



MAKE YOUR OWN MAP

★★ Grades 11-12

Skills and Objectives:

- Students will read and use a thematic map.
- Students will make their own thematic map using census data.
- Students will compare data in two statistical categories.

Suggested Groupings: Small groups

Getting Started:

- Tell students that their group will be working with the table of census data on page 7 to make their own **thematic map**. They can use the We Count! wall map as a guide, or for inspiration.
- Direct students' attention to the We Count! wall map. Discuss the map's legend, or key, which explains what the symbols and colors on the map represent. Use examples from an atlas to illustrate other techniques cartographers use to show data on a map, such as patterns and **pictographs**.

Using the Activity Worksheets:

- Distribute copies of pages 7 and 8 to groups. Direct students' attention to the table on page 7. Ask a volunteer to read the text and explain what types of data this table shows.
- Go over the map-making instructions with students. Make sure they understand that they will be representing both sets of information from the table on one map. Have a volunteer explain the two ways in which data is presented on the We Count! wall map. (With color and numbers.) Ask: **Does either table present its data in ranges?** (*No.*) **What must be done with one of these sets of data to be able to color-code it?** (*It must be divided into ranges.*) **Can both sets of data be color-coded on the same map?** (*No.*)
- Point out that the We Count! wall map is only one way in which two types of data can be presented on the same map. Invite students to suggest other ways to present two types of data. These might include using both colors and patterns, or patterns and symbols, that represent ranges.
- Encourage groups to make a draft of their maps before completing their final version. Suggest they assess their drafts to decide if they have chosen the clearest way to present both sets of data. You may want to give each group

several copies of the map on page 8 to work with.

Wrapping Up:

- Have groups share their final maps with their classmates. Discuss the techniques each group used to represent the data in the table.
- Invite volunteers to discuss whether seeing two kinds of data on one map was useful. **How do the two sets of data compare? Do states with the highest percentages of college graduates tend to have higher per capita incomes than others? What generalizations can you make?**
- Point out that correlating two forms of data does not prove that they are related, nor does it explain what causal relationship (if any) there might be. Other factors might be at work. However, if two sets of data do seem related, it is fair to ask the question "Why?" **Do you think people with college educations are more likely to get higher-paying jobs? Could it be more difficult for some people to afford a college education? Explain.**

Extension Activities:

- As an extension, students might enjoy selecting two other categories of information available from the U.S. Census Bureau and making their own maps to display the data. They can look for data at the U.S. Census Bureau Web site (www.census.gov).

Chalkboard Definitions

thematic map: a map that displays information about a specific subject.

per capita: by or for each person in a population.

per capita income: the total number of dollars earned by state residents divided by the total state population.

pictograph: a diagram representing statistical data using symbols.





Make Your Own Map

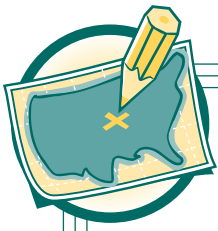
The We Count! wall map in your classroom is a thematic map. This map is designed to show state populations based on 1990 Census data. In addition to the state population totals, the states are color-coded according to population ranges. This color-coding makes relationships between state populations easier to see. For example, what does the color-coding tell you about the Northeast? The South? The Midwest? The West?

Below, you will find some census information about each state. The percent of college graduates includes those 25 and older who have a bachelor's degree. Per capita income is the total amount of income earned by everyone in the state, divided by the state population.

- Your job is to make a map that shows both sets of data from this table. Follow the steps below.
1. Decide how you want to represent the data sets. Remember, you are putting the data on a map to create a visual message. If you just write the corresponding numbers from the table in each state, are you making good use of the map? Will the reader be able to see the patterns in the map?
 2. How can you use colors, patterns, or symbols to represent the data sets? You will need to divide the data into ranges. To do this, arrange each set from least to greatest, and divide it according to the number of ranges you would like to use. Make sure each range or category contains data. Then, color the map.
 3. Once you have represented the data on your map, fill in the map key. Include the ranges for the colors, patterns and/or symbols you have used.

State	% of College Graduates	Per Capita Income
Alabama	16%	\$11,486
Alaska	23%	\$17,610
Arizona	20%	\$13,461
Arkansas	13%	\$10,520
California	23%	\$16,409
Colorado	27%	\$14,821
Connecticut	27%	\$20,189
Delaware	21%	\$15,854
D.C.	33%	\$18,881
Florida	18%	\$14,698
Georgia	19%	\$13,631
Hawaii	23%	\$15,770
Idaho	18%	\$11,457
Illinois	21%	\$15,201
Indiana	16%	\$13,149
Iowa	17%	\$12,422
Kansas	21%	\$13,330
Kentucky	14%	\$11,153
Louisiana	16%	\$10,635
Maine	19%	\$12,957
Maryland	27%	\$17,730
Massachusetts	27%	\$17,224
Michigan	17%	\$14,154
Minnesota	22%	\$14,389
Mississippi	15%	\$9,648
Missouri	18%	\$12,989

State	% of College Graduates	Per Capita Income
Montana	20%	\$11,213
Nebraska	19%	\$12,452
Nevada	15%	\$15,214
New Hampshire	24%	\$15,959
New Jersey	25%	\$18,714
New Mexico	20%	\$11,246
New York	23%	\$16,501
North Carolina	17%	\$12,885
North Dakota	18%	\$11,051
Ohio	17%	\$13,461
Oklahoma	18%	\$11,893
Oregon	21%	\$13,418
Pennsylvania	18%	\$14,068
Rhode Island	21%	\$14,981
South Carolina	17%	\$11,897
South Dakota	17%	\$10,661
Tennessee	16%	\$12,255
Texas	20%	\$12,904
Utah	22%	\$11,029
Vermont	24%	\$13,527
Virginia	25%	\$15,713
Washington	23%	\$14,923
West Virginia	12%	\$10,520
Wisconsin	18%	\$13,276
Wyoming	19%	\$12,311



Lesson 2 Activity Worksheet Using Special Purpose Maps (continued)

Lesson 2 Activity Worksheet

