five Themes of Geography. Discuss with students the

business of illicit drugs and the problems of drug use. (Tailor it to whatever concepts, problems, or issues you wish to stress.)

Next, have each group scan the papers and magazines and find one article dealing with illicit drugs on the local, national and international levels. For each article, each group must fill out Handout #1 which addresses the five themes of geography in their articles. (They may not be able to do all five themes for each article due to the information given in each article.) Each group must also locate and label the places mentioned in their article on Handout #2 - World Outline Map.

Next, each group must present its three articles to the class with the use of Handout #1. (Require that each group member does a part of the oral presentation.) As the person discusses the five themes of the article, one student should place colored label dots on the large laminated world map for the entire class to see. (Dots could be color-coded as follows: blue for illicit drug growing; red for illicit drug trafficking; green for illegal drug use - final destination.)

CONCLUDING THE LESSON

When all of the groups have concluded their presentations, have students look at the large world map and ask: What major regions of the world are the articles about? (Possible answers include Middle East, Latin America, Southeast Asia, U.S. cities, European cities, Mexico.) Have students note the difference between regions that grow the illicit plants and the regions where the drugs are bought for use. Do they see any pattern? (Developing countries v. underdeveloped countries, rich v. poor.)

ASSESSING STUDENT LEARNING

Have students participated in all of the activities? Ask students to explain the difference between local, national and international news. Have each group list what this mapping tells them about the geography and use of illicit drugs.

EXTENDING THE LESSON

Discuss why it is so difficult to stop illicit drug production and use. Have students research the amount of money/profits involved in illicit drug production/use that is not reported in GNP figures. Students could do this activity over a period of weeks and see what kind of patterns emerge. (This could be a project for a specific unit of study.)

Resources

Cooper, Mary H. *The Business of Drugs. Washington, DC: Congressional Quarterly Publications, 1989*

United States Department of Justice, Drug Enforcement Administration, *Drugs of Abuse.* Washington: GPA, 1988.

White, Peter T. January 1989. "An Ancient Indian Herb Turns Deadly: COCA". *National Geographic* 175:3-47.

White, Peter T. February 1985. "The Poppy". *National Geographic* 171:143-188.

HANDOUT 1
CURRENT EVENTS AND ILLICIT DRUGS
The Five Themes of Geography

Fill out one sheet for each article.

Group Members: _____

Name of Article: _____

Local, National or International News (circle one)

Name and date of newspaper or news magazine: _____

1. **Location: Position on the Earth's Surface**
   Absolute Location - latitude and longitude
   Relative Location - location of a place with respect to another (e.g., east of Chicago, northeastern Connecticut, south of Hartford)

2. **Place: Physical and Human Characteristics**
   (physical geography, climate, culture, population)

3. **Human/Environment Interactions: Shaping the Landscape**
   (Have they built roads, buildings, mined resources, modified the environment?)

4. **Movement: Humans Interacting on Earth**
   (Have products, capital ideas, moved from one place to another?)

5. **Regions: How They Form and Change**
   (Are the places part of a distinct region based on boundaries, common characteristics, values, attitudes, and/or knowledge?)

HANDOUT 2
CURRENT EVENTS AND ILLICIT DRUGS

99

98

BEST COPY AVAILABLE

GRADES 10-12 LESSONS

Lessons created by Margaret Sonntag, Connecticut Geographic Alliance Teacher Consultant, J.M. Wright Vocational-Technical School, Stamford, CT.

WHERE ARE THE DOCTORS?

CONNECTICUT GEOGRAPHIC ALLIANCE

Preview of Main Ideas

Students learn when they can make connections between what they learn and what is in the real world. Giving students the chance to use and manipulate numbers, ideas, and maps can help students make those connections.

The purpose of this lesson is to integrate the five fundamental themes of geography (location, place, movement, relationships within places, and regions) into a lesson on world health patterns. Students will map various trends in world health to evaluate and analyze where medical services are, and where they are needed.

Connections With the Curriculum

This activity can be used in geography and health classes.

Teaching Level: Grades 7-12 (Adjust for level of difficulty)
Geographic Themes: Location, Place, Human/Environment Interactions

Materials

Outline Maps of the Political World or overhead transparency Outline Maps
Health Statistics
World Map
Discussion Questions
Colored pencils or markers

Objectives

Students are expected to:

- Hypothesize the outcome of the question, "Where are the doctors?"
- Understand terms from health statistics (i.e., GNP, Life Expectancy, Infant Mortality, etc.)
- Locate regions and countries of the world.
- Examine and Discuss the implications of their results to future world health patterns.
- Evaluate the accuracy of the hypothesis with the results of mapping exercise.

Suggestions for Teaching the Lesson

OPENING THE LESSON

Motivator: Have students generate an hypothesis explaining where they believe doctors are located worldwide. Write hypothesis on chalkboard.

DEVELOPING THE LESSON

Organize students into seven groups of two or three students. Each group will be responsible for mapping a health statistic. Each group will be responsible for one of the following statistics: Life Expectancy, GNP, # of Physicians, # of Hospital Beds, Infant Mortality, Literacy Rate, and Natural Rate of Increase. Provide each group with the relevant statistical information, outline map of the political world, colored pencils and a color-code chart (see below).

To make a color-coded thematic map:
GNP Thematic Map: Have students circle all countries with a GNP between 145 MIN and 2.9

BIN and color these countries red on the map. Have students circle all countries with a GNP between 3.0 BIN and 12.9 BIN and color them orange. Have students circle all countries with a GNP between 13.0 BIN and 89.9 BIN and color them yellow. Leave all countries with a GNP between 90 BIN and 4.8 TRI white. Any country that has no statistic to report, shade grey. Use the same procedure for each health statistic.

CONCLUDING THE LESSON

Bring students back from their groups to show their maps and discuss. Questions that should be discussed: What discrepancies can be seen from these maps? What might be the reasons for these discrepancies? Where are the doctors? Where are the hospital beds? Where is the need for these services? Do you think the gap in where doctors are located and where they are needed will continue to widen? Why? How will the AIDS crisis affect this gap? Can you identify the regions of the world that have doctors? Can you identify the regions where there is the greatest need? Can you hypothesize the possible trends in other statistics, such as literacy rates, per capita income, or economic development?

In this lesson, it is important to highlight problems with the quality and quantity of data available. This is a problem that affects global comparisons for all types of health-related statistics. Countries do not always use the same definitions or standards. Also, this type of reporting depends on the number of practitioners and the government's system for processing information.

ASSESSING STUDENT LEARNING

How well did students work in groups?
Were the thematic maps color coded correctly?
Did students participate in discussion?

EXTENDING THE LESSON

Thematic maps are useful tools to examine any statistical information. Maps comparing AIDS cases, incidents of drunk driving, teenage pregnancy, etc., can be created by the students. In this way, students can get a hands-on look at what the statistics mean, and learn how to use statistics as a picture, not just as a list of numbers.

Notes

On the World Health Statistics Sheet, the following codes are used:

* The figures on Literacy and Life Expectancy are an average for races.
~ These literacy rates are only for male citizens.

Resources

All health statistics were derived from: *The World Almanac and Book of Facts 1991*, Pharos Books, New York, 1990.

WHERE ARE THE DOCTORS? COLOR CODE CHART

GNP - Gross National Product is the total value of a nation's annual output of goods and services.

Color	Range
Red	145.0 MIN-2.9 BIN
Orange	3.0 BIN-12.9 BIN
Yellow	13.0 BIN-89.9 BIN
White	90.0 BIN-4.8 TRI

Life Expect - Life expectancy is the number of years the average person at birth can expect to live. The chart is based on the figures for the life expectancy of a male.

