

# STEM Education in Washington

## Summary Analysis From a Statewide Survey of Washington Voters

Presented to:  
Washington STEM  
February 2015



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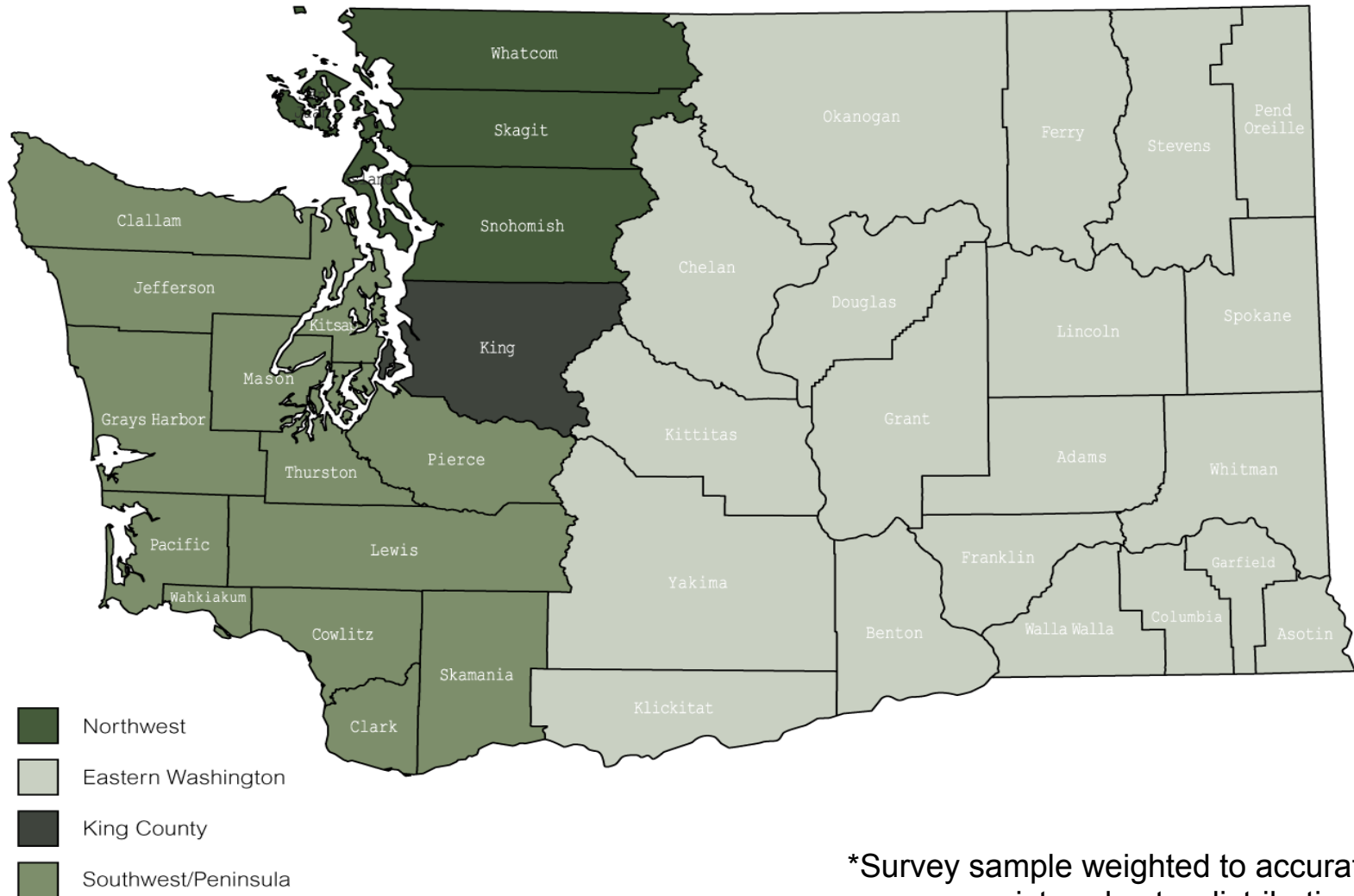
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# Research Methodology



- **Strategies 360 conducted a telephone survey of registered voters in Washington.**
  - 647 voters completed a telephone survey administered by live interviewers
  - Margin of error is  $\pm 4.0\%$  at the 95% confidence level
  - Margin of error is higher for subgroups and questions with a split sample
  - Respondents were reached on landline and mobile phones
  - Interviews were completed January 31 – February 4, 2015

# Regional Definitions



\*Survey sample weighted to accurately reflect registered voter distribution by region

# Executive Summary



- Awareness of “STEM” has increased dramatically over the past two years; half of Washington voters now recognize the term.
- Additionally, there is near universal agreement that STEM skills enhance opportunity and Washington’s economic vitality.
- Although voters value providing high quality STEM education, there is room to raise awareness of the STEM worker shortage and deficiencies such as achievement gaps, lack of STEM supplies, and insufficient teacher training.
- Despite the gaps in awareness, STEM-focused education initiatives—including Washington STEM’s 2015 legislative priorities—enjoy broad and deep support among voters statewide.

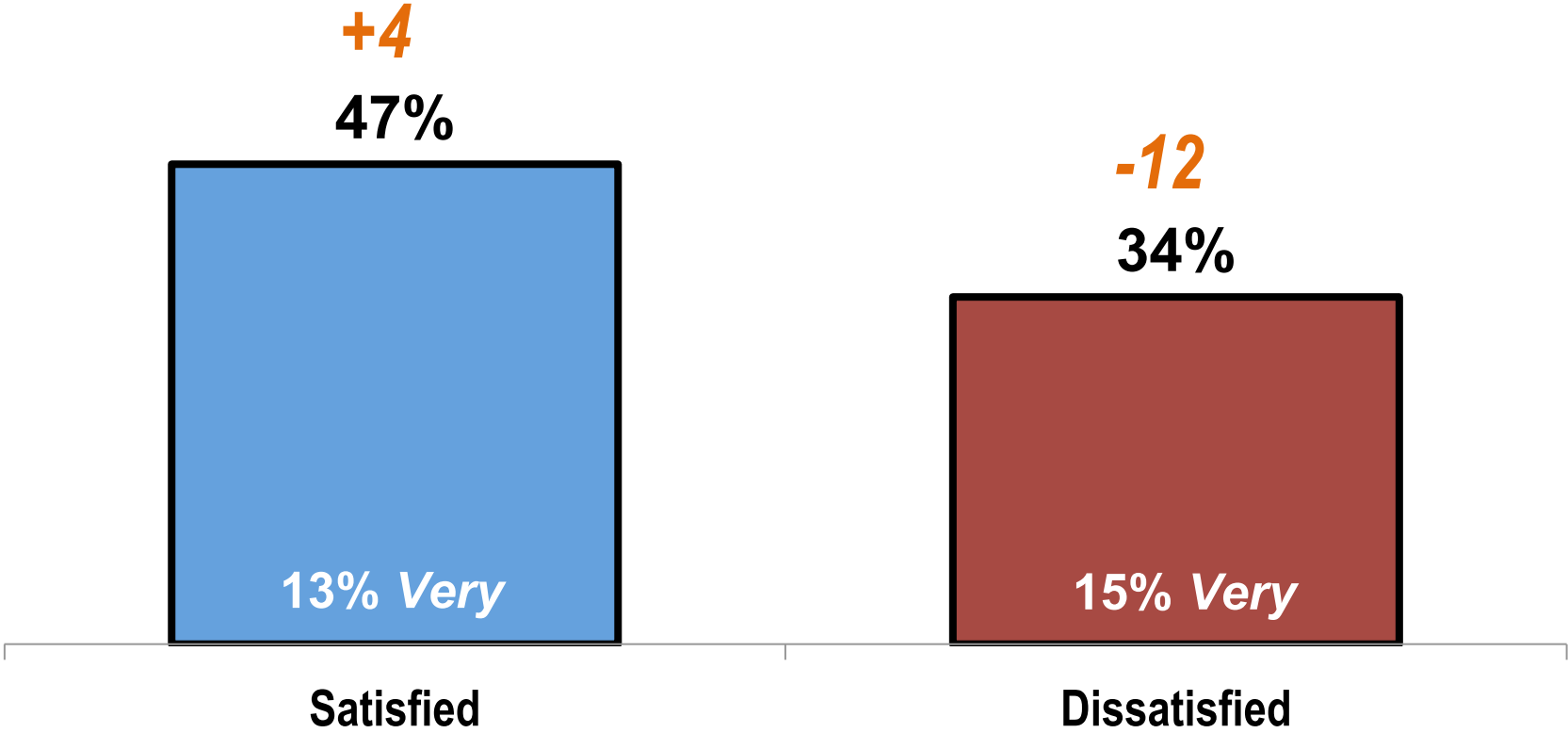
# PERCEPTIONS OF PUBLIC EDUCATION IN WASHINGTON



Positive views of Washington's public schools are on the rise; dissatisfaction has dropped by 12 points since January 2013 and satisfaction has also increased slightly.



