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# STEM Investment Council

November 4, 2016  
9:00 a.m. – 12:00 p.m.  
2 World Trade Center  
Mezzanine 3 & 4  
25 SW Salmon St  
Portland, OR 97204

*Call-In Information: Dial: +1 (224) 501-3318; Access Code: 493-085-253*

## AGENDA

1. (9:00am) **Welcome and Introductions**
2. (9:05am) **Director Updates**  
Mark Lewis, Chief Education Office
3. (9:15am) **STEM Investment Updates**  
Trish Conlon, Oregon Department of Education
4. (9:30am) **Council Work Plan Development**
5. (10:00am) **STEM Afterschool Policy Grant**  
Beth Unverzagt, OregonASK
6. (10:20am) **STEM Beyond School Investment**  
Kristen Harrison, Portland Metro STEM Partnership
7. (10:45am) **STEMworks Program Review Rubric**  
Claus Von Zatrof, Change the Equation
8. (11:10am) **Oregon Talent Council Update**  
Melissa Leoni, Executive Director  
Eileen Boerger, Council Member
9. (11:30am) **East County STEM Hub Update**  
Krystal Meisel, Director
10. (11:50am) **Public Comment**  
*Members of the public wanting to give public testimony must sign in. There will only be one speaker from each group. Each individual speaker or group spokesperson will have three (3) minutes.*

*All meetings of the Chief Education Office are open to the public and conform to Oregon public meetings laws. The upcoming meeting schedule and materials from past meetings are posted on-line. A request for an interpreter for the hearing impaired or for accommodations for people with disabilities should be made to Jane Works at 503-373-1283 or by e-mail at [jane.works@state.or.us](mailto:jane.works@state.or.us). Requests for accommodation should be made at least 48 hours in advance.*

# 2016 STEM Hub Partners

## Central Oregon STEM Hub

*Director:* Whitney Swander, [whitney.swander@hdesd.org](mailto:whitney.swander@hdesd.org)

*Partners:* **Education:** Bend---LaPine School District, Crook County School District, Culver School District, Jefferson County 509---J School District, Redmond School District, Sisters School District, High Desert ESD, Regional CTE, Cascades STEM Lab School Cooperative, Central Oregon Community College, OSU---Cascades, OSU Open Campus.

**Key Community Partners:** The High Desert Museum, Better Together Central Oregon, The Bend Science Station, Children's Forest of Central Oregon, Deschutes Public Library System, Technology Association of Oregon, Economic Development for Central Oregon.

**Key Business and Industry Partners:** St. Charles AHEC, FiveTalent, Opportunity Knocks--Central Oregon, G5/Digital Experience Management, Microsoft, Intel, Bend Research, local engineering and architecture firms

## Columbia Gorge STEM Hub

*Director:* Ryan Long, [rlong@cgesd.k12.or.us](mailto:rlong@cgesd.k12.or.us)

*Partners:* **Education:** Hood River County School District, North Wasco County School District, White Salmon Valley Schools, South Wasco County School District, Sherman County School District, Dufur School District, Condon School District, Arlington School District, Spray School District, Fossil School District, Mitchell School District, Columbia Gorge Education Service District, North Central Education Service District, Columbia Gorge Community College, Mt. Hood Community College, Oregon State University Open Campus, Washington State University. **Community:** Building Bridges--Columbia Gorge Education & Workforce Collaborative, Mid---Columbia Children's Council, Four Rivers Early Learning Hub, East Cascades Workforce Board, Mid---Columbia Economic Development, Klickitat Economic Development, The Next Door, Inc. **Business and Industry:** Insitu, Orchard View Farms, Google, Gorge Technology Alliance

## East Metro STEAM Partnership

*Director:* Krystal Meisel, [krystal.meisel@mhcc.edu](mailto:krystal.meisel@mhcc.edu)

*Partners:* **Education:** Mt. Hood Community College, David Douglas, Reynolds, Centennial, Gresham---Barlow, Parkrose, Center for Advanced Learning, Portland State University, ACE Academy, IIT Technical Institute, Metro East Web Academy, Rosemary Anderson High School. **Community:** iUrban Teen, Impact NW, Home Forward, City of Gresham, Gresham Area Chamber of Commerce, MHCC Small Business Development Center, Saturday Academy, All Hands Raised, Business Education Compact, Oregon FIRST, Metropolitan Family Service, Project Lead the Way, Catholic Charities, Chess for Success, EAST Knowledge, Girls Inc., Log Camp, Multnomah County, Multnomah County Library, NedSpace, Northwest Enforcement, Oregon ASK, Oregon MESA, Portland METRO STEM Partnership, Worksystems, Inc., Morpheus Youth Project. **Business and Industry:** Microchip Technology Inc., Techolicy LLC, KCR Manufacturing, McKinstry, Oregon Tradeswoman, Portland General Electric