Color	Range
Red	38.0 yrs-53.9 yrs
Orange	54.0 yrs-63.9 yrs
Yellow	64.0 yrs-69.9 yrs
White	70.0 yrs-79.0 yrs

Infant Mort - Infant mortality is the number of infant deaths per 1,000 people. An infant is less than 1 year old.

Color	Range
Red	103.0-200.0
Orange	60.0-102.9
Yellow	19.0-59.9
White	5.0-18.9

Lit Rate - Literacy Rate is the percentage of people who can read and write on a lower elementary school level.

Color	Range
Red	0%-39%
Orange	40%-69%
Yellow	70%-89%
White	90%-100%

Hosp Beds - Hospital Beds is the ratio between the number of beds and the population. A ratio of 1/1,000 would read: one bed for every 1,000 people.

Color	Range
Red	1/1,000-1/4,572
Orange	1/500-1/999
Yellow	1/250-1/499
White	1/11-1/249

Phys - Physicians is the ratio between the number of doctors and the population. A ratio of 1/10000 would read: one doctor for every 10,000 people.

Color	Range
Red	1/10,000-1/53,872
Orange	1/2,000-1/9,999
Yellow	1/600-1/1,999
White	1/233-1/599

Nat Inc - Natural Increase is the rate of natural increase in population. It is figured by subtracting the number of deaths from the number of births.

Color	Range
Red	3.0%-8.0%
Orange	2.3%-2.9%
Yellow	1.0%-2.2%
White	-2.0%-0.9%

REGION	COUNTRY	GNP	LIFE EXPECT	INFMORT	LITRATE	HOSPBED	PHYS	NATINC
AFRICA	ALGERIA	$63.5 BIN	63M 67F	82.4	52%	1/367	1/1302	2.7%
AFRICA	ANGOLA		42M 45F	161.0	30%	1/672	1/13489	2.6%
AFRICA	BENIN	$1.4 BIN	48M 51F	124.0	28%	1/749	1/16025	3.7%
AFRICA	BOTSWANA	$1.5 BIN	56M 62F	63.0	35%	1/507	1/7741	2.8%
AFRICA	BURKINA FASO	$1.4 BIN	45M 49F	138.0	8%	1/1359	1/29914	2.9%
AFRICA	CAMEROON	$12.3 BIN	48M 52F	123.0	65%	1/453	1/18392	2.6%
AFRICA	CENT AFR REP	$1.1 BIN	45M 48F	143.0	40%	1/763	1/25705	2.5%
AFRICA	CHAD	$805 MIN	38M 40F	139.0	17%	1/1446	1/53872	2.0%
AFRICA	CONGO	$1.7 BIN	54M 58F	110.0	80%	1/572	1/4334	3.4%
AFRICA	COTE D'IVOIRE	$10.3 BIN	52M 55F	102.0	35%	1/1200	1/24044	3.3%
AFRICA	EGYPT	$25.6 BIN	59M 60F	93.0	44%	1/505	1/616	2.5%
AFRICA	ETHIOPIA	$5.7 BIN	50M 54F	113.0	18%	1/3873	1/36660	3.1%
AFRICA	GABON	$2.8 BIN	48M 51 4F	108.0	70%	1/232	1/4034	1.4%
AFRICA	GAMBIA, THE	$145 MIN	39M 44F	172.0	12%	1/1291	1/12615	2.5%
AFRICA	GHANA	$5 3 BIN	57M 62F	68.0	30%		1/6640	3.3%
AFRICA	GUINEA	$2 4 BIN	40M 44F	176.0	35%		1/9732	2.5%
AFRICA	KENYA	$8 1 BIN	59M 63F	70.0	50%	1/657	1/7122	4.2%
AFRICA	LESOTHO	$408 MIN	59M 62F	81.0	59%	1/764	1/15412	2.7%
AFRICA	LIBERIA	$973 MIN	53M 56F	119.0	25%	1/881	1/11203	3.0%
AFRICA	LIBYA	$20 BIN	64M 69F	70.0	60%	1/267	1/823	3.1%
AFRICA	MADAGASCAR	$2.1 BIN	50M 53F	99.0	53%	1/567	1/12555	3.2%
AFRICA	MALAWI	$1 2 BIN	46M 50F	132.0	25%	1/600	1/27094	3.3%
AFRICA	MALI	$1.6 BIN	44M 47F	173.0	10%	1/2178	1/32445	2.9%
AFRICA	MAURITANIA	$843 MIN	43M 48F	97.0	17%	1/1538	1/11988	3.0%
AFRICA	MOROCCO	$18.7 BIN	62M 65F	79.0	35%	1/918	1/4725	2.9%
AFRICA	MOZAMBIQUE	$4 7 BIN	45M 48F	200.0	14%	1/1244	1/44392	2.8%
AFRICA	NAMIBIA	$1.6 BIN	57M 62F	72.0	16%	1/166	1/4450	3.5%
AFRICA	NIGER	$2.2 BIN	48M 50F	137.0	13%			3.2%
AFRICA	NIGERIA	$78 BIN	47M 49F	121.0	42%	1/1142	1/6900	2.9%
AFRICA	RWANDA	$2.3 BIN	49M 53F	117.0	50%	1/845	1/42955	3.8%
AFRICA	SENEGAL	$2.0 BIN	51M 54F	96.0	10%	1/1248	1/16468	3.1%
AFRICA	SIERRA LEONE	$965 MIN	41M 47F	197.0	15%	1/877	1/21157	2.5%

REGION	COUNTRY	GNP	LIFE EXPECT	INFMORT	LITRATE	HOSPBED	PHYS	NATINC
AFRICA	SOMALIA	$1.5 BIN	53M 53F	128.0	40%	1/1053	1/13315	3.2%
AFRICA	SOUTH AFRICA	$81 BIN	*65M	94.0	*73%		1/1510	2.7%
AFRICA	SUDAN	$8.5 BIN	51M 55F	98.0	30%	1/1452	1/11602	3.0%
AFRICA	SWAZILAND	$539 BIN	47M 54F	127.0	65%	1/484	1/9738	3.1%
AFRICA	TANZANIA	$4.9 BIN	49M 54F	110.0	85%	1/1143	1/24479	3.4%
AFRICA	TUNISIA	$9.6 BIN	68M 71F	44.0	46%	1/482	1/2198	2.3%
AFRICA	UGANDA	$3.6 BIN	49M 51F	99.0	52%	1/900	1/26860	3.4%
AFRICA	UNITED ARAB EMIR	$22 BIN	68M 72F	29.0	68%	1/267	1/659	
AFRICA	ZAIRE	$5.0 BIN	51M 54F	107.0	55%	1/476	1/23193	3.1%
AFRICA	ZAMBIA	$2.1 BIN	54M 57F	87.0	54%	1/297	1/10008	3.7%
AFRICA	ZIMBABWE	$5 5 BIN	59M 63F	67.0	50%		1/6687	3.3%
ASIA	AFGHANISTAN	$3.1 BIN	43M 42F	173.0	12%	1/2054	1/4797	2.4%
ASIA	BAHRAIN	$4.6 BIN	70M 75F	22.0	40%			2.1%
ASIA	BANGLADESH	$18.1 BIN	54M 53F	138.0	29%	1/3187	1/6219	2.8%
ASIA	BHUTAN	$252 MIN	48.1M 46.8F	139.0	15%	1/1457	1/9736	2.0%
ASIA	CAMBODIA	$10.4 BIN	47M 50F	131.0	48%			2.0%
ASIA	CHINA	$350 BIN	68M 70F	33.0	70%	1/432	1/668	1.6%
ASIA	INDIA	$246 BIN	57M 58F	91.0	36%	1/1130	1/2471	2.0%
ASIA	INDONESIA	$75 BIN	57M 61F	58.0	85%	1/1495	1/8000	1.9%
ASIA	IRAN	$93 BIN	57M 57F	113.0	48%	1/704	1/2992	3.4%
ASIA	IRAQ	$34 BIN	65M 67F	69.0	70%	1/552	1/3324	3.8%
ASIA	ISRAEL	$36 BIN	75M 79F	9.0	88%	1/159	1/345	1.5%
ASIA	JAPAN	$1.8 TRI	76M 82F	5.0	99%	1/77	1/668	0.5%
ASIA	JORDAN	$4.3 BIN	67M 71F	55.0	71%	1/523	1/861	3.6%
ASIA	KOREA, NORTH	$20 BIN	67M 73F	32.0	99%	1/74	1/370	2.4%
ASIA	KOREA, SOUTH	$171 BIN	66M 73F	25.0	92%	1/487	1/1216	1.4%
ASIA	KUWAIT	$19.1 BIN	72M 76F	14.0	71%	1/340	1/669	2.7%
ASIA	LAOS	$500 MIN	48M 51F	128.0	41%	1/369	1/6495	2.2%
ASIA	LEBANON	$1.8 BIN	65M 70F	48.0	75%	1/263	1/771	2.1%
ASIA	MALAYSIA	$34.0 BIN	65M 70F	31.0	80%	1/489	1/2853	2.0%
ASIA	MONGOLIA	3.6 BIN	63M 67F	49.0	89%	1/88	1/403	2.8%
ASIA	MYANMAR	$9.3 BIN	53M 56F	99.0	66%	1/1498	1/3485	2.0%
ASIA	NEPAL	$3.1 BIN	50M 49F	101.0	29%	1/4572	1/20356	2.4%

