

Part or Whole: Increasing or Decreasing?

Learning how to find percentages utilizing the European Union.

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Grade Level	6-7
Duration	1 class period

National Geography Standards

ELEMENT ONE: The World in Spatial Terms

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

ELEMENT TWO: Places and Regions

5. That people create regions to interpret Earth's complexity.

Arizona Geography Strand

CONCEPT 1 World in Spatial Terms

GRADE 6 and 7

PO 1 Construct maps, charts and graphs to display geographic information.

Other Arizona Standards

Mathematics Common Core Standards The Number System

6.NS.B.2. Fluently divide multi-digit numbers using the standard algorithm.
6.NS.9. Convert between expressions for positive rational numbers, including fractions, decimals, and percents.
7.NS.B.2. Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.
d. Convert a rational number to a decimal using long division; know that the decimal form of a rational number terminates in 0s or eventually repeats.

Overview

Percentages are a common part of everyone's life. This lesson will show students how to utilize percentages as they learn about relationships between the European Union countries.

Purpose

In this lesson, students will learn how to apply knowledge and compute percentages using data on the European Union.

Materials

- How to Teach Percentages handout and Answer Key
- Percentages of the European Union handout and Answer Key
- Graphs #1, #2, and #3
- European Union map with country names

- European Union map without country names
- Projection device

Objectives

The student will be able to:

1. Solve percentage problems using data from the European Union.
2. Identify the countries in the European Union.

Procedures

*Before beginning this math lesson, it would be beneficial to have students complete the GeoLiteracy lesson called **The Impact of the European Union (EU)** so students are aware of the purposes of this organization.*

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If students have completed the Impact of the European Union lesson, they can use their map for the math practice. If not, students should go to the official website for the European Union (EU). http://europa.eu/index_en.htm

Distribute the European Union map (labeled with country names or unlabeled if you wish the students to label the countries themselves). On the EU website find the section on countries and have the students color code their maps.

2. Project Graphs #1, #2, and #3 (one at a time) on the projection device. Have students count the total squares and the number of colored squares. Help students realize that there are 100 squares and 50 are colored. Point out that this graph shows 50%. Then do the same with the other 2 graphs.

3. Project “How To Teach Percentages.” Discuss the process with the students.

4. Have the students practice the last two problems by themselves and go over the answers with them to make sure they understand.

5. Distribute the Percentages of the European Union worksheet and emphasize that information on the European Union changes every year. This worksheet reflects data from 2014 and planned seats for the 2019 election. This data can be used practice in computing percentages and may not be accurate information. Then have the students work on the questions individually.

6. Have each student write down two percentage questions. Then have the students turn to someone next to them and they each solve the other’s problems.

Assessment

Grade students’ Percentages of the European Union questions for math comprehension. A score of 80% or higher is considered mastery.

Grade students’ maps of the European Union for geographic accuracy. A score of 90% or higher is considered mastery.

Extensions

Create circle graphs from the percentages of the questions on the European Union. See Balkan Basics lesson at

<http://geoalliance.asu.edu/Balkanbasics> for a student practice on making circle graphs.

Sources

http://europa.eu/index_en.htm