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ABSTRACT

"The Power of Maps" is an exhibition held at the Smithsonian Institution, October 6, 1992 to March 7, 1993, that presented more than 300 maps dating from 1500 B.C. to today. This exhibition handbook has been organized to help teachers integrate the study of maps with their school curricula. The 17 suggested activities related directly to exhibition objects and themes, but can be used more generally to involve students with maps through direct experience and are an effective means of introducing students to mapping concepts. The activities begin with exploring the students' physical relationships with their classroom, school, and playground. The skills learned in mapping the near and familiar can then be expanded through the various activities to larger environments such as city, region, country, world, and universe. Lists provide information on 13 organizations and businesses for access to maps and geographic education materials, 10 organizations for acquiring New York City Maps, and 4 offices for obtaining large sectional street maps printed in six- to eight-block radii. (Author/CK)

THE POWER OF MAPS RESOURCE GUIDE FOR TEACHERS

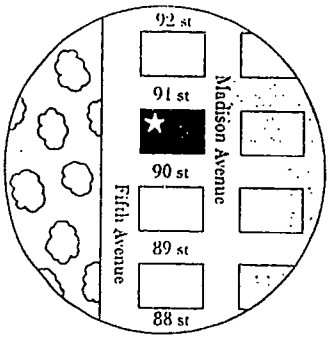
Cooper-Hewitt
National Museum of Design
Smithsonian Institution
October 6, 1992 - March 7, 1993

EDUCATION RESOURCES

THE POWER OF MAPS presents more than 300 maps from 1500 BC to today. Visitors to this exhibition will explore maps as powerful, expressive statements which communicate information with a point of view.

Making and Using Maps Across the Curriculum

Mapping is the organization of information into visual form. Most maps pose the design challenge of representing a three dimensional world on flat paper. While we often think of maps as representations of the earth and sky, maps are also resources that help us understand many kinds of data that we, otherwise, cannot see. Maps can also be used as tools to help us find our way, document our journeys, and share our experiences of a place. The ability to make, read, and use maps involves understanding graphic and symbolic concepts. Activities that involve students with maps through direct experience, such as classroom and neighborhood mapmaking and model making, are the most effective means of introducing students to mapping concepts. Begin with activities that explore the students' physical relationships with their classroom, school, and playground. Skills inherent in mapping the near and familiar can be expanded to larger environments such as city, region, country, world, and universe.



Activities and Resources

This packet of materials has been organized to help teachers integrate the study of maps with their school curricula. The suggested activities relate directly to exhibition objects, and themes. Information about other geographic educational resources are listed under *Resources* in this guide.

School tours of THE POWER OF MAPS are one hour long and are recommended for grades 4 and up.

To schedule a tour or for more information, call the Education Department at (212) 860-6868.

ALL SCHOOL PROGRAMS ARE FREE.

CLASSROOM AND SCHOOL

You Are Here

Turn your classroom into a map, marking the cardinal directions - north, south, east, west - on the walls. Ask students to identify their locations in relation to other students and objects by using the cardinal directions. For instance, who is to your north or south? What is your orientation to the chalkboard, the door, and the window?

The Classroom from a Bird's-eye View

Make a drawing of the classroom from a bird's-eye view. (This is the perspective of most maps.) Select symbols to represent elements relating to the room, objects, and people. Symbols will transform these drawings into maps. For instance, squares could be used to represent desks. Students can mark their own desk with a star. Suggest that students design their own symbols for plants, shelves, doors, and windows.

Measure the classroom and create a map in scale, such as 1/2-inch = 1 foot.

Take turns walking around the room and marking the routes on the maps.

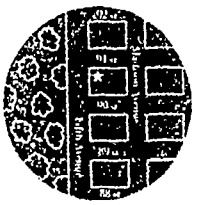
Or, take turns creating routes on the map to follow.

Adapt this activity for the entire school or playground by creating maps in scale and mapping routes from the classroom to the playground, lunch room, auditorium, etc.

New School Map

Ask students to share memories of their first day at a new school or summer program. How would a map have helped them find their way to the classroom, lunch room, gym, lockers, or playground? As a class, make a map of the school for new students. Consider the following:

- Which landmarks will be included?
- How will symbols and color be used to code different grade areas, recreation areas, the library, lunch room, etc.?
- How will they show the school's neighborhood including bus and subway stops, parks, and stores?
- Create a key for the school map to identify colors and symbols that are used and the map's scale. Most mapmakers would also be sure to include their names, a title for the map, directional symbols, and the date the map was issued.