REGION	COUNTRY	GNP	LIFE EXPECT	INFMORT	LITRATE	HOSPBED	PHYS	NATINC
ASIA	OMAN	$7.5 BIN	55M 58F	107.0	20%	1/331	1/1071	
ASIA	PAKISTAN	$39 BIN	54M 55F	120.0	26%	1/1783	1/2176	2.9%
ASIA	PHILIPPINES	$38.2 BIN	63M 69F	52.9	88%	1/628	1/1090	2.8%
ASIA	QATAR	$5.4 BIN	68M 72F	29.0	60%	1/403	1/679	
ASIA	SAUDI ARABIA	$70 BIN	64M 67F	74.0	~50%	1/406	1/973	3.1%
ASIA	SRI LANKA	$7.2 BIN	67M 72F	31.0	87%	1/357	1/6989	1.5%
ASIA	SYRIA	$17.0 BIN	67M 69F	40.0	~78%	1/870	1/1347	3.8%
ASIA	TAIWAN	$119.1 BIN	70.0M 75.9F	6.3	90%	1/227	1/1010	1.1%
ASIA	THAILAND	$52.2 BIN	62M 68F	50.0	89%	1/627	1/5564	1.3%
ASIA	TURKEY	$62 BIN	63M 66F	80.0	70%	1/476	1/1360	2.2%
ASIA	USSR	$2.5 TRI	64M 74F	25.2	99%	1/72	1/259	0.8%
ASIA	VIETNAM	$12.6 BIN	62M 66F	51.0	78%	1/292	1/3140	2.5%
ASIA	YEMEN	$4.5 BIN	47M 49F	132.0	25%	1/1864		3.5%
AUSTRALIA	AUSTRALIA	$220 BIN	73M 80F	8.1	94%	1/185	1/438	8.0%
AUSTRALIA	NEW ZEALAND	$37 BIN	72M 78F	10.0	99%	1/11	1/522	0.8%
AUSTRALIA	PAPUA NEW GUINEA	$2.5 BIN	53.0M 54.6F	72.0	32%	1/246	1/12904	2.3%
EUROPE	ALBANIA	$2.8 BIN	72M 72F	59.0	75%	1/182	1/489	1.9%
EUROPE	AUSTRIA	$118.1 BIN	71M 79F	8.0	95%	1/92	1/370	0.0%
EUROPE	BELGIUM	$153 BIN	69.8M 76.6F	9.4	98%	1/109	1/331	0.1%
EUROPE	BULGARIA	$67 BIN	68M 74F	18.0	98%	1/106	1/359	
EUROPE	CZECHOSLOVAKIA	$158 BIN	68M 75F	13.0	99%	1/99	1/312	0.2%
EUROPE	DENMARK	$101.3 BIN	72M 79F	7.8	99%	1/159	1/390	0.0%
EUROPE	FINLAND	$96.9 BIN	71M 79F	6.0	99%	1/81	1/543	.02%
EUROPE	FRANCE	$943 MIN	72M 80F	8.2	99%	1/80	1/399	0.3%
EUROPE	GERMANY (E)	$207.2 BIN	70M 76F	10.0	99%	1/99	1/411	0.0%
EUROPE	GERMANY (W)	$1208 BIN	71.5M 78.1F	8.3	99%	1/91	1/357	-0.1%
EUROPE	GREECE	$43.5 BIN	75M 80F	11.0	~96%	1/193	1/341	0.2%
EUROPE	HUNGARY	$91.6 BIN	65.3M 73.2F	20.2	98%	1/101	1/343	-2.0%
EUROPE	ICELAND	$5.3 BIN	75M 81F	6.0	99%	1/86	1/385	0.8%
EUROPE	IRELAND	$28.6 BIN	72M 78F	6.0	99%	1/128	1/681	8.0%
EUROPE	ITALY	$825 BIN	73M 80F	8.0	97%	1/127	1/233	0.1%
EUROPE	NETHERLANDS	$223 BIN	74M 81F	7.0	99%	1/220	1/430	0.4%
EUROPE	NORWAY	$89 BIN	72.7M 79.7F	7.1	100%	1/171	1/441	0.2%
EUROPE	POLAND	$276 BIN	66M 74F	21.0	98%	1/187	1/487	0.6%

