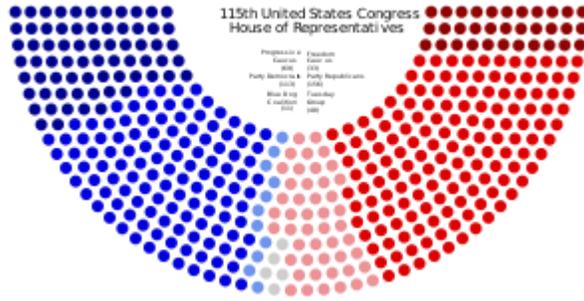


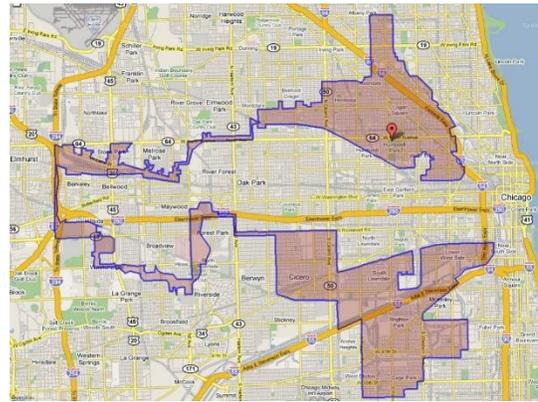
Apportionment and Redistricting: Asking geographic questions to address political issues

A historical document titled "SCHEDULE of the whole number of Persons within the United States to be apportioned among the several States..." It is a large table with multiple columns and rows, listing names and numbers, likely representing the 11th United States Congress.



https://upload.wikimedia.org/wikipedia/commons/8/89/United_States_House_of_Representatives%2C_2017.svg

Gerrymandered district or inkblot test?



<http://allthatsinteresting.com/fourth-district-of-illinois-map>

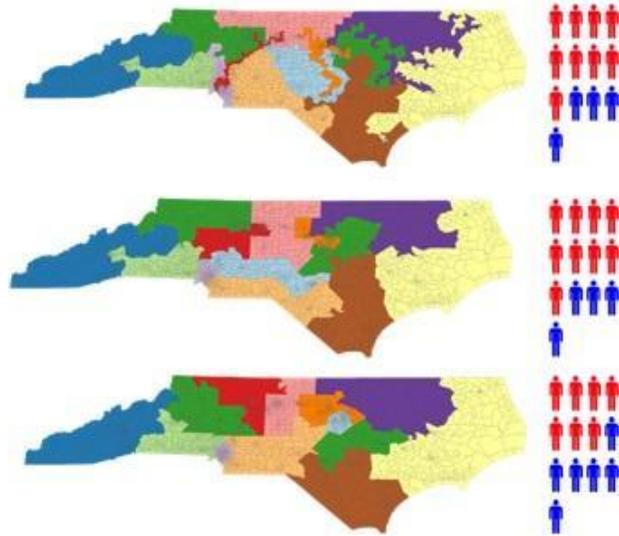


Gerrymandered district

Inkblot test

Nope! It's Maryland's 3rd Congressional District. Described by a federal judge as "reminiscent of a broken-winged pterodactyl," Maryland's 3rd Congressional District lies (flightless) across the middle of the state. Impressive gerrymandering, Maryland!
<https://www.benjerry.com/whats-new/2017/04/district-or-inkblot-quiz>

Same votes, different outcomes.
Which is fair?



A side-by-side comparison of Congressional district maps from Duke mathematician Jonathan Mattingly. The top map is from 2012 and the middle map is from 2016. They were both created by Republican state lawmakers. The bottom map was created by Tom Ross's bipartisan commission of retired judges. To the right you can see the seats generated by these maps.
<http://wunc.org/post/non-partisan-redistricting-possible-former-judge-and-mathematician-think-so#stream/0>



When asked to describe the process of apportionment and redistricting, an audience can find it challenging, whether they are students or senior citizens. What do we really remember from civics or government class? The National Council for the Social Studies (2013) states that “in a constitutional democracy productive civic engagement requires knowledge of the history, principles, and foundations of our American democracy, and the ability to participate in civic and democratic processes”. However, it is one thing to study the institutions described in the U.S. Constitution and quite another to try and assess whether consent of the governed, separation of powers, and legitimate authority are truly guiding our institutions, including courts, legislatures, and executive branch agencies. Understanding the founding documents of the United States as well as the diverse arguments that have been made about these documents and their meanings is essential to being prepared to ask informed questions and take appropriate actions (NCSS 2013).