NEIGHBORHOOD & COMMUNITY

A Neighborhood Map is Many Layers

Examine different maps of New York City, or your city or town. Discuss how the elements of design *color, line, shape, patterns, and symbols* are used to communicate information.

Create an outline for a map of the school's neighborhood that students can copy onto *tracing paper* or *acetate transparencies*. This will be their base map for collecting specific data about the neighborhood.

Divide the class into three-person teams to create a neighborhood map. Each team will be assigned one element of the neighborhood to map in one color. For example, team 1, green = trees and parks; team 2, blue = street names and public sites; and team 3, red = commercial sites. Students can determine their own categories and colors. Take a neighborhood walking tour to record information (data) on the base map.

When teams attach their tracing paper maps together, with blank paper on the bottom, the result will be a neighborhood map with layers of information.

Combine a variety of the student's map layers to create different neighborhood maps. Refine the maps and make map keys.

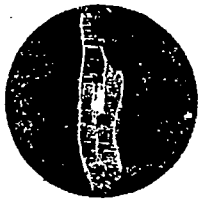
Neighborhood Past, Present, and Future

Refer to the resource section of this material to acquire a map of the city or the school's neighborhood long ago. Compare this map with current neighborhood / city maps. How has the school's neighborhood changed? Arrange for students to interview people from the neighborhood to hear their views about how the neighborhood has changed over time. Create memory maps which are based on the past and write stories about the neighborhood long ago.

What will the neighborhood be like in five years or five hundred years? Discuss factors that are causing the neighborhood to change, such as new parks or construction. What are bigger factors, both real and imaginary, that could contribute to changing the neighborhoods in the future, such as phasing out automobiles and buses that use gasoline, turning empty lots into parks and farms, or building new structures with materials from other planets. Ask students to consider these and other changes in imagining their neighborhood in the future. Create neighborhood maps that include these future landmarks.

Maps as Tools for Neighborhood Change

Maps are resources for information as well as tools for finding our way. Maps can also be used as tools for social and environmental change today. After making neighborhood maps, initiate a class discussion about how the students would like their neighborhood to change or improve. Initiate a community mapping project to document data about an issue students select for an advocacy project. (Empty lots, street garbage, and bilingual school signage are examples of issues that students may choose to address through this project.) Use these maps to communicate the problem to a larger audience and plan a strategy for change.



CITY

Bird's-eye View

Explore the city from a bird's-eye perspective. (This is the perspective usually represented through maps.) Take a map of the city with you to help you identify the buildings, streets, and waterways that you see. The following places welcome school groups:

World Trade Center. 1 World Trade Center NewYork, N.Y. 10048 (212) 435-7000 Fee charged.

Empire State Building. 350 Fifth Ave. New York, N.Y. 10118 (212) 736-3100 Fee charged.

The Cloisters Museum. 192nd Street and Fort Washington Ave. New York, N.Y. 10040 (212) 923-3700 Free.

Adam Clayton Powell State Building. 163 W. 125th St. New York, N.Y. 10032 Call Laura Higgins at the SUNY Education Opportunity Center (212) 870-4320. Fee charged.

Brooklyn Center for the Urban Environment. Tennis House, Prospect Park, Brooklyn, N.Y. 11215 (718) 788-8540. Fee charged.

Exploring Routes from School to Cooper-Hewitt

Find the locations of your school and Cooper-Hewitt on a city or regional map. Divide the class into teams to plan routes from your school to Cooper-Hewitt. Each route should reflect a different orientation such as the route that passes the most parks or that utilizes different forms of transportation. As a class, decide which route is best for your field trip to Cooper-Hewitt.

Different Maps / Different City

Collect as many maps of NYC as you can, beginning with the maps that are included in this packet. (Newspapers, subways, tourist bureaus, and textbooks are possible sources. Also, refer to the "NYC map resource" section in this packet.) In small groups, examine and analyze each map to determine the following and report to the rest of the class:

- What information does this map show me? Why?
- How could this map be used?
- Who would use this map? Why?

As a class, discuss and compare the NYC maps. Describe different scenarios and determine which maps would be most useful. For example, you are traveling by subway, car, or boat. You are a tourist. You need to find a specific location such as City Hall, Staten Island Ferry Terminal, Central Park Zoo, Cooper-Hewitt Museum, or a New York neighborhood.

