



#8626

BASIC MAP SKILLS

Grade Levels: 3-7

15 minutes

CHIP TAYLOR COMMUNICATIONS 1999

DESCRIPTION

What are maps? How are they used? How do you read a map? How are they made? What are some kinds of maps? What is a scale? A legend? Sea level? Answers these questions as viewers learn basic map skills.

ACADEMIC STANDARDS

Subject Area: Mathematics

- ◆ Standard: Understands and applies basic and advanced properties of the concepts of geometry
 - Benchmark: Understands how scale in maps and drawings shows relative size and distance

Subject Area: Language Arts

- ◆ Standard: Gathers and uses information for research purposes
 - Benchmark: Uses multiple representations of information (e.g., maps, charts, photos, diagrams, tables) to find information for research topics

Subject Area: Geography

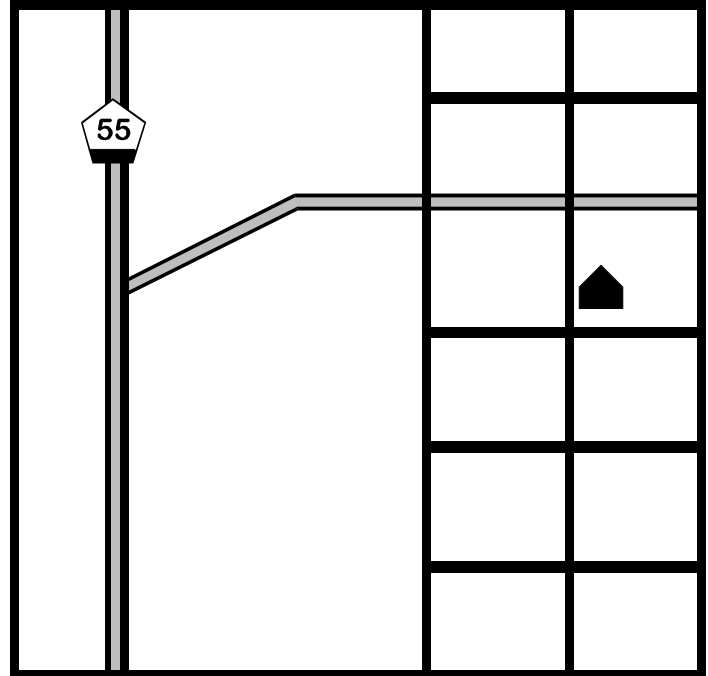
- ◆ Standard: Understands the characteristics and uses of maps, globes, and other geographic tools and technologies
 - Benchmark: Knows the basic elements of maps and globes (e.g., title, legend, cardinal and intermediate directions, scale, grid, principal parallels, meridians, projection)
 - Benchmark: Interprets topography using aerial photos and maps

INSTRUCTIONAL GOALS

1. To present the characteristics and uses of maps, globes and other geographical tools and technologies.
2. To utilize reading skills and strategies to understand and interpret maps.
3. To encourage the use of maps to locate information for research.
4. To depict how scale in maps show relative size and distance.
5. To interpret topography using maps.

VOCABULARY

1. cartographer
2. compass
3. elevation
4. geological
5. legend
6. map
7. model
8. peak
9. perspective
10. satellites
11. scale
12. symbol
13. three-dimensional
14. topographic
15. two-dimensional



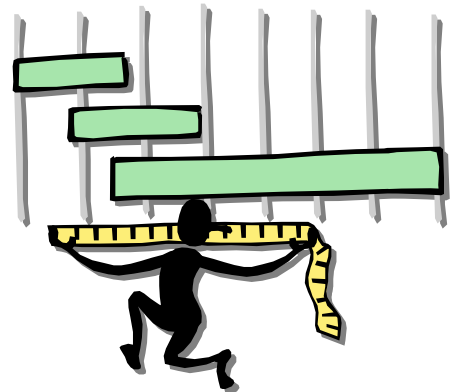
BEFORE SHOWING

1. Collect a wide assortment of maps.
 - a. Include various types of maps: political, geographical, topographical and thematic maps.
 - b. Include various two- and three-dimensional maps.
 - c. Sort and resort the collection of maps using the above categories as a starting place.
2. Create a list of types of maps and their uses.

AFTER SHOWING

Discussion Items and Questions

1. Add to and revise the list of types of maps and the uses of maps. (See Before Showing #2).
2. Discuss how to read a map.
 - a. Why is learning to read a map an important skill?
 - b. From what perspective are most maps made?
 - c. How is a map like a model airplane?
 - d. What is scale?
 - e. How are compass points used in reading a map?
 - f. How do maps show the relative size of objects?
 - g. What boundaries mark real objects? What boundaries are only on a map?
 - h. Why is a legend vital to map reading?
 - i. Why are roads on a given map different colors?



