

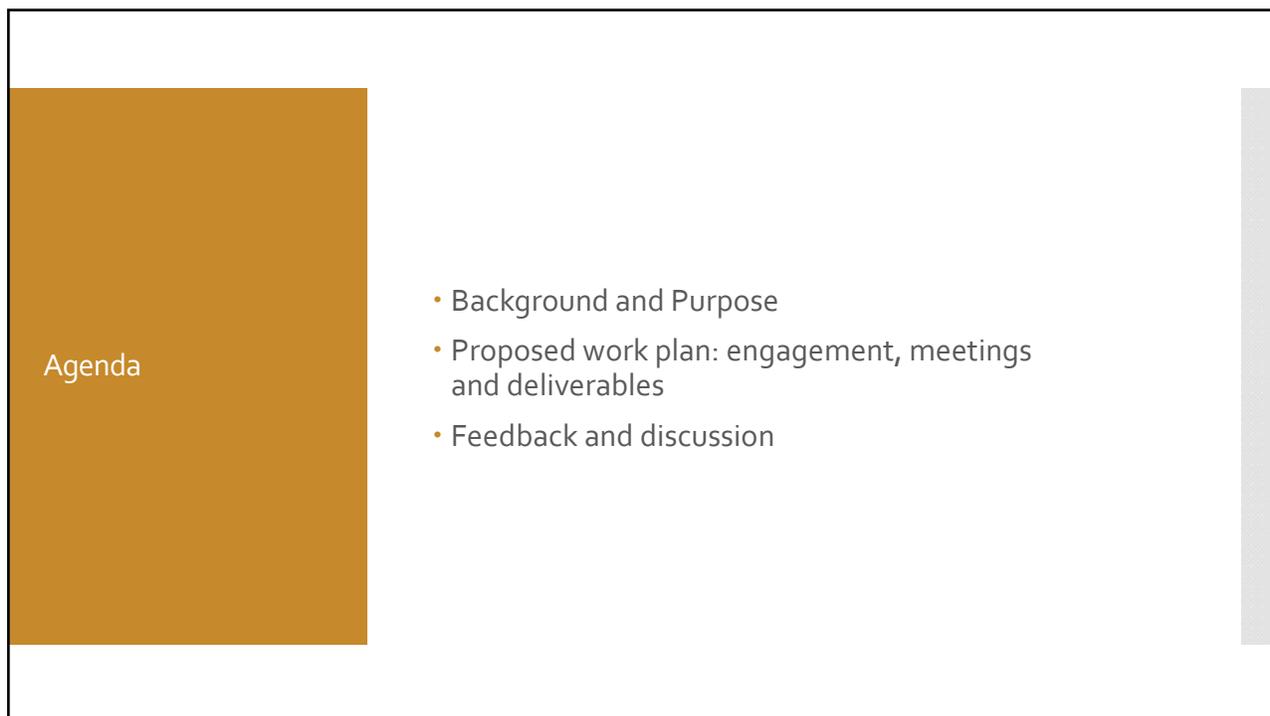


# Discussion of Governor's STEM Alliance

Purpose, Work, and Impact

Washington Student Achievement Council

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## Agenda

- Background and Purpose
- Proposed work plan: engagement, meetings and deliverables
- Feedback and discussion

## Background

Law: Governor to create an Alliance to provide vision, guidance, assistance and advice (RCW 28A.188.030; E2SHB1872)

Tasks outlined in law:

- Adopt STEM Framework for Action and Accountability
- Develop and report on key Framework indicators through STEM Benchmark Report Cards

Opportunity:

- Leverage and align key education and industry leaders to support the Governor's vision and goals to improve STEM education, a key pillar of his plan to grow jobs and the economy

## Purpose

*STEM Alliance will:*

- Provide support to help shape the Governor's budget and priorities
- Champion, in partnership with the Governor, the STEM budget and policy priorities to the Legislature
- Align other major policy and planning efforts related to STEM education in the state (e.g., Results Washington, WSAC 10-year roadmap, Washington STEM)

*Success :*

- STEM budget and policy priorities secured each legislative session
- Public and private dollars aligned to a coherent and high-impact strategy
- Demonstrable impact on selected indicators (e.g., elementary math, STEM degrees)
- Amplified media promotion of STEM and increased public/political demand

Engagement

- Alliance Members: Approximately 20 diverse leaders with the credibility, expertise and leadership positions to achieve success.
- Terms: 4-year appointments (to carry 1 year beyond the Governor's first term)

Meetings

Quarter	Summary Scope of Activities	Full STEM Alliance Meeting	Workgroup Meetings
1 (January – March)	<b>January</b> Submit STEM Benchmark Report Card to the Legislature with metrics and key policy and budget recommendations (Due January 10 each year)		
	<b>March</b> Meet to review budget priorities, form Metrics and Industry-Education Partnerships workgroups, and champion STEM with the governor during legislative session	X	Form workgroups
2 (April-June)	<b>May</b> (Institute for Systems Biology) NGA site visit, and workgroup meetings to discuss metrics and 2016 STEM Benchmark Report Card and Industry-Education partnerships	X (Encouraged)	X – Metrics and Industry-Education Partnerships workgroup
3 (July-September)	<b>August</b> STEM Network Meetings and Industry-Education Partnerships workgroup meeting		X – Industry-Education Partnerships workgroup
	<b>September</b> Meet to review data from Metrics workgroup and develop recommendations for priorities for the Governor's budget and policy initiatives	X	
4 (October-December)	<b>October</b> Review and provide input on draft STEM Benchmark Report Card to be submitted to the Legislature		
	<b>December</b> STEM Summit: Share 2016 STEM Benchmark Report Card with stakeholders. Workgroups meet to plan for Legislative session in Quarter 1.	X	X – Metrics and Industry-Education Partnerships workgroups

Quarter 1  
January - March

Quarter 1:

- **January** Submit STEM Benchmark Report Card findings and key policy and budget recommendations to Legislature
- **March** Meet to discuss of 2015 priorities; review Alliance purpose, work and impact; and, discuss STEM priorities with Washington State Legislators
- Form Metrics Workgroup - Metrics workgroup members meet to provide input on development of STEM Benchmark Report Card measures
- On-going communication with STEM Alliance members about measures being developed and progress on the Dashboard
- Form Industry-Education Partnerships Workgroup – Partnership workgroup members to meet to define criteria for effective industry-education partnerships, as a first start to then expand such partnerships in the future.
- Form other Workgroups as needed (e.g., Policy Workgroup)

Quarter 2  
April - June

Quarter 2:

- STEM Alliance Meeting to continue work and maintain momentum
- NGA/STEM Project site visit to confer with NGA Center staff, update them on our progress, and discuss best practices
- **May 6** Metrics and Partnerships Workgroup meetings to be held at the Institute for Systems Biology in Seattle. The Metrics group will review and finalize measures for January 2016 STEM Benchmark Report Card Report (and develop new measures for future years). The Partnerships Workgroup will discuss priorities and strategies for building effective and sustainable cooperative relationships between the state's different sectors.
- Communication with STEM Alliance regarding final measure and progress on Dashboard development (and on-going development in future years)
- Other on-going Workgroups meet as needed

