



STEM Education Innovation Alliance

MEETING NOTES

DATE Wednesday, February 14, 2018
LOCATION Washington State Capitol Campus
John A. Cherberg Building
298 15th Avenue SW
Olympia, Washington 98504
Conference Room A-B-C

TOPIC Science, Climate and Environment Day

The focus of this meeting was on science education in the public schools. The meeting notes provide highlights of the presentations given by students, ranging in grade levels from kindergarten to high school.

Gene Sharratt, STEM Alliance Co-Chair, welcomed the group and facilitated a round robin of introductions from STEM Alliance members. A list of attendees follows these notes.

Governor's Comments

State of Washington Governor **Jay Inslee**

Governor Inslee shared with the STEM Alliance his goals for climate change and science education.

- The Governor's father taught biology in the high school. His father believed that students can do great things, even with minimal talent.
- The state data shows an increase in the number of kindergarteners ready to start their math journey, the number of students with readiness in STEM coursework, and alignment of educational programs with the state's workforce demand.
- The state has more work to do in areas such as gender imbalance and disparities by ethnicity and income. The state is making progress but needs to do more.
- The Governor supports legislation that will increase financial aid for all students, expand the opportunity scholarship for two-year programs, and increase financial aid for Development, Relief and Education for Alien Minors ("DREAMers"). He would like to increase STEM degrees attained by our students.

- The Governor asserted that the state’s education system is not doing its job unless every high school graduate is environmentally literate, has an understanding of climate science, and is ready to use that knowledge to be great citizens.
- The Governor is convening a taskforce on climate change.
- The computer science legislative request at UW is being augmented with private industry contributions.
- OSPI is administering \$6 million in grants to school districts for the advancement of the Next Generation Science Standards.
- The Governor would like the Legislature to act on the findings of scientific studies, including reducing carbon pollution. He referenced a legislative bill that will finance further education and research on the ability to grow the economy while reducing pollution - three centers of excellence for smart grid technology and hydropower resources.
- He supports \$17 million in additional funds to increase the number of guidance counselors.
- The Governor acknowledged Tesla High School science teacher Mike Town as a great science educator.

Presentations on Science, Climate & Environment by Students and Industry Associates

Students from the following schools presented recently completed science projects. The [STEM Alliance website](#) contains summaries of the projects and the presentation slide decks. The notes also list the community and industry partners who work with each school, indicating the effectiveness and expansiveness of these partnerships.

COLUMBIA CREST A-STEM ACADEMY

Ashford, Washington | Eatonville School District

Grade Levels: K-2

Project Title: Upcycling, Terracycling and Red Worms: How to Be a “Green” Sustainable School

Student Presenters: Kayden Dewey (K), Jakob Howard (1), Addison Johnson (2)

Community & Industry Partners

Nisqually Education Project, Mount Rainier National Park Rangers, Pierce County Conservation Partners

- Students in kindergarten, first and second grade at Columbia Crest A-STEM Academy work to minimize their carbon impact and implement sustainable strategies for recycling, upcycling, and maintaining a compost pile by using red worms.

- Kayden discussed upcycling, reusing trash at school to make innovative items. She showed a reusable bag made with duct tape and empty snack chip bags.
- Jakob discussed reducing the amount of food that ends up in the landfill from school lunches by providing five compost bins at the school. The students observed the red wiggler worms' impact to the compost. He explained that the foul smelling worms deter predators and can turn waste into good soil.
- Addison discussed reducing waste in the landfill and reducing the size of the school's waste receptacles by collecting items in brigades and sending them off to TerraCycle, a recycling company that turns raw materials into new products.
- The students showed a recycling application by demonstrating an electric cat feeder the class designed.