## Frontier Oregon STEM Hub

*Director / Superintendent:* Mark Redmond, [mredmond@malesd.k12.or.us](mailto:mredmond@malesd.k12.or.us)

*STEM and Innovation Coordinator:* Nickie Shira, [nickie.shira@malesd.k12.or.us](mailto:nickie.shira@malesd.k12.or.us)

*Partners:* **Education:** Malheur Education Service District, Harney County Education Service District, Eastern Oregon CTE Consortium, Eastern Oregon Community Based Services/Early Learning HUB, Malheur Promise, Treasure Valley Community College, Huntington School District, Arock School District, Juntura School District, Harper School District, Annex School District, Ontario School District, Nyssa School District, Vale School District, Jordan Valley School District, Adrian School District, Burnt River School District, Baker School District, Pine Eagle School District, and Harney County School District #3, Oregon State University, University of Oregon.

**Community:** Boys & Girls Club of the Western Treasure Valley, Malheur County Cradle to Career, Treasure Valley Community College Foundation, Oregon Department of Human Services District 14, Vale Bureau of Land Management, Eastern Oregon Regional Achievement Collaborative, Malheur County: Poverty to Prosperity, Malheur County Health Department, Lifeways Inc., TVCC Foundation. **Business and Industry:** DeBoer Farms, Sage Farms, Amalgamated Sugar, Malheur Memorial Clinic, Presbyterian Community Care, Martin Manufacturing, Kinney Repair, NORCO, Fusion Bumpers, Rockwell Automation, Schneider Electric, Northwestern Mutual, St. Luke's West Region, Allen---Bradley, McBride Ranches, Arriola Farms, St. Alphonsus Regional Medical Center, OSU Extension, XL Hospice.

## Greater Oregon STEM Hub

*Director: Donna Rainboth, [drainbot@eou.edu](mailto:drainbot@eou.edu)*

*Facilitator: Julie Keniry, [jkeniry@eou.edu](mailto:jkeniry@eou.edu)*

*Partners: **Education:** Grant, Intermountain, Harney, and Wallowa ESDs; Blue Mountain Community College; Eastern Oregon University; Treasure Valley Community College; Eastern Promise; Northeast Oregon Area Health Education Center; OHSU; OSU Agriculture Research Station; OSU Extension; OSU SMILE Program. **Community:** Building Healthy Families; Grande Ronde Model Watershed; Natural Resources Conservation District; OR Dept. of Fish and Wildlife (Ladd Marsh); US Forest Service Wallowa Whitman National Forest; Wallowa Resources; Blue Mountain Early Learning Hub; Cradle to Career Early Learning Hub; La Grande Parks and Recreation, Eastern Oregon Workforce Board, SAGE Center. **Business and Industry:** Key Technologies, SkipLine Inc., Ventures, Vernier Software, PGE, Barreto Manufacturing*

## Lane County STEM Hub

*Director: Heidi Larwick, [hlarwick@lesd.k12.or.us](mailto:hlarwick@lesd.k12.or.us)*

*Superintendent: Larry Sullivan, [lsullivan@lesd.k12.or.us](mailto:lsullivan@lesd.k12.or.us)*

*Partners: **Education:** Behavioral Research & Teaching, Bethel School District, Blachly School District, Connected Lane County Regional Achievement Collaborative, Creswell High School, Eugene School District 4J, Lane Community College, Lane Early Learning Alliance, Lane Education Service District, Marcola School District, Pacific University College of Education, Springfield Public Schools, The Science Factory, University of Oregon College of Arts & Sciences, University of Oregon College of Education, University of Oregon Undergraduate Programs, Willamette Resources Education Network. **Community:** Centro Latino, City of Springfield, Educational Policy Improvement Center, Equity & Community Consortium, Eugene Chamber of Commerce, Eugene Water and Electric Board, Lane Arts Council, Lane County, Lane Workforce Partnership, Museum of Natural & Cultural History, Stand for Children, STEM Core, United Way of Lane County. **Business and Industry:** BRING Recycling, Chambers Construction, Fertilab Thinkubator, Lunar Logic, Oregon RAIN, Peace Health Labs, Symantec, Technology Associates of Oregon, Thermo Fisher Scientific*

## Oregon Coast STEM Hub

*Director: Stacia Fletcher, [oregoncoaststemhub@gmail.com](mailto:oregoncoaststemhub@gmail.com)*