**Are you *satisfied* or *dissatisfied* with the job that Washington's public schools are doing at preparing students for good jobs and opportunities in the state?**

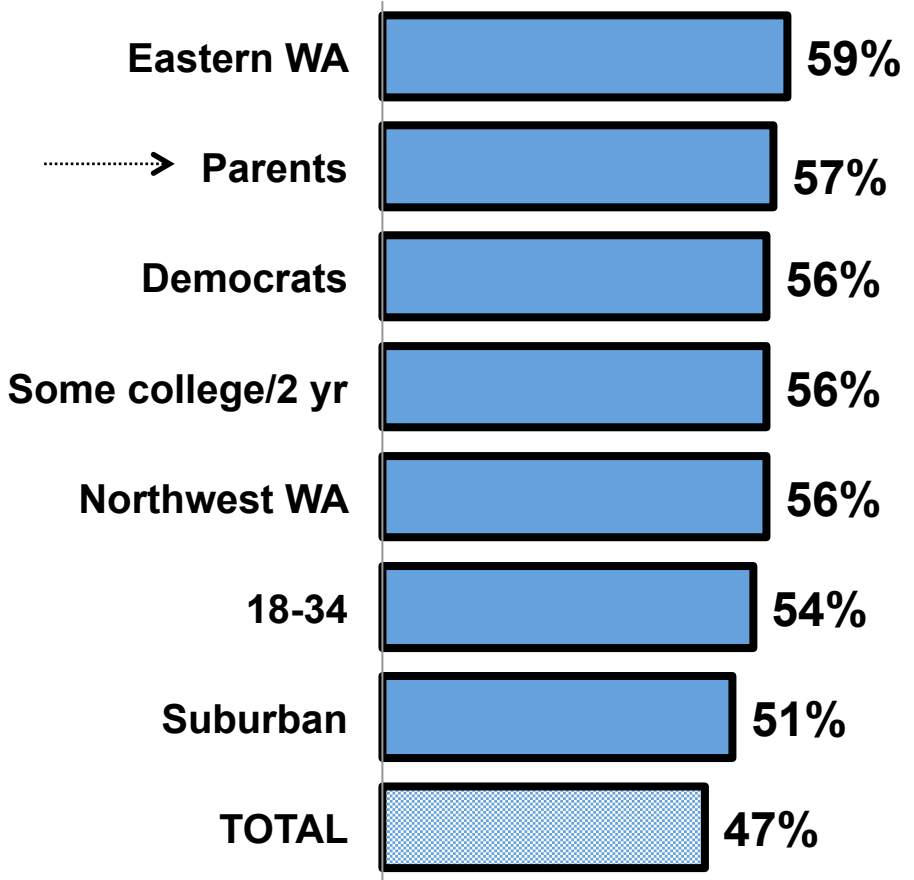


*\*Percentage change from polling conducted for WA STEM in January 2013.*

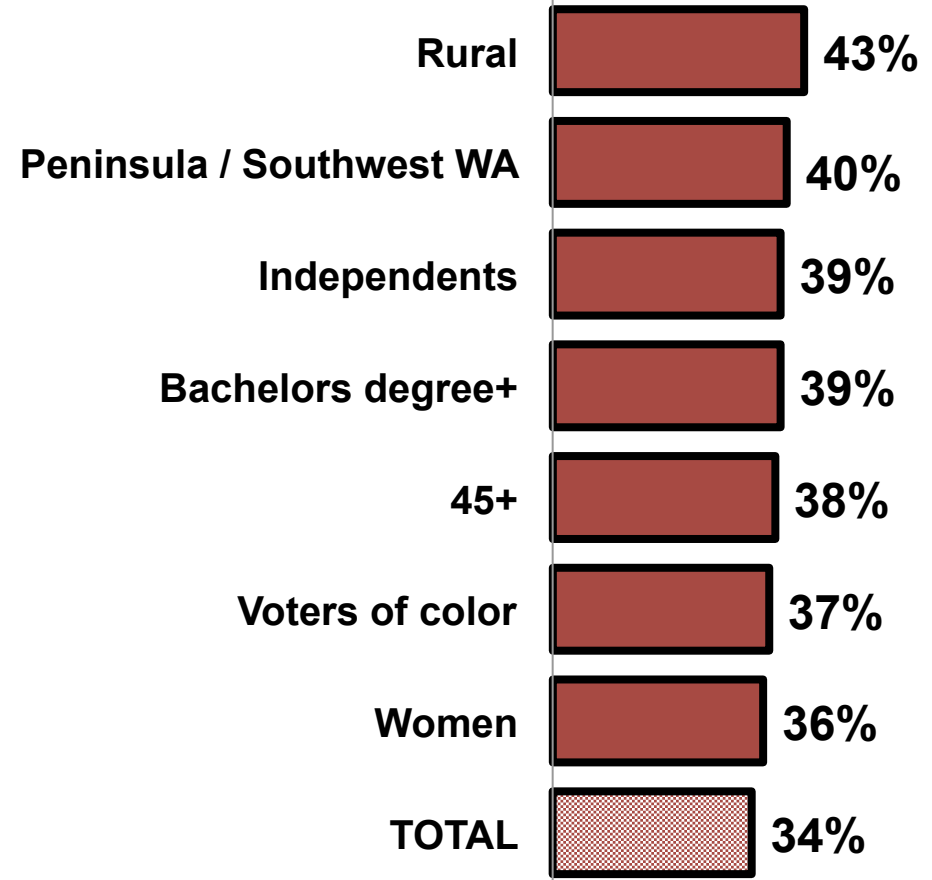
Opinions vary according to region, partisanship, education, age, ethnicity, and gender. Notably, a majority of Washington public school parents are satisfied.



**Most likely to say “satisfied”**



**Most likely to say “dissatisfied”**

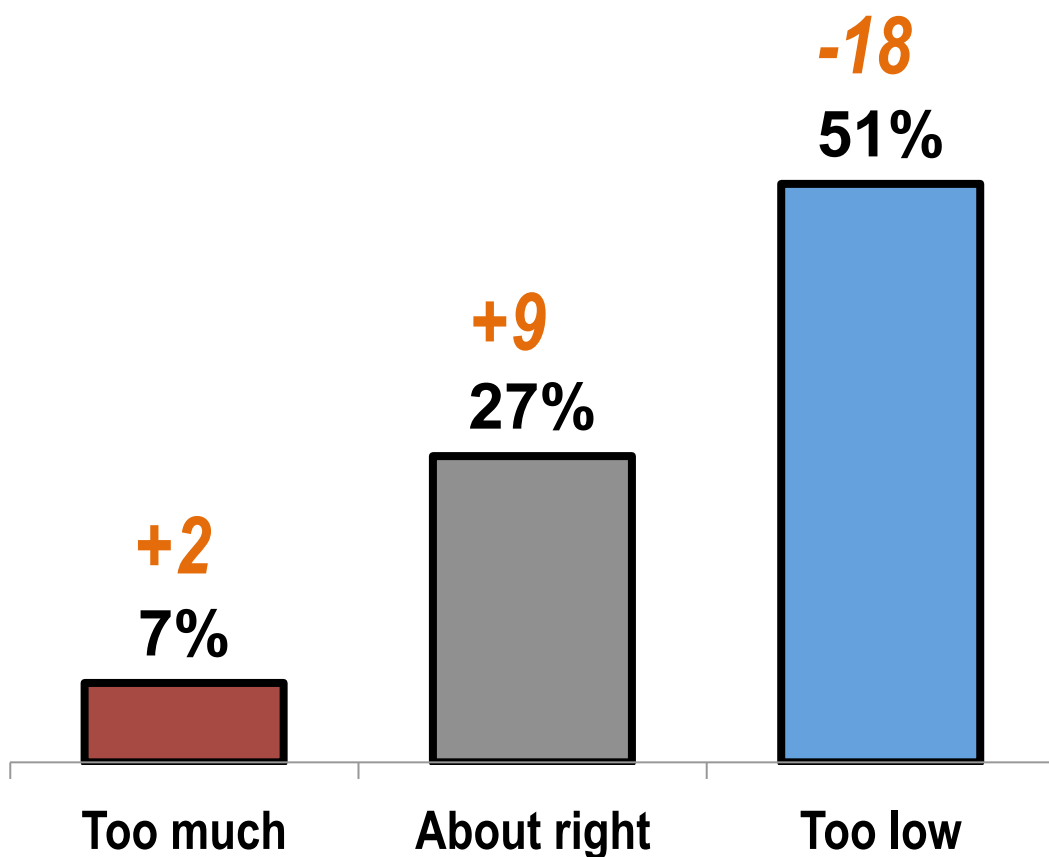




Half of voters say expectations of students in math and science are “too low,” though this view is less prevalent than two years ago. Voters—especially outside of King County—are increasingly likely to say expectations are “about right.”



