# VOTER TURNOUT

**Student/Class Goal**
Students in an ABLE class were interested in using and interpreting data to construct a graph on the number of votes for each party in the presidential election. Polls of previous election results are used to predict current election results.

**Outcome** (*lesson objective)*
The student will gather data about the 2000 presidential election results, then construct a graph to illustrate the data and predict/calculate the outcome of the election based on selected changes in voting patterns.

**Time Frame**
1-3 hours

**Standard** *Use Math to Solve Problems and Communicate*

**NRS EFL 3-5**

| Number Sense | Benchmarks | Geometry & Measurement | Benchmarks | Processes | Benchmarks |
|---|---|---|---|---|---|
| Words to numbers connection | | Geometric figures | | Word problems | |
| Calculation | | Coordinate system | | Problem solving strategies | 4.26, 5.26 |
| Order of operations | | Perimeter/area/volume formulas | | Solutions analysis | 3.27, 5.27 |
| Compare/order numbers | 3.3, 4.4, 5.3 | Graphing two-dimensional figures | | Calculator | 3.22, 4.28, 5.28 |
| Estimation | 3.4, 4.5, 5.4 | Measurement relationships | | Mathematical terminology/symbols | |
| Exponents/radical expressions | | Pythagorean theorem | | Logical progression | |
| **Algebra & Patterns** | **Benchmarks** | Measurement applications | | Contextual situations | 4.31, 5.31 |
| Patterns/sequences | | Measurement conversions | | Mathematical material | |
| Equations/expressions | | Rounding | | Logical terms | |
| Linear/nonlinear representations | | **Data Analysis & Probability** | **Benchmarks** | Accuracy/precision | 3.26, 4.33, 5.34 |
| Graphing | | Data interpretation | 3.16, 4.20, 5.20 | Real-life applications | 3.27, 4.34, 5.35 |
| Linear equations | | Data displays construction | 3.17, 4.21, 5.21 | Independence/range/fluency | 3.28, 4.35, 5.36 |
| Quadratic equations | | Central tendency | | | |
| | | Probabilities | | | |
| | | Contextual probability | | | |

**Materials**
*Reasons for Not Voting* Overhead
*Voter Turnout 2000* Handout/Overhead
*Ohio General Elections 1978-2006* Data Sheet
*Graph the Vote* Worksheet
Calculator
Voter Turnout Learning Objects

**Learner Prior Knowledge**
Why don't people vote? Use the *Reasons for Not Voting* Overhead to lead a discussion. What conclusions can we draw from this chart? What do your students know about reading charts and graphs? Based on standardized and informal assessments, students may need extra practice to increase graphing skills development.

**Instructional Activities**
Step 1 - Introduce the *Voter Turnout 2000* Handout/Overhead. Study the first graph. Ask for volunteers to explain how to read a graph. Extract facts from the graph in the form of simple sentences and have students write down several sentences, such as "The highest turnout is from people who make $50,000 or more a year." Have individuals share their sentences.

**TEACHER NOTE** More current data can be found at Voting and Registration in the Election of November 2008. You will need to prepare the graphs ahead of class with these more recent stats.

Go through the other graphs in the same way. Get everyone to participate in determining the facts the graphs illustrate. When students share the sentences they wrote, ask them to explain why they thought those particular facts were important.
Lead a general discussion using these questions: What are these graphs about? What does this data tell you? What story do these graphs tell? For each graph: Are you surprised to see how the different groups compare? Why do you think some groups are so unlikely to vote? Which of these groups have the least power in the political process? Does this seem fair to you?

Step 2 - Voter registration in the United States is at an all-time high but voter participation is nearing an all-time low. In the 1964 presidential elections 69.3 percent of the voting age population cast a ballot. In 2002, that number was only 54.7 percent, up .3 percent from 1996. The numbers for midterm elections are worse. During the last midterm election in 1998, only 36.4 percent of the voting age population made it to the polls. See NOWs America Votes Overview, National Voter Turnout 1960-2008, and Voter Turnout National Statistics 1960-2002 for more voting data. Also, state breakdowns of Voter Registration and Turnout Statistics are available from the Federal Election Commission.

Step 3 – Have students examine the statistics and then discuss with a partner ideas why voter participation has decreased - each pair should record their theories. Give enough time for students to come up with several thoughtful ideas, then have partnerships share their thinking with the class. Ideas will vary, but may include theories such as people don't care about politics, people are too busy to study election issues, people are physically unable to get to the polls, etc. Construct charts together to organize the data.

**ADDITIONAL PRACTICE** Also, examine historical data and create a chart from the handout *Ohio General Elections 1978-2006*. What themes are important to share in a visual format? What kind of graph is best for this information?