Most individuals do not stop to think why our representative process is organized geographically. The majority of people reference population when answering the question “why do some states have more representatives in the U.S. House of Representatives than others?” But they may forget how difficult it was for the original 13 states to come together from up and down the Atlantic Seaboard, or they overlook the contentious Connecticut Compromise of 1787, which established equal representation in the Senate and proportional representation in the House. Bringing geographic reasoning to the discussion enables participants to undertake spatial analysis to aid in personal and societal decision-making and problem-solving by examining the patterns displayed in maps. While not everyone may be a skilled cartographer, geospatial technology has made it possible to create basic maps and investigate layers of information over space and time.

The objective of this project is to support students and community members as they explore what kinds of information are needed – in particular spatial data – to conduct the apportionment and redistricting process, initially at the national level, and subsequently at state and local levels.

Redistricting involves the creation of maps; an understanding of the history, geography, and economy of the region undergoing redistricting; and knowledge of the guidelines for treating everyone fairly to guarantee “one person, one vote”. In previous decades, it was difficult for average citizens to obtain the information needed to assess whether maps were being drawn fairly, but with the advent of online geospatial technology resources, even basic maps connected to population data can help communities start to ask geographic questions to address political issues. See this link for a review of Utah’s experience involving citizens in creating online maps: <https://www.esri.com/en-us/arcgis/products/esri-redistricting/overview/redistricting-utah-case-study>.

If population distribution were the only important factor related to electoral districts, this process would be a math problem. Each district in a state would have an equal number of people divided into neat polygons with a representative for each. Yet it is not possible to divide a state into electoral districts mathematically because people are not distributed equally across the landscape, nor is it sensible to ignore features such as mountains or rivers. In addition to practical and physical considerations, there are questions of representing people from different communities of interest. The urban-rural divide is not a new one, nor is the lack of women representatives in proportion to their numbers in the population. Any demographic characteristic might be considered a point of discussion to be decided in the courts. In representative government, whoever is in power gets to make the decisions, and once people are in power, they want to remain in control.

A cartographer must take into account multiple factors when drawing congressional districts. Who hires the cartographer to draw the lines in the state? That is determined by state law. How can the process be transparent? That is determined by the engagement of the population. If fairly-drawn

districts are not important to citizens, then the people in power will create districts to make it easy to elect again and again the people who serve a particular constituency. In the U.S. Congress the majority of seats are considered “safe”, meaning a large chunk of the electorate can be ignored because enough people of one political persuasion continue to elect someone with the label of conservative or liberal. Most incumbents are re-elected; in the election cycle, they fear not a substantive debate about the tension between liberty and equality, but a challenger from the extreme of their own party. This has increased polarization in both the House of Representatives and the Senate, leading to less constituency and more party control in the legislature.

What constitutes a fairly-drawn legislative district? Recall that there are diverse opinions about the founding documents of the government, which leads to different perspectives about how to collect and distribute resources, the main work of the legislature. This also applies to what constitutes a fairly-drawn district. In a democratic republic, representation is the most important aspect of the governance process. The description of how the House of Representatives, the federal governing body closest to the electorate, is chosen, is located in the second section of the first article of the Constitution of the United States. “The House of Representatives shall be composed of Members chosen every second Year by the People of the several States ... Representatives and direct Taxes shall be apportioned among the several States which may be included within this Union, according to their respective Numbers ...” (Gunther 1980, B-1). When the people consider themselves fairly represented, they are more inclined to engage themselves with government at multiple levels.

While those in power generally work to keep themselves there, the most systematic infringement on voting rights was found in the South following reconstruction when African-American citizens were denied the right to vote based on race, masked by poll taxes, literacy tests, and violence. In 1965, the Voting Rights Act was passed by the Congress and signed by President Johnson, with its primary objective being the enforcement of the 15th Amendment of the Constitution. “SEC. 2. No voting qualification or prerequisite to voting, or standard, practice, or procedure shall be imposed or applied by any State or political subdivision to deny or abridge the right of any citizen of the United States to vote on account of race or color” (United States Government 1965, 1). There must also be no vote dilution—the use of any electoral scheme that weakens voting strength of voters of color. The question is whether minority voters have less opportunity than other members of the electorate to participate in the political process and elect their preferred candidates of choice.