*Partners: **Education:** Astoria, Knappa, Warrenton---Hammond, Seaside, Jewell, Neah---Kah---Nie, Tillamook, Lincoln County, Siuslaw, Mapleton, Reedsport, North Bend, Coos Bay, Coquille, Myrtle Point, Powers, Bandon, Central Curry, Port Orford/Langlois, and Brookings---Harbor school districts; South Coast ESD; Clatsop Community College, Oregon Coast Community College, and Southwestern Oregon Community College; Oregon State University, Oregon Institute of Marine Biology. **Community:** American Association of University Women: Tillamook Chapter, Boys and Girls Club of Southwestern Oregon, National Organization of Women: Central Oregon Coast Chapter, Columbia River Maritime Museum, Drift Creek Camp, Lincoln County Interpretive Association, Northwest Aquatic and Marine Educators, Oregon Coast Aquarium, Oregon Museum of Science and Industry, Salmon Drift Creek Watershed Council, Seashore Family Literacy Center, Tillamook Estuaries Partnership, Youth Development Coalition of Lincoln County, Bureau of Land Management, NOAA/NMFS/Northwest Fisheries Science Center, NOAA Marine Operations Center---Pacific, Oregon Parks and Recreation Department, South Slough National Estuarine Research Reserve, U.S. Fish and Wildlife Service, Hatfield Marine Science Center, Marine Advanced Technology Education Center, Northwest National Marine Renewable Energy Center, Oregon Forestry Resources Institute, Oregon Hatchery Research Center. **Business and Industry:** Advanced Research Corporation, Central Lincoln PUD, Georgia Pacific, KidWind, Marine Technology Society, Near Space Corporation, and Port of Newport*

## Portland Metro STEM Partnership

*Co-Director: Jerian Abel, [Jerian@pdx.edu](mailto:Jerian@pdx.edu), [Jerian.able@pdxstem.org](mailto:Jerian.able@pdxstem.org)*

*Co-Director: Kristen Harrison, [Kristen.harrison@pdx.stem](mailto:Kristen.harrison@pdx.stem)*

*Partners: **Education:** Beaverton School District, Hillsboro School District, Forest Grove School District, Portland Public Schools, Banks Schools District, Portland State University, Portland Community College, Oregon Health & Sciences University, University of Portland, Oregon State University, OSU Extension 4---H, Parkrose School District, ITT Technical Institute, Transportation Research & Education Center **Community:** Oregon Museum of Science and Industry, Oregon First Robotics, Ecology in Classrooms and Outdoors, Outdoor School, Friends of Outdoor School, Girls Inc., Institute for Youth Success, Metropolitan Family Service, Community Cycling Center, N/NE STEAM Coalition, Wind & Oar Boat School, Oregon Mentors, Sauvie Island Center, Center for Diversity and Environment, SOLVE, Intertwine Alliance, Tinker Camp, Innovation Academy, Oregon ASK, Pixel Arts Game Education, iUrban Teen Tech, Impact NW, Honoring Our Rivers, Zenger Farm, Saturday Academy, Centro Cultural, Dig In, Airway Science for Kids, EEAO, and others. **Governmental/Quasi---Government Entities:** Metro Regional Government, City of Portland, Oregon Department of Transportation,*

Oregon Employment Department, Multnomah County Library, Portland Water Bureau, Oregon Zoo, NWRESA, Oregon Solutions, Western Federal Lands Highway Division, Oregon Forest Resources Institute, Oregon Department of Education, Chief Education Office. **Business and Industry:** WorkSystems Inc., Vernier Software & Technology, Intel, Boeing, PGE, JP Morgan Chase, Portland Bridge Authority, PNW Carpenter’s Institute, Clean Water Services, Hillsboro Chamber of Commerce, Rebuilding Center, IBEW, O’Neil Electric, Gunderson LLC, Texas Instruments, Oregon Business Council, Q&D Manufacturing, US Bank, Pacific Diabetes Technology, iSpark Toys, Astra Women’s Business Alliance, Clearing Magazine. **Funders:** Intel, Vernier Software & Technology, First Tech Federal Credit Union, Oregon Forest Resources Institute, PGE Foundation, Portland Timbers & Thorns, JPMorgan Chase, Oregon Department of Education

## South Metro-Salem STEM Partnership Hub

*Director: Melissa Dubois, [Melissa.dubois@oit.edu](mailto:Melissa.dubois@oit.edu)*