Step 4 - What is voting like in your community? Have students use these resources: U.S. Census Bureau Voting and Registration and NOWs Voter Resource Map to research local voting statistics and trends, noting who tends to vote and who doesn't, voting percentages in community districts, etc. Instruct students to analyze the data to identify voting patterns, in particular, among groups of people who typically do not vote. Students might want to contact community organizations, advocates, and others who represent these populations to speak as panelists at a school- and/or community-based forum on the issue of under-representation in voting among these groups. Students could then work with these groups to increase participation, or alternatively, students could write press releases highlighting participation trends, speaking to their implications.

Step 5 - When students are ready, have them complete the *Graph the Vote* Handout independently. Use data with current population to predict election outcome. Use a calculator when necessary and make sure to check if work seems reasonable.

**TEACHER NOTE** Be sure to discuss the accuracy and precision of the actual vote may be different from the results predicted with historical data.

**Assessment/Evidence** (*based on outcome)*
*Graph the Vote* Worksheet
Teacher Observation and Anecdotal Notes

**Teacher Reflection/Lesson Evaluation**
*Not yet completed.*

**Next Steps**

- Graph election data from Eastern states, neighboring states, counties in Ohio, or different parts of Ohio.
- Have the student pick a few states from the last election and calculate what percentage of change in votes would be required to change the outcome.
- Ask the student to graph election results based on demographics (e.g., age group, sex, race, religious preference).
- Have the student create several different graphs and discuss how easy they are to interpret.
- Provide the data needed to repeat this activity at other levels.
- Have the student search for election data using the Internet (e.g., ohiospirit.org).
- Register to vote online at www.justvote.org
- Students can practice graphing and understanding voting rates at the Voter Turnout Learning Objects.

**Technology Integration**
NOWs America Votes Overview http://www.pbs.org/now/politics/votestats.html
Voter Registration and Turnout Statistics http://www.census.gov/hhes/www/socdemo/voting/index.html

National Voter Turnout 1960-2008 http://www.infoplease.com/ipa/A0781453.html
Voter Turnout National Statistics 1960-2002 http://www.eac.gov/research/voter_registration_turnout_statistics_19602002.aspx
NOWs Voter Resource Map http://www.pbs.org/now/politics/votemap.html
U.S. Census Bureau Voting and Registration http://www.census.gov/hhes/www/socdemo/voting/index.html
Voting Political Cartoon http://the_decker.tripod.com/images/040201.htm
Voting and Registration in the Election of November 2008 http://www.census.gov/prod/2010pubs/p20-562.pdf

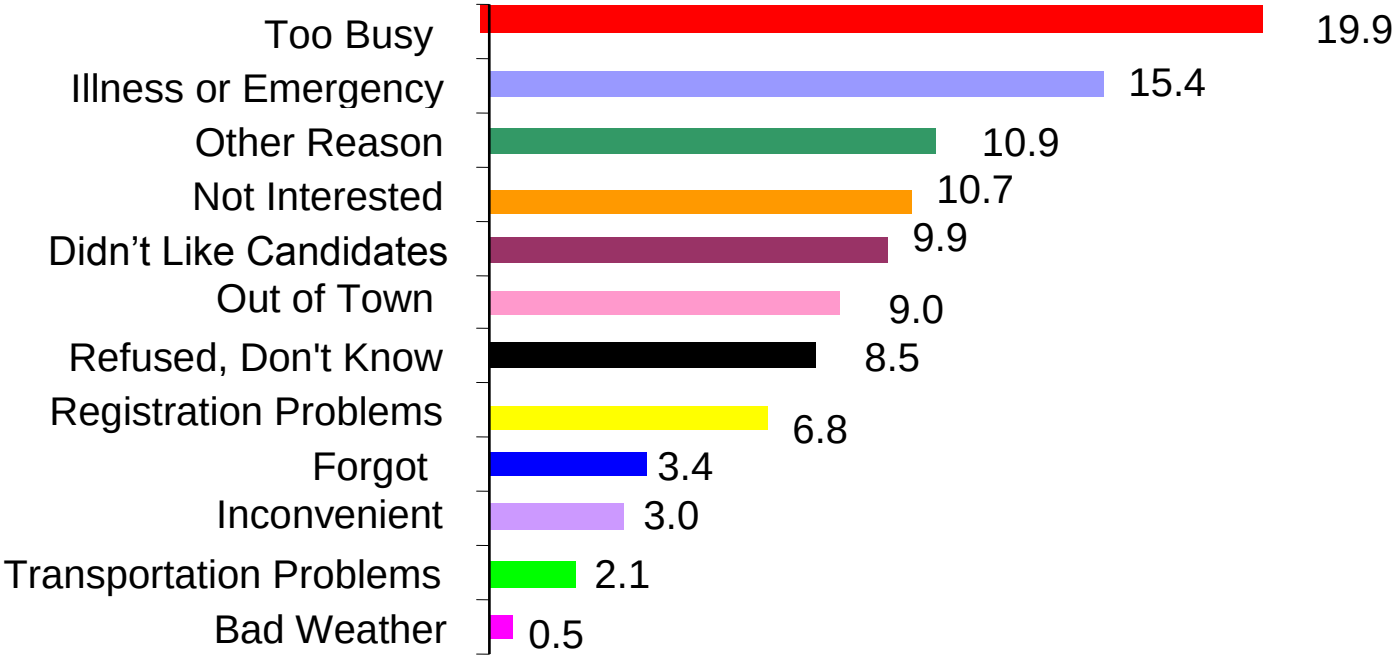
**Purposeful/Transparent**
With the upcoming election, students are wondering why people don't vote and the teacher finds a graph to spark their interest. Students know that graphs are used extensively on the GED test and they want to be prepared to read and understand the data in various kinds of graphs.