**When it comes to math and science, do schools these days expect *too much* of students, are expectations *about right*, or are expectations *too low*?**



| By Key Demographic     |          |
|------------------------|----------|
| Men                    | 5-24-57  |
| Women                  | 9-30-45  |
| Democrats              | 8-27-47  |
| Independents           | 7-27-54  |
| Republicans            | 5-27-57  |
| Parents                | 8-30-52  |
| King County            | 9-18-51  |
| Northwest WA           | 7-31-49  |
| Peninsula/Southwest WA | 6-30-52  |
| Eastern WA             | 7-32-51  |
| White                  | 6-26-52  |
| Voters of Color        | 11-30-47 |

*\*Percentage change from polling conducted in January 2013.*

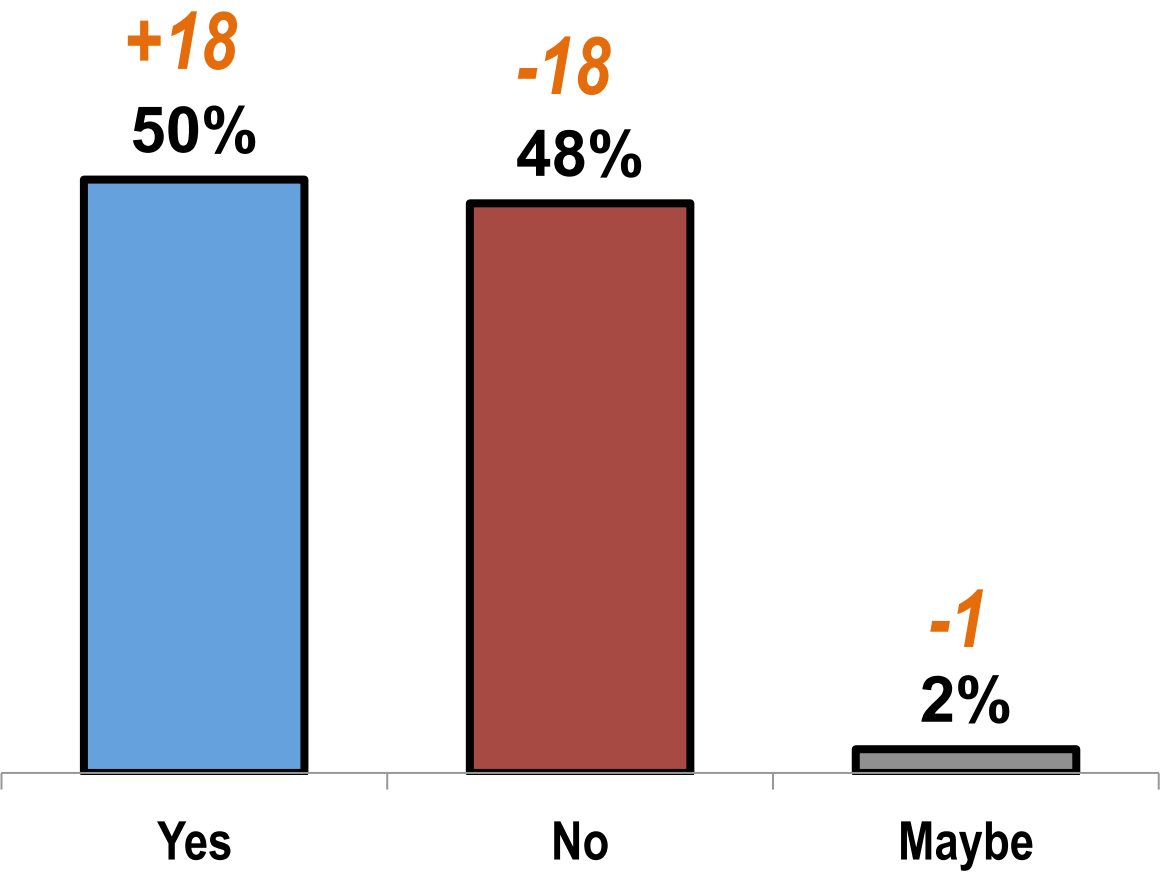
# ATTITUDES ABOUT STEM EDUCATION



Awareness of “STEM” has increased dramatically over the past two years; half of the electorate now recognizes the term. Awareness is higher in King County compared to other regions.



***Before today, had you ever heard of the abbreviation STEM?***



| <u>By Key Demographic</u> |       |
|---------------------------|-------|
| Men                       | 54-44 |
| Women                     | 46-52 |
| Democrats                 | 57-43 |
| Independents              | 48-49 |
| Republicans               | 49-49 |
| Parents                   | 55-43 |
| King County               | 60-39 |
| Northwest WA              | 43-51 |
| Peninsula/Southwest WA    | 43-55 |
| Eastern WA                | 52-47 |
| White                     | 50-48 |
| Voters of Color           | 50-48 |

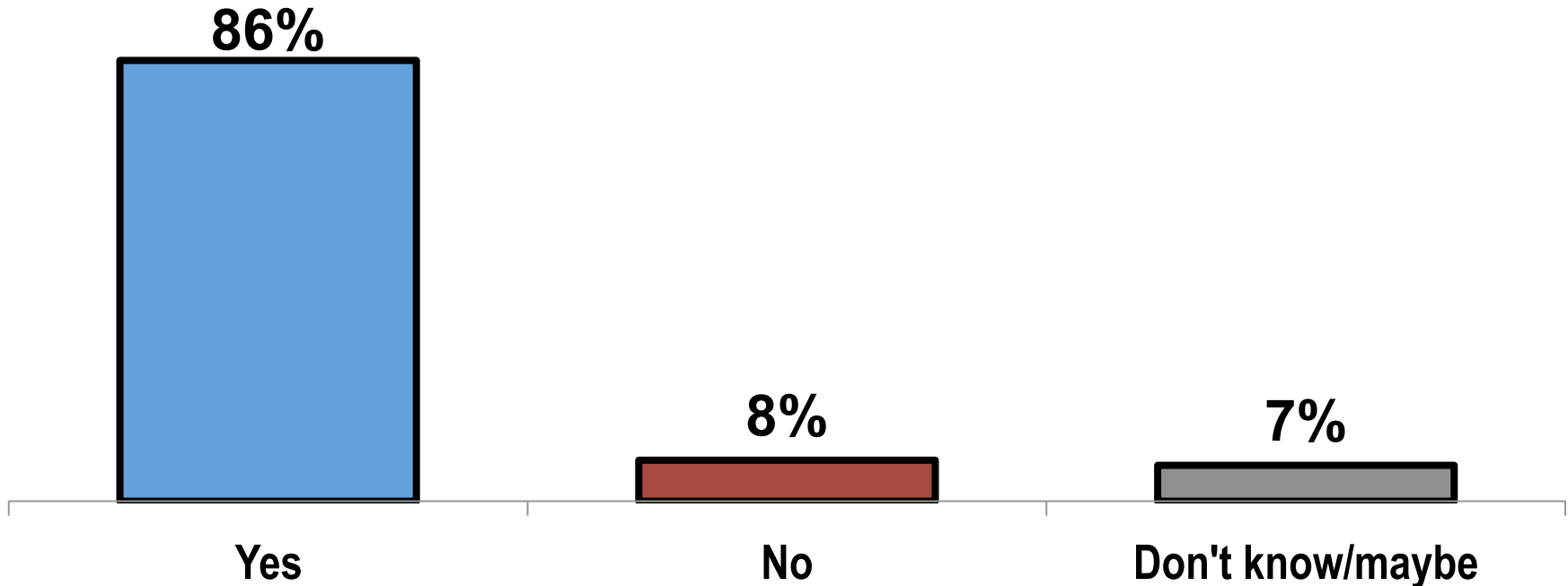
*\*Percentage change from polling conducted in January 2013.*

Voters express nearly universal agreement that strong STEM skills are needed as part of basic education and to succeed in the 21<sup>st</sup> century.



*As you may know, the state of Washington has a constitutional obligation to provide a basic education, which means students are given the opportunity to develop the knowledge and skills necessary to graduate with a meaningful high school diploma that prepares them for postsecondary education, gainful employment, and citizenship.*

*Do you think a high quality STEM education is needed to ensure students are given the knowledge and skills they need to succeed in the 21<sup>st</sup> century?*