City Journeys

Students will begin this activity by identifying a bus, subway line, or walking route they use frequently. Ask them to think about stops and landmarks along their route that are the most interesting and meaningful. For example, the 63rd Street stop on the M5 bus might remind them of a trip to the Central Park Zoo. In the Bronx, the Lexington Avenue subway line is known as the route to Yankee Stadium. They may identify favorite monument, playground, store on their routes to and from school. Using drawings and collage materials to highlight favorite landmarks, stops, and places, students can design personalized maps for the routes they choose.

REGION

Making Geographic Models

Three-dimensional models are helpful tools for introducing geographic features and basic map vocabulary. Models of imaginary landscapes could include several of the following geographic features: island, peninsula, coastline, river, lake, canyon, cape, channel, strait, bay, cave, cliff, inlet, hill, mountain, volcano, plain, sea, valley, and plateau.

A variety of materials can be used to cre-

ate three-dimensional geographic models such as plasticene, modeling clay, sticks, rocks, and papier-mâché. We recommend using waterproof materials and constructing models in plastic tubs or aluminum tins. These models will become dynamic when water is introduced. Before and while pouring water into the models, ask students to describe what they see. Encourage them to describe features by their qualities (a high point surrounded by water) rather than labeling them (island). Such descriptions will lead to definitions and a better understanding of geographic features.

(For further information, The Geography and Mapping Institute at Bank Street College offers workshops and in-service programs to promote teaching strategies using three-dimensional models.)

Where does your water come from? Where does your water go?

Create a simple drawing of the school's floor plan including classrooms, hallways, and restrooms. Create symbols for all water sources - sinks, fountains, toilets. Add these symbols to the floor plan. If the school has more than one level, repeat this activity for each floor. (Students should assign special symbols to dripping sinks and running toilets in order to use the maps to promote water conservation.) Examine the floor plans and consider the following:

- Are the areas where water is used in the school grouped in any special way?
- Do different floors have similar plans?
- Where does the school's water come from? Where does it go?

There are a lot of resource materials and maps that can be used to learn how the school's water is connected to the city's system and the rural regions that provide the city's water. For curriculum materials and maps, contact:
Kim Estes-Fradis, Deputy Director New York City Department of Environmental Protection
Office of Education and Information Programs
59-17 Junction Boulevard Corona, New York 11368
(718) 595-3506

COUNTRY

USA News Map

Read newspapers to find articles about different parts of the United States. Organize these articles on a wall or bulletin board around a map. Students will enjoy attaching strings from the articles to the location of the story on the map. This activity could be organized around a theme such as "News and the Environment," "The Presidential Election," "Sports around the Country," or "Kids in the News."

WORLD

Where do animals live?

Animals in zoos come from all over the world. After visiting a zoo, each student can adopt an animal. They may want to draw a picture of an animal they saw in the zoo; or, they may choose an animal they have encountered in a magazine or in the wild. Each student can place their drawing on a world map, to locate the animal's original home. They can research and map the animal's natural habitat and create a bigger picture including the terrain and plants that the animal would recognize as home.

The World in Your Classroom

New York City classrooms represent a rich ethnic and cultural diversity. Ask students to make a map of their family trees, highlighting places in the world represented by their families' heritage. Use the information in these family tree maps to organize a world map which represents the classroom.

World News Map

Read newspapers and magazines to find articles about different places in the world. Organize them on the wall or bulletin board around a world map. Use string to connect the articles to their appropriate map locations. This activity could be organized around a theme such as "Rain Forests," "Natural Disasters," "Population Growth," or "Trade."

UNIVERSE

Ceiling Constellations

Create mobiles of star constellations to hang from the classroom ceiling. Go to the library to find stories and myths from different cultures about constellations. Students may want to write their own stories about favorite constellations or create their own myths about shapes they see in the sky.

Following is a list of organizations and businesses for access to maps and geographic education materials. In most cases, a small fee is charged for materials.

Geographic Education

American Geographical Society

156 Fifth Avenue, Suite 600, New York, N.Y. 10010-7002, (212) 242-0214
Educational resources include books, maps, atlases, quarterly publication, and newsletter.

Cooper-Hewitt, National Museum of Design

2 East 91st Street, New York, N.Y. 10128
(212) 860-6868
The Design Education Resource Library includes community education resources such as NYC maps, neighborhood guides, architecture education resources, and geography education resources. Contact the Education Department or Library for an appointment.

Geography and Mapping Institute

Bank Street College of Education
610 West 112th Street, New York, N.Y. 10025
Samuel Brian or Diana Granat
(212) 875-4421
Workshops, staff development days, and demonstrations are offered to promote geographic education using three dimensional models.