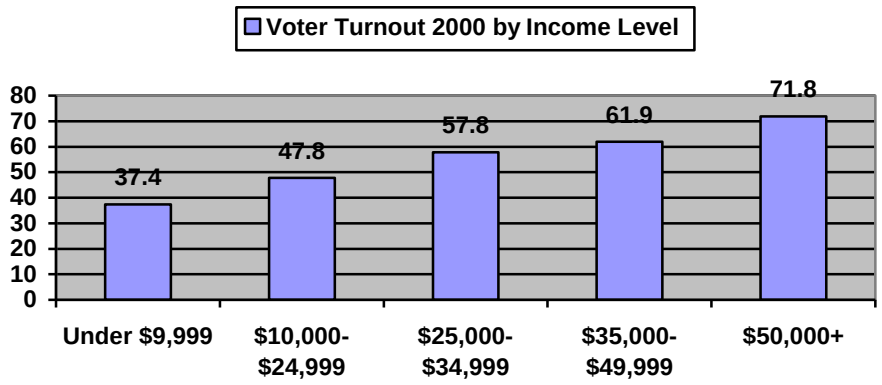
**Contextual**
Graphs are used to represent information about the candidates in the upcoming Presidential election and students want to make informed decisions. This particular class has been advocating with friends and family to make sure everyone votes in this election.

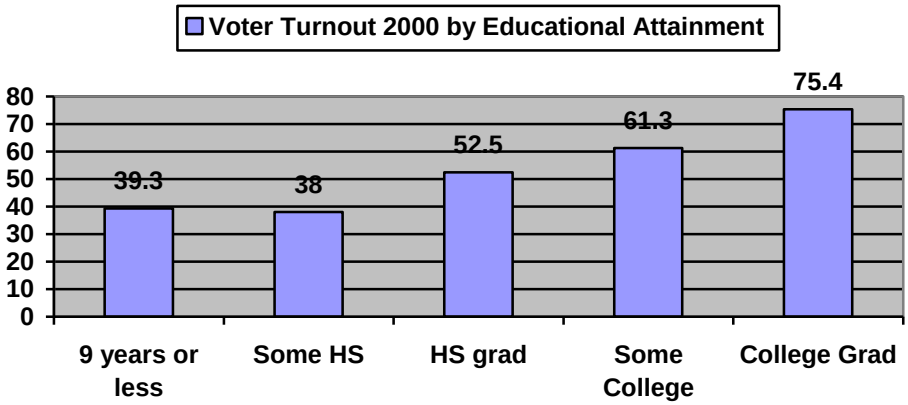
**Building Expertise**
After practice, students determine when they are ready to complete their assignment independently. They have developed skills in determining meaning from graphic information and can construct graphs when given data.

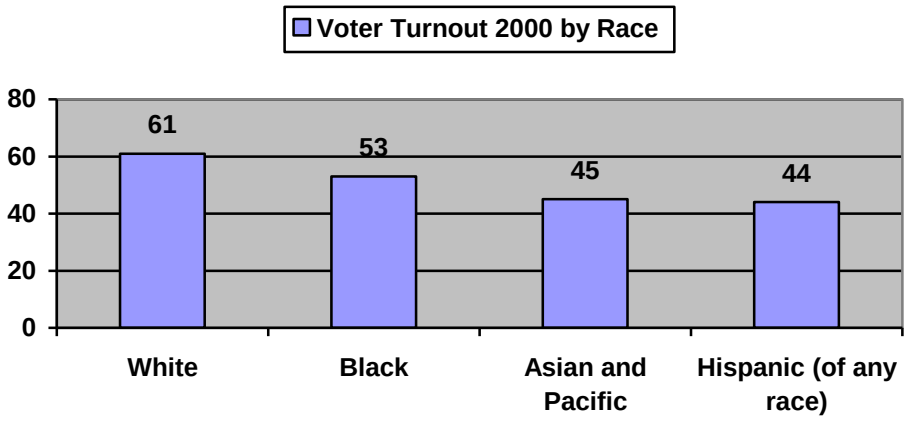
## Reasons Given for Not Voting: 2004

(Percent of registered voters who didn't vote)