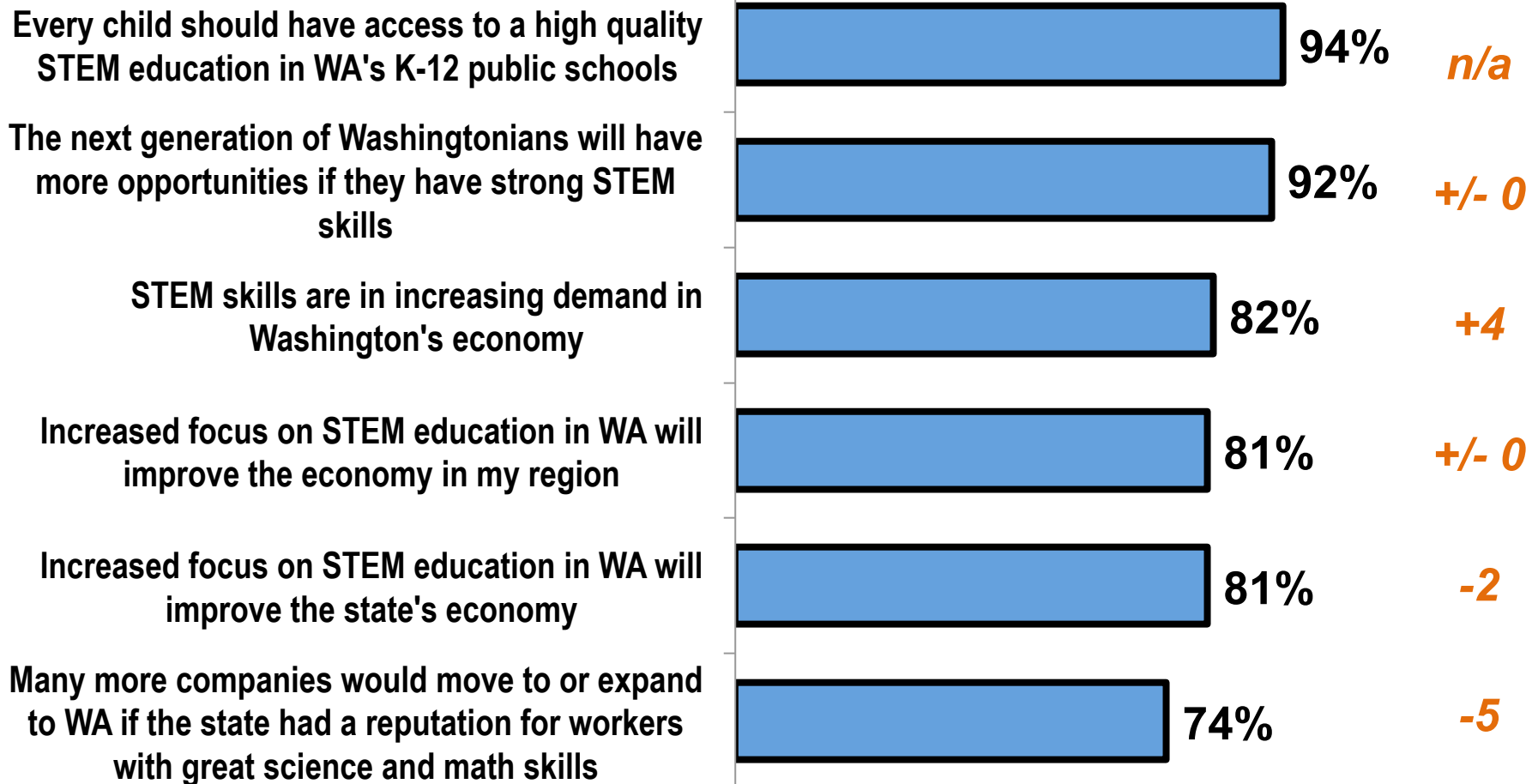


Overwhelming majorities of voters understand the importance of high quality STEM education in the K-12 system to provide opportunity to Washingtonians and improve the state's economy.



### STEM VALUES: TOP TIER

Ranked by % saying "agree"



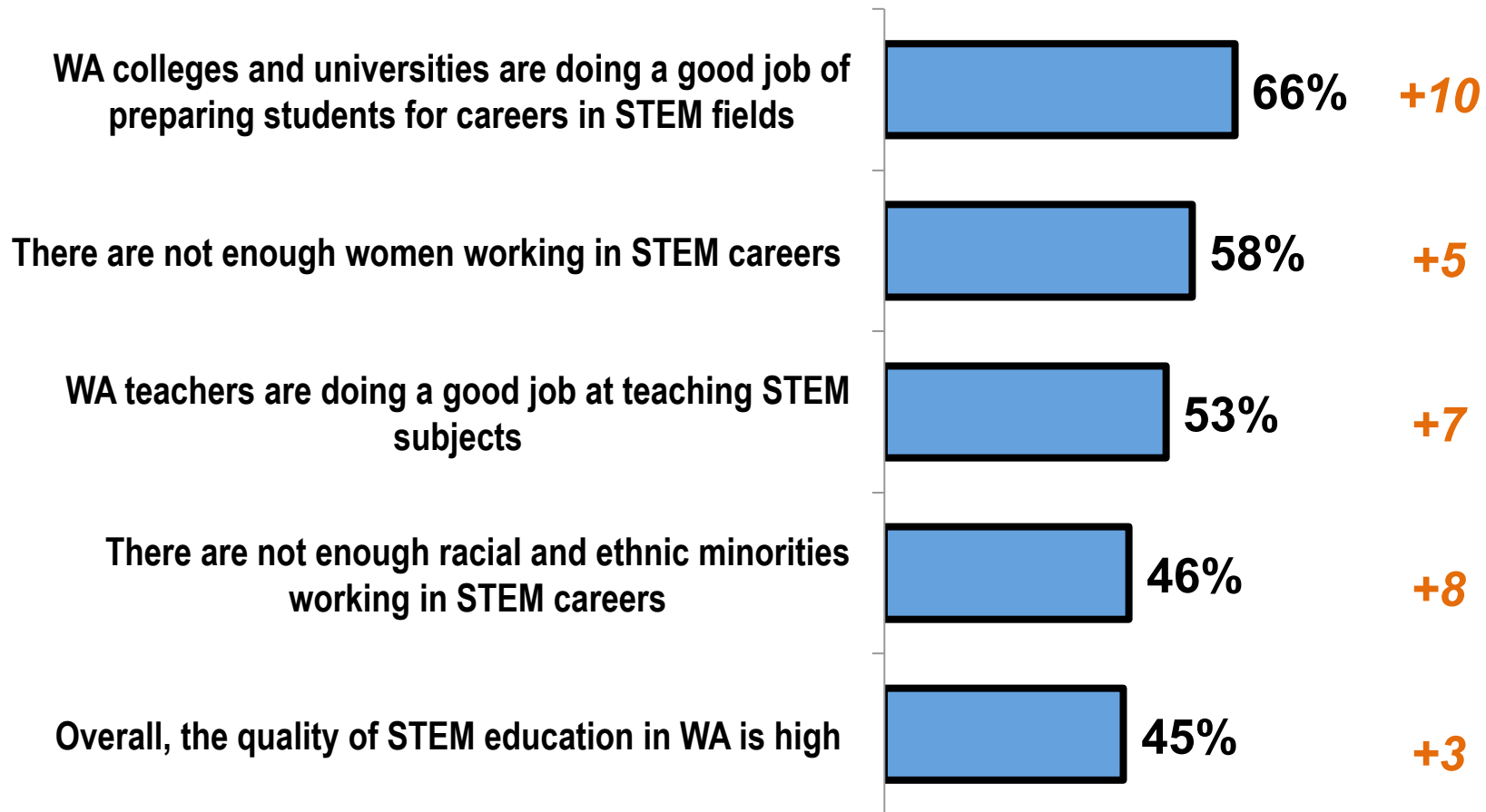
\*Percentage change from polling conducted in January 2013.

Though opinions are trending upwards, voters are less sure about achievement gaps and whether the quality of STEM education offered in Washington is high.