Quarter 3  
July – September

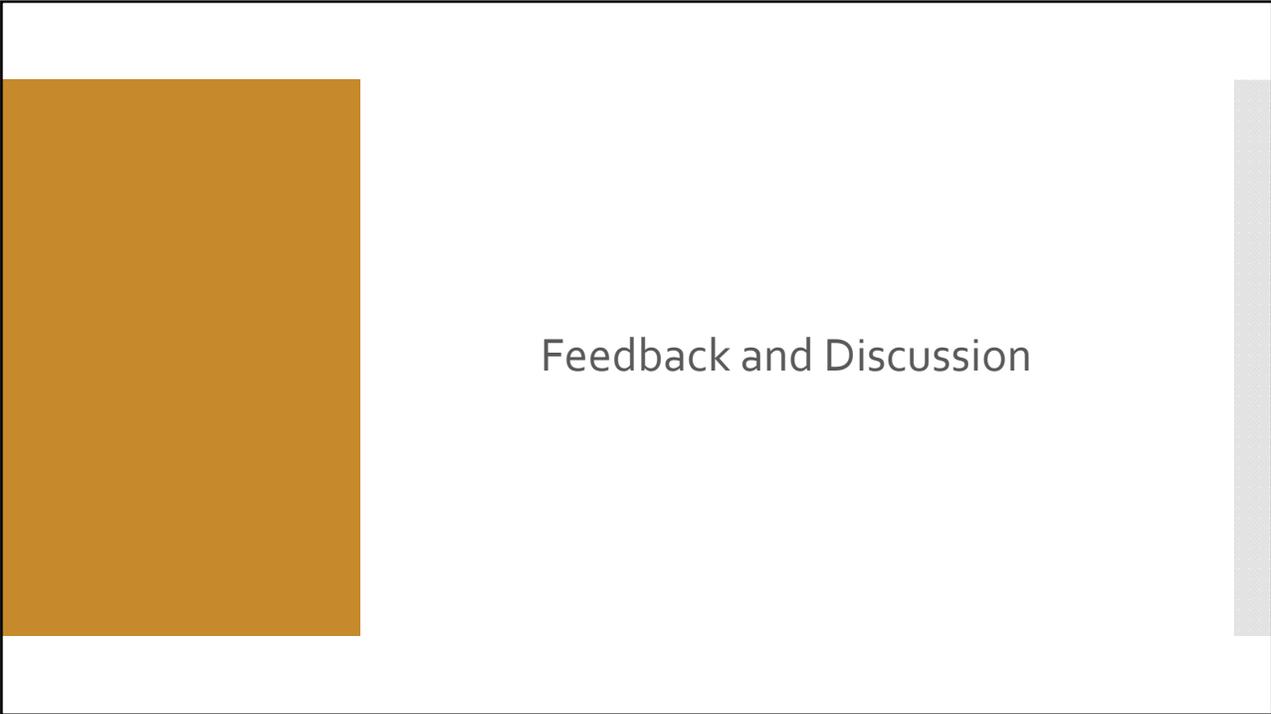
Quarter 3:

- **August** Convene Regional STEM Network Meeting and Industry-Partnership workgroup meets
- **September** Full STEM Alliance meets to review analysis of key findings (metrics) and identify opportunities for improvement and priorities and provide input into STEM Benchmark Report Card
- Develop recommendations for priorities for the Governor's budget
- Communicate priorities to the Governor

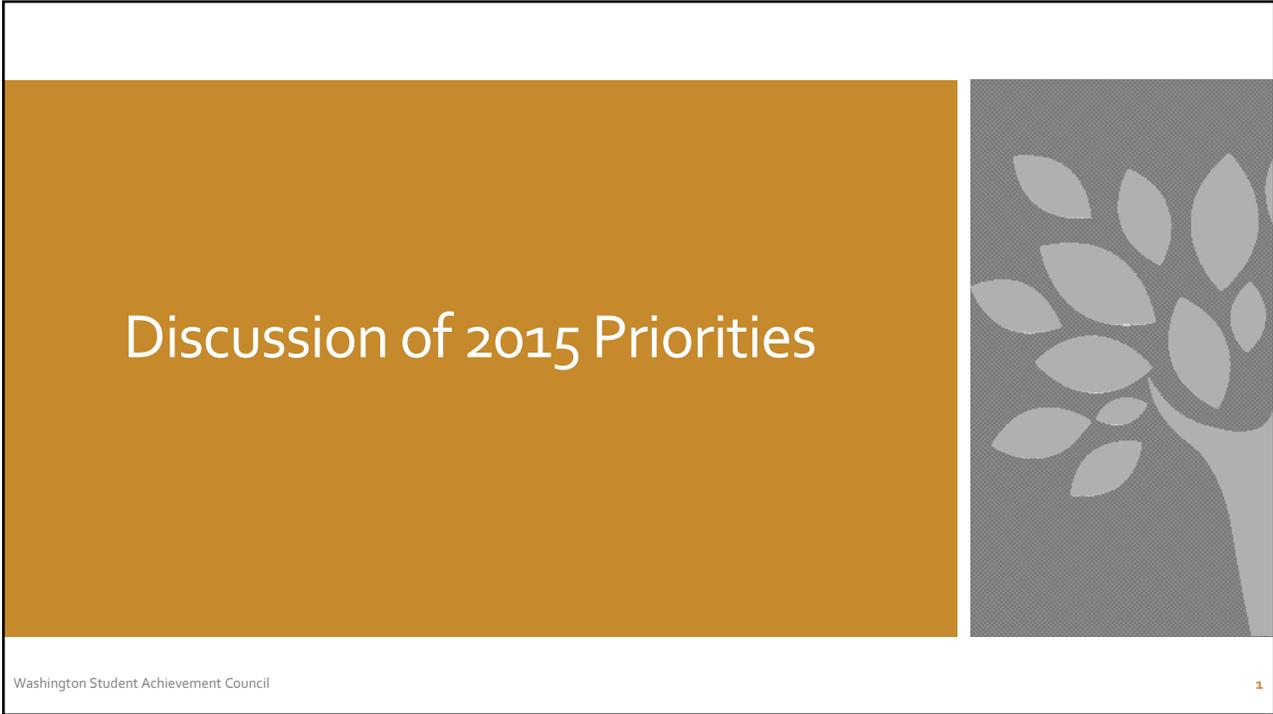
Quarter 4  
October - December

Quarter 4:

- **October** Review draft STEM Benchmark Report Card to be sent to the Legislature to provide insights on key policy and budget recommendations
- **December** Annual STEM Summit with Full Alliance to share 2016 STEM Benchmark Report Card Report with Stakeholders
- Alliance members review and provide any input into in the final report prior to delivery to the Legislature
- Workgroups meet to plan for Legislative session in Quarter 1



Feedback and Discussion



# Discussion of 2015 Priorities

Washington Student Achievement Council

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# Agenda

- 2015 Priorities – Summary of Survey Feedback
- Opportunities to Impact the 2015 Session
- Next Steps

Survey responses

**An analysis of the survey responses yielded the following key insights:**

- Alliance members awarded *postsecondary* issues their highest priority rankings, followed by K-12 and then early learning.
- Two specific proposals were prioritized by a majority of respondents:
  - *Expand advanced computer science and engineering programs at the research universities (\$6.0M), and*
  - *Provide more instructional training for K-8 math and science teachers; develop environmental science curricula; and increase number of teachers endorsed in secondary-level computer science (\$2.3M).*
- Other priorities mentioned:
  - *Educator Professional Development*
  - *Computer science in K-12 and adopt computer science standards*
  - *Increase Higher Education Affordability*
- The majority of Alliance members indicated that the Alliance should both *communicate the need for STEM* as well *play an advocacy role* during the legislative session.

Opportunities to impact the 2015 Session

Priority Area identified by STEM Alliance	Specific legislation or budget item for STEM Alliance to coalesce around?	How to Communicate?	Ways to Advocate?
<b>1. Postsecondary:</b> Maintain higher education access and affordability, \$125.5M And Boost higher education attainment and training, \$30M			
<b>Specific Education Package Proposals:</b>			
2. <i>Expand advanced computer science and engineering programs at the research universities (\$6.0M)</i>			
3. <i>Provide more instructional training for K-8 math and science teachers; develop environmental science curricula; and increase number of teachers endorsed in secondary-level computer science (\$2.3M)</i>			
<b>Other Priorities:</b>			
4. <i>Enhancing educator professional development</i>			
5. <i>Expanding access to computer science in grades K-12 and adopting computer science standards.</i>			
6. <i>Increasing higher education affordability</i>			

Next Steps?

## **Governor's STEM Education Innovation Alliance**

### **Focused Workgroups**

We would like to form work groups to focus on two key issues that will be important for making progress in the work of the STEM Alliance. If you are interested in participating in one of the following groups, please indicate your interest below.

#### **Metrics Workgroup**

The Metrics workgroup will meet regularly to provide input on development of STEM Benchmark Report Card measures.

Yes. I am interested in participating in this workgroup.

Name \_\_\_\_\_

#### **Industry-Education Partnerships Workgroup**

The Partnership workgroup will meet regularly to define criteria for effective industry-education partnerships and develop strategies for sustaining such partnerships over time.

Yes. I am interested in participating in this workgroup.