*Partners: **Education:** The school districts of Amity, Canby, Central, Dallas, Dayton, Gladstone, Lake Oswego, Molalla River, Newberg, North Clackamas, Oregon City, Salem---Keizer, Silver Falls, Tigard---Tualatin, West Linn---Wilsonville, and Woodburn; Clackamas CTE Consortium; Chemeketa Community College; Clackamas Community College; George Fox University; Portland Community College; Oregon Tech; Pacific University. **Community:** Business Education Compact, Evergreen Aviation and Space Museum, Girls Inc. of the Pacific Northwest, Mad Science, OregonASK, Oregon Computer Science Teachers Assn., Oregon FIRST, Oregon MESA, Oregon Space Grant Consortium, Project Lead the Way, Salem---Keizer Education Foundation. **Business and Industry:** 3D Systems; Autodesk; Eaton; First Tech Federal Credit Union; FLIR, Inc.; Garmin AT; Intel; Legacy Meridian Park Medical Center; Mentor Graphics; PGE Foundation; Xerox Corporation*

## Southern Oregon STEM Hub

*Director: Steve Thorpe, [sthorpe@sou.edu](mailto:sthorpe@sou.edu)*

*Partners: **Education:** Southern Oregon ESD; The school districts of Three Rivers, Grants Pass, Rogue River, Prospect, Butte Falls, Central Point, Eagle Point, Medford, Phoenix---Talent, Ashland, Pinehurst, Klamath Falls County, Klamath Falls City; River’s Edge Academy Charter School; Oregon Tech University, Klamath Community College, Rogue Community College, Southern Oregon University. **Community:** Klamath Promise RAC; Southern Oregon Success RAC; College and Career for All (CC4A) collaborative; ScienceWorks Museum; College Dreams; Junior Achievement – Klamath County; Junior Achievement – Jackson County; Project Lead the Way; Southern Oregon University Pre---College and Youth Programs; Rogue Community College Educational Partnerships; Oregon Tech Academic Partnerships; Crater Lake National Park; North Mountain Nature Center. **Business and Industry:** Rogue Workforce Partnership; Klamath County Economic Development Association; Southern Oregon Regional Economic Development, Inc. (SORED); Airscape; Carestream; Hersey company (Dagoba Chocolates); Lighthouse World Solutions; Linx Technologies; Medford Fabrication; NIC Industries; Providence Medical Group; Quantum Innovations; Rogue Valley Microdevices; Timber Products; Valley Immediate Care; Sustainable Valley Technology Group*

## Umpqua Valley Regional STEAM Hub

*Director: Gwen Soderberg-Chase, [sodercha@gmail.com](mailto:sodercha@gmail.com)*

*Facilitator: Grace Goodson, [umpquavalleyystemhub@gmail.com](mailto:umpquavalleyystemhub@gmail.com)*

*Partners: **Education:** Douglas County school districts, Phoenix Charter School, Douglas Education Service District, Umpqua Community College, South---Central Oregon Early Learning Hub. **Community:** City of Roseburg, Boys & Girls Clubs of the Umpqua Valley, Cow Creek Tribe of the Umpqua Band of Indians, Department of Human Services, Mercy Foundation, Ford Family Foundation, Greater Douglas United Way, Neighborworks Umpqua, Area Health Education Center of Southwest Oregon (AHEC), OSU Extension Services, South Central Oregon Early Learning Hub, Umpqua Valley Arts Association, Umpqua Valley Disabilities Network, United Community Action Network, YMCA of Douglas County, Umpqua Valley Museums, Alder Creek Community Forest, Umpqua Watersheds, Southern Oregon Area Robotics. **Business and Industry:** Roseburg Forest Products, Umpqua Economic Development Partnership, Umpqua Training and Employment, Southwestern Oregon Workforce Investment Board, and multiple business/industry partners*