- j. What symbols are commonly used on maps?
 - k. What is the relationship between a map and reality?
 - l. Why is it important to decode the colors and symbols used in a map?
3. Discuss the purposes of maps.
 - a. How do maps help people get from one place to another?
 - b. How do maps define countries?
 - c. How do maps show the relationship among features?
 - d. How have maps played an important role in human history?
 - e. What are further uses of maps?
 - f. How do maps help to find patterns of movement in space and time (e.g. mapping hurricane tracks over several seasons, mapping the spread of influenza throughout the world)?
 4. Discuss topographical maps.
 - a. What is the purpose of a topographical map?
 - b. What is the history of the creation of a complete topographical map of the United States?
 - c. What is elevation? How is it measured?
 - d. What do close lines indicate on a topographical map?
 - e. What was the process used by the U.S. Geological Survey (USGS) to create a complete set of topographical maps of the U.S.?
 - f. Why did it require over 100 years for the USGS to create topographical maps of the U.S.?

Applications and Activities

1. Create a map and model of a local campus or neighborhood.
 - a. Determine if the priority is area or detail.
 - b. Choose which kind of map to make. Consider thematic, political and road.
 - c. Create a legend to explain the colors and symbols used.
 - d. Determine the scale of the map or model.
2. If the scale on a map is one inch equals 150 miles, determine the following distances:
 - a. The distance between the Twin Cities and Des Moines is slightly over an inch and two thirds.
 - b. The distance between a child's home and the grandmother's home is two inches.
 - c. The distance a father commutes to work is one quarter of an inch.
3. Use a variety of maps to investigate the following: legend, boundaries, relationship between objects and relative size of objects.



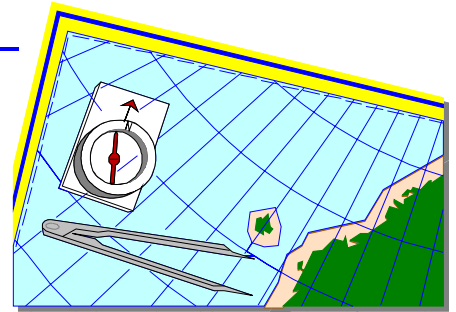
4. Collect and analyze thematic maps (e.g. patterns of population, disease, economic features, rainfall and vegetation). Compare these maps to more common political and road maps.
5. Locate maps that demonstrate the following:
 - a. Transformations of primary data into maps (e.g. maps developed from recent census data).
 - b. Mental maps that reflect attitudes and perceptions of places.
 - c. Cartograms depicting the relative sizes of countries or continents of the world based on their populations.
6. Use online maps to locate individual's homes and directions from home to school.

RELATED RESOURCES



Captioned Media Program

- Maps and Globes: A Thorough Understanding #8808
- Map and Globe Skills #8807
- Shapes and Angles #3295
- What's in a Shadow? Finding Directions #2644
- Why We Have Time Zones #2544



World Wide Web



The following Web sites complement the contents of this guide; they were selected by professionals who have experience in teaching deaf and hard of hearing students. Every effort was made to select accurate, educationally relevant, and "kid-safe" sites. However, teachers should preview them before use. The U.S. Department of Education, the National Association of the Deaf, and the Captioned Media Program do not endorse the sites and are not responsible for their content.

- **COLOR LANDFORM ATLAS OF THE UNITED STATES**

<http://fermi.jhuapl.edu/states/states.html>

Each state link brings up a menu of links to maps and other online information about the state. Currently the following maps are available for each state (with a few exceptions): A topographic map optimized to show the landforms, a map showing counties, a black and white version of the shaded relief map, satellite images directly from the NOAA weather satellites and a map from an 1895 edition of a Rand McNally Atlas of the World.

- **GEOGRAPHY WORLD**

<http://www.hometown.aol.com/bowermanb/101.html>

This mega site includes a plethora of thematic geography topics including: agriculture, conservation, environment, ecosystems, flags, land, water erosion and plate tectonics. Specific resources for teachers include games, news, quizzes, ideas for geography projects and map test study guides.

- **GEONET GAME**

<http://www.eduplace.com/geo/indexhi.html>

A Houghton Mifflin created site, all of the questions for each game will be about the entire country or region selected. Two hours are given to complete the game.

- **HOW FAR IS IT?**

<http://www.indo.com/distance/>

This service uses data from the U.S. Census and a supplementary list of cities around the world to find the latitude and longitude of two places and then calculates the distance between them (as the crow flies).

- **NATIONAL GEOGRAPHIC**

<http://www.nationalgeographic.com/>

In addition to the articles and photographs that are associated with this publication, the site presents sections specifically related to maps and kids.