Name \_\_\_\_\_

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**Governor's STEM Education Innovation Alliance  
Summary of Proposed Purpose, Work and Impact  
Discussion at March 6, 2015 Meeting**

**BACKGROUND**

- Law: The law calls for the Governor to create an Alliance to provide vision, guidance, assistance and advice. Alliance Members need to include: OSPI, STEM business and labor representatives, statewide nonprofit (1), representatives of K-12 and higher education, and STEM educators (RCW 28A.188.030; E2SHB1872).
- Tasks outlined in law:
  1. Adopt STEM Framework for Action and Accountability
  2. Develop and report on key Framework indicators through STEM Benchmark Report Cards
- Opportunity: Leverage and align key education and industry leaders to support the Governor's vision and goals to improve STEM education, a key pillar of his plan to grow jobs and the economy.

**PURPOSE**

*As an expert and non/bipartisan entity, the STEM Alliance will:*

- Provide support to help shape the Governor's budget and priorities
- Champion, in partnership with the Governor, the STEM budget and policy priorities to the Legislature
- Align other major policy and planning efforts related to STEM education in the state (e.g., Results Washington, WSAC 10-year roadmap, Washington STEM)

*Success will be measured:*

- STEM budget and policy priorities secured each legislative session
- Public and private dollars aligned to a coherent and high-impact strategy
- Demonstrable impact on selected indicators (e.g., elementary math, STEM degrees)
- Amplified media promotion of STEM and increased public/political demand

**LOGISTICS**

Alliance Members: Approximately 20 diverse leaders with the credibility, expertise and leadership positions to achieve success.

Terms: 4-year appointments (to carry 1 year beyond the Governor's first term)

Proposed Meeting Cadence and Deliverables:

January 2015:

- Report due to legislature on STEM Benchmark Report Card findings and key policy and budget recommendations

#### March 2015:\*

- Meeting to discuss of 2015 priorities; review Alliance purpose, work and impact; and, discuss STEM priorities with Washington State Legislators
- Form Metrics Workgroup - Metrics workgroup members meet to provide input on development of STEM Benchmark Report Card measures
- On-going communication with STEM Alliance members about measures being developed and progress on the Dashboard
- Form Industry-Education Partnerships Workgroup – Partnership workgroup members to meet to define criteria for effective industry-education partnerships, as a first start to then expand such partnerships in the future.
- Form other Workgroups as needed (e.g., Policy Workgroup)

#### Summer 2015:\*

- STEM Alliance Meeting to continue work and maintain momentum
- NGA/STEM Project site visit to confer with NGA Center staff, update them on our progress, and discuss best practices
- Metrics and Partnerships Workgroup meetings to be held at the Institute for Systems Biology in Seattle. The Metrics group will review and finalize measures for January 2016 STEM Benchmark Report Card Report (and develop new measures for future years). The Partnerships Workgroup will discuss priorities and strategies for building effective and sustainable cooperative relationships between the state's different sectors.
- Communication with STEM Alliance regarding final measure and progress on Dashboard development (and on-going development in future years)
- Other on-going Workgroups meet as needed

#### Fall 2015:\*

- Review STEM Benchmark Report Card and an analysis of key findings and identify opportunities for improvement and priorities
- Review draft STEM Benchmark Report Card to be sent to the Legislature to provide insights on key policy and budget recommendations
- Develop recommendations for priorities for the Governor's budget
- Communicate priorities to the Governor
- Convene Regional STEM Network Meeting

#### December 2015:\*

- Annual STEM Summit with Alliance to share draft 2016 STEM Benchmark Report Card Report with Stakeholders
- Alliance members review and provide any input into in the final report prior to delivery to the Legislature

*\*Each year four in-person meetings of the Alliance will be held. These meetings, objective, and deliverables would be repeated each year.*

## Governor's STEM Education Innovation Alliance

**Industry Sector Visit**  
**May 6, 2015**



<b>Location</b>	<b>Institute for Systems Biology</b> 401 Terry Avenue North Seattle, WA 98109-5263
<b>When</b>	<b>May 6, 2015</b> 11:30 AM Registration 12:00 PM Opening Discussion and Lunch (hosted) 3:00 PM Concluding Remarks to all STEM Alliance attendees 3:00 to 4:00 PM Metrics and Partnerships Workgroup Sessions
<b>Purpose</b>	<b><a href="#">Visit ISB's State-of-the-Art Research Facilities</a></b> An opportunity for STEM Alliance members to tour the Institute for Systems Biology (ISB) facilities. ISB is a leading nonprofit biomedical center focusing on advanced scientific research at the intersection of biology and technology.  <b><a href="#">Meet Dr. Leroy Hood</a></b> Dr. Leroy Hood, President and co-founder of ISB, will be available to address the Alliance. Dr. Hood is a leading researcher in the field of biomedical and one of the scientific pioneers in the human genome program. He also has a deep interest in the interdisciplinary approach to science education.  <b><a href="#">Learn about ISB's Educational Outreach Efforts</a></b> ISB has a strong commitment to knowledge transfer, which is exemplified by its Logan Center for Education. ISB's Logan Center partners with school systems (K12 through undergraduate) in support of transforming science — STEM — education. Parallel to ISB researchers' systems approach to science, its Logan Center applies a systems approach to educational change by way of teacher and administrator professional development.

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## Governor's STEM Education Innovation Alliance Survey Feedback Summary of Results

### OVERVIEW

In February 2015, the Governor's appointed STEM Alliance members were asked to complete a brief survey to provide feedback on the Governor's proposed 2015-2017 education package in preparation for the upcoming legislative session in March. Nineteen of the 23 STEM Alliance members responded to the survey.

### An analysis of the survey responses yielded three key insights:

1. Alliance members awarded postsecondary issues their highest priority rankings, followed by K-12 and then early learning.
2. Two specific proposals were prioritized by a majority of respondents:
  - *Expand advanced computer science and engineering programs at the research universities (\$6.0M), and*
  - *Provide more instructional training for K-8 math and science teachers; develop environmental science curricula; and increase number of teachers endorsed in secondary-level computer science (\$2.3M).*
3. The majority of Alliance members indicated that the Alliance should both *communicate the need for STEM* as well *play an advocacy role* during the legislative session.

The full highlights of the survey are provided in the body of this report.

### SURVEY HIGHLIGHTS BY QUESTION

**Question 1:** Attached is the summary of the Governor's 2015-2017 proposed education package. What policy and budget priority debates are imperative for the STEM Education Alliance to weigh in on? Please list your top 3 priorities below (in order of priority) that you would want to communicate to legislators this session from the proposed budget?

- *Offer opportunities for our youngest learners, \$156.3 million\**
- *Increase basic education funding to reduce class sizes, increase class time for kindergartners and cover school operations costs (constitutes full implementation of House Bill 2776 one year ahead of schedule), \$1.3 billion*
- *Promote student success and increase high school graduation rates, \$87.4 million*
- *Support high-quality teaching and instructional leadership, \$30.4 million*

- *Invest in educator compensation, \$595.6 million*
- *Maintain higher education access and affordability, \$125.5 million*
- *Boost higher education attainment and training, \$30.4 million*

The attached table (on Page 4) summarizes the education package components and the priority ratings of the STEM Alliance members. Some Alliance members responded by indicating one of the seven broad budget categories (listed above), while others mentioned specific components of the seven budget categories. To determine the highest priority areas for the Alliance members, responses were scored as follows:

- *Frequency* - The number of times each top level budget category (i.e., one of the seven budget items from above) was mentioned as a priority (if sub-components were mentioned, they were initially combined and scored as part of the top level category).
- *Priority* - The priority was determined by identifying the highest number of total points using a weighted scoring scale (i.e., category given 3 points if noted as highest priority, 2 points as second highest priority, and 1 point as third highest priority).
- *Sub-component rankings* - A second scoring was then conducted showing the priorities and number of times one of the sub-components of the budget was mentioned as a priority. These scores for the sub-components are shown in rank order under the top level headings in the table.

**Key Results of Question 1:**

- All seven components of the budget were mentioned as a top 1, 2 or 3-ranked priority by the STEM Alliance members, indicating some level of support for all aspects of the proposed 2015-2017 education package.
- **The priorities indicated at the highest level were higher education, followed by K-12, and then early learning.** This was reflected in the high rankings of the following budget items: *Maintain higher education access and affordability (\$125.5M) and Boost higher education attainment and training (\$30M).*
- **Among the sub-package components noted, the highest ranked were: *Expand advanced computer science and engineering programs at the research universities (\$6.0M)\* followed by, Provide more instructional training for K-8 math and science teachers; develop environmental science curricula; and increase number of teachers endorsed in secondary-level computer science (\$2.3M)\*.***
- Some Alliance members also indicated a preference for different allocations of the available funds and cited support for proposals developed by Representatives Hansen and Magendanz.