## Oregon STEM Investment Update

September 27, 2016

Investment	Budget	Status/Recipient(s)/Timeline
<b>Backbone-Current (Cohort 1)</b>	\$1.495M	<p>Distributed to 6 existing STEM Hubs:</p> <ul style="list-style-type: none"> <li>Portland Metro STEM Partnership</li> <li>South Metro-Salem STEM Partnership</li> <li>Umpqua Valley Regional STEAM Hub</li> <li>Oregon Coast Regional STEM Hub</li> <li>Central Oregon STEM Hub</li> <li>GO STEM Collaborative</li> </ul> <p>Progress report due October 15, 2016 Final report due June 2017</p>
<b>Backbone-Emerging (Cohort 2)</b>	\$ .519M	<p>Awarded 5 new STEM Hub Backbone Grants to:</p> <ul style="list-style-type: none"> <li>East Metro STEM Hub</li> <li>Frontier STEM Hub</li> <li>Southern Oregon STEM Hub</li> <li>Lane STEM Hub</li> <li>Columbia Gorge STEM Hub</li> </ul> <p>Progress report due October 15, 2016 Partnership Plans are due by November 30, 2016, and then they may submit their programming proposals Final report due June 2017</p>
<b>Programming Investments</b>	\$2.5M	<p>Awarded to Cohort 1 STEM Hubs:</p> <ul style="list-style-type: none"> <li>Greater Oregon STEM Hub – Educator Professional Learning \$193,599</li> <li>Portland Metro STEM Partnership – Out-of-school STEM \$195,000</li> <li>South Metro-Salem STEM Partnership – Systemic Alignment \$106,721</li> <li>Oregon Coast STEM Hub – Educator Professional Learning \$194,959</li> <li>South Metro-Salem STEM Partnership – Educator Professional Learning \$194,777</li> <li>Oregon Coast STEM Hub – Instructional Resources \$194,999</li> <li>Central Oregon STEM Hub – Systemic Alignment \$193,116</li> <li>Umpqua Valley Regional STEAM Hub – Educator Professional Learning \$127,490</li> </ul>

## Oregon STEM Investment Update

September 27, 2016

Investment	Budget	Status/Recipient(s)/Timeline
Regional STEM Innovation Grants	\$250K	<p>Awarded to three regions in the state without a STEM Hub:</p> <p>Columbia County School Districts OMIC Alignment Pilot (\$100K)            Implementation of in-school, out-of-school, and after school program schedules: October 2016- June 2017            Feedback, reflection, and revision (Advisory Team): January 2017 and May 2017            Planning for 2017-18 with cross-sector partners per OMIC progress: April 2017</p> <p>Linn-Benton Regional CTE/STEM Camp: Learn! Create! Design! Innovate! (\$100K)</p> <p>Lake County STEM Enhancement Project (\$50K)            STEM team develops district implementation plan and timeline: December 2017            STEM team assesses the data and evaluates progress on program goals: June 2017</p>
STEM Network Development	\$ .231M	<p>Grant and contract were issued to Oregon Solutions to facilitate a collaborative support network. This will include 3 convenings of the Hubs. The first convening took place April 4-5, 2016 in Corvallis, the second August 8-9, 2016 in The Dalles, and the final will take place April 6-7, 2017. The contract with Oregon Solutions centers around three tasks:</p> <ol style="list-style-type: none"> <li>1. Management and oversight of STEM Hub Team and coordination/alignment with ODE, CEEdO, STEM Hubs.</li> <li>2. Coordinate Design and Delivery of Collaborative Learning Opportunities.</li> <li>3. Provide collaborative support to STEM Hubs.</li> </ol> <p>Quarterly reports will be due for each task on:</p> <ul style="list-style-type: none"> <li>• June 30, 2016</li> <li>• September 20, 2016</li> <li>• December 31, 2016</li> <li>• March 31, 2017</li> <li>• June 30, 2017</li> </ul>

## Oregon STEM Investment Update

September 27, 2016

Investment	Budget	Status/Recipient(s)/Timeline
STEM HUB Program Evaluation	\$100K	<p>Oregon State University will be analyzing the backbone effectiveness of the STEM Hubs.</p> <ul style="list-style-type: none"> <li>July/August 2016: Comparative Hub structure analysis (31 August 2016)</li> <li>September 2016: STEM Hub Logic Model (30 September 2016)</li> <li>October – November 2016: Conduct online synchronous and asynchronous workshops on evaluative thinking and STEM Hub evaluation</li> <li>January 2017 – June 2017: Implement follow-up support system</li> <li>April/May 2017: Repeat online synchronous and asynchronous workshops on evaluative thinking and STEM Hub evaluation</li> <li>15 June 2017: Report on results of the project</li> </ul>
Math in Real Life	\$1.25M	<p>Distributed to 6 Hubs:</p> <ul style="list-style-type: none"> <li>GO STEM</li> <li>Central Oregon STEM Hub</li> <li>Frontier Oregon STEM Hub – Malheur ESD</li> <li>Portland Metro STEM Partnership</li> <li>Southern Oregon STEM Hub</li> <li>Lane STEM Hub</li> </ul> <p>Interim progress report due October 10<sup>th</sup>            Next meeting is October 21, 2016 in Salem.            This grant begins March 1, 2016 and ends on June 30, 2017, with the opportunity to carry activities through Summer 2017.</p>
Out of School STEM	\$1.5M	<p>“STEM Beyond School” administered by Oregon State University            Over 30 cohorts throughout the state, managed by four regional coordinators</p> <ul style="list-style-type: none"> <li>June 30, 2016: Progress Report 1 due to ODE</li> <li>September 30, 2016: Progress Report 2 due to ODE</li> <li>June 30, 2017: Expenditure and Progress Report 3 due to ODE</li> <li>September 30, 2017: Final Activity and Expenditure Report due to ODE</li> </ul>