**Voter Turnout 2000 Charts**

# Ohio General Elections 1978-2006 Data Sheet

| Election Year | Registered Voters | Electors Voting | Percent Voting |
|---|---|---|---|
| 1978 | 5,181,910 | 3,017,700 | 58.24% |
| 1979 | 5,402,722 | 2,964,924 | 54.88% |
| 1980 | 5,962,864 | 4,378,937 | 73.88% |
| 1981 | 5,640,544 | 2,906,824 | 51.53% |
| 1982 | 5,694,775 | 3,551,995 | 62.37% |
| 1983 | 5,828,004 | 3,499,354 | 60.04% |
| 1984 | 6,332,454 | 4,664,223 | 73.66% |
| 1985 | 6,082,980 | 2,564,623 | 42.16% |
| 1986 | 5,996,430 | 3,261,870 | 54.40% |
| 1987 | 5,822,189 | 2,759,276 | 47.39% |
| 1988 | 6,275,638 | 4,505,284 | 71.79% |
| 1989 | 5,830,757 | 2,840,926 | 48.7% |
| 1990 | 5,912,746 | 3,620,469 | 61.23% |
| 1991 | 5,820,133 | 2,983,565 | 51.26% |
| 1992 | 6,536,936 | 5,043,094 | 77.14% |
| 1993 | 6,204,103 | 2,815,567 | 45.38% |
| 1994 | 6,231,724 | 3,570,391 | 57.29% |
| 1995 | 6,416,133 | 2,774,300 | 43.35% |
| 1996 | 6,879,687 | 4,638,108 | 67.41% |
| 1997 | 7,022,866 | 3,128,446 | 44.54% |
| 1998 | 7,096,423 | 3,534,782 | 49.81% |
| 1999 | 7,146,985 | 2,467,736 | 34.53% |
| 2000 | 7,531,555 | 4,800,009 | 63.73% |
| 2001 | 7,153,796 | 2,574,915 | 35.99% |
| 2002 | 7,113,826 | 3,356,258 | 47.81% |
| 2003 | 7,138,932 | 2,614,354 | 36.62% |
| 2004 | 7,972,826 | 5,722,443 | 71.77% |
| 2005 | 7,684,320 | 3,093,968 | 40.26% |
| 2006 | 7,860,052 | 4,184,072 | 53.23% |

**Additional Resource**
Ohio Historical Election Data http://www.sos.state.oh.us/SOS/elections/electResultsMain.aspx

# GRAPH THE VOTE

Use the election data you have collected to answer the following.

1. Find the 2004 presidential election results for Ohio by political party.

2. Use the election data to construct a graph (bar, circle, line, or pictograph).

3. Analyze the graph and data to answer the following questions and make predictions.

    a) How many more votes did the Democratic candidate need to win Ohio?

    b) What percentage of the total votes would this be?

    c) If the state kept the same percentage of voters as in the 2004 election for each candidate, what would be the number of voters for each candidate using the current Ohio population?

    d) If 2% of the Green Party voters from the 2004 election switched to the Democratic candidate, how would that have affected the election in Ohio?


http://www.wisconline.org

**Line Graphs**
**Author:** Barbara Laedtke
**School:** Fox Valley Technical College **Date:** 9/16/2002
**Description:** Learners read an explanation of line graphs and demonstrate their knowledge of the parts of a graph in an interactive exercise.
http://www.wisc-online.com/objects/index_tj.asp?objID=SOC302

**Interpreting Line Graphs**
**Author:** Barbara Laedtke
**School:** Fox Valley Technical College **Date:** 4/19/2002
**Description:** Students analyze line graphs and answer questions about the information shown.
http://www.wisc-online.com/objects/index_tj.asp?objID=SOC702

**Reading and Interpreting Bar Graphs**
**Author:** Francine Nettesheim
**School:** Northcentral Technical College **Date:** 7/10/2002
**Description:** Students identify the various parts of a bar graph, read and interpret data presented in a bar graph, and calculate the data to solve various application problems.
http://www.wisc-online.com/objects/index_tj.asp?objID=ABM3802

**Understanding Voting Rates**
**Author:** Barbara Laedtke
**School:** Fox Valley Technical College **Date:** 8/4/2005
**Description:** Students examine how voting rates are determined and how those rates change depending upon the population being studied. A brief quiz completes the activity.
http://www.wisc-online.com/objects/index_tj.asp?objID=SOC6005

**Voter Turnout Learning Objects**