

Squaring Off the Regions

Students identify the US geographical regions.

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Grade Level	4-6
Duration	2 class periods

National Geography Standards

ELEMENT ONE: THE WORLD IN SPATIAL TERMS

3. How to analyze the spatial organization of people, places, and environments on Earth's surface.

ELEMENT TWO: PLACES AND REGIONS

4. The physical and human characteristics of places.

Arizona Geography Strand

CONCEPT 1

World in Spatial Terms GRADE 4, 5, and 6

PO 4 Construct charts and graphs to display geographic information

CONCEPT 2

Places and Regions

GRADE 4

PO 1 Describe how the Southwest has distinct physical and cultural characteristics.

GRADE 5

PO 1 Describe how the following regions exemplify the concept of region as an area with unifying human or natural factors:

- b. West, Midwest, Northeast, Southeast, and Southwest.

Other Arizona Standards

Mathematics Common Core Standards Ratios and Proportional Relationships

6.RP.3. Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.

d. Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities.

Number and Operations in Base Ten

5.NBT.6. Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

The Number System

6.NS.2. Fluently divide multi-digit numbers using the standard algorithm.

Measurement and Data

4.MD.2. Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.

4.MD.3. Apply the area and perimeter formulas for rectangles in real world and mathematical problems.

Standards for Mathematical Practice

4.MP.4. 5.MP.4. and 6.MP.4., Model with mathematics.

Overview

Students have a hard time visualizing the size of the universe, our planet, and countries. With this

lesson, students gain an understanding the size and unique complexity of U.S. geographical regions

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Purpose

In this lesson, students will calculate the size (square miles) of each of the U.S. geographical regions: West, Southwest, Southeast, Midwest, and Northeast, and will translate this into an understanding of relative size. Students will be able to identify important geographical features of different regions.

Materials

- 5 pieces of 8-1/2" x 11" colored paper with a photocopied grid pattern. Suggested colors: 1 green, 1 yellow, 1 brown, 1 pink, 1 dark blue
- Paper, pencil, glue
- Large sheet of drawing or construction paper on which the colored paper grids will be glued
- 1/4" graph paper
- Calculator (optional)
- Geographical Regions of the U.S.
- Regions of United States map
- Regions of the United States-color (transparency)
- Worksheet and Answer Key

Objectives

Students will be able to:

1. Order the square mileage of different states from largest to smallest.
2. Place these ordered states into regional groupings.
3. Identify at least five regional characteristics.

Procedures

SESSION ONE:

1. Teacher should assign a geographic region to each of 5 groups of students. Students will then rank order the states large to small using the "Square Mileage" fact sheet.

2. Teacher should review the rules for finding the area of an array. (An array is a rectangular

arrangement of quantities in rows and columns, as in a matrix.)

3. Allow some guess and check practice, but students should quickly recognize that assigning each square a low value would create impossibly large regional equivalencies. After a few tries, if the class does not arrive at this idea, suggest that each square be assigned a value of 100.

Therefore, 100 sq. mi.= 1 sq. This will allow students to create all regions proportionately on a single sheet of paper. (Some regions might require two sheets of paper.)

4. It doesn't matter if the regions have the exact "map" configuration; however, if a group does think about shape, they will be creating a cartogram. Students should work on creating each state in their region out of the colored grid paper by calculating the number of squares needed and then cutting off the correct number of squares.

SESSION TWO:

1. Students should assemble the "rectangular" state regions using a US map as a guide. Once again, if they can unite their states in geographical proximity to the real U.S., they will be creating a cartogram.

2. Students should create a legend for their maps and add 5 distinctive human or physical features of each region. An excellent source for information about the regions comes from National Geographic Society Reading Expeditions Series: *Travels Across America* (all five titles: *The West*, *The Southeast*, *The Southwest*, *The Midwest*, and *the Northeast*). Magazine pictures may be added to the regional to reflect regional characteristics.

Assessment

Student work can be graded for math skills by assessing the accuracy of their worksheet where

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they ordered the states by size. (10 points)
Having the students verify that they have the correct number of grid squares in their project can assess the finished product. (10 points) A score of 80% or higher is considered mastery. Geography can be assessed by the 1) inclusion of all of the states for each region, 2) 5 distinct features of that region, and 3) legible legend and labels on the map. Mastery will be considered 80% or higher.

Sources

[www.50states.com/\(nameofstate\).htm](http://www.50states.com/(nameofstate).htm) to find the square mileage of the different states.

National Geographic Society Reading Expeditions Series: *Travels Across America* (all five titles: *The West, The Southeast, The Southwest, The Midwest, and the Northeast*)
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