REGION	COUNTRY	GNP	LIFE EXPECT	INFMORT	LITRATE	HOSPBED	PHYS	NATINC
EUROPE	PORTUGAL	$33.5 BIN	71M 78F	15.0	83%	1/209	1/388	0.5%
EUROPE	ROMANIA	$151 BIN	67M 73F	25.0	98%	1/107	1/559	0.5%
EUROPE	SPAIN	$288 BIN	74M 80F	11.0	97%	1/213	1/287	0.2%
EUROPE	SWEDEN	$179 BIN	74M 81F	6.0	99%	1/148	1/373	0.0%
EUROPE	SWITZERLAND	$111 BIN	74M 82F	6.9	99%		1/620	0.2%
EUROPE	UNITED KINGDOM	$785 BIN	72M 78F	13.3	99%	1/138	1/611	0.2%
EUROPE	YUGOSLAVIA	$154.1 BIN	69M 79F	25.0	90%	1/163	1/712	0.6%
NORTH AMERICA	BAHAMAS, THE	$1.7 BIN	67M 74F	17.0	95%			1.7%
NORTH AMERICA	BELIZE	$219 BIN	67M 72F	36.0	93%	1/300	1/2061	
NORTH AMERICA	CANADA	$486 BIN	73M 80F	7.3	99%	1/148	1/467	0.7%
NORTH AMERICA	COSTA RICA	$4.2 BIN	74M 78F	17.0	93%	1/368	1/1011	2.5%
NORTH AMERICA	CUBA	$26.9 BIN	72M 74F	16.0	98%	1/189	1/416	1.0%
NORTH AMERICA	DOM REPUBLIC	$5.5 BIN	60.7M 64.6F	66.0	68%	1/985	1/2100	2.2%
NORTH AMERICA	EL SALVADOR	$4.1 BIN	62.6M 66.3F	62.0	62%	1/1129	1/2891	2.5%
NORTH AMERICA	GUATEMALA	$9.6 BIN	59M 63F	66.0	48%		1/2669	2.7%
NORTH AMERICA	HAITI	$2.2 BIN	55M 56F	92.0	23%	1/1060	1/6539	1.9%
NORTH AMERICA	HONDURAS	$4.4 BIN	63M 67F	60.0	56%	1/820	1/2100	3.0%
NORTH AMERICA	JAMAICA	$2.9 BIN	75M 78F	17.0	82%	1/414	1/6421	2.2%
NORTH AMERICA	MEXICO	$126 BIN	67M 73F	42.0	88%	1/1227	1/1665	2.5%
NORTH AMERICA	NICARAGUA	$2.1 BIN	61M 63F	65.0	66%	1/761	1/1678	3.1%
NORTH AMERICA	PANAMA	$4.2 BIN	71M 75F	23.0	87%	1/292	1/839	2.1%
NORTH AMERICA	USA	$4.8 TRI	72M 79F	10.0	99%	1/188	1/410	0.6%
SOUTH AMERICA	ARGENTINA	$74.3 BIN	67M 74F	32.0	94%	1/186	1/370	1.2%
SOUTH AMERICA	BOLIVIA	$4.6 BIN	52M 56F	123.0	63%	1/472	1/1595	2.3%
SOUTH AMERICA	BRAZIL	$313 BIN	64M 69F	67.0	76%	1/282	1/684	2.0%
SOUTH AMERICA	CHILE	$19.4 BIN	68M 75F	18.0	92%	1/372	1/983	1.5%
SOUTH AMERICA	COLOMBIA	$39 BIN	64M 68F	54.0	80%	1/1129	1/1497	2.3%
SOUTH AMERICA	ECUADOR	$9.4 BIN	64M 68F	63.0	90%	1/680	1/955	2.4%
SOUTH AMERICA	GUYANA	$344 MIN	64M 69F	49.0	91%	1/206	1/5307	1.8%
SOUTH AMERICA	PARAGUAY	$7.4 BIN	67M 72F	49.0	81%	1/1489	1/1458	3.0%
SOUTH AMERICA	PERU	$19.6 BIN	61M 66F	69.0	79%	1/625	1/1026	2.1%
SOUTH AMERICA	SURINAME	$1.1 BIN	66M 71F	40.0	65%			2.1%
SOUTH AMERICA	URAGUAY	$7.5 BIN	68M 75F	34.0	96%	1/127	1/447	0.7%
SOUTH AMERICA	VENEZUELA	$47.3 BIN	67M 73F	38.0	88%	1/384	1/643	2.5%

PLAN A MEDICAL CLINIC

CONNECTICUT GEOGRAPHIC ALLIANCE

Preview of Main Ideas

This lesson, designed for the 7-12 health or social studies classroom, integrates the five fundamental themes of geography (location, place, movement, relationships within places and regions) into a lesson on city planning for health services. Students will take a hypothetical city map and decide where to locate a medical clinic and emergency services, based on needs, finances and transportation facilities. The lesson includes student objectives, lesson extensions, and evaluation outcomes.

Connections With the Curriculum

This activity can be used in health and geography classes.

Teaching Level: Grades 7-12 (Adjust for level of difficulty)
Geographic Themes: Location, Place, Movement, Relationships Within Places

Materials

Handout #1 - City Map
City Statistics
Discussion Questions

Objectives

Students are expected to:

- Analyze data from a city in order to choose a site for the medical clinic.
- Evaluate the location of each lot.
- Reach a consensus as a class on the best location for the medical clinic.

Suggestions for Teaching the Lesson

OPENING THE LESSON

Motivator: Ask students what should be considered by a city government when deciding to locate a medical clinic. Discuss.

DEVELOPING THE LESSON

Divide students into five groups. Each group will be responsible for evaluating one of the five locations for the medical clinic. (Locations are labeled A, B, C, D, and E on the map.) Groups should choose one student to record findings and one student to report findings to class.

Provide each group with city maps and data. Using this information, have students evaluate their location for the following criteria:

Access - How easy is this location to get to or to leave from, as patients will be traveling to the facility and will bear the transportation cost.
Need - Is this location in the area of greatest need?
Growth - Will this location allow room for expansion?
Safety - Is the area safe for patients and employees?

Planning a Medical Clinic Data

Access: The dots on highway and street intersections represent on/off ramps for the highways. One block equals one mile.

Population Code:
L-blocks contain 20 families each and usually have a very high average income.
L-blocks are 1, 2, 3, 7, 13, 19, 25, 31, 32, 37, 38, 43, 44, 49, 50, 55, 56
M-blocks contain 60 families each and usually have a high average income.
M-blocks are 4, 8, 9, 14, 20, 26, 27, 33, 34, 39, 40, 45, 46, 51, 57
H-blocks contain 100 families each and usually have a medium average income.
H-blocks are 5, 10, 11, 28, 41, 47, 52, 53, 58
V-blocks contain 150 families each and usually have a low average income.
V-blocks are 6, 35, 36, 42, 48, 54, 59, 60
CBD or Central Business District, are blocks with a large number of people during the day, but few at night. CBD blocks are 12, 15, 16, 17, 18, 21, 22, 23, 24, 29, 30

CONCLUDING THE LESSON

Reconvene class as a whole. Have each group report its findings. Ask students to discuss and reach a consensus as to the best location.

ASSESSING STUDENT LEARNING

Did students evaluate location according to the criteria?
Did students accurately derive the correct information from the map?
Did students work together as a team?
Was a consensus reached by the students?