BORDEAUX ELEMENTARY SCHOOL

Shelton, Washington | Shelton School District

Grade Level: 4

Project Title: Environmental Factors Affecting Salmon

Student Presenters: Evelyn Allen, Andrew Luedtke, Sariah Olson, Andi Rooks

Community & Industry Partners

Pacific Education Institute, South Sound Salmon Enhancement Group, Taylor Shellfish

- Students investigated the health of a salmon stream as a way to learn about water quality, habitats, lifecycle and the effects the environment and humans might have on salmon. The students discussed the life cycle of a salmon including its behavior. They raised salmon from egg to fry and released them into a waterway in Belfair, Washington. Their classroom investigations included materials from Come Back Salmon and Trees to Seas (www.treestoseas.org), a game that explains the life cycle of a salmon. The students pointed out that if you pollute a watershed, it goes into the streams and rivers, and affects wildlife.
- Science experiments showed how wetlands filter water and performance tests showed importance of clean water for salmon.
- Field experiments included Kids' Day at OysterFest (www.oysterfest.org).
- They observed that a healthy riparian zone, with trees and associated root structure, prevents erosion.

- Climate change affects the temperature of streams that affects life cycle of salmon – its metabolism and results in shifts in migration. It also affects habitat due to lower snow pack and stream levels in the summer, while more rain in the winter expands streams and destroys habitat. This results in a decline in the salmon population and negatively impacts Native American tribal customs and traditions.
- Community partners in Mason County, like Bill Taylor from Taylor Shellfish, have supported these scientific research activities (see list of community partners above). Bill identified issues at Taylor Shellfish of hiring and retaining workers. Taylor Shellfish needs people with better qualifications – not just harvesters of clams and oysters – and has a broad range of jobs available. It is important to his business for kids in the field to understand the shellfish industry. He mentioned that the farm animal is at the “bottom of the drain” and emphasized the need to educate students about how lifestyle affects the water. The study of shellfish provides instruction in biology, chemistry and contextual learning for students.
- The project has been ongoing for ten years and recently expanded, in collaboration with Pacific Education Institute, with the creation of FieldSTEM Experiences.

EVERGREEN MIDDLE SCHOOL

Everett, Washington | Everett School District

Grade Level: 8

Project Title: Energy Matters: Applying NGSS to Energy Conservation in Schools

Student Presenters: MacKenzie Johnson (8), Ali Al Ghanim (9)

Community & Industry Partner

Washington Green Schools

- Washington Green Schools in partnership with Everett Public Schools developed the Energy Matters program to strengthen students’ mastery of the Next Generation Science Standards (NGSS) and engage students in energy conservation projects at home and at school. Students in Energy Matters learn about the connections between energy and climate and take action to reduce their impact. The desired outcomes of this partnership include Climate and Environmental Literacy, STEM and 21st Century Skills, Pathways into Environmental Careers, and Resource Conservation in Schools.
- The Boeing Company, Washington State Department of Commerce, Fluke Corporation, Snohomish PUD, and McKinstry – all come together to increase skills among students and facilitate energy conservation. The introduction of students into energy careers opens new doors.
- Every middle school in the district is involved in the Energy Matters program, and now it is expanding into other districts.

- The Energy Matters program provides hands-on, relatable curriculum. Example project: “Fido” and his doghouse project – how to keep it warm in winter and cool in summer. The doghouse project represents a building and combines next generation science standards, career and technical education, and core skills, including developing skills in science and engineering. The Measurements of Student Progress (MSP) scores in science increased dramatically in a school with 60% “free and reduced price lunch.” The industry partners were instrumental in the program’s success.
- The students discussed the primary sources of energy production – hydropower versus coal, natural gas and petroleum. Most of Washington’s power comes from its dams.
- When greenhouse gases increase, the earth’s temperature also increases. The melting of the polar ice caps shows earth’s temperature is increasing. The students showed a picture from NASA, showing the reduction in the polar ice cap from 1979 to 2017.
- The doghouse project tested color, size, and shape of the doghouse. They tested which variables kept “Fido” comfortable and applied the learning to energy conservation strategies.
- The kill-a-watt meter showed the importance of unplugging devices when not in use. The students determined their school was the fourth worst of the 42 buildings in the school district, in part due to use of natural gas. A metric ton of gas is the size of a house and school produces 50 times this each month. Students put up posters around their school with reminders to turn off lights and devices.

