

Literacy Limbo: Graphing Literacy Rates

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Grade Level	6-7
Duration	1 class period

National Standards

GEOGRAPHY
Element 1: The World in Spatial Terms
 1. How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information
Element 2: Places and Regions
 4. The physical and human characteristics of places
Element 6: The Uses of Geography
 18. How to apply geography to interpret the present and plan for the future

AZ Standards

MATHEMATICS
Statistics and Probability
 6.SP.A.2. Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape.
 6.SP.B.4. Display numerical data in plots on a number line, including dot plots, histograms, and box plots.
 7.SP.B.3 Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability. *For example, the mean height of players on the basketball team is 10 cm greater than the mean height of players on the soccer team, about twice the variability (mean absolute deviation) on either team; on a dot plot, the separation between the two distributions of heights is noticeable.*

Arizona Social Science Standards

GEOGRAPHY
The use of geographic representations and tools helps individuals understand their world.
 6.G1.1 Use and construct maps, graphs, and other representations to explain relationships between locations of places and regions.
 7.G1.1 Use and construct maps and other geographic representations to explain the spatial patterns of cultural and environmental characteristics.
Human-environment interactions are essential aspects of human life in all societies.
 7.G2.1 Explain how cultural demographic patterns, economic decisions, and human adaptations shape the identity of nearby and distant places.

Overview

Students in the American school system probably assume that education opportunities are the same around the world. However, literacy rates vary from country to country and are an indicator of economic and cultural factors relating to that location.

Purpose

In this lesson, students will read charts, create graphs, and interpret data on the literacy rates in several Asian nations. Students will then use this information to make inferences regarding the lives of the people depicted in the graph.

Materials

- Literacy Worksheet and Answer Key
- Asia map
<https://geoalliance.asu.edu/sites/default/files/maps/ASIA.PDF>
- Colored pencils
- Rulers
- Graph paper (optional)
- Projection device

Objectives

- The student will be able to:
1. Read charts, create graphs, and interpret the data.
 2. Make inferences about the lives of men and women in the countries being graphed.

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Procedures

Prerequisite Knowledge: Students should have experience with graphing.

1. Begin the lesson by asking students what they think is the literacy rate (percentage of people over the age of 15 that can read and write) for the U.S. Is the U.S. more literate than other countries? According to the World Atlas, 26 countries have literacy rates of 100%. The U.S. literacy rate is 86%. Project this website <https://www.worldatlas.com/articles/the-highest-literacy-rates-in-the-world.html>
2. Project the map of Asia <https://geoalliance.asu.edu/sites/default/files/maps/ASIA.PDF> and ask them to name some countries that they know in Asia. Instruct students to use an atlas or the internet to find and label China, Pakistan, Nepal, India, Burma, and Bangladesh on their map of Asia.
3. To learn more about Asia's literacy rates, distribute the Literacy Worksheet. Review the chart with the students. Explain the directions for completing the worksheet.
4. Distribute graph paper (optional), colored pencils and rulers.
5. At the end of class, ask students what they found surprising about the information in the chart. Have several students share their answers to questions 7 and 8.

Assessment

Geography and Mathematics

The worksheet can be graded for accuracy and completeness. Mastery will be considered a score of 80% or higher.

Extensions

Students can research a country and compare the lives of women and men in that country to their own country.

Students could research the educational systems in the countries claiming 100% literacy and see how their systems compare to the U.S. system of K-12 education.

Sources

United Nations Department of Economic and Social Affairs
<http://millenniumindicators.un.org>

CIA World Factbook
<https://www.cia.gov/library/publications/resources/the-world-factbook/>