EXTENDING THE LESSON

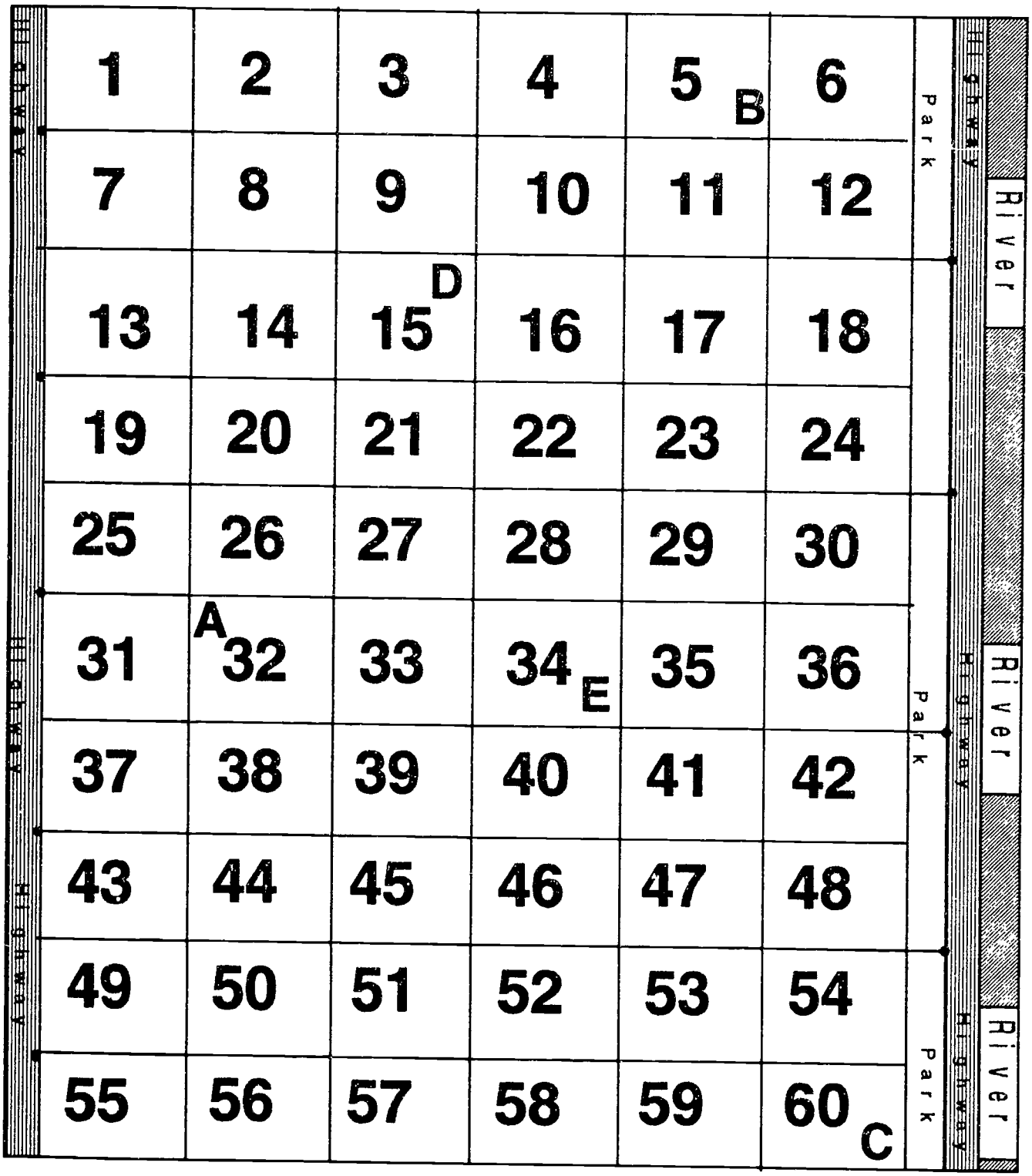
This lesson can be expanded to include information on land costs, budget restraints, parking facilities, or the location of other hospitals and medical clinics. Actual maps of familiar cities could be used to plan a medical clinic, or the present location of hospitals/clinics could be evaluated.

Another aspect of this lesson could include **emergency dispatch service** (where the provider travels to where the patient happens to be). "Coverage" is an important location concept in the planning of these services. The locational goal is to ensure that every point in the service region is within the critical response time from a dispatch site. Students could evaluate how many facilities would be needed and where they should be located to adequately "cover" the city. Students could also see what happens to the number of facilities required as the critical response time is increased or decreased.

Notes to Educators

Due to medical care costs and regulations, new hospitals are not being built; present city medical centers draw from a very large medical service area. Many hospitals are closing, particularly in rural areas; and many cities are planning to locate some type of primary care clinic.

HANDOUT 1 - PLAN A MEDICAL CLINIC CITY MAP



AIDS ACROSS THE WORLD

CONNECTICUT GEOGRAPHIC ALLIANCE

Preview of Main Ideas

AIDS is one of the most vital and least understood crises in today's world. Among students, the media and rumor are the main sources of information. Facts and the skills to analyze and evaluate them are desperately needed by students. The purpose of this lesson is to integrate the five fundamental themes of geography (location, place, movement, relationships within places, and region) into a lesson on AIDS. Students will map incidence of AIDS worldwide.

In this lesson, it is important to highlight problems with the quality of data on reported AIDS cases. This is a problem that affects global comparisons for all types of health problems. Coun tries do not always use the same definitions for particular diseases, which directly affects the number of cases counted. Also, disease reporting depends on the availability of practitioners to find and diagnose cases and the government's system for processing information.

Connections With the Curriculum

This activity can be used in geography and health classes.

Teaching Level: Grades 7-12 (Adjust for level of difficulty)
Geographic Themes: Location, Movement, Human/Environment Interactions

Materials

Data on AIDS cases
Outline Political Map of the World
World Map for Reference

Objectives

Students are expected to:

- Locate countries and regions of the world.
- Hypothesize where AIDS is most prevalent and why.
- Evaluate the accuracy of hypothesis.
- Discuss the implications of these results for the future.

Suggestions for Teaching the Lesson

OPENING THE LESSON

Motivator: Ask students to hypothesize where they think AIDS is most prevalent and why. List the countries students think will have the most or least number of cases.

DEVELOPING THE LESSON

1. Divide students into pairs.
2. Give each pair an outline map of the world and the AIDS data.
3. Have each pair place a dot next to all countries with a C per 100,000 (Cases per 100,000 people) between 16.7 and 220 and then color those countries red on the map.
4. Have students place two dots next to all countries with a C per 100,000 between 5.0 and 14.1 and color those countries yellow on the map.
5. Have students place a check next to all countries with a C per 100,000 between 1.0 and 4.9 and color those countries green on the map.

6. Have students color all countries with a C per 100,000 between 0 and 4.8 blue on the map, and leave any countries without data white.
7. As a class, have students discuss the following questions:
   Where are the largest number of AIDS cases per 100,000?
   Where are the least?
   Why is there such a variation?
   What world regions are suffering the most from this epidemic?
   What suggestions can you make to those countries colored red so that they can prepare for the future?
   How do you think AIDS will affect the environment of countrie with a high number of cases?
   What information can you derive from the map concerning how AIDS moves through regions?
   What countries did you expect to be low in cases?
   What countries did you expect to be high?
   Were you correct?

CONCLUDING THE LESSON

Make sure students are aware that variations may be due to social morals, religious traditions, areas of large population, or areas of easy access to other regions. Students should realize that AIDS will affect the long-term stability and economic well-being of a country through the human and health costs it incurs. Finally, students should understand how, by directly affecting people, this disease will impact on the environment through declining population and increased need for hospitals.

ASSESSING STUDENT LEARNING

Did students correctly color code their maps?
Did students participate in discussion?
Did students correctly interpret data on map?

EXTENDING THE LESSON

This lesson can be further developed by having students use the same procedure to map AIDS cases in the USA or AIDS cases in Connecticut. Students can compare all three maps and be asked to evaluate the data and look for trends. Students could also go from this lesson to a more in-depth and scientific study of the AIDS crisis.

Resources

Population statistics were derived from *The World Almanac and Book of Facts 1991*, Pharos Books, New York, 1991.

Statistics on the number of AIDS cases in the world were derived from *World Health Statistics Annual,* World Health Organization, Geneva, 1991.

Source: The original concept for this lesson was developed by Charlie Fitzpatrick, Minnesota Geographic Alliance Teacher Consultant, St. Paul Academy, St. Paul, MN. Used with permission.