## Oregon STEM Investment Update

September 27, 2016

Investment	Budget	Status/Recipient(s)/Timeline
Adaptive Math Pilot	\$1.25M	<p>Grants to pilot adaptive math platforms for grades K-8 have been awarded to 17 school districts that will pilot 15 different products during the 2016-17 school year. Approximately 150 teachers and 4,200 students will be participating in this project that ends June 2017. The school districts participating are:</p> <ul style="list-style-type: none"> <li>• Bandon School District</li> <li>• Dayton School District</li> <li>• Eagle Point School District</li> <li>• Echo School District</li> <li>• Fern Ridge School District</li> <li>• Klamath Falls City Schools</li> <li>• Marcola School District</li> <li>• McKenzie School District</li> <li>• Mt. Angel School District</li> <li>• North Santiam School District</li> <li>• Portland Public Schools</li> <li>• Tillamook School District</li> <li>• Union School District</li> <li>• Vale School District</li> <li>• Willowa Educational Service District</li> <li>• Willamina School District</li> <li>• Yoncalla School District</li> </ul>
Digital Literacy & Computer Science	\$.75M	<p>“Oregon Digital Promise” administered by Willamette Education Service District</p> <ul style="list-style-type: none"> <li>• June 30, 2016: Progress Report 1 due</li> <li>• September 30, 2016: Progress Report 2 due</li> <li>• June 30, 2017: Expenditure and Progress Report 3 due</li> <li>• September 30, 2017: Final Activity and Expenditure Report due</li> </ul>

## Oregon STEM Investment Update

September 27, 2016

Investment	Budget	Status/Recipient(s)/Timeline
Higher Education STEM Support Grant	\$2M	<p>Distributed to 9 postsecondary institutions through HECC:</p> <ul style="list-style-type: none"> <li>• Oregon Health &amp; Science University, \$266,750</li> <li>• Oregon State University, \$269,594</li> <li>• Oregon Tech, \$184,960</li> <li>• Western Oregon University, \$226,872</li> <li>• Chemeketa Community College, \$152,236</li> <li>• Clackamas Community College, \$221,761</li> <li>• Klamath Community College, \$146,444</li> <li>• Portland Community College, \$286,816</li> <li>• Rogue Community College, \$219,507</li> </ul> <p>Mid-project report due May 1, 2017 Final report due August 31, 2017</p>

## **STEM Investment Council 2016-17 Work Priorities**

In each of the following areas:

- 1) What are the essential questions that the Council would like to address?
- 2) What additional data, research or information would help the Council understand the issues more fully?
- 3) What is the prioritization across these areas?

**Potential areas of focus:**

**1) Strategic Plan implementation** — *How can the STEM Investment Council use its position and professional networks to advance individual initiatives under the goals?*

**2) Investment Oversight and Monitoring:** *What impacts are the different investments having? What are we learning that can inform other investments or initiatives? What course corrections might be needed? How might we communicate and celebrate success?*

**3) Additional investments** — *What emerging areas require additional investment? How might those be resourced within the constraints of government administrative processes and biennial timing?*

**4) Advocacy & Communication** — *How might the Council assist with communicating progress to the Legislature, and other stakeholders? What additional advocacy is needed to advance transformations in the system to achieve the STEM outcomes?*

**5) Integration with other Councils and agency boards** — *In what ways can we achieve better alignment and coordination with CTE, Oregon Talent Council, Oregon Workforce Board, Oregon Inc, the State Board of Education, and the Higher Education Coordinating Commission?*

**6) Council structure, advisors, and bylaws** — *What changes are recommended to adapt to changing operational conditions?*

## **2016 Municipal Summits on Afterschool/Expanded Learning Opportunities Final Report**

### **Overview of Outcomes**

As part of the National League of Cities Institute for Youth, Education and Families initiative to support afterschool and summer learning, OregonASK was awarded a small grant to work on informing and engaging more municipal leaders in the issues surrounding afterschool. Thanks to this grant, OregonASK worked with regional STEM Hubs and partners to host discussions about the importance and impact of Science, Technology, Engineering, and Math (STEM) on our communities. Our overarching messaging for the events was around how Afterschool & Summer Programs Support STEM by providing increased Access, STEM Fluency, and Equitable Opportunity.