TAHOLAH HIGH SCHOOL

Taholah, Washington | Taholah School District

Grade Level: 9

Project Title: Hypoxia

Student Presenters: Crystal Vessey, Niamya Culey-Sialto

Community & Industry Partners

Quinalt Indian Nation Tribal Council & Elders, Quinalt Department of Natural Resources, University of Washington, University of Oregon, Western Washington University, Northwest Indian College, Taholah School District Board Members

- Project’s focus is to teach the students the importance of their environment and the need to maintain it for generations to come.
- Students participated in this study of hypoxia with the Quinalt Department of Natural Resources (DNR), led by Ocean and Marine Biologist Joe Schumacker. The students documented, monitored and graphed the oceanic info. The info was included in the Quinalt

Nation's report to the National Science Foundation on hypoxia. Students also study the effects of ocean acidification and algal blooms on water quality.

- Taholah School is a state-supported school located on the Quinault reservation. Approximately 180 tribal students attend the school.
- The Quinault Nation desires its students have the knowledge to protect its essential natural resources. Several conservation groups – including universities and others – support this program as well.
- The students' "classroom" includes experiences in the field. The students study hypoxia, algal blooms and ocean acidification. The mouth of the Quinault River drops into the ocean and is the lifeblood of the Nation. Career and technical education allows for hands-on instruction, supports healthy self-esteem, provides real life experiences, and lets students work directly with professionals, the community and Elders. Students use tools such as YSI monitors, graphing, pH testing instruments, water tester incubators to test for E. coli bacteria, HOBO Data Loggers, and then share findings with professionals in Quinault DNR.

SUMNER HIGH SCHOOL

Sumner, Washington | Sumner School District

Grade Levels: 9-12

Project Title: The Biological Hazards and Toxicity of Chloride Road Deicers to Ceriodaphnia Dubia

Student Presenters: Makenzie Campbell, Kate Harris

Community & Industry Partner

Washington State University Puyallup Research and Extension Center – Washington Stormwater Center

- Project determined the toxicity of chloride road salts to the life cycle of the organism freshwater crustacean Ceriodaphnia dubia. This organism comes in contact with highway water runoff. The project assessed the extent that these salts contribute to the known toxicity of highway runoff.
- Highway runoff with the deicers caused a mortality rate increase of 40% for this organism – an organism that is low on the food chain and consumption of chloride road salts causes detrimental effects on it.
- More research is needed to study non-toxic deicers. Could also look at hydraulic fluids.
- Climate change is causing polar ice caps to melt and the bleaching of coral reefs. Our society's adaption to climate change is making it worse by doing such things as using roadway deicers, increasing water usage, and harmful heating and cooling methods, such as wood burning fireplaces.

- Many areas of the country use these roadway chemicals throughout the winter. It is important to understand the impact they could have on local ecosystems. Based on the results, it is clear that deicing salts have a detrimental toxicity to the organism Ceriodaphnia Dubia.
- Students expressed a passion for research because of this project.

COLTON HIGH SCHOOL

Colton, Washington | Colton School District

Grade Level: 10

Project Title: Soil Health Benefits of Cover Crops and Grazing Cover Crops

Student Presenter: Jackson Meyer

Community & Industry Partner

Palouse Conservation District - Regional Conservation Partnership Program

- Red Barn Farms is a family-owned farm located near Colton, Washington. The family is engaged in a three-year study to research the effectiveness of utilizing cover crops and incorporating grazing livestock to determine an alternative cropping system. The farm is a no-till operation with an average rainfall of 20 inches.
- In 2017, Jackson, a freshman at the time, decided to assist his family and use this project as a Future Farmers of America Supervised Agricultural Experience. His goals included to: find a more sustainable way for farming while protecting natural resources; test the farm's ability to build soil health using cover crops and cattle on the Palouse; and learn if this plan is economically feasible.
- Jackson was enrolled in Colton High School's Agriculture Food and Natural Resources (AFNR) class when this project started and a majority of this project took place over the summer and was performed on his own time as an extension of career and technical education coursework. The project covers several Next Generation Science Standards.