GLOBE Centers

The High School of Art & Design
1075 Second Avenue
New York, N.Y. 10022
Contact: Robert Shan·s (212) 752-4340

Booker T. Washington JHS 54

103 W. 107th Street
New York, N.Y. 10025
Contact: Evelyn Weisfeld (212) 678-2861

Geography Learning Outcome Based Education (GLOBE) Centers are projects of the Fund for New York City Public Education and the New York City Public Schools. Interdisciplinary curriculum materials and geographic education resources are available for teachers citywide to integrate geography and multicultural education.

National Council for Geographic Education

16A Leonard Hall, Indiana University of Pennsylvania, Indiana, PA 15705,
(412) 357-6290
This organization sponsors an annual conference and publications.

National Geographic Society

17th Street and M Street, N.W.
Washington, D.C. 20036
(202) 775-6701
Educational resources include maps, globes, atlases, books, magazines, multimedia kits, videos, filmstrips, and computer resource.

National Geographic Educational Services

P.O. Box 98019
Washington, D.C. 20090
(800) 368-2728

New York Public Library, Map Room

42nd Street and Fifth Avenue
New York, N.Y. 10036, (212) 930-0587
School tours and classroom programs are available by contacting Alice Hudson.

New York and the World

45 John Street, Suite 908
New York, N.Y. 10038
(212) 732-8606
This program is a project of The American Forum for Global Education and The New York City Board of Education High School Division. NEW YORK AND THE WORLD offers workshops and seminars to teachers to promote an interdisciplinary approach to multicultural and global education.

New York Geographic Alliance

Burrell Montz, Co-coordinator, Department of Geography, State University of New York Binghamton, New York 13902-6000, (607) 777-2755
This geographic education network of teachers, administrators, and academic geographer, is sponsored in part by the National Geographic Society. The Alliance produces a newsletter and offers workshops and summer institutes on geography for teachers. Membership is free.

Science and Geography through Orienteering

S.C.I.G.O. 425 West Rock Rimmon Blvd, Colorado Springs, CO 80919
(719) 522-1228
Resources available to promote orienteering programs in schools. [In New York region, contact Chris Cassone (914) 225-1228.]

United States Geological Survey

U.S.G.S. Earth Science Information Center
Mail Stop 509 National Center
Reston, VA 22092, (800) USA-MAPS
Topographic maps of the United States are available through this resource.

NEW YORK CITY MAPS

American Map Corporation
46-35 54th Road, Maspeth, N.Y. 11378,
(718) 784-0055
Large street maps of each borough of New York City.

Central Park Conservancy
The Arsenal Central Park
New York, N.Y. 10021
(212) 315-0385 or 360-2766

City Planning Commission
22 Reade Street, New York, N.Y. 10007
(212) 720-3667
New York City maps include sectional street maps, small scale aerial photographic maps, and city maps.

Flushing Meadow Park
Olmsted Center Flushing Meadows
Corona Park Flushing, N.Y. 11368
(718) 760-6561

Green Belt Park
200 Nevada Ave.
Staten Island, N.Y. 10306
(718) 667-2165

Prospect Park
95 Prospect Park West,
Brooklyn, N.Y. 11215
(718) 965-8960

New York City Transit Authority
130 Livingston Street Brooklyn,
N.Y. 11201
(718) 694-4900
New York City subway and bus maps.

Sanborn Map Company, Inc.
629 Fifth Avenue
Pelham, N.Y. 10803 (914) 738-1649
Detailed maps of urban areas from 1867 to the present.

Staten Island Chamber of Commerce
130 Bay Street
Staten Island, N.Y. 10301
(718) 727-1900

Van Cor[illegible] Park and Pelham Bay Park
1 Bronx River Parkway
Bronx, N.Y. 10462
(718) 430-1890

Topographical Bureaus

Contact the following offices for large sectional street maps printed in six-to-eight-block radiuses.

Office of the Borough President for Manhattan
Municipal Building
1 Center Street, New York, N.Y. 10007
(212) 669-8155

Office of the Borough President of Brooklyn
209 Joralemon Street, Brooklyn, N.Y. 11201
(718) 802-38[illegible]

Office of the Borough President for the Bronx
851 Grand Concourse, Bronx, N.Y. 10451
(718) 590-3878

Office of the Borough President of Queens
120-55 Queens Blvd, Kew Gardens,
N.Y. 11424
(718) 520 3220

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