AIDS Across the World - DATA ON AIDS CASES

REGION	COUNTRY	NUMBER OF AIDS CASES	POPULATION	CASES PER 100,000
AFRICA	ALGERIA	45	25714000	0.2
AFRICA	ANGOLA	104	8802000	1.2
AFRICA	BENIN	124	4840000	2.6
AFRICA	BOTSWANA	87	1218000	7.1
AFRICA	BURKINA FASO	978	8941000	10.9
AFRICA	BURUNDI	3305	5647000	58.5
AFRICA	CAMEROON	78	11109000	0.7
AFRICA	CENT AFR REP	662	2879000	23.0
AFRICA	CHAD	35	5064000	0.7
AFRICA	CONGO	1940	2305000	84.2
AFRICA	COTE D'IVOIRE	3647	12070000	30.2
AFRICA	EGYPT	25	54139000	0.0
AFRICA	ETHIOPIA	531	51375000	1.0
AFRICA	GABON	64	1069000	6.0
AFRICA	GAMBIA, THE	81	820000	9.9
AFRICA	GHANA	1732	15310000	11.3
AFRICA	GUINEA	161	7269000	2.2
AFRICA	KENYA	9139	25393000	36.0
AFRICA	LESOTHO	11	1757000	0.6
AFRICA	LIBERIA	5	2644000	0.2
AFRICA	LIBYA	1	4280000	0.0
AFRICA	MADAGASCAR	2	11802000	0.0
AFRICA	MALAWI	7160	9080000	78.9
AFRICA	MALI	338	9182000	3.7
AFRICA	MAURITANIA	16	2038000	0.8
AFRICA	MOROCCO	52	26249000	0.2
AFRICA	MOZAMBIQUE	151	14718000	1.0
AFRICA	NAMIBIA	311	1372000	22.7
AFRICA	NIGER	149	7691000	1.9
AFRICA	NIGERIA	48	118865000	0.0
AFRICA	RWANDA	3407	7603000	44.8
AFRICA	SENEGAL	307	7740000	4.0
AFRICA	SIERRA LEONE	21	4168000	0.5
AFRICA	SOMALIA	15	8415000	0.2
AFRICA	SOUTH AFRICA	590	395500000	0.1
AFRICA	SUDAN	265	25164000	1.1
AFRICA	SWAZILAND	14	779000	1.8
AFRICA	TANZANIA	7128	26070000	27.3
AFRICA	TUNISIA	50	8094000	0.6
AFRICA	UGANDA	17422	17593000	99.0

AIDS Across the World - DATA ON AIDS CASES (Continued)

REGION	COUNTRY	NUMBER OF AIDS CASES	POPULATION	CASES PER 100,000
AFRICA	ZAIRE	11732	35330000	33.2
AFRICA	ZAMBIA	3494	8119000	43.0
AFRICA	ZIMBABWE	5249	10205000	51.4
ASIA	BANGLADESH	1	117976000	0.0
ASIA	CHINA	5	1130065000	0.0
ASIA	INDIA	52	850067000	0.0
ASIA	INDONESIA	9	191266000	0.0
ASIA	IRAN	10	55647000	0.0
ASIA	ISRAEL	125	4371000	2.9
ASIA	JAPAN	294	123778000	0.2
ASIA	JORDAN	10	3065000	0.3
ASIA	KOREA, SOUTH	7	43919000	0.0
ASIA	KUWAIT	1	2080000	0.0
ASIA	LEBANON	19	3340000	0.6
ASIA	MALAYSIA	15	17053000	0.1
ASIA	NEPAL	4	19158000	0.0
ASIA	OMAN	19	1305000	1.5
ASIA	PAKISTAN	13	113163000	0.0
ASIA	PHILIPPINES	37	66647000	0.1
ASIA	QATAR	23	498000	4.6
ASIA	SAUDI ARABIA	28	16758000	0.2
ASIA	SRI LANKA	6	17135000	0.0
ASIA	SYRIA	9	12471000	0.1
ASIA	THAILAND	69	54890000	0.1
ASIA	TURKEY	41	56549000	0.1
ASIA	UNITED ARAB EMRT	8	2250000	0.4
ASIA	USSR	40	290939000	0.0
AUSTRALIA	AUSTRALIA	2295	16646000	13.8
AUSTRALIA	NEW ZEALAND	207	3397000	6.1
AUSTRALIA	PAPUA NEW GUINEA	26	3613000	0.7
EUROPE	AUSTRIA	474	7595000	6.2
EUROPE	BELGIUM	764	9895000	7.7
EUROPE	BULGARIA	7	8978000	0.1
EUROPE	CZECHOSLOVAKIA	24	15695000	0.2
EUROPE	DENMARK	705	5134000	13.7
EUROPE	FINLAND	71	4977000	1.4
EUROPE	FRANCE	9718	56184000	17.3
EUROPE	GERMANY	5500	77555000	7.1
EUROPE	GREECE	375	10066000	3.7
EUROPE	HUNGARY	48	10546000	0.5

AIDS Across the World - DATA ON AIDS CASES (Continued)

REGION	COUNTRY	NUMBER OF AIDS CASES	POPULATION	CASES PER 100,000
EUROPE	ICELAND	14	251000	5.6
EUROPE	IRELAND	161	3557000	4.5
EUROPE	ITALY	7576	57657000	13.1
EUROPE	NETHERLANDS	1487	14864000	10.0
EUROPE	NORWAY	185	4214000	4.4
EUROPE	POLAND	47	38363000	0.1
EUROPE	PORTUGAL	522	10528000	5.0
EUROPE	ROMANIA	1055	23269000	4.5
EUROPE	SPAIN	7047	39623000	17.8
EUROPE	SWEDEN	487	8407000	5.8
EUROPE	SWITZERLAND	1548	6628000	23.4
EUROPE	UNITED KINGDOM	3884	57121000	6.8
EUROPE	YUGOSLAVIA	158	23864000	0.7
N. AMERICA	BAHAMAS, THE	554	251000	220.7
N. AMERICA	BELIZE	11	180400	6.1
N. AMERICA	CANADA	4427	26527000	16.7
N. AMERICA	COSTA RICA	206	3032000	6.8
N. AMERICA	CUBA	71	10582000	0.7
N. AMERICA	DOMINIC REPUBLIC	1423	72353000	2.0
N. AMERICA	EL SALVADOR	235	5221000	4.5
N. AMERICA	GUATEMALA	121	9340000	1.3
N. AMERICA	HAITI	2456	6409000	38.3
N. AMERICA	HONDURAS	939	5261000	17.8
N. AMERICA	JAMAICA	166	2513000	6.6
N. AMERICA	MEXICO	5113	88335000	5.8
N. AMERICA	NICARAGUA	8	3606000	0.2
N. AMERICA	PANAMA	203	2423000	8.4
N. AMERICA	USA	154791	250372000	61.8
S. AMERICA	ARGENTINA	710	32291000	2.2
S. AMERICA	BOLIVIA	22	6730000	0.3
S. AMERICA	BRAZIL	12405	153771000	8.1
S. AMERICA	CHILE	178	13000000	1.4
S. AMERICA	COLOMBIA	764	32598000	2.3
S. AMERICA	ECUADOR	100	10506000	1.0
S. AMERICA	GUYANA	108	765000	14.1
S. AMERICA	PARAGUAY	16	4660000	0.3
S. AMERICA	PERU	352	21904000	1.6
S. AMERICA	SURINAME	75	408000	18.4
S. AMERICA	URAGUAY	148	3002000	4.9
S. AMERICA	VENEZUELA	938	19753000	4.7

INFORMATION AND RESOURCES

CONNECTICUT AIDS CASES
BY RESIDENCE AT FIRST DIAGNOSIS
JANUARY 1, 1980* - DECEMBER 31, 1990

COUNTY & TOWN**	CASES DX IN 1990+	ALL CASES	ALL CASES AS % OF TOTAL
New Haven County	90	617	32.4
New Haven	49	357	18.8
Waterbury	11	75	3.9
West Haven	6	37	1.9
Meriden	4	26	1.4
Fairfield County	85	561	29.5
Bridgeport	35	180	9.5
Stamford	12	121	6.4
Norwalk	11	69	3.6
Danbury	8	47	2.5
Greenwich	4	29	1.5
Fairfield	5	22	1.2
Hartford County	110	520	27.3
Hartford	70	317	16.7
New Britain	8	47	2.5
West Hartford	3	20	1.1
New London County	12	88	4.6
New London	3	31	1.6
Norwich	3	20	1.1
Litchfield County	7	33	1.7
Middlesex County	8	35	1.8
Windham County	4	20	1.1
Tolland County	7	20	1.1
County Unknown	0	8	0.4
TOTAL FOR COUNTIES ALL CASES	**323**	**1,902**	**100%**

* The first Connecticut case was diagnosed in 1980.