TESLA STEM HIGH SCHOOL

Redmond, Washington | Lake Washington School District

Grade Levels: 11-12

Project Title: Operation Sustain

Student Presenters: Rayan Krishnan, Anne Lee

Community & Industry Partners

University of Washington Earth Games, Code 4 Charity, Seattle Youth Climate Action Network

- Operation Sustain is an organization run by six high school students who have the goal of promoting climate change education among youth. They found that elementary students either don't understand climate change or think that the problem is too big to solve.
- To make the science behind climate change and the solutions more transparent, the team developed a computer simulation game in which students design their own city while learning about renewable energies and sustainability.
- The students collaborated with UW Earth Games. Students determine taxes, amount of water, housing and farming and learn about renewable energy.
- The high school students created a teacher guide and student guide for a curriculum guide and developed a launch kit. They implemented it into third through fifth grade classes with successful results based on Next Generation Science Standards metrics.
- Collaborated with Code for Charity. Included information about algorithms and concepts to make lessons clear. Included lesson plans for four days with pre-quizzes. Introduced challenge modes, such as earthquakes.
- In the final quiz, elementary students significantly increased (doubled) their initial scores and provided answers that reflected their increased comprehension of the concepts. It has an explosive effect – students were so happy to see students from Tesla High School arrive in their classroom.
- Can use technology to support students in unguided activities to learn about climate change. Visit www.osustain.org for more information.
- The team recently won the Lexus Eco Challenge and a \$10,000 prize for their work. In the recent past, they placed first at Imagine Tomorrow, Washington State University's Science & Engineering Contest.
- They aim to integrate the program into the Lake Washington School District's curriculum and spread it across the United States. They are looking for a non-profit partner organization, such as the National Wildlife Federation, to expand their mission nationally.
- Curriculum correlates to the Next Generation Science Standards.
- The students have invested three years writing the code, testing the effectiveness of the game and measuring the level of achievement of the elementary students.

TESLA STEM HIGH SCHOOL

Redmond, Washington | Lake Washington School District

Grade Level: 11

Project Title: Schools Under 2C

Student Presenters: Daniela Shuman, Roshan Nair

Community & Industry Partners

City of Redmond (SchoolPool), King County Green Schools Program, Alliance for Jobs & Clean Energy, Sustainability Ambassadors

- When it appeared likely that the United States would withdraw from the Paris Climate Accord, students at Tesla STEM High School decided to take action by launching Schools Under 2C (SU2C), a climate awareness organization. “2 degrees Celsius” is the threshold for global warming – the students wanted to teach about the impacts and solutions of climate change and reduce gas emissions at schools around the world to meet the Paris climate agreements.
- Students worked together with faculty to reduce Tesla STEM High School’s monthly carbon footprint to Paris climate agreement levels by implementing a composting program and lighting reduction plan, which reduced over two tons of carbon emission each month.
- The team collaborated with the City of Redmond to develop a mobile application to encourage students to take “greener” modes of transportation – carpooling.
- Students tapped technology partnerships in the community. Students gave proceeds from successful competitions to the school for future equipment purchases.
- All students engaged in the project take advance placement environmental science that is very application based and takes on a global perspective.
- Students take projects such as transportation redesign to improve traffic flow into the schools. Recently, 30 students went out to schools to give presentations and coordinate events. Programs on composting, lighting reduction, recycling, heating reduction and transportation changes resulted in a 20% reduction last year.
- The students challenged other schools across the world to do the same thing. Over 50 schools have taken the Schools Under 2C pledge to take action in their own community.
- SU2C won the President’s Environmental Youth Award from the Environmental Protection Agency.

OTHER PRESENTATIONS

Communication Plan for Next Generation Science Standards (NGSS) – Washington State Board of Education’s Approach

Jeff Estes, *Board Member*, Washington State Board of Education

Alissa Muller, *Communications Manager*, Washington State Board of Education

Jeff and Alissa presented the Washington State Board of Education’s (SBE) communication plan to advance and amplify the successful implementation of NGSS. The details of SBE’s plan are included in the handouts available on the [STEM Alliance website](#).

Jeff said the STEM Alliance’s work and its 2018 STEM Education Report Card are good communication efforts related to STEM. The recently released 2018 STEM Education Report Card is a great example of the way the STEM Alliance is making the STEM messages “stick” around the state. He said the 2018 recommendations align with implementing the NGSS standards, with fidelity. The state needs to establish and evolve a more robust educational system that supports schools statewide.

The major challenge is to continue to influence the way people respond to NGSS. The objective of SBE’s communication plan is to leverage other efforts to advance the successful implementation and continued sustainability of science education in the state.