**STEM VALUES: 2<sup>nd</sup> TIER**

*Ranked by % saying "agree"*

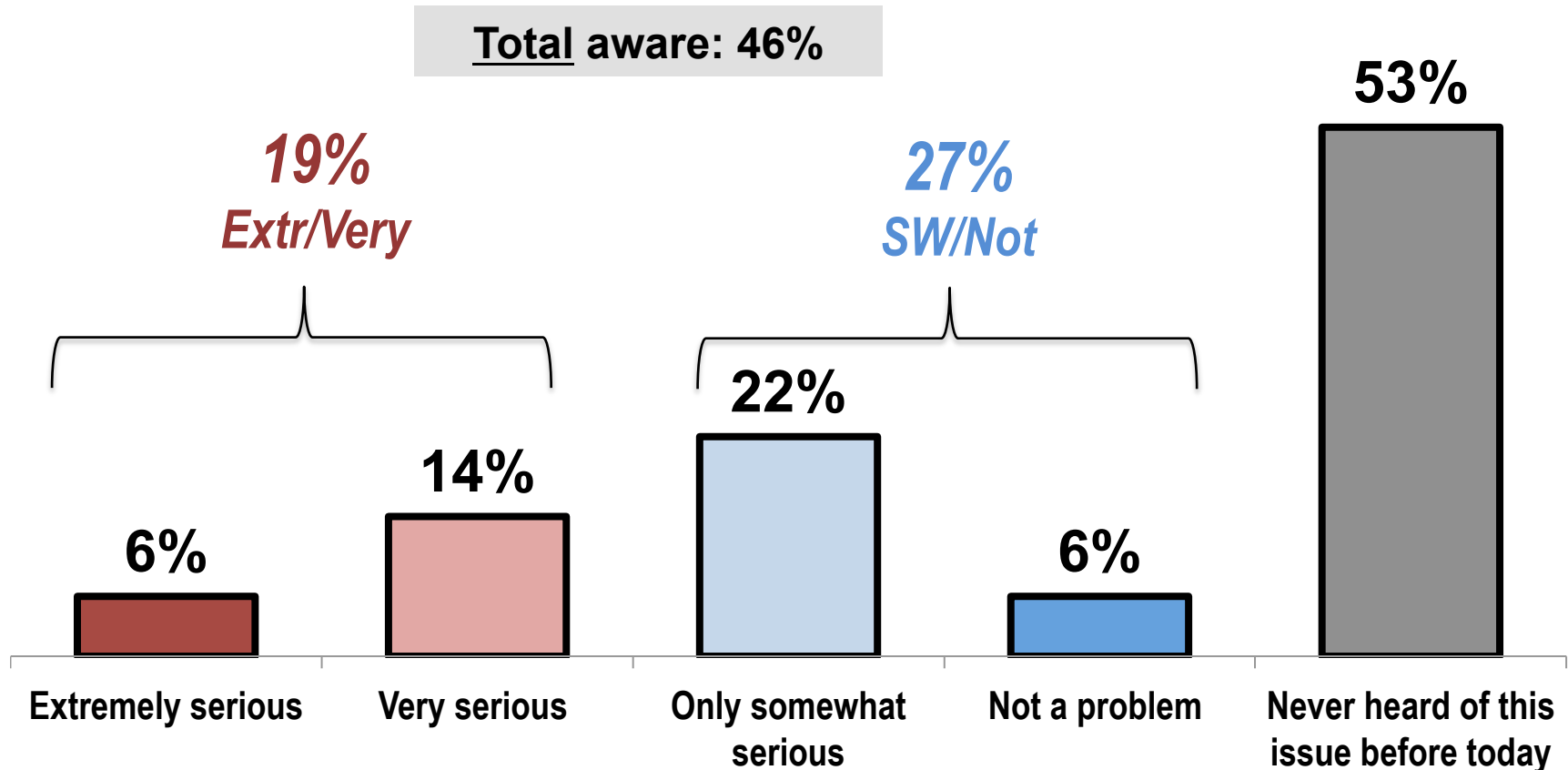


*\*Percentage change from polling conducted in January 2013.*

# A majority of voters continue to be unaware of the STEM worker shortage in Washington.



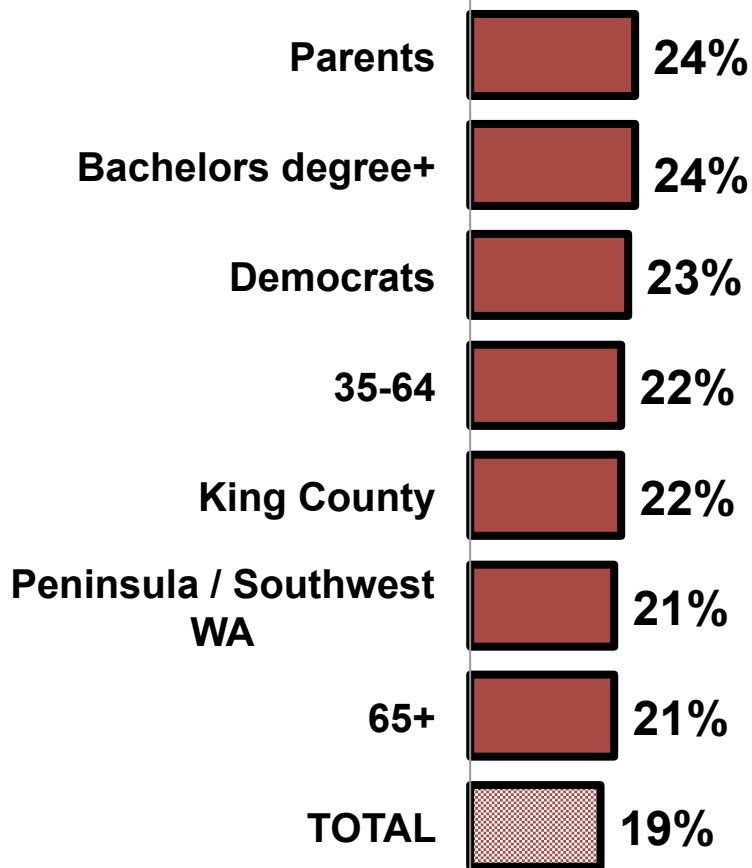
*Some say that Washington's economy is being hurt because there aren't enough workers with strong STEM skills to fill the jobs that are being created by fast growing STEM businesses and industries. Would you say this is an **extremely serious problem**, a **very serious problem**, **only somewhat serious**, or is it **not a problem**?*



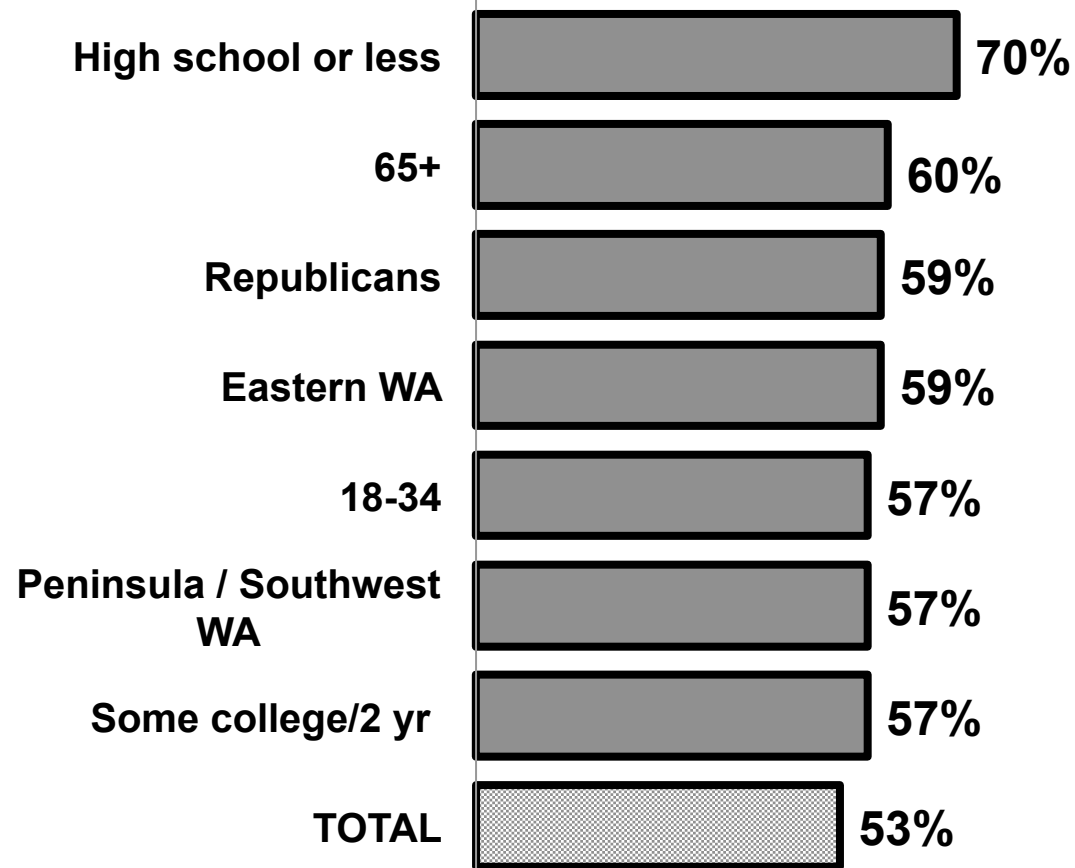
Awareness and alarm concerning the STEM worker shortage is distinguished by a voter's status as a parent, educational attainment, partisanship, age, and region.



**Most likely to say “serious problem”**



**Most likely to say “haven't heard”**





# IMPROVING STEM EDUCATION



# Voters were read this information:

*I'm going to read a short list of ideas that have been suggested to address the number of jobs that are going unfilled in our state due to a shortage of workers with strong math and science skills.*

*I'd like you to tell me if you think each one would be a good idea or a bad idea for addressing the issue.*