** Only towns with 20 or more reported cases are listed. 128 (76%) of 169 Connecticut towns have reported at least one case.

\+ Data are provisional due to reporting lag.

Source: *AIDS in Connecticut Surveillance Report,* December 31, 1990.

Uniform Crime Reports "Crime in Connecticut"
1989 Annual Report, Connecticut State Police

Total Arrests by Age: 1989

Drug Abuse Violations	-10	10-12	13-14	15	16	17	-18	18	+18
	9	27	210	344	631	907	2128	1233	19688

1989 Arrest Data; by Contributor; Under 18 years of age; by Town

ANSONIA	6	GROTON TOWN	9	ROCKY HILL	0
AVON	0	GUILFORD	6	SEYMOUR	6
BERLIN	0	HAMDEN	19	SHELTON	15
BETHEL	3	HARTFORD	399	SIMSBURY	2
BLOOMFIELD	17	JEWETT CITY	0	SOUTH WINDSOR	4
BRANFORD	12	MADISON	8	SOUTHINGTON	5
BRIDGEPORT	258	MANCHESTER	13	STAMFORD	86
BRISTOL	13	MERIDEN	37	STONINGTON	3
BROOKFIELD	0	MIDDLEBURY	0	STRATFORD	14
CANTON	4	MIDDLETOWN	21	SUFFIELD	0
CLINTON	0	MILFORD	5	THOMASTON	0
CHESHIRE	11	MONROE	4	TORRINGTON	5
COVENTRY	1	NAUGATUCK	7	TRUMBULL	8
CROMWELL	0	NEW BRITAIN	64	VERNON	6
DANBURY	22	NEW CANAAN	3	WALLINGFORD	14
DARIEN	5	NEW HAVEN	444	WATERBURY	124
DERBY	0	NEW LONDON	53	WATERFORD	2
EAST HAMPTON	1	NEW MILFORD	5	WATERTOWN	1
EAST HARTFORD	17	NEWINGTON	8	WEST HARTFORD	12
EAST HAVEN	16	NEWTOWN	1	WEST HAVEN	9
EAST WINDSOR	0	NORTH BRANFORD	0	WESTON	0
EASTON	0	NORTH HAVEN	13	WESTPORT	1
ENFIELD	9	NORWALK	70	WETHERSFIELD	7
FAIRFIELD	9	NORWICH	13	WILLIMANTIC	6
FARMINGTON	2	OLD SAYBROOK	0	WILTON	1
GLASTONBURY	4	ORANGE	5	WINDSOR	16
GRANBY	0	PLAINFIELD	3	WINDSOR LOCKS	2
GREENWICH	5	PLAINVILLE	5	WINSTED	1
GROTON CITY	3	PLYMOUTH	4	WOLCOTT	0
GROTON POINT	0	PUTNAM	0	WOODBRIDGE	1
		RIDGEFIELD	6		

SUBSTANCE ABUSE, ADOLESCENTS AND PROGRAMS IN CONNECTICUT

On March 20, 1989, a hearing before the subcommittee on Children, Family, Drugs and Alcoholism was held in New Haven, Connecticut. U.S. Senator Christopher Dodd, chair of this subcommittee, presided. Some of the highlights of this hearing illustrate the serious problems many young people in the state face.

- Use of drugs and alcohol among children happens more and more and earlier and earlier.
- The conception that the drug problem is limited to cities is totally false.
- As many as 66% of high school seniors in Connecticut's cities and suburban towns stated that they had used alcohol within the last month.
- 5% of Connecticut's eighth-graders say they had tried cocaine.
- Alcohol has been tied in as a factor for attempted suicide.
- Approximately 26% of eighth-graders reported drinking five or more drinks on occasion.
- The drug trade is running wild in many Connecticut cities.
- In Connecticut, there are one million people affected to some extent by substance abuse.
- 45% of homicides in Connecticut are drug related.
- The average age an addicted teenager began "experimenting" with drugs was between 10 and 12.
- More treatment centers are needed for young abusers.
- There is a need for many agencies, schools and families, and the community as a whole to work together.
- K-12 curriculums related to substance abuse are needed in every district.

HEALTH RESOURCES

The agencies listed below provide educational services to Connecticut school districts. This list is not intended to be exhaustive, but will provide a sampling of the services available.

American Cancer Society
Provides materials free of charge for both children and adults. Materials include pamphlets, teaching kits and videos. Speakers are also available. Contact your local American Cancer Society.

American Heart Association
School health programs include:
"Heart Treasure Chest" (Pre-K-K)
"Getting to Know Your Heart" (Grades 1-3 and 4-6)
"Putting Your Heart Into the Curriculum" (Grades 6-8 and 9-12)
"Sweetheart Kit" (Grades 7-9)
"Jump for the Health of It" (Elementary and Intermediate)
"Heart Wise Newsletter" (For Teachers)
Also available: Computer software (Grades 6-8), audiovisual catalog, pamphlets and posters. Contact your local American Heart Association.

American Lung Association of Connecticut
School health programs include film library, Nursery School-Grade 6 Lung Health Modules, "Marijuana: A Second Look" prevention/education program (Grades 4-6 and Grades 9-12), Lung Health Modules, "Growing Healthy" curriculum (K-7) and other lung health educational materials (K-12). First-time materials free of charge, with additional programs and materials subject to cost. Contact your local American Lung Association.

American Red Cross
Provides free pamphlets and posters on AIDS, babysitting, CPR and first aid. Speakers are also available upon request. Contact your local Red Cross chapter.

Connecticut Alcohol and Drug Abuse Commission
Contact the Prevention Division at 566-7458 or the AIDS coordinator at 566-6555. Address for CADAC: 999 Asylum Ave., Hartford, CT 06105.

Connecticut Chapter, American Liver Foundation
"Love Your Liver" teaches elementary teachers, students and parents the knowledge they need to make healthier lifestyle decisions to prevent liver disease and drug and alcohol abuse. Contact the Connecticut Chapter, American Liver Foundation at 397-5433, P.O. Box 4062, Woodbridge, CT 06525.

Connecticut Clearinghouse
The Connecticut Clearinghouse is a library and resource center featuring books, films, videos, brochures and pamphlets. These are available to anyone seeking information on substance abuse and its prevention. Contact the Connecticut Clearinghouse at 1-800-232-4424, 334 Farmington Ave., Plainville, CT 06062.

Connecticut Sexually Transmitted Disease Control Program
Provides in-service training for teachers. Participants will be provided with an STD curriculum guide, computer instruction program and other materials designed for classroom use. Contact the State Department of Health Services, Sexually Transmitted Disease Control Program at 566-4492, Address: 150 Washington St., Hartford, CT 06106.