Discussion: Updating the environmental and sustainability literacy plan (Senate Bill 6421) and Next Generation Science Standards

Lisa Eschenbach, *Strategic Advisor*, E3 Washington

Lisa discussed the importance of integrated learning and community partnerships, and environmental and sustainability education. She emphasized the importance of meaning and seeing that the learning matters. The passage of Senate Bill 6421 will update the environmental and sustainability literacy plan on the OSPI science page.

E3 Washington is gearing up to host the North American Association for Environmental Education 2018 Conference, *Environmental Education: A Force for the Future Conference*, happening on October 10-13, 2018, in Spokane. The Research Symposium will be October 8-9, 2018, at the same location as the conference. For more information, visit the [NAAEE website](#). The call for presentations will close on April 2, 2018.

2018 STEM Education Report Card & Legislative Highlights

Maddy Thompson, *Senior Policy Advisor*, Washington State Office of the Governor

Legislative Bill Highlights

The Washington State House of Representatives and Senate budget proposals are expected next week. Maddy said we are hoping to see the Governor's proposed STEM investments included in those.

Senate Bill 6486

Passed the Senate Floor – It is a bill that expands registered apprenticeships.

Requires the Workforce Training and Education Coordinating Board and the Washington State Apprenticeship and Training Council to develop a strategic plan focused on apprenticeship.

- Convenes a workgroup comprised of legislative members, industry representatives, apprenticeship model experts, and agency representatives to review existing registered apprenticeship programs, analyze opportunities to expand existing apprentices programs, and recommend policies to increase youth and adult apprenticeships.
- Establishes a coordinator at the Department of Labor and Industries to provide outreach to the private sector and assist industries in establishing apprenticeships where none exists.
- Establishes the Complete Washington program, coordinated by the Lieutenant Governor, to connect prior learning, including registered apprenticeships and other skills-based work experiences, with postsecondary degree completion.

Substitute House Bill 2685

Requires OSPI, in consultation with the State Board for Community and Technical Colleges and the Washington State Apprenticeship and Training Council, to examine opportunities for promoting registered pre-apprenticeship and registered youth apprenticeship opportunities for high school students and report to the Governor and the Legislature by November 1, 2018.

House Bill 1600

On work-integrated learning, passed the House with some amendments, and links the work of Career Connect and WIOA projects.

Senate Bill 6136

Removes concurrent enrollment requirements of Algebra 2 for AP Computer science courses to be counted as equivalent to high school math.

House Bill 1488 and Senate Bill 5074

Bills related to eligibility of DREAMers for the College Bound program – passed the Senate and House version is on the House floor.

House Bill 1452

Expands the Opportunity Scholarship to workforce programs.

2018 STEM Education Report Card

Accomplishment Highlights:

- increased awareness among Washingtonians of the opportunities in STEM (improved by another third)
- increased number of people pursuing postsecondary education that want to be in a STEM program
- With regard to math – about 2/3 of Washington’s incoming kindergarten students demonstrate math readiness
- Over a six-year period, the number of high schools offering Advanced Placement dual credit programs in Computer Science grew from 14 to 98 schools.
- In a four-year period, we have seen significant increases in the number of students completing STEM program; a 13% increase in STEM related Associate Degrees, at the four-year level we have seen an 83% increase in Computer Science completions; engineering increase of 25%, health: 30%
- Graduate level increases two

Still work to do: Demand is outpacing supply – and the Report Card has a graphic depiction of this for Computer Science.

Two of the greatest challenges we still face are the:

1. opportunity gaps
2. gender imbalance

Socio-economic status also represents a great challenge: While about two thirds of our kindergartners overall demonstrate readiness for math, of low-income students only half of them demonstrate readiness.

Students from low-income families are disadvantaged at all states – among all students completing AP programs, only 12% were from low-income families – and overall about 43% of our students are eligible for Free or Reduced Price Meals.

Importance of science and technology education in Washington

Superintendent of Public Instruction **Chris Reykdal**

Our curriculum needs to integrate STEM education into other coursework, beginning with early learning. The K-12 schools have students for 16% of their waking hours, and time is precious. It is not a Governor initiative; it is a mandate for us all. We need to love public schools as foundational to our democracy. How can we think differently about 11th and 12th grade? One size does not fits all.