**Question 2:** Are there other pressing policies and/or budget priorities that are important, but are not included in the proposed 2015-2017 Governor’s STEM education package? If yes, what are they (please list in order of priority)?

### **Key Results of Question 2:**

While a broad range of opinions were mentioned, support for four areas/issues emerged from the responses:

- *Enhancing educator professional development* was frequently mentioned as not sufficiently included in the proposed 2015-2017 education package.
- *Expanding access to computer science* in grades K-12 *and adopting computer science standards* was also identified.
- *Increasing higher education affordability*, including fully funding the State Need Grant and the College Bound Scholarship, was noted.
- Finally, Alliance members mentioned the need to *increase under-represented populations* in STEM and those with barriers to employment in STEM fields as a budget priority.

**Question 3:** In thinking about the STEM Alliance’s ability to advance STEM education and workforce needs in the state, what role do you see for the Alliance to play in this coming Legislative session? *Click all that apply:* Communicate the need for STEM? Advocate for particular budget and or policy priorities? (If yes, which ones) Other (please specify).

### **Key Results of Question 3:**

- **The majority of Alliance members indicated that the Alliance should both *communicate the need for STEM* as well *play an advocacy role* at the legislative session.**
- When asked which was more important, the majority of Alliance members noted the advocacy role as relatively more important. The Alliance members in favor of the STEM Alliance playing an advocacy role noted that the STEM Alliance should advocate for the priorities communicated by Alliance members in the first question including the wide-spread support for higher education and the individual sub-budget components:
  - *Expand advanced computer science and engineering programs at the research universities (\$6.0M).*
  - *Provide more instructional training for K-8 math and science teachers; develop environmental science curricula; and increase number of teachers endorsed in secondary-level computer science (\$2.3M)\**

**Summary Table of Results: 2015-2017 Education Package Proposed Budget**

<b>Ranking of Priorities of the Governor’s 2015-2017 Proposed STEM Education Package</b> <b>(Ordered by Highest Priority of the 7 Key Elements of the Package in bold below – and then ordered within the broad category from highest to lowest the priority of the sub-components)</b> *indicates outside the definition of basic education/~funding provided in the maintenance level budget	<b>Total Score</b> Priority 1 = 3 points Priority 2 = 2 points Priority 3 = 1 point	<b>Total Number of Times Mentioned</b>			
		<b>Overall</b>	<b>Priority</b>		
			<b>1</b>	<b>2</b>	<b>3</b>
<b>1. Maintain higher education access and affordability, \$125.5M</b>	25	11	5	4	2
<i>Provide the state’s contribution to the publicly-privately funded Opportunity Scholarship program, which offers financial aid to qualified students in the STEM and health care fields (\$100.0M)*</i>	6	3	1	1	1
<i>Fund 5,576 more students in the state’s College Bound program, which provides an early commitment of financial aid to 7th and 8th graders from low-income families (\$25.5M)*</i>	4	2	1	0	1
<i>Freeze resident undergraduate tuition rates for all public institutions of higher education*</i>	1	1	0	0	1
<b>2. Boost higher education attainment and training, \$30M</b>	24	9	6	3	0
<i>Expand advanced computer science and engineering programs at the research universities (\$6.0M)*</i>	10	4	2	2	0
<i>Fund the Mathematics, Engineering, Science Achievement program at the community colleges to boost support of underrepresented students in math and science fields (\$2.0M)*</i>	4	2	1	0	1
<i>Increase production of math and science graduates at the regional universities and The Evergreen State College (\$8.0M)*</i>	0	0	0	0	0
<i>Increase job training and basic education access at the community and technical colleges for adults without a high school diploma (\$10.0M)*</i>	0	0	0	0	0
<i>Target industry investments to add aerospace apprenticeships, operate the composite wing incumbent worker training program and offer maritime licensing training program at the community colleges to maintain economic competitiveness (\$4.4M)*</i>	0	0	0	0	0
<b>3. Increase basic education funding to reduce class sizes, increase class time for kindergartners and cover school operations costs (constitutes full implementation of House Bill 2776 one year ahead of schedule), \$1.3B (include special education increases totaling \$144.8M)</b>	15	6	4	1	1
<i>Implement full-day kindergarten statewide in the 2016–17 school year (\$107.6M)</i>	3	1	1	0	0
<i>Supply schools and classrooms with full funding of the formula for materials, supplies, curricula and operating costs in the 2015–16 school year. This will allow full implementation of the state’s new standards in English, math and science, and support the use of positive behavior intervention curricula (\$751.8M)~</i>	3	1	1	0	0
<i>Reduce class sizes to 17 for kindergarten through third grade in the 2016–17 school year (\$448.1M)</i>	2	1	0	1	0
<b>4. Promote student success and increase high school graduation rates, \$87.4M</b>	13	6	2	3	1
<i>Offer outdoor learning opportunities and project-based science curricula (\$2.0M)*</i>	5	2	1	1	0
<i>Offer grants for elementary schools to operate breakfast-after-the-bell programs at high-poverty schools (\$5.0M)*</i>	2	1	0	1	0
<i>Add middle school guidance counselors at high-poverty schools (\$13.7M)</i>	2	1	0	1	0

<b>Ranking of Priorities of the Governor’s 2015-2017 Proposed STEM Education Package</b> <b>(Ordered by Highest Priority of the 7 Key Elements of the Package in bold below – and then ordered within the broad category from highest to lowest the priority of the sub-components)</b> <i>*indicates outside the definition of basic education/~funding provided in the maintenance level budget</i>	<b>Total Score</b> <i>Priority 1 = 3 points</i> <i>Priority 2 = 2 points</i> <i>Priority 3 = 1 point</i>	<b>Total Number of Times Mentioned</b>			
		<b>Overall</b>	<b>Priority</b>		
			<b>1</b>	<b>2</b>	<b>3</b>
<i>Boost career readiness through Jobs for Washington’s Graduates and programs preparing students for direct entry into a skilled trade upon graduation (\$3.0M)*</i>	2	1	0	1	0
<i>Increase low-income student participation in College in the High School programs (\$9.0M)*</i>	2	1	0	1	0
<i>Provide more Learning Assistance Program funding to high schools with concentrated levels of poverty (\$34.7M)</i>	2	1	0	1	0
<i>Provide staffing to support elementary school family engagement (\$20.0M)</i>	0	0	0	0	0
<b>5. Support high-quality teaching and instructional leadership, \$30.4M</b>	12	7	1	3	3
<i>Provide more instructional training for K-8 math and science teachers; develop environmental science curricula; and increase number of teachers endorsed in secondary-level computer science (\$2.3M)*</i>	9	5	1	2	2
<i>Implement statewide mentoring program for new teachers (\$17.9M)*</i>	2	1	0	1	0
<i>Integrate additional K-12 classroom experience in pre-service training programs through funding of innovation grants and restoring funding for the Alternative Routes to Teaching program (\$4.2M)*~</i>	2	1	0	1	0
<i>Increase cadre of special education leaders and best practices in instruction (\$0.8M)*</i>	2	1	0	1	0
<i>Increase funding for school turnaround programs offering leadership and instructional coaching (\$4.2M)*</i>	0	0	0	0	0
<i>Expand support for first-year principals (\$1.0M)*</i>	0	0	0	0	0
<b>6. Invest in educator compensation, \$595.6M</b>	6	4	0	2	2
<i>Fund Initiative 732 COLAs for educators of 1.8 percent in the 2015–16 school year and 1.3 percent in the 2016–17 school year (\$235.5M)~</i>	0	0	0	0	0
<i>Provide additional funding for total pay increases of 3 percent in 2015–16 school year and 1.8 percent in the 2016–17 school year to align with state employee increases (\$150.1M)</i>	0	0	0	0	0
<i>Fund state’s share of higher K-12 pension contribution rates (\$210.0M)~</i>	0	0	0	0	0
<b>7. Offer opportunities for our youngest learners, \$156.3M*</b>	6	3	1	1	1
<i>Add 6,358 spaces, which include more full-day slots, in the state’s preschool program for low-income children, bringing the total served to 70 percent of the eligible population (\$79.8M)*</i>	2	1	0	1	0
<i>Improve child care quality by expanding the state’s Early Achievers program (\$70.5M)*</i>	0	0	0	0	0
<i>Meet demand for early intervention services, such as physical and speech therapy, through the Early Support for Infants and Toddlers program (\$4.0M)*</i>	0	0	0	0	0
<i>Expand the number of families receiving home-visiting services to improve prenatal health and early childhood well-being (\$2.0M)*</i>	0	0	0	0	0

# WASHINGTON VOTERS KNOW STEM = OPPORTUNITY

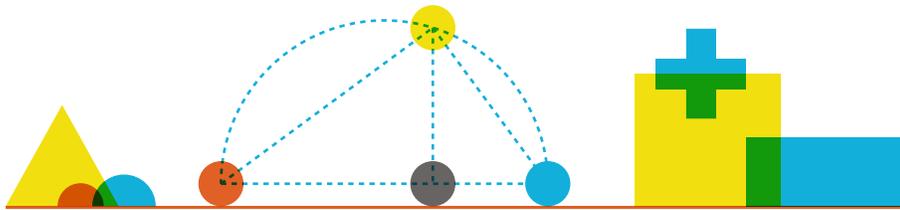


# 94%

agree **every child** should have access to a high-quality STEM education in Washington's K-12 public schools.