Health Resource Information is also available from the following:

Adult Children of Alcoholics
Central Service Board
P.O. Box 3216
Torrance, CA 90505
(213) 534-1815

AIDS Section
Connecticut State Dept. of Health Services
150 Washington Street
Hartford, CT 06106
566-1157

Al-Anon Family Group Headquarters, Inc.
P.O. Box 182
Madison Square Station
New York, NY 10010

Alcoholics Anonymous
P.O. Box 459
Grand Central Station
New York, NY 10017

American Association for Health,
Physical Education, Recreation and Dance
1900 Association Drive
Reston, VA 22090
(703) 476-3429

American Diabetes Association
Connecticut Affiliate
40 South Street
West Hartford, CT 06107
953-4232

Center for Chronic Disease
Urban/Rural Health
Connecticut Department of Health Services
150 Washington Street
Hartford, CT 06106
566-7867

Child Nutrition Programs
State Department of Education
136 Berlin Road - Suite 203
Cromwell, CT 06416
635-6253

Connecticut Region Narcotics Anonymous
P.O. Box 603
Woodbury, CT 06798

State Department of Children
and Youth Services
170 Sigourney Street
Hartford, CT 06105
566-3661

Hartford Easter Seal Rehabilitation Center
80 Coventry Street
Hartford, CT 06112
243-9741

Kidney Foundation of Connecticut
920 Farmington Avenue
West Hartford, CT 06107

March of Dimes Birth Defects Foundation
630 Oakwood Ave.
West Hartford, CT 06110
953-8500

National Association for
Children of Alcoholics
P.O. Box 421961
San Francisco, CA 94142

O.S.A.P. National Clearinghouse for
Alcohol and Drug Information
P.O. Box 2345
Rockville, MD 20852

National Institute on Alcohol Abuse
and Alcoholism
5600 Fishers Lane
Rockville, MD 20852

New England Dairy and Food Council
1157 Highland Ave., Suite 202
Cheshire, CT 06410
271-3533

State Department of Education
Bureau of Curriculum and Instruction
P.O. Box 2219
Hartford, CT 06145
566-2763

State Department of Health Services
150 Washington Street
Hartford, CT 06106
566-4800

GEOGRAPHY RESOURCES

National Geographic Society (NGS)
17th and M Streets NW
Washington, DC 20036
1-800-638-4077 (Product Information)

Association of American Geographers (AAG)
1710 - 16th Street NW
Washington, DC 20009
(202) 234-1450

Geographic Education National
Implementation Project (GENIP)
1710 - 16th Street NW
Washington, DC 20009

National Council for Geographic Education (NCGE)
Indiana University of Pennsylvania
Indiana, PA 15705

The Center for Geographic Education
A. David Hill, Dir.
Department of Geography
Box 260, University of Colorado
Boulder, CO 80309
(303) 492-6760

National Council for the Social Studies (NCSS)
3501 Newark Street NW
Washington, DC 20016
(202) 966-7840

Population Reference Bureau
777 - 14th St. NW, Suite 800
Washington, DC 20005
(202) 639-8040

Population Crisis Committee
1120 - 19th St. NW, Suite 550
Washington, DC 20036
(202) 659-1833

World Eagle
64 Washburn Ave.
Wellesley, MA 02181-9990
1-800-634-3805

VIDEOTAPE HEALTH RESOURCES

The following drug prevention videos were developed by the U.S. Department of Education. They are available through the National Clearinghouse for Alcohol and Drug Information, P.O. Box 2345, Rockville, MD 20852, (301) 468-2600.

Elementary School

The Drug Avengers. Ten five-minute animated adventures that urge caution about ingesting unfamiliar substances, encourage students to trust their instincts when they think something is wrong, and show that drugs make things worse, not better.

Fast Forward Future. A magical device allows youngsters to peer into the future and see what will happen if they use drugs and what will happen if they remain drug-free.

Straight Up. A fantasy adventure that features information on the effects of drugs and help in developing refusal skills, building self-esteem, and resisting peer pressure.

Middle School/Junior High School

Straight At Ya. Tips on peer pressure, saying "NO" and building self-esteem.

Lookin' Good. A two-part series based on actual incidents that convey the dangers of drug use and promote the use of peer support groups.

High School

Hard Facts About Alcohol, Marijuana and Crack. Factual information about the dangers of drug use in a series of dramatic vignettes.

Speak Up, Speak Out: Learning to Say "NO" to Drugs. Gives students specific techniques they can use to resist peer pressure and say "NO" to drug use.

Dare to Be Different. Uses the friendship of two athletes in their last year of high school to illustrate the importance of goals and values in resisting drug-use pressures.

Downfall: Sports and Drugs. Shows how drugs affect athletic performance and examines the consequences of drug use - including steroid use - on every aspect of an athlete's life -- career, family, friends, sense of accomplishment, and self-esteem.

Private Victories. Illustrates the effects of drug and alcohol use on students and the value of positive peer influences in resisting peer pressure to use drugs.

Say "NO" to Drugs. Practical, easy-to-follow approaches to improve family communications, particularly on the subject of adolescent drug and alcohol use. Includes interviews with experts in the field. NIMCO, P.O. Box 009-GAM, Calhoun, KY 42327; 1-800-962-6662.

REFERENCES

Adolescent Substance Abuse in Connecticut - Hearing before the Subcommittee of Children, Family, Drugs and Alcoholism, United States Senate, March 20, 1989, New Haven, Connecticut.

AIDS in Connecticut Annual Surveillance Report, December 31, 1990.

Almond, Brenda. *AIDS: A Moral Issue*. New York: St. Martin's Press.

Carpenter, Cheryl; Glassner, Barry; Johnson, Bruce; and Loughlin, Julia. *Kids, Drugs and Crime.*
Lexington: D.C. Health and Company, 1988.

Cooper, Mary. *The Business of Drugs*. Washington, DC: CQ. 1990.

Crowley, Geoffrey. "Children in Peril". *Newsweek* Special Edition, pp. 18-21. Summer 1991.

Dillion, John. "Crack Gangs Extend Reach into Smalltown America". *The Christian Science Monitor*. November 8, 1989.

"Directions in Geography: A Guide for Teachers". *National Geographic Society*. 1991.

Gold, Mark S., MD. *Marijuana*. New York: Plenum Medical Book Co. 1989.

Guidelines for Geographic Education: Elementary and Secondary Schools. Association of American Geographers and National Council for Geographic Edcation, 1984.

Johnston, William B., and Hopkins, Kevin R. *The Catastrophe Ahead*. Praeger. New York.

Lee, Rensselaer. *The White Labyrinth*. New Brunswick: Transaction Publisher. 1989.

Larson, Ann. "The Social Epidemiology of Africa's AIDS Epidemic". *African Affairs* 89:5-25.

Malinowsky, H. Robert, and Perry, Gerald J. *AIDS Information Sourcebook*. 1990.

NBC News/Rand McNally News Atlas. 1990 Edition.

"Reports on HIV/AIDS Jan.-Dec. 1989". *Morbidity and Mortality Weekly Report*. Centers for Disease Control. July 1990.

Review of the 1990 International Narcotics Control Strategy Report. Hearings before the Committee on Foreign Affairs, House of Representatives. March 1990.

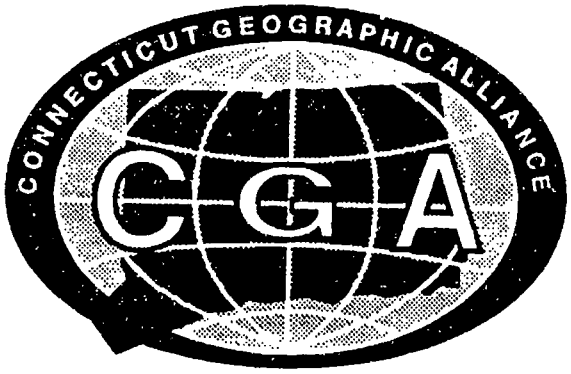
Health Module in Substance Abuse Prevention. State of Connecticut Board of Education. 1991.

White, Peter T. "An Ancient Indian Herb Turns Deadly: COCA". *National Geographic* 175:3-47. January 1989.

White, Peter T. "The Poppy". *National Geographic* 167:143-189. February 1985.

World Health Statistics Annual. 1991.

It is the policy of the Connecticut Geographic Alliance that no person shall be excluded from participation in, denied the benefits of, or otherwise discriminated against under any program, including employment, because of race, color, sex, national origin, religion, age, mental or physical disability, mental retardation, or marital status.


CONNECTICUT GEOGRAPHIC ALLIANCE
CGA