Vision for rural and remote schools: Different districts have varying access to resources. We cannot leave STEM to be a three-county discussion, limited to just the Puget Sound area. We need to open education resources to all areas of the state. Rural districts need key resources such as broadband

access and expanded opportunities for curriculum enrichment activities. We need to help students remain in their home communities, not necessarily feeling a need to move to the Puget Sound region immediately after graduating.

On the Governor's vision for climate science and NGSS: We need a timeline that makes sense. Each of our 120,000 educational professionals need professional development. We need to make sure to integrate this professional development into career and technical education programs as well.

Question: Could you elaborate on your vision for 11-12 grade education?

Supt. Reykdal: We take a broader scope in our approach without focusing specifically on the 11th and 12th grades. Early learning and K-8 education need more funding. We are woefully inadequate in our approach to secondary language instruction. The vision is to help students become actually fluent in a second language, not just take a language in 11th or 12th grade for college admission.

[Link between student-learning engagement and reducing greenhouse gases](#)

Abby Ruskey, *Fellow*, U.S. Partnership for Education for Sustainable Development

The book [Drawdown: The Most Comprehensive Plan Ever Proposed to Reverse Global Warming](#) (Paul Hawken) says we need to pull out of the atmosphere over two gigatons of greenhouse gases. We need to stop putting it up and start bringing it down – the book includes 100 climate action solutions and provides the roadmap.

How can we integrate this into all operations of society, including education, by 2020?

Abby displayed a graph that indicates a priori ability of climate action and impact for each population cohort – is there intent, resource and ability to take action. Individual, family, coworkers, school, village, community, urban, national, regional, continental, global for one billion people. The sweet spot is “school” – scale of 1,000 to 100,000 people.

The [meeting handouts](#) include a paper detailing and illustrating this link between student-learning engagement and the reduction of greenhouse gases.

NEXT MEETINGS

May 2018 – Location and date to be determined.

October 2018 – Meeting in conjunction with:

North American Association for Environmental Education 47th Annual Conference

“Environmental Education: A Force for the Future”

October 10-13, 2018

Spokane Convention Center | Spokane, Washington

MEETING ATTENDEES

STEM Education Innovation Alliance Meeting - February 14, 2018 - Roster of Meeting Attendees			
STEM ALLIANCE MEMBERS			
First Name	Last Name	Position Title	Organization
John	Aultman	Executive Policy Advisor for Higher Education and Workforce Development	Washington State Office of the Governor
James	Dorsey	Executive Director	Washington Mathematics Engineering and Science Achievement (MESA)
Jeff	Estes		Citizen Member
Paul	Francis	Executive Director	Council of Presidents
Janet	Frost	Director	WSU Spokane Health Science STEM Education Research Center
Kathryn	Kurtz	Executive Director	Pacific Education Institute
Ed	Lazowska	Bill & Melinda Gates Chair	University of Washington Computer Science & Engineering
Glenn	Malone	Executive Director	Puyallup School District - Assessment, Accountability & Student Success
Marcie	Maxwell		Citizen Member / Former State Representative
Mike	Meotti	Executive Director	Washington Student Achievement Council
Eleni	Papadakis	Executive Director	Workforce Training and Education Coordinating Board
Chris	Reykdal	Superintendent	Office of Superintendent of Public Instruction
Dana	Riley Black	Executive Director STEM, Legislation & Partnerships	Everett Public Schools
Naria	Santa Lucia	Executive Director	Washington State Opportunity Scholarship
Michael	Schutzler	CEO	Washington Technology Industry Association
Gene	Sharratt	College Promise Coalition and Executive Director	Office of Superintendent of Public Instruction/Association of Educational Service Districts Network
Randy	Spaulding	Executive Director	Washington State Board of Education
Kevin	Wang	Founder && Ringleader	Technology Education and Literacy in Schools (TEALS) / Microsoft Philanthropies
Jan	Yoshiwara	Executive Director	State Board for Community and Technical Colleges