# 92%

agree the next generation of Washingtonians **will have more opportunities** if they have strong STEM skills.



# STEM FROM CRADLE TO CAREER

**71%** of voters say it is a good idea to **improve early learning programs** for children before they enter kindergarten.



# 86%

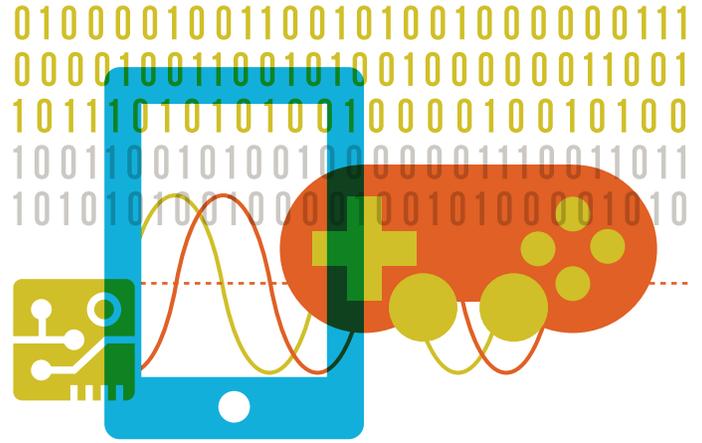
of voters agree STEM education is needed in K-12 basic education to **ensure students are given the knowledge and skills** they need to succeed in the 21st century.

of voters support **increasing the numbers of college students** graduating with a degree in a STEM field.



# CODE 4 ALL

**91%** of voters support **expanding computer science** by helping more K-12 teachers with training and curriculum.



## THERE'S NO SILVER BULLET

From offering consistent and high quality teacher training in STEM subjects (94%), to expanding out-of-school programs + internships (92%), to working with parents + families (89%), to funding improvements to STEM facilities (82%), **voters know we all have a role to play.**



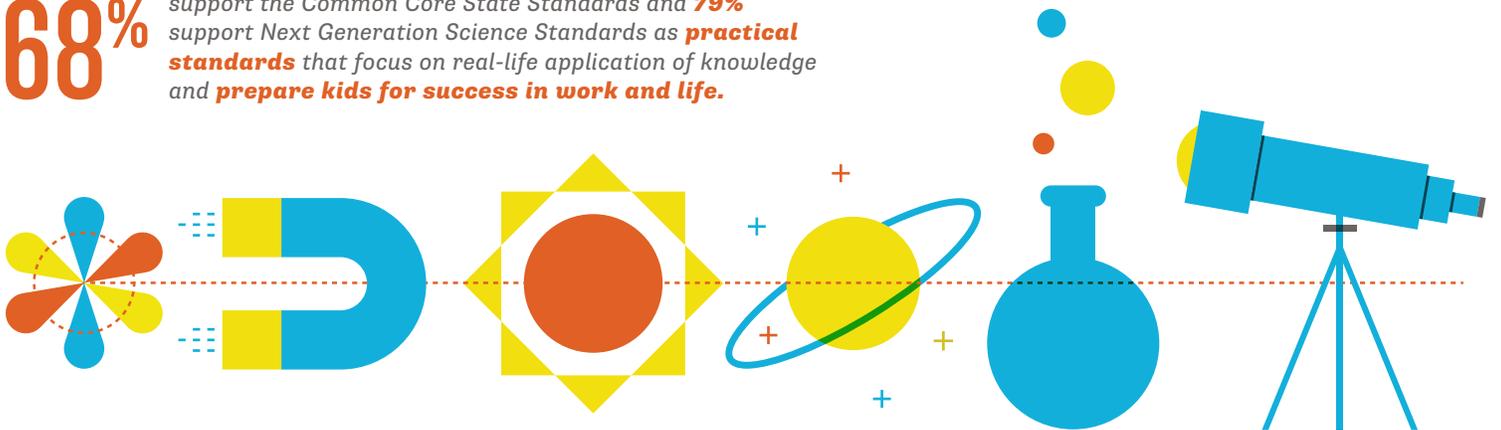
## STEM FOR A BETTER WASHINGTON

81% agree increased focus on STEM education in Washington **will improve the state's economy.**



# REAL LEARNING FOR REAL LIFE

**68%** support the Common Core State Standards and **79%** support Next Generation Science Standards as **practical standards** that focus on real-life application of knowledge and **prepare kids for success in work and life.**



PASS ALONG THE POWER OF STEM.  
JOIN US AT [washingtonstem.org](http://washingtonstem.org).

The statewide survey of 647 Washington State voters was conducted by Washington STEM in partnership with Strategies 360 from Jan. 31 - Feb. 4, 2015; it has a margin of error of four percent.

## Governor’s \$2.3 billion education plan focuses on student success

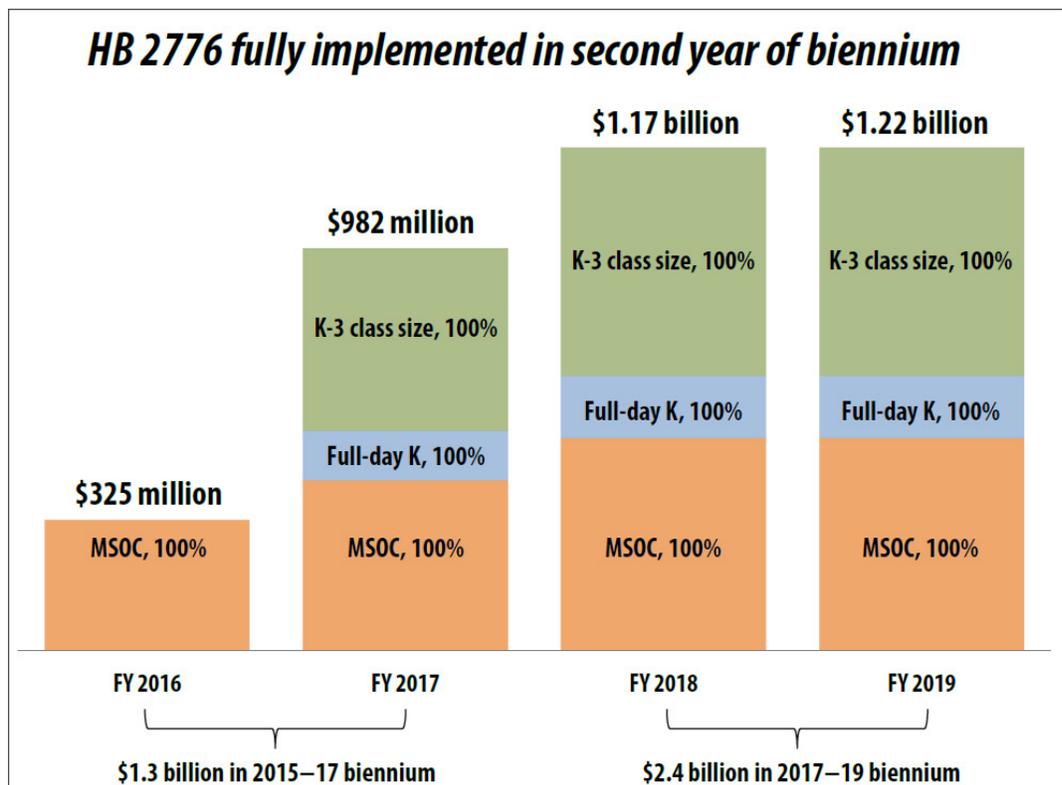
*Governor Inslee believes our state’s responsibility for funding kindergarten through 12<sup>th</sup> grade education is more than a statutory exercise in legal compliance or planning the budget. It is a moral and economic imperative to truly improve the well-being of our students.*

His proposed budget calls for pivotal investments in the state’s education system to ensure that all learners succeed in the classroom, no matter the level. From our youngest children in early learning, to all students in our public K-12 schools and those pursuing post-high school training or higher education, his budget is targeted at student success. His budget will provide early learning opportunities for thousands more children and dramatically improve the state’s high school graduation rates,

among other targets. Educators, too, will benefit from the Governor’s priorities.