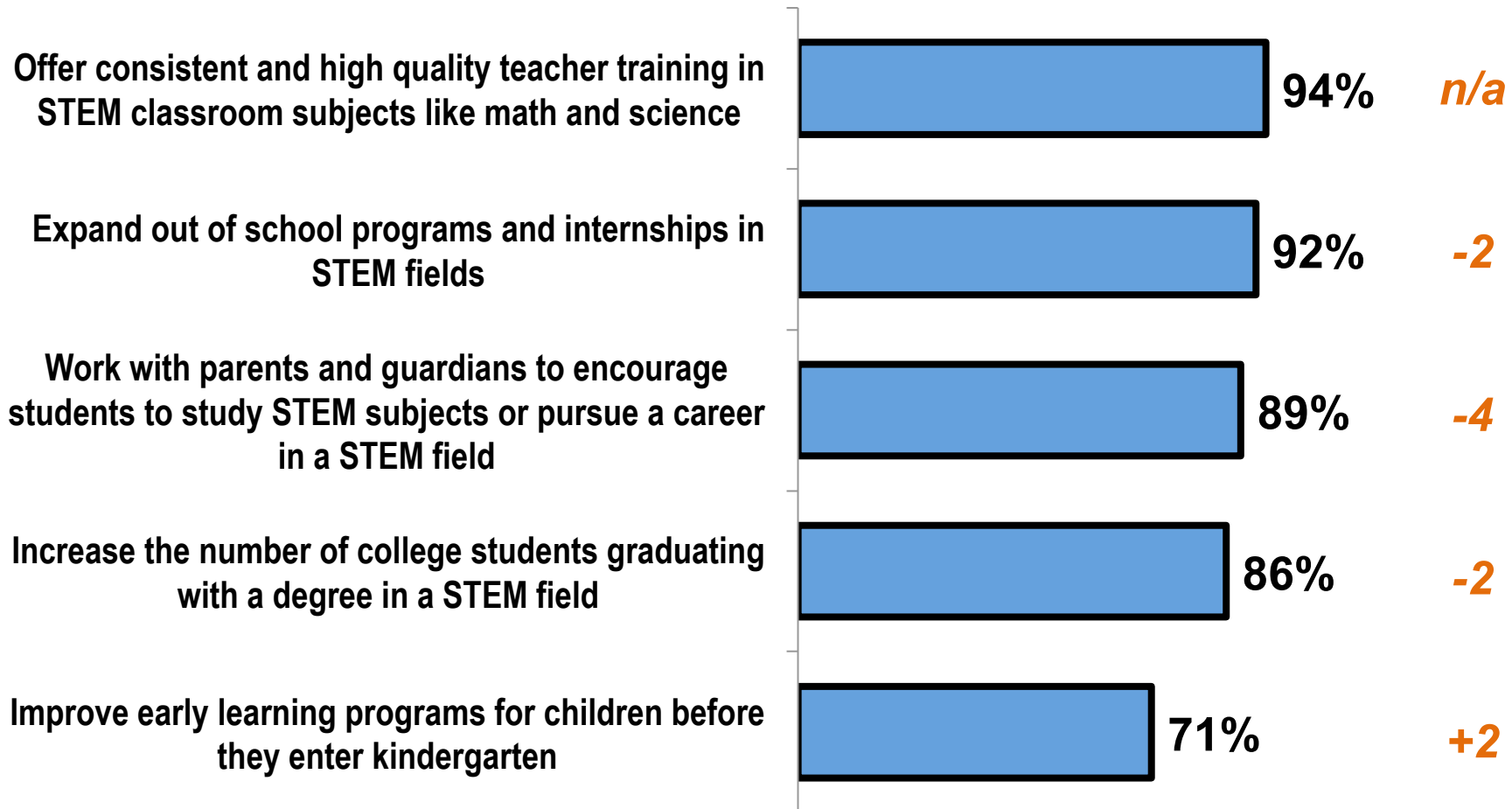


Despite gaps in awareness, proposals to address the shortage of STEM workers enjoy broad support—especially improving teacher training and expanding extracurricular learning opportunities for students.



## STEM PROPOSALS

Ranked by % saying “good idea”



*\*Percentage change from polling conducted in January 2013.*

Parents and voters of color are especially likely to *strongly* support these STEM proposals.



## STEM Proposals by Key Demographic

*% Very Good Idea*

|   | <b>TOTAL</b> | <b>Men</b> | <b>Women</b> | <b>Parents</b> | <b>White</b> | <b>Voters of Color</b> |
|---|--------------|------------|--------------|----------------|--------------|------------------------|
| <b>Teacher training</b>                     | <b>57%</b>   | 56%        | 58%          | 62%            | 57%          | <b>66%</b>             |
| <b>Expand out of school programs</b>        | <b>53%</b>   | 51%        | 56%          | <b>58%</b>     | 52%          | <b>64%</b>             |
| <b>Work with parents/guardians</b>          | <b>46%</b>   | 45%        | 47%          | 47%            | 47%          | 47%                    |
| <b>Increase graduation with STEM degree</b> | <b>41%</b>   | 38%        | 44%          | <b>46%</b>     | 40%          | <b>51%</b>             |
| <b>Improve early learning</b>               | <b>38%</b>   | 35%        | 41%          | <b>42%</b>     | 38%          | 40%                    |

Democrats represent a solid base of support for these STEM proposals.



## STEM Proposals by Key Demographic

*% Very Good Idea*

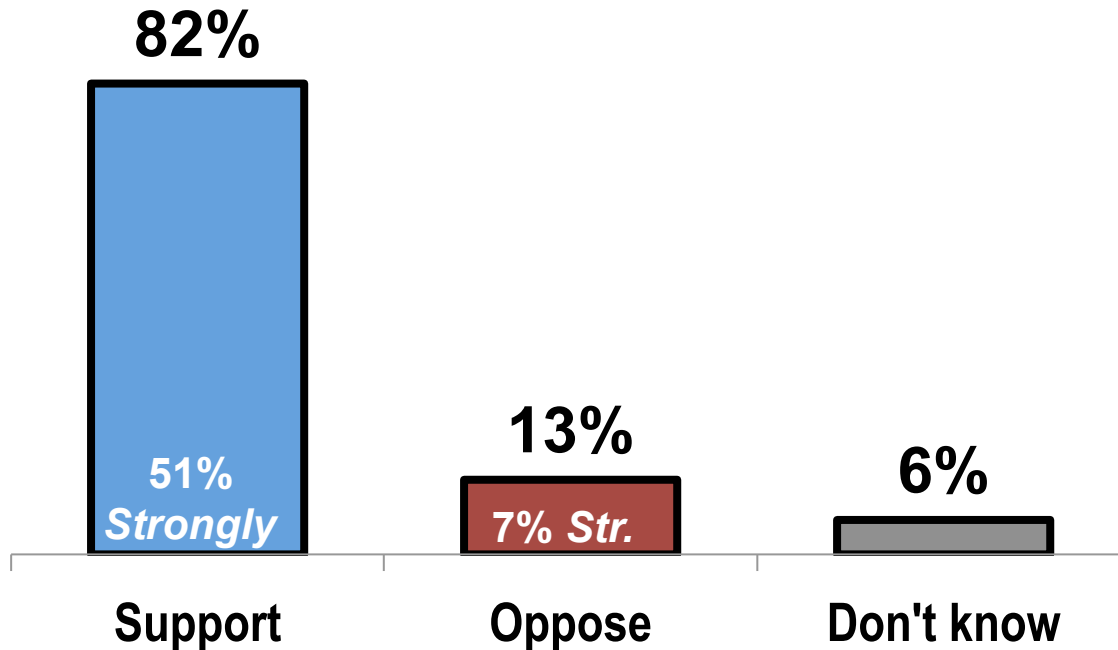
|                                      | <i>TOTAL</i> | Dems       | Indy | GOP | King | NW         | SW/<br>Penin. | East       |
|--------------------------------------|--------------|------------|------|-----|------|------------|---------------|------------|
| Teacher training                     | <b>57%</b>   | <b>67%</b> | 51%  | 52% | 57%  | 53%        | 58%           | 58%        |
| Expand out of school programs        | <b>53%</b>   | <b>59%</b> | 54%  | 48% | 52%  | 52%        | 53%           | <b>57%</b> |
| Work with parents/guardians          | <b>46%</b>   | 46%        | 46%  | 46% | 48%  | <b>52%</b> | 45%           | 39%        |
| Increase graduation with STEM degree | <b>41%</b>   | <b>46%</b> | 41%  | 37% | 40%  | <b>51%</b> | 40%           | 36%        |
| Improve early learning               | <b>38%</b>   | <b>50%</b> | 33%  | 31% | 37%  | 39%        | 41%           | 33%        |

Support is high for better funding STEM facilities, technology, and classroom supplies; across key demographics, at least 71% support these STEM capital investments.



*In order to increase the number of workers with STEM skills, schools are improving and expanding their instruction in STEM subjects. However, many schools lack basic supplies and technology to support STEM classes.*

*Would you **support** or **oppose** funding specific improvements to STEM facilities, technology, and classroom supplies in schools that can demonstrate a need?*



| <u>By Key Demographic</u> |       |
|---------------------------|-------|
| Men                       | 82-12 |
| Women                     | 82-13 |
| Democrats                 | 90-6  |
| Independents              | 71-20 |
| Republicans               | 82-14 |
| Parents                   | 86-10 |
| King County               | 77-16 |
| Northwest WA              | 85-12 |
| Peninsula/Southwest WA    | 82-11 |
| Eastern WA                | 85-11 |
| White                     | 83-11 |
| Voters of Color           | 84-11 |

# Next, voters were read this information:

*Computer science is one of Washington's highest paying and highest demand skill sets across the state. However, Washington's education system does not provide enough students with computer science training and degrees to keep up with the available jobs.*

*Here are a few ideas that have been proposed to address this issue. After I read each one, please tell me if you support or oppose each idea.*



Proposals to address the computer science skills gap are universally popular. Again, improving teacher training draws the highest level of support.



## COMPUTER SCIENCE PROPOSALS

Ranked by % saying “support”

Help more K-12 teachers teach computer science by giving them training and a computer science curriculum

58% Strongly Support

91%

Expand the number of K-12 public schools in Washington that offer computer science classes

58%

90%

Increase the capacity of WA State colleges and universities to graduate more WA students with computer science degrees

49%

85%



Similar to responses for the STEM worker proposals, intensity of support for these computer science proposals is highest among parents and voters of color.



## Computer Science Proposals by Key Demographic

*% Strong Support*

|   | <i>TOTAL</i> | Men | Women | Parents    | White | Voters of Color |
|---|--------------|-----|-------|------------|-------|-----------------|
| Teacher training and computer science curriculum        | <b>58%</b>   | 56% | 59%   | <b>63%</b> | 58%   | <b>63%</b>      |
| Expand number of schools offering computer science      | <b>58%</b>   | 58% | 58%   | <b>62%</b> | 59%   | <b>65%</b>      |
| Graduate more WA students with computer science degrees | <b>49%</b>   | 49% | 49%   | <b>53%</b> | 50%   | <b>56%</b>      |

Support remains high among Democrats, although majorities of Independents and Republicans also *strongly* support improving computer science education.