OTHERS			
First Name	Last Name	Position Title/Role	Organization
Ali	Al Ghanim	Student	Evergreen Middle School
Evelyn	Allen	Student	Bordeaux Elementary School
Kristin	Bahr	Superintendent	Eatonville School District
Chadd	Bennett	Assistant Director for Digital Information	Washington Student Achievement Council
MacKenzie	Campbell	Student	Sumner High School
Niamya	Culey-Sailto	Student	Taholah High School
Christian	Davey	Parent	Columbia Crest A-STEM Academy
Kayden	Dewey	Student	Columbia Crest A-STEM Academy
Ellen	Ebert	Director, Learning and Teaching Science and Environmental and Sustainability Education	Office of Superintendent of Public Instruction
Lisa	Eschenbach	Strategic Advisor	E3 Washington
Rochelle	Gandour-Rood	Environmental and Sustainability Education Program Supervisor	Office of Superintendent of Public Instruction
Diane	Graham	Teacher	Bordeaux Elementary School
Kate	Harris	Student	Sumner High School
Jakob	Howard	Student	Columbia Crest A-STEM Academy
Tom	Hulst	Board Member	E3 Washington
Addison	Johnson	Student	Columbia Crest A-STEM Academy
MacKenzie	Johnson	Student	Evergreen Middle School
Rayan	Krishnan	Student	Tesla STEM High School
Patti	Larriva	Principal	Taholah High School
Anne	Lee	Student	Tesla STEM High School
Arny	Leslie	Teacher	Tesla STEM High School
Ronde	Litzenbun	School Board President	Eatonville School District
Meredith	Lohr	Executive Director	Washington Green Schools
Andrew	Luedtke	Student	Bordeaux Elementary School
Craig	Marais	Science Teacher	Evergreen Middle School
Jordan	Martin	Administrative Assistant	Washington Student Achievement Council
Ellen	Matheny	Assistant Director of Operations	Washington Student Achievement Council
Jackson	Meyer	Student	Colton High School
Kay	Meyer	Parent	Colton High School
Ty	Meyer	Parent	Colton High School
Daryl	Monear	Associate Director for Academic Affairs and Policy	Washington Student Achievement Council
Nathan	Moore	Teacher	Colton High School
Alissa	Muller	Communications Director	Washington State Board of Education
Roshan	Nair	Student	Tesla STEM High School
Jessica	Olaiya	Teacher	Sumner High School
Sariah	Olson	Student	Bordeaux Elementary School
Abel	Pacheco	Director of Strategic Engagement	Washington Mathematics Engineering and Science Achievement (MESA)
Tim	Probst	Director, Workforce Development Strategic Initiatives, Executive Programs	Washington State Employment Security Department
Andi	Rooks	Student	Bordeaux Elementary School
Abby	Ruskey	Fellow	U. S. Partnership for Education for Sustainable Development
Juliet	Schindler Kelly	Director, Government Relations and Advocacy	College Success Foundation
Jim	Schmidt	Senior Forecast Coordinator	Washington State Office of Financial Management
Daniela	Schuman	Student	Tesla STEM High School
Andy	Seward	Facilitator	Eatonville School District
Rachelle	Sharpe	Deputy Executive Director	Washington Student Achievement Council
Allison	Shew	Principal	Columbia Crest A-STEM Academy
Andy	Shouse	Chief Program Officer	Washington STEM
Elizabeth	Smith	Assistant Director for Fraud Prevention Labor Standards	Washington State Department of Labor & Industries
Eleanor	Steinhagen	Communications Coordinator	Pacific Education Institute
Bill	Taylor	President	Taylor Shellfish
Kathe	Taylor	Assistant Supt for Learning & Teaching	Office of Superintendent of Public Instruction
Dan	Tedor	STEM Program Supervisor	Office of Superintendent of Public Instruction
Maddy	Thompson	Senior Policy Advisor	Washington State Office of the Governor
Mike	Town	Teacher	Tesla STEM High School
Crystal	Vessey	Student	Taholah High School
Rebecca	Wallace	CTE Executive Director	Office of Superintendent of Public Instruction
Jerry	Walther	Teacher	Taholah High School
Mark	Webster	Interim Government Relations Director	Washington Student Achievement Council
Bree	West	Teacher	Bordeaux Elementary School
Maggie	Yuse	Legislative Assistant to Senator Ranker	Senator Ranker's Office