The Governor’s budget completely fulfills the commitments put forward by the Legislature in 2010 through House Bill 2776 — and it does so a year ahead of schedule. The Washington State Supreme Court has held the state in contempt in the McCleary decision over its failure to improve funding for our schools. The Governor knows that with effective leadership and collaboration, the state will now meet long-overdue obligations to shrink K-3 class sizes, fund all-day public kindergarten and cover costs such as maintenance, supplies and operating expenses so our schools are safe, high-quality facilities for our students to learn in.

*The Governor’s budget fully implements K-3 class sizes of 17 and statewide full-day kindergarten in the 2016–17 school year, one year ahead of schedule. The final step-up for materials, supplies and operating costs is funded in the 2015–16 school year, consistent with the amounts and schedule required by law.*



## EARLY LEARNING

**Offer opportunities for our youngest learners with high-quality early learning, \$156.3 million total**  
Makes the largest-ever state investment in early learning. It invests in proven programs to ensure more students start kindergarten ready to learn.

First, \$79.8 million is provided for 6,358 new spaces, which includes more full-day slots, in the Early Childhood Education and Assistance Program, the state's preschool program for children from low-income families. With the additional spaces, a total of 16,449 children from low-income families will have access to preschool.

The state will continue to improve child care quality by providing \$70.5 million for the state's Early Achievers child care rating program that trains child care providers in effective early learning strategies. This investment will reach 50,639 more children.

To meet rising demand for intervention services provided through the Early Support for Infants and Toddlers program, the state will also provide \$4.0 million for 1,500 more children with special needs. And \$2.0 million will be used to increase the number of families receiving home-visiting services.

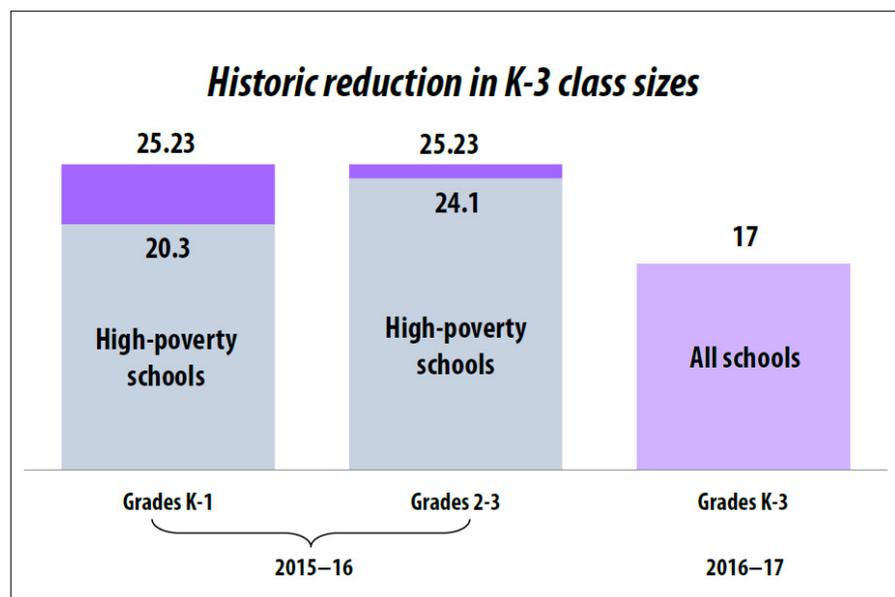
## KINDERGARTEN THROUGH 12<sup>th</sup> GRADE

**Increase basic education funding to reduce class sizes, increase class time for kindergartners and cover school operation costs \$1.3 billion total**

**Elementary school class-size reduction, \$448.1 million**  
Proposes substantial investment in elementary schools, including more than 7,000 additional teachers. Also provides districts with one year of planning time to implement these changes, including the hiring and placement of new staff. Reduces class sizes to 17 in kindergarten through third grade by the 2016–17 school year, one year ahead of the schedule set in HB 2776.

**Statewide full-day kindergarten, \$107.6 million**  
Funds full-day kindergarten for all students, offering 1,000 hours of instruction a year, one year ahead of schedule. Today, less than half the state's kindergartners participate in a state-funded, full-day program. While some districts provide funding with federal or local funds, most students not in state-funded programs either attend for a half day or their families pay nearly \$3,000 a year in tuition.

*Governor Inslee proposes reducing K-3 class sizes in all schools to 17 by the 2016–17 school year.*



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**Materials, supplies, curricula and operating costs, \$751.8 million**

HB 2776 and the McCleary decision require full funding of an enhanced formula for materials, supplies, curricula and operating costs by the 2015–16 school year. Fully funds this obligation, increasing the funding allocation to \$1,216 per student in the 2015–16 school year, up from \$848 per student in the current school year. Funding will allow full implementation of the state’s new learning standards in English, math and science, and support the use of positive behavior intervention curricula.

**Special education**

Funding of \$144.0 million for special education services is embedded in the previous three items. Districts will dedicate a portion of these amounts for approximately 1,800 principals to receive professional development on best practices for special education instruction and strategies for implementation in schools.

**Promote student success, \$40.7 million total**

**Family engagement coordinators, \$20.0 million**

Adjusts the basic education formula for family engagement coordinators at 600 high-poverty elementary schools serving 238,000 students to support a school-and-family team approach to educating children. Coordinators perform a number of activities, including serving as liaison between teachers and families, connecting families to social services and assisting in other ways that help families to support their children’s education.

**Guidance counselors, \$13.7 million**

Increases the basic education allocation for guidance counselors at high-poverty middle schools to help 73,000 students. Middle schoolers with clear academic goals for high school are more likely to stay on track during their freshman year. Counselors will help with goal setting, including planning for high school, providing information about programs such as College Bound and organizing more interventions for students falling behind in 7<sup>th</sup> and 8<sup>th</sup> grade.

**Breakfast-after-the-bell, \$5.0 million**

Awards grants to elementary schools to implement

breakfast-after-the-bell programs so nearly 30,000 students start the day well fed and ready to learn.

**Outdoor learning experiences, \$1.0 million**

Increases outdoor learning opportunities for 5,000 fourth- and fifth-graders to connect with nature and gain an appreciation of the environment.

**Project-based math and science, \$1.0 million**

Expands project-based and work-based math and science learning. Students from all grade levels will be connected through age-appropriate curricula to the environmental, natural resource and agricultural sectors to experience new learning opportunities and explore possible careers in these areas.

**Increase high school graduation rates, \$18.1 million net total**

**Learning Assistance Program, \$34.7 million**

Provides funding to 300 high-poverty high schools to extend learning time and add wraparound services for students; allow time for staff to develop and implement school-wide graduation strategies; set up school-wide efforts to improve attendance and reduce suspensions; and match students with mentors and internships. An estimated 104,000 students at eligible schools will receive these services. Of our state’s students who have left before graduating, 44 percent came from high schools where more than half of students were from low-income families. The budget includes \$300,000 for the Office of Superintendent of Public Instruction for grants to identify students showing early warning signs of dropping out of high school, such as absenteeism, discipline issues or failing grades in multiple classes.

**College in the High School, \$9.0 million**

Increases low-income student participation in College in the High School, which offers 11<sup>th</sup> and 12<sup>th</sup> grade students the opportunity to complete college-level academic courses. Students may earn college credit if they pay a fee to the partnering higher education institution. This funding will cover the cost of the fee for up to 10 college credits a year for an estimated 7,200 low-income students.

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**Career readiness, \$3.0 million**

Boosts opportunities for more than 800 students to directly enter a skilled trade after high school graduation. Funding supports pre-apprenticeship programs; post-graduation advanced manufacturing summer terms at skill centers and newly established aerospace manufacturing academies; and the Jobs for Washington's Graduates program.