We worked to increase awareness and share resources to help these communities find strategies for building a mutually beneficial system to support local economic vitality and informal STEM learning. We also highlighted our state's STEM Strategic Plan and how the vision of STEM going forward should be a community collaboration.

From August through October, we toured the state, hosting regional convenings in seven different communities. Overall, 32 elected officials attended, including members of the US Congress and the State Legislature, as well as Mayors, City Council members and County Commissioners. At least 35 communities were represented, and dozens more served by regional representatives in attendance. In collaboration with our Chief Education Office, the STEM Policy Director attended six of the events to co-present and hear from each of the communities. Besides local leaders from each community, several State Representatives, Senators, and leaders in the world of STEM participated in the various events.

Each community brought together a diverse group of community leaders and STEM partners to contribute to conversation, share questions, and identify strategies for building an aligned system of support that would engage all stakeholders in supporting STEM learning. We heard from US Congresspeople, State Senators & Representatives, Mayors, City Council, County Commissioners, STEM Hub representatives, Chamber of Commerce, Workforce Boards, Industry Partners, Higher Education, K-12 Administrators, Formal & Informal Educators, Community Based STEM Programs, Libraries, Education & Community Foundations, and Students.

### **Regional Success - 7 summits**

Our first event gathered over 50 community partners, including mayors from four Washington County cities and US Congresswomen Suzanne Bonamici. The mayor of Hillsboro shared about a current partnership with the Chamber of Commerce and school district to provide annual opportunities to explore STEM careers within City Departments and with regional businesses. Representatives from Hillsboro Chamber of Commerce, Business Education Compact (BEC), Impact NW, and Hillsboro School District shared about current partnerships they have to provide more informal STEM learning opportunities for youth in Washington County. We also had the pleasure of hearing from several students who have taken advantage of opportunities through local non-profits.

The second event brought school administrators from the far corners of Douglas county, as well as mayors, informal STEM partners and local foundation representatives who were able to hear more about local industry needs and current opportunities. Participants reported increased partnerships, particularly being able to connect with government and industry partners within the region. The third event in Southern Oregon focused on the connectivity of regional efforts in supporting youth in the area, with in-depth discussion around how existing partners might be able to expand hands-on experiences to include more youth. Student panelists added a personal perspective about local programs offered and potential opportunities to expand their reach.

Our convening in Central Oregon drew a high concentration of informal partners, as well as several key elected officials. State Representative Whisnant posed a question about the role of community partners in implementation of the STEM Strategic Plan, creating a great opportunity to highlight much of the work happening in pockets around the region and state, as well as showcasing the importance of providing informal STEM as a comprehensive system of support for youth. This region also did a great job including a wide-breadth of stakeholders, from industry to K-12 to workforce to community partners.

The event held in Salem showcased local partnerships, particularly the industry, district and city collaborative approach to building a state of the art Career and Technical Education Center (CTEC). The million dollar facility is currently utilized primarily by Salem-Keizer School District and is looking forward to expanding its reach while also promoting development of similar buildings/partnerships in other areas of the state. Participants were also excited to hear about the STEM Strategic Plan and how implementation would become part of the work they are already engaged in.

Our Eastern Oregon convening brought together over 45 regional representatives from 5 different counties, talking about how local efforts can be supported and spread through the work of the STEM Hub. Participants were given time to discuss at tables, reflecting on their own needs and roles in further implementation of regional STEM efforts to support community wide engagement. The final event back in Southern Oregon included 70 regional STEM & CTE partners, local elected officials and industry representatives. Attendees were given a breadth of information about region-wide efforts and local highlights of programs. Most participants showed up with some knowledge of the work happening locally, but all left with the specific ask of being more engaged in supporting these coordinated efforts.

We are looking forward to continuing our partnerships with the regional STEM Hubs, new and existing champions, and the dozens of STEM providers we were able to engage in the systems building conversation. Although we did face challenges reaching new local municipal leaders who were not already engaged or interested, we were able to increase awareness around the work of the network and the state's efforts going forward. We will be sharing this report and a summary of feedback with all of those who attended, as well as local municipal leaders who were unable to attend in person. Additionally, we will follow up by bringing training opportunities out to the more remote areas of the state, in response to the needs expressed of those we engaged in this series.

## STEM Policy Work Group: ESSA Systems Integration

In the past several years, Oregon made noteworthy strides in the visibility and funding for informal STEM learning. As mentioned in the state context above, informal STEM programs were included in the State STEM Strategic Plan, and the legislature earmarked \$1.5 million specifically for afterschool. But even with these steps, there is room to grow. Most notably, there is the opportunity to work with State Education Agencies on the development of the Oregon State ESSA Implementation Plan. Even further, OregonASK has the opportunity to work with the STEM Investment Council and the Chief Education Office to work beyond the ESSA Plan to develop a coherent vision for a connected STEM ecosystem in Oregon.