## Computer Science Proposals by Key Demographic

*% Strong Support*

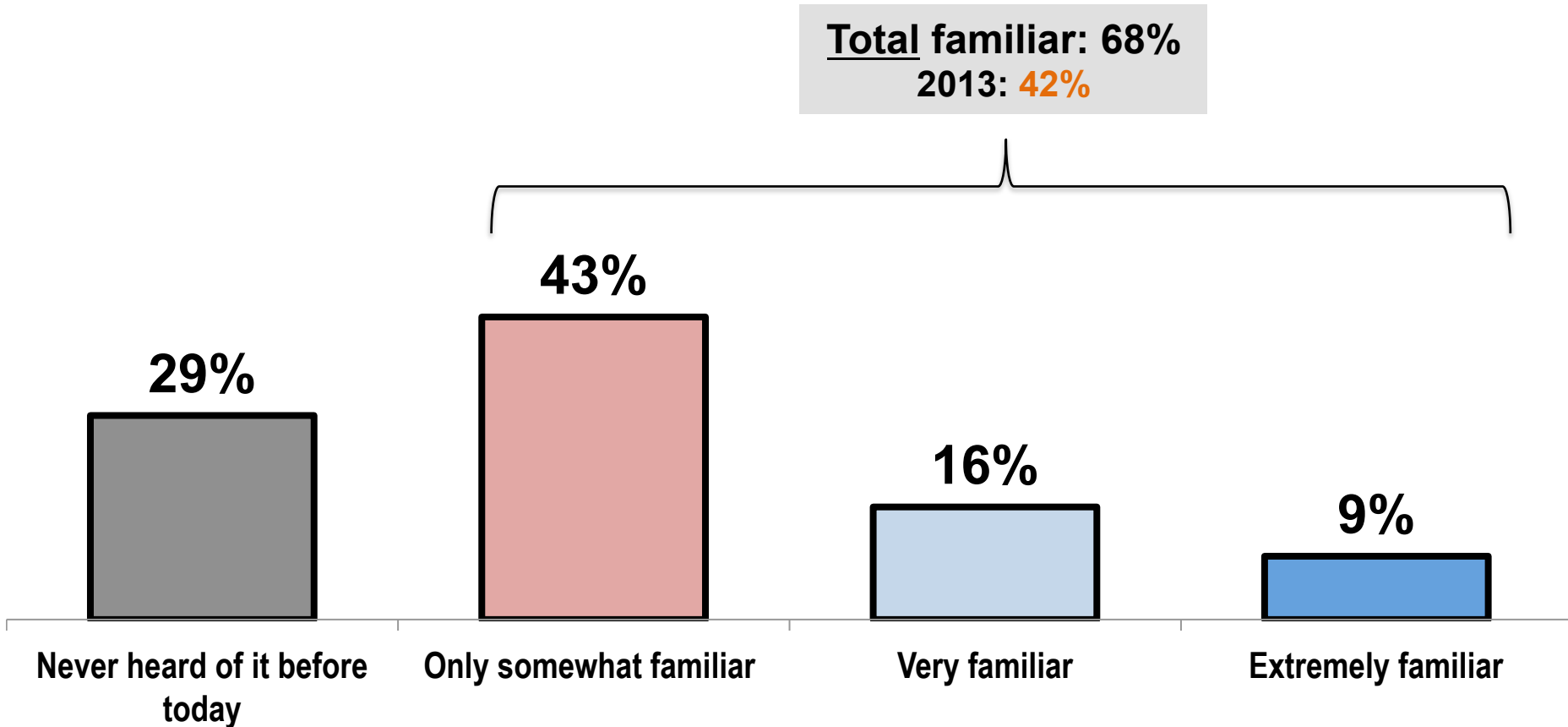
|   | <i>TOTAL</i> | Dems       | Indy | GOP | King | NW         | SW/<br>Penin. | East |
|---|--------------|------------|------|-----|------|------------|---------------|------|
| Teacher training and computer science curriculum        | <b>58%</b>   | <b>66%</b> | 52%  | 57% | 58%  | 57%        | 61%           | 52%  |
| Expand number of schools offering computer science      | <b>58%</b>   | <b>66%</b> | 55%  | 55% | 56%  | 57%        | 61%           | 58%  |
| Graduate more WA students with computer science degrees | <b>49%</b>   | <b>57%</b> | 45%  | 49% | 47%  | <b>55%</b> | 49%           | 47%  |

# MATH AND SCIENCE STANDARDS



Common Core's heightened visibility in recent years is plainly evident: nearly 7 in 10 Washington voters are now familiar with the standards, compared to less than half two years ago. 

*You may have heard of something called Common Core State Standards. Before today, how familiar were you with Common Core State Standards, also sometimes referred to as simply Common Core?*



# Next, voters were read this information:

*I'd like to give you some information about Common Core education standards.*

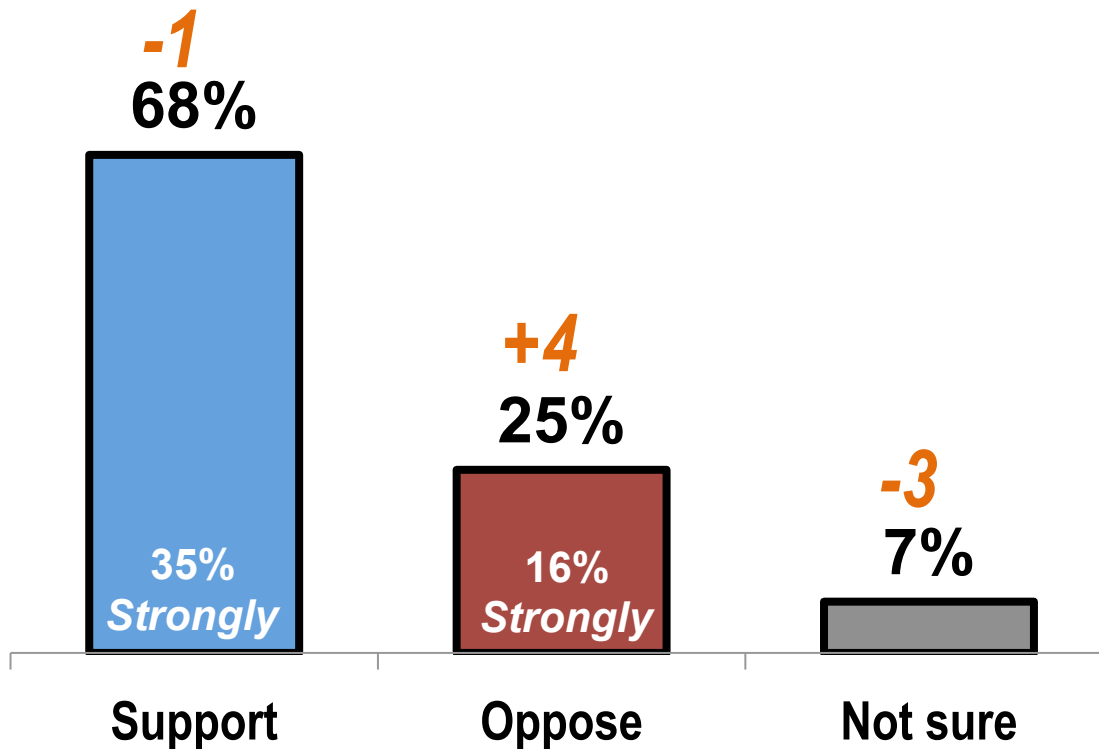
*They are a set of expectations for what every student should know and be able to do in math and English-language arts at each grade level. The standards were developed to help all students, regardless of location or background, succeed in college, work, and life by acquiring a strong, shared foundation in math and English.*



After further explaining the new K-12 standards and identifying them as Common Core, support surpasses two thirds, with just a quarter of respondents opposing.