**High school assessment system, \$23.0 million savings**

Assumes savings from instituting efficiencies in the high school assessment system by streamlining the number of annually administered student examinations. Students who do not pass an exam will have the new option of passing a graduation readiness transition course. Also revises the administration of the Collection of Evidence alternative to allow students to submit their credit-bearing coursework as demonstration of high school proficiency. School districts, instead of the state, will assume responsibility for evaluating the Collection of Evidence materials, and may count the activities toward a student's annual hours of instruction.

**Running Start, \$5.6 million savings**

Clarifies that the Running Start program for 11<sup>th</sup> and 12<sup>th</sup> graders pertains only to those students taking their courses at the college or online.

**TEACHING, LEADERSHIP AND COMPENSATION**

**Support high-quality teaching and instructional leadership, \$30.4 million total**

**Mentoring for new teachers, \$17.9 million**

Expands the state's Beginning Educator Support Team program. OSPI will work with school districts to provide mentoring to all first-year teachers and 3,000 second-year teachers.

**Turnaround programs, \$4.2 million**

Funds turnaround programs for schools identified for the state's persistently lowest-achieving schools program. Under OSPI's guidance, identified schools use evidence-based models for school improvement, including principal and instructional coaching.

Under the law, further state intervention can occur for schools and districts, if necessary, after three years.

**Expand pre-service classroom experience, \$4.2 million**

Integrates more K-12 classroom experience in pre-service training programs through funding of innovation grants and restoring funding for the Alternative Routes to Teaching program.

**Math and science training, \$2.3 million**

Provides more instructional training for K-8 math and science teachers; develops environmental science curricula; and increases the number of teachers endorsed in secondary-level computer science. More than 350 teachers will be trained each year.

**First-year principals, \$1.0 million**

Supports an additional 100 first-year principals with coaching and professional development while they progress as a school's instructional leader.

**Special education support, \$800,000**

Establishes a best practices clearinghouse for special education at OSPI and funds training for 20 more district leaders in special education administration.

**Invest in educator compensation, \$595.6 million**

**Initiative 732 salary increase, \$385.6 million**

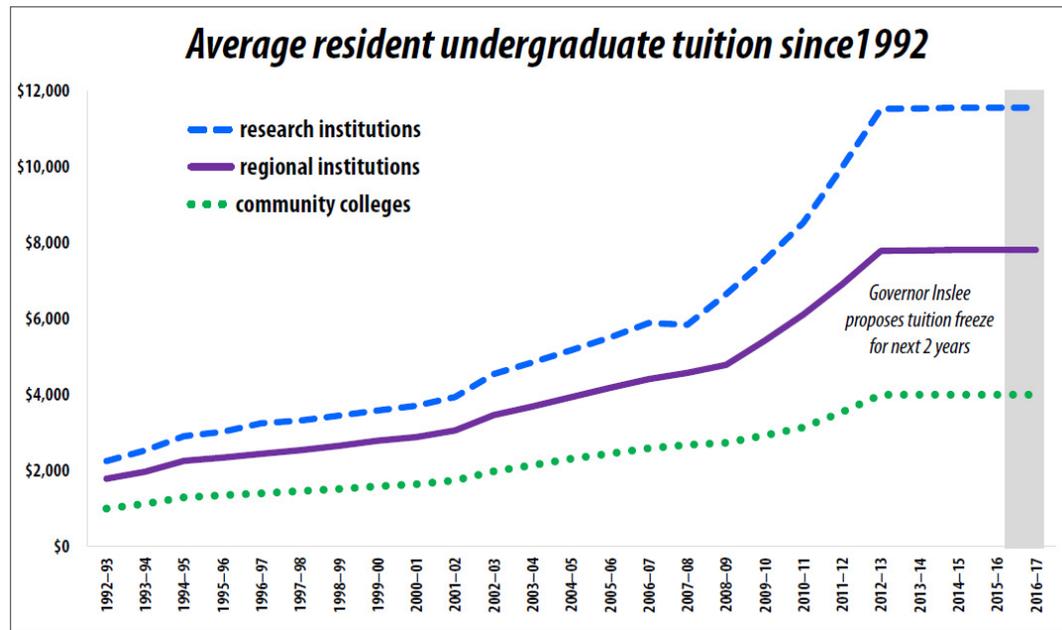
Fully funds the \$235.5 million salary increase under Initiative 732 and then provides \$150.1 million to cover a 3 percent salary increase for the 2015–16 school year, followed by a 1.8 percent increase in the 2016–17 school year. These rates are in alignment with increases recommended for state employees.

**Pension rates, \$210.0 million**

Provides maintenance-level funding for the state's share of higher employer pension rate contributions for K-12 employees.

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From 2008 to 2012, average resident undergraduate tuition increased by 73 percent at Washington's research institutions, 56 percent at our regional institutions and 42 percent at our community colleges.



## HIGHER EDUCATION

Maintain higher education access and affordability, \$125.5 million

### Tuition

Freezes resident undergraduate tuition for both years of the 2015–17 biennium for the public baccalaureate colleges and the community and technical colleges. The budget assumes future tuition decisions will be made in the state's budget, which will not allow institutions to increase tuition above levels recommended here. Rates for the public colleges and universities have steadily risen since the early 1990s, and then spiked sharply from 2009 to 2013, the result of the state's effort to balance the budget during the Great Recession.

Separate legislation will address residency requirements for our state's veterans and dependents to conform to federal law changes passed in August 2014. The legislation will allow the public colleges and universities to continue participation in the Post-9/11 GI Bill and Montgomery GI Bill programs.

### Opportunity Scholarship, \$100.0 million

Contributes funding to the Washington State Opportunity Scholarship, a public-private partnership established in 2011 to address rising tuition and promote career opportunities. Students

from families earning up to 125 percent of the state's median family income are eligible if they commit to earn a bachelor's degree in high-demand fields in STEM and health care. With the state's investment, an estimated 12,000 more students are expected to benefit each year.

### College Bound and State Need Grant, \$25.5 million

Increases enrollment in the College Bound Scholarship program by 5,576 students. The program provides an early commitment of financial aid to low-income 7<sup>th</sup> and 8<sup>th</sup> graders who pledge to attend college. Students who meet eligibility requirements while in high school and attend a college in Washington are eligible for an award covering tuition and fees at public institution rates and a \$500 annual book allowance. The Caseload Forecast Council expects the program to grow from 12,345 students in the 2014–15 academic year to 17,921 students in the 2016–17 academic year.

### Financial aid coordination

Improves coordination of financial aid funding to ensure College Bound students receive the maximum State Need Grant awards. The budget reflects savings of \$23.6 million to the College Bound program and reinvests those savings with \$23.6 million for the State Need Grant program.

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**Boost higher education attainment and training, \$30.4 million**

**I-BEST and ABE programs, \$10.0 million**

Increases job training through the Integrated Basic Education and Skills Training program (\$5.0 million) and basic education access through Adult Basic Education programs (\$5.0 million) at the community and technical colleges for 800 adults without a high school diploma.

**STEM: Math and science graduates, \$8.0 million**

Increases long-term production of math and science graduates — by a combined 400 graduates — at Central, Eastern and Western Washington universities and The Evergreen State College.

**STEM: Computer science and engineering programs, \$6.0 million**

Expands advanced computer science and engineering programs at the University of Washington and Washington State University to keep up with job demands in these competitive fields. A total of 225 high-demand slots will be added.

**Aerospace apprenticeships, \$2.5 million**

Expands support of registered aerospace and advanced manufacturing apprenticeship programs at 20 colleges across the state. The State Board for Community and Technical Colleges will operate in conjunction with the Aerospace Joint Apprenticeship Committee for implementation of these funds.

**STEM: MESA, \$2.0 million**

Expands the Mathematics, Engineering, Science Achievement program at the community and technical colleges by 600 slots to boost support of underrepresented students in these high-demand fields.

**Training programs, \$1.9 million**

Targets industry investments to maintain economic competitiveness with \$1.6 million for the operation of a fabrication composite wing incumbent-worker training program at the Washington Aerospace Training and Research Center in Everett. Funding will provide technology, curriculum and equipment

related to program startup and initial student training and \$300,000 for a maritime licensing training program at Seattle Central Community College for two more full-time faculty members.

