



LEVEL

2

Who has your vote: Voting models

from the Esri GeoInquiries™ collection for Government

Target audience – Government learners

Time required – 15 minutes

Activity	Use voting records to determine the probability that someone from a specific area will vote a certain way.
Social Studies Standards	C3:D2.Civ.8.9-12. Evaluate social and political systems in different contexts, times, and places that promote civic virtues and enact democratic principles.
Learning Outcomes	<ul style="list-style-type: none">• Students will examine and be able to explain the connection between location and party affiliation.
Level 2 GeoInquiry Requirements	<ul style="list-style-type: none">• A free school ArcGIS Online organization account. Instructors or students must be signed in to the account to complete this activity.• Approximately 0.078 credits will be used per person in the completion of this activity as scripted.

Map URL: <http://esriurl.com/govGeoInquiry8>

? Ask

How can voting distributions be spatially represented?

- Click the link above to launch the map.
- In the upper-right corner, click Sign In and use your ArcGIS Online organization credentials to sign in.
- With the Details button underlined, click the button, Show Contents of Map.
- Turn off all layers.
- Turn on the layer, 2016 Election By County.
- ? Using the legend and pop-ups, what information does the map show? [*Dots represent the percentage of voters who voted for the Democratic nominee and the Republican nominee in the 2016 election.*]

↓ Acquire

How can election data be examined on a state scale?

- Add a filter to layer, 2016 Election By County. Set: state is Washington. (See the Filter ToolTip on page 2.)
- Pan and zoom the map to the state of Washington.
- Turn on the layer, 2016 Washington Election Results (Counties).
- Using the layer's table, which county has the most support for Trump? (See Table ToolTip on page 2.)
[*Lincoln – 77%*]
- ? Which county has the most support for Clinton? [*King – 77%*]

🔍 Explore

What type of analysis can be used to predict voter affiliation?

- Click the button, Analysis. Expand Analyze Patterns and choose Interpolate Points.
- Interpolating points allows prediction of values at new locations based on measurements from points.
- In the Interpolate Points tool, set the following parameters:
 - 1 Set to: 2016 Election By County
 - 2 Set to: % DEM
 - 3 Click Options, and for Clip Output To, choose 2016 Washington Election Results (Counties).
 - 4 At the end of the default layer name, add a unique string such as: **_<your initials_date>**.
Click Show Credits to ensure that there are 78 records being analyzed.
Click Run Analysis.

more ►

Analyze

What does an interpolation show about voting trends?

- Turn off all layers except your new interpolated layer.
- Examine the layer's legend to find out what the different colors mean.
- ? What percent of people in the darkest areas are predicted to vote Democratic? [53% to 62%]
- ? In the lightest areas? [27% to 30%]
- ? What inferences can be made about the relationship between voters' party affiliation and living in the Seattle area? [*The farther you live from Seattle, the less likely you are to vote for the Democratic Party.*]

Act

How can voter data be better communicated?

- Turn on the layers, 115th Congressional Districts and 2016 Election By County.
- Turn the new interpolated layer on and off as needed to examine the other layers.
- ? What are the advantages and disadvantages of an interpolated display in presenting voter data? [*Answers will vary.*]
- Compare the three forms of displays.
- ? Which form is the most effective at displaying the information? Which is the least effective? [*Answers will vary.*]

SET FILTER PARAMETERS

- The Filter is only available for certain map layers.
- In the Contents pane, hover over a layer name and click the Filter button beneath the layer name.
- Set the Filter parameters.

VIEW A TABLE

- Tables are only available for certain map layers.
- In the Contents pane, hover over a layer and click the button, Show Table (under the layer name).
- In the table, click the field name and choose Sort Ascending or Sort Descending.

Next Steps

Continue using an ArcGIS Online organizational account (www.esri.com/schools) to dig deeper into data using the analysis tools, and save your maps to your account.

THEN TRY THIS...

- Explore other analysis tools to further understand 2016 voting trends.
- Visit the GeoInquiry, *The Voters* to learn more about voting trends. See <http://esriurl.com/govGeoInquiries>.
- Explore the Esri storymap, *Sending a Convincing Message* at <http://esriurl.com/Geo62A>

TEXT REFERENCES

This GIS map has been cross-referenced to material in sections of chapters from these high school texts.

- *Government Alive! Power, Politics, and You* by Teachers' Curriculum Institute — Chapter 10
- *We the People* by Center for Civic Education — Chapter 34
- *American Government and Politics Today* by Wadsworth Cengage Learning — Chapter 6