Several principles apply to redistricting to ensure “one person, one vote”, addressing issues including number, politics, shape, geography, race, and sociology. However, there are also other considerations not included in these principles, such as proportionality, competitiveness, responsiveness, stability, and having a voice for the marginalized. At this time, race can be a very effective proxy for party preference, and vice versa, eliciting a need for new tools to address partisan gerrymandering. Generally, any shape constraints limit the power of the map-drawer, and extreme gerrymandering requires eccentrically shaped districts.

Early in the history of the American Republic, manipulation of voting district maps became a “device whereby the majority party in a state legislature so plans the legislative districts that it is able to control the greatest possible number of them” (Phillips 1954, 144). Named after the effort of Massachusetts Governor Elbridge Gerry to minimize Federalist votes by stringing together a district that a cartoonist transformed into a salamander, “gerrymander” entered the political lexicon. “In 1812 only 11 Federalist legislators were elected in Massachusetts to 29 Republicans, although the Federalists got 51,766 popular votes and the Republicans, 50,164. This looked like cheating to most voters. ... In 1813 the original gerrymander was repealed” (Butterfield 1976, 51). In addition

to party affiliation, “the gerrymander is used as a gadget to concentrate the strength of the opposition party in as few districts as possible, creating many inequities in representation as well as some geographic monstrosities. Quite apart from its use against one’s political party opponents, however, the gerrymander is often used to perpetuate representational advantage of rural areas over the city” (Binkley and Moos 1952, 819). Understanding history is key to understanding the present.

With powerful new mapping tools, even reasonable-looking districts can be unfair. Community members should understand the basics of how to assess districts for:

- equal population
- compactness
- contiguity
- respect for political boundaries (counties, cities, school districts)
- respect for communities of interest
- compliance with the Voting Rights Act

“These days, with incredibly rich data available to the line drawers, very skewed districts no longer have to look like exotic reptiles with fangs and claws,” says mathematician Moon Duchin. The ability to split geographical units very finely undermines both political parties. Cartographers should use compactness, penalties for splitting, and standards around communities of interest.

This exploratory project combines three resources to guide conversations about redistricting: (1) National Geographic’s Giant State Maps to provide historical background and information about current population distribution, (2) background information about civics, geography, and history, referencing existing units prepared by educators as well as materials from organizations such as iCivics (<https://www.icivics.org/>), Center for Civic Education (<http://www.civiced.org/>), and the League of Women Voters; and (3) geospatial technology tools to enable participants to redistrict with real census data and state features. This approach utilizes multiple teaching methods, including hands-on materials and technology to engage secondary students and the general public.

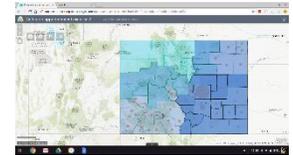
A Geographic Information System (GIS) stores spatial and attribution data. In the United States, spatial data (location-based information with attribute data that describes a particular location) is provided through the U.S. Census Bureau’s decennial census. Spatial data can include the location of a house or occupied dwelling with associated attribute data such as house address, electoral district, and number of people living in the house. The ability to relate spatial information to attribute data makes GIS a powerful tool for redistricting. For this project, we download Census data for each state to ArcGIS Online and create a redistricting activity.

Many states throughout the nation have a significant urban-rural divide, underserved communities, and economic and environmental challenges. This project introduces new approaches to civic understanding for students and for community members.



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Gunther, Gerald. 1980. *Cases and Materials on Constitutional Law, Tenth Edition*. Mineola, NY: The Foundation Press, Inc.

National Council for the Social Studies (NCSS), The College, Career, and Civic Life (C3) Framework for Social Studies State Standards: Guidance for Enhancing the Rigor of K-12 Civics, Economics, Geography, and History (Silver Spring, MD: NCSS, 2013)

- Explain how the U.S. Constitution establishes a system of government that has powers, responsibilities, and limits that have changed over time and that are still contested. (D2.Civ.4.9-12)
- Evaluate social and political systems in different contexts, times, and places, that promote civic virtues and enact democratic principles. (D2.Civ.8.9-12)
- Evaluate multiple procedures for making governmental decisions at the local, state, national, and international levels in terms of the civic purposes achieved. (D2.Civ.11.9-12)
- Use geographic data to analyze variations in the spatial patterns of cultural and environmental characteristics at multiple scales. (D2.Geo.3.9-12)

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<https://archive.org/details/VotingRightsAct1965>