**HIGHER EDUCATION — OTHER PROGRAMS**

**Targeted health professions funding, \$3.0 million**

Addresses shortages of trained medical and mental health providers. Makes loan repayments for primary care providers working in health professional shortage areas or mental health providers working with adolescents.

**Industrial and farm energy audits, \$2.6 million**

Expands the voluntary energy and engineering audit programs at Washington State University's Extension Energy Program. Of that amount, \$1.6 million is for the Industrial Energy Services Center and \$1.0 million for the Farm Energy Program. Funding will provide the industrial and agricultural sectors with technical assistance, best practices training and engineering improvements for lower energy consumption.

**Ocean acidification, \$1.6 million**

Supports the Washington Ocean Acidification Center at the University of Washington to continue coordination and research to understand, monitor and adapt to increasingly acidic waters. One-time funding was provided in the 2013–15 biennium. This will establish permanent funding of \$1.4 million for the program. Of this amount, \$200,000 is provided to study the biological response of selected commercial and managed species, such as rockfish and salmon, to ocean acidification.

**Climate Impacts Group, \$1.0 million**

Adds funding for the Climate Impacts Group at the University of Washington to conduct data modeling and provide technical assistance on climate impact analysis to Washington communities, businesses and governments.

**Renewable energy incentives, \$250,000**

Provides funding to the Extension Energy Program at Washington State University to administer the state's incentive program for solar energy systems.

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# GOVERNOR INSLEE'S STEM EDUCATION INNOVATION ALLIANCE

## Appointed Members:

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First Name	Last Name	Position Title	Organization	Email
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Dan	Grossman	Associate Professor	University of Washington Computer Science & Engineering	<a href="mailto:dig@cs.washington.edu">dig@cs.washington.edu</a>

## National Governor's Association-STEM Project Operations and Management Team:

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Daryl	Monear	Associate Director for Academic Affairs and Policy	Washington Student Achievement Council	<a href="mailto:daryl@wsac.wa.gov">daryl@wsac.wa.gov</a>
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**Over Arching Goal:** Students who are innovative and creative at solving problems

**Strategy:**

- Adapt our assessments to be:
  - Less time intensive
  - Better balanced across a set of key indicators

*Less testing, smarter testing, better balanced testing, less impact to students*

**Tactic:**

- Find a way to assess our progress on helping students develop skills in creative problem solving
  - Without additional impact on Student Confidence – NOT another high stakes test!
  - More aligned with our belief that all children are unique and we should help them find their path and passion
  - Using existing methods that are proven, known and in use now
  - Without a lot of additional cost or time
- To encourage more emphasis on teaching methodologies that develop these skills: People pay attention to the things we inspect, more than the things we expect.

**One Idea for a Solution:**

- Renzulli Scales
  - A battery of 14 scales used for assessing students in Gifted Programs
  - In use for over 40 years with a rich catalogue of data and resources
  - Widely used in school districts today. Teachers are already trained.
  - Online and inexpensive (est. \$1 per student)
  - Subjective ratings but with longitudinal data
  - Accessible language that even parents and the children could use for self-assessment
- How we could use them
  - At three points along their school career: K-1; 5-6; and 8-9.
  - NOT as another high stakes assessment.
  - For all children, not just gifted programs, to see what each child is interested in so teachers, students and parents could craft a unique pathway plan for that child.
  - In K-1 as the baseline; in 5-6 with parent inclusion as part of parent/teacher conferencing and planning
  - In 8-9 with parent and student inclusion as part of their high school and beyond planning.
  - Aggregate data to see longitudinal correlations for program assessment (are various programs developing or diminishing creative problem solving skills)

Nancy Truitt Pierce  
Monroe School Board, Director #2  
206.550.8890 (cell)  
truittpiercen@monroe.wednet.edu



STUDENT'S NAME (OR ASSIGNED CODE NO.): \_\_\_\_\_

## CREATIVITY CHARACTERISTICS

The student demonstrates . . .

Never      Very Rarely      Rarely      Occasionally      Frequently      Always

1. imaginative thinking ability.
2. a sense of humor.
3. the ability to come up with unusual, unique, or clever responses.
4. an adventurous spirit or a willingness to take risks.
5. the ability to generate a large number of ideas or solutions to problems or questions.
6. a tendency to see humor in situations that may not appear to be humorous to others.
7. the ability to adapt, improve, or modify objects or ideas.
8. intellectual playfulness, a willingness to fantasize and manipulate ideas.
9. a nonconforming attitude, does not fear being different.

Add Column Total:

Multiply by Weight:

1      2      3      4      5      6

Add Weighted Column Totals:

+      +      +      +      +

Scale Total:

### Scoring:

- Add the total number of x's in each column to obtain the "Column Total."
- Multiply the "Column Total" by the "Weight" for each column to obtain the "Weighted Column Total."
- Sum the "Weighted Column Totals" across to obtain the Score for each dimension of the scale.
- Enter the Scores for each dimension on the cover sheet.

STUDENT'S NAME (OR ASSIGNED CODE NO.): \_\_\_\_\_

## ARTISTIC CHARACTERISTICS

The student . . .

Never      Very Rarely      Rarely      Occasionally      Frequently      Always

- likes to participate in art activities; is eager to visually express ideas.
- incorporates a large number of elements into artwork; varies the subject and content of artwork.
- arrives at unique, unconventional solutions to artistic problems as opposed to traditional, conventional ones.
- concentrates for long periods of time on art projects.
- willingly tries out different media; experiments with a variety of materials and techniques.
- tends to select art media for free activity or classroom projects.
- is particularly sensitive to the environment; is a keen observer—sees the unusual, what may be overlooked by others.
- produces balance and order in artwork.
- is critical of his or her own work; sets high standards of quality; often reworks creation in order to refine it.
- shows an interest in other students' work—spends time studying and discussing their work.
- elaborates on ideas from other people—uses them as a "jumping-off point" as opposed to copying them.

Add Column Total:

Multiply by Weight:      1      2      3      4      5      6

Add Weighted Column Totals:      +      +      +      +      +

Scale Total:

### Scoring:

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- Enter the Scores for each dimension on the cover sheet.

STUDENT'S NAME (OR ASSIGNED CODE NO.): \_\_\_\_\_

## MATHEMATICS CHARACTERISTICS

The student . . .

Never      Very Rarely      Rarely      Occasionally      Frequently      Always

1. is eager to solve challenging math problems. (A problem is defined as a task for which the solution is not known in advance.)
2. organizes data and information to discover mathematical patterns.
3. enjoys challenging math puzzles, games, and logic problems.
4. understands new math concepts and processes more easily than other students.
5. has creative (unusual and divergent) ways of solving math problems.
6. displays a strong number sense (e.g., makes sense of large and small numbers, estimates easily and appropriately).
7. frequently solves math problems abstractly, without the need for manipulatives or concrete materials.
8. has an interest in analyzing the mathematical structure of a problem.
9. when solving a math problem, can switch strategies easily, if appropriate or necessary.
10. regularly uses a variety of representations to explain math concepts (written explanations, pictorial, graphic, equations, etc.).

Add Column Total:

Multiply by Weight:      1      2      3      4      5      6

Add Weighted Column Totals:      +      +      +      +      +

Scale Total:

### Scoring:

- Add the total number of x's in each column to obtain the "Column Total."
- Multiply the "Column Total" by the "Weight" for each column to obtain the "Weighted Column Total."
- Sum the "Weighted Column Totals" across to obtain the Score for each dimension of the scale.
- Enter the Scores for each dimension on the cover sheet.

STUDENT'S NAME (OR ASSIGNED CODE NO.): \_\_\_\_\_

# TECHNOLOGY CHARACTERISTICS

The student . . .

Never      Very Rarely      Rarely      Occasionally      Frequently      Always

1. demonstrates a wide range of technology skills.
2. learns new software without formal training.
3. spends free time developing technology skills.
4. assists others with technology-related problems.
5. incorporates technology in developing creative products/assignments/presentations.
6. eagerly pursues opportunities to use technology.
7. demonstrates more advanced technology skills than other students his or her age.

	Never	Very Rarely	Rarely	Occasionally	Frequently	Always
1.						
2.						
3.						
4.						
5.						
6.						
7.						
Add Column Total:						
Multiply by Weight:	1	2	3	4	5	6
Add Weighted Column Totals:	+	+	+	+	+	
Scale Total:						

### Scoring:

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