*Based on what you know now, do you generally **support** or **oppose** the use of Common Core education standards within Washington K-12 public schools?*



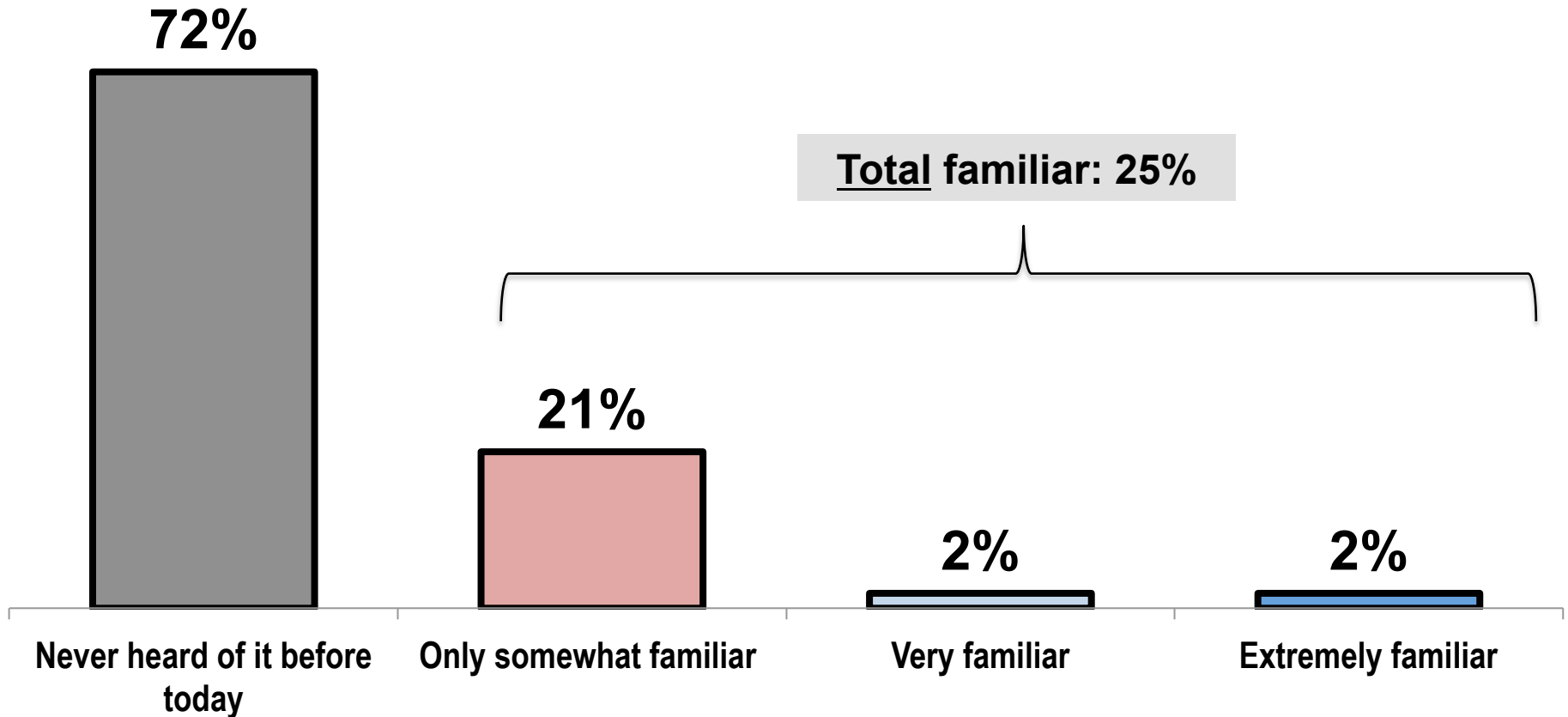
| <u>By Key Demographic</u> |       |
|---------------------------|-------|
| Men                       | 66-27 |
| Women                     | 69-24 |
| Democrats                 | 76-16 |
| Independents              | 63-30 |
| Republicans               | 64-31 |
| Parents                   | 66-30 |
| King County               | 68-24 |
| Northwest WA              | 59-34 |
| Peninsula/Southwest WA    | 71-23 |
| Eastern WA                | 70-25 |
| White                     | 67-25 |
| Voters of Color           | 74-23 |

*\*Percentage change from polling conducted for Ready Washington in 2014.*

Voters are largely in the dark about Next Generation Science Standards. Just one quarter register any prior awareness of the phrase, while only 4% say they have in-depth familiarity. S360



***You may have heard of something called Next Generation Science Standards. Before today, how familiar were you with Next Generation Science Standards?***



# Next, voters were read this information:

*I'd like to give you some information about Next Generation Science Standards.*

*They are a set of expectations for what every student should know and be able to do in science subjects at each grade level. Washington's previous standards didn't reflect the major advances in science and technology over the last decade. Therefore, the Next Generation standards refresh Washington's science standards so that they reflect the knowledge and skills students need to be prepared for careers and college in the 21st century.*

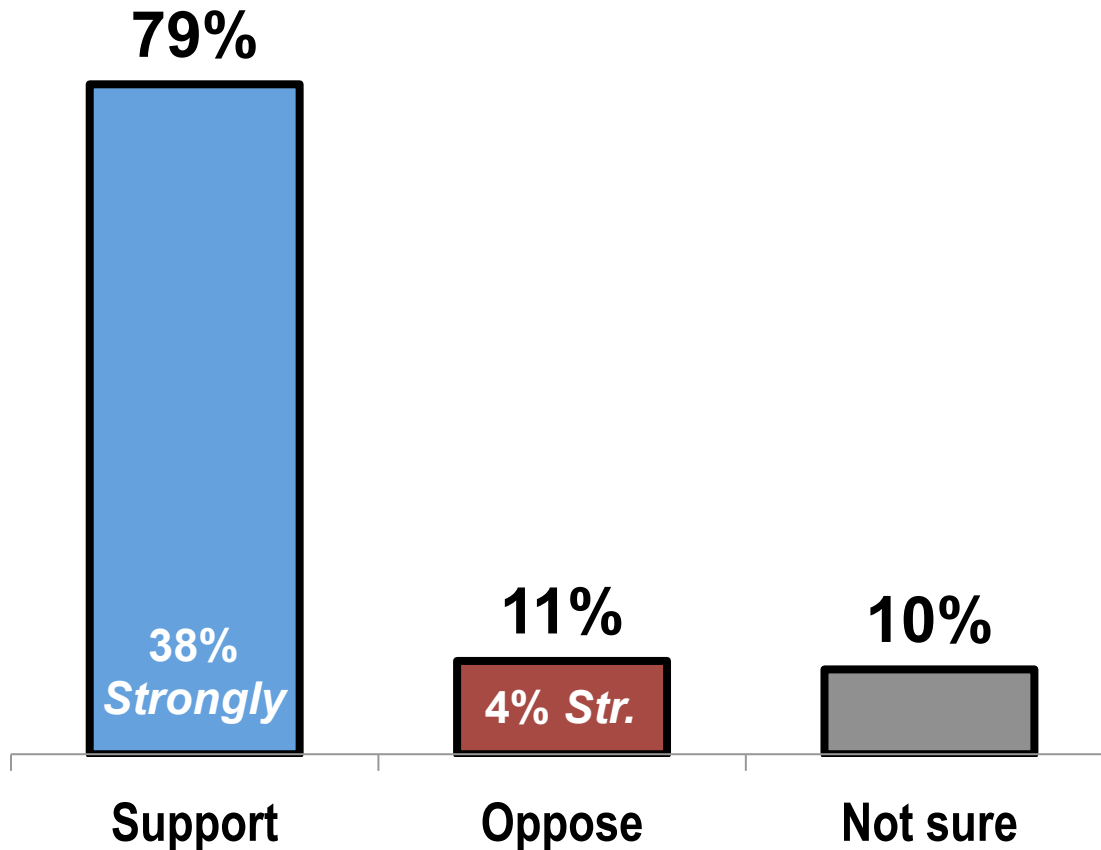




The science standards garner even more support than Common Core, likely due in part to their comparatively low profile and lack of organized opposition. Democrats and voters of color are especially enthusiastic.



*Based on what you know now, do you generally support or oppose the use of Next Generation Science Standards within Washington K-12 public schools?*



| <u>By Key Demographic</u> |       |
|---------------------------|-------|
| Men                       | 79-11 |
| Women                     | 78-11 |
| Democrats                 | 86-7  |
| Independents              | 73-19 |
| Republicans               | 78-9  |
| Parents                   | 81-11 |
| King County               | 81-8  |
| Northwest WA              | 78-17 |
| Peninsula/Southwest WA    | 76-10 |
| Eastern WA                | 80-12 |
| White                     | 79-10 |
| Voters of Color           | 85-11 |

# CONCLUSIONS



# Summary of Public Support for Washington STEM's 2015 Legislative Priorities



|   |     |
|---|-----|
| PROFESSIONAL DEVELOPMENT FOR EDUCATORS                      | 94% |
| <hr/>   |     |
| COMPUTER SCIENCE  |     |
| <i>Training and curriculum to teachers</i>                  | 91% |
| <i>Expand K-12 computer science classes</i>                 | 90% |
| <i>Graduate more students with computer science degrees</i> | 85% |
| <hr/>   |     |
| STEM IN BASIC EDUCATION                                     | 86% |
| <hr/>   |     |
| STEM CAPITAL INVESTMENTS                                    | 82% |
| <hr/>   |     |
| NEXT GENERATION SCIENCE STANDARDS                           | 79% |
| <hr/>   |     |
| COMMON CORE STATE STANDARDS                                 | 68% |

# Final Takeaways



- Although many voters remain unaware of the STEM worker shortage and the uneven quality of STEM education across the state, on the whole voters understand that a strong foundation of STEM skills opens opportunities to the next generation of Washingtonians and helps drive the state's economic development.
- Many voters understand that there is no silver bullet for improving STEM education, but rather endorse a variety of actions—including improving teacher training in STEM fields such as computer science and expanding hands-on learning experiences for students.
- Common Core and Next Generation Science Standards enjoy majority support, both on a conceptual level and when voters are given more specific information about the standards.
- Beyond the issue of educational standards, Washington STEM's 2015 legislative priorities are very popular among the voting public; each component is supported by 82% of voters or more.

# QUESTIONS?