The work proposed here provides a framework to ensure cooperation between state agencies, communities, and non-profit organizations. It will build on the foundations created by the STEM Strategic Plan by operationalizing the strategies within that plan, while developing a connected STEM ecosystem across the state. Informal STEM learning will be a crucial part of that plan. In tandem, the proposed workplan will offer parallel strategies to ensure the inclusion of informal learning in the state ESSA plan.

Specifically, this work will facilitate the following goals:

- A clear, delineated role for informal learning in the Oregon State ESSA Plan, as evidenced by stronger connections between school day and afterschool, particularly within STEM and CTE Programs
- Development of a written vision for a coherent, connected ecosystem of STEM providers across the state, with special focus on the quality and capacity of programs, and common programmatic evaluation
- Development of recommendations for reliable and sustainable funding for out-of-school time STEM programs.

To accomplish these goals, OregonASK and the Chief Education Office will jointly recruit and convene a workgroup, to operate as a sub-committee of the STEM Council. This workgroup will bring together representatives from diverse state, community and non-profit organizations. The workgroup will work collaboratively to accomplish the following activities:

- SWOT analysis of current STEM and CTE learning opportunities, both formal and informal
- Analysis of relevant STEM and CTE policy proposals at the national and local level, across the country
- Develop a written vision for a coherent, connected ecosystem of STEM providers across the state, using strategies from the STEM Strategic Plan, including a review of the Common Metrics currently being developed by the Oregon State University Center for Research on Lifelong STEM Learning.
- Produce recommendations to the STEM council and State Board of Education for future STEM investments in informal learning.
- Develop communications materials to present vision and recommendations.
- Host a series of forums across the state to educate about state ESSA plan and to disseminate workgroup recommendations

## Grant Implementation Timeline

### Workgroup meetings:

- **November 16th from 12-2pm in Wilsonville**
- **November 30th, morning meeting in Wilsonville or online**
- **December 14th, morning meeting in Wilsonville or online**
  - SWOT analysis of current STEM and CTE learning opportunities, both formal and informal
  - Analysis of relevant STEM and CTE policy proposals at the national and local level, across the country
  - Develop a written vision for a coherent, connected ecosystem of STEM providers across the state, using strategies from the STEM Strategic Plan, including a review of the Common Metrics currently being developed by the Oregon State University Center for Research on Lifelong STEM Learning.
  - Produce recommendations to the STEM council and State Board of Education for future STEM investments in informal learning.

December 16, 2016: Present first draft of recommendations to STEM Investment Council

January 2017

Convening Discussion(s) with legislators, superintendents, and other stakeholders.

### **January 3, 2017: Workgroup reconvene to update recommendations (Virtually)**

January 26, 2017: Possible presentation of recommendations to the State Board of Education

### **February 7, 2017: Workgroup reconvenes to finalize recommendations (Virtually)**

March 2017: Workgroup approves outreach materials

- OregonASK will develop communications materials to present vision and recommendations for Workgroup to review

April-June, 2017

Host 5 regional forums around the state to educate about state ESSA plan and to disseminate workgroup recommendations. OregonASK will coordinate logistics and preparation, with assistance from the Chief Education Office. **Workgroup members will be asked to attend at least one regional meeting each.**

July, 2017

Final Status Report compiled and approved by work group

# Afterschool STEM Policy

Beth Unverzagt  
Executive Director  
Oregon**ASK**  
Expanded Learning Partnership



Overdeck Family  
Foundation



# National League of Cities

## Institute for Youth, Education and Families

Over a decade of experience and knowledge working with cities and municipal leaders to:

- Help **strengthen local efforts** to create, expand and improve afterschool opportunities
- Offer a broad range of action kits, toolkits, strategy guides, webinar archives, and other resources that provide municipal leaders with **practical ideas for supporting** children and youth in the afterschool hours.

Provided funding to OregonASK to **engage** more municipal leaders in an issue surrounding afterschool

# Increasing Awareness

Oregon's STEM Strategic Plan presented by Mark Lewis

- Engaging the Community
- Finding Our Own Role

Afterschool & Summer Programs Support STEM

- Increase Access
- Increase STEM Fluency
- Increase Opportunity

Regional Efforts

- STEM Hubs
- State Funded Programs



# Statewide Reach

## STEM Municipal Summits

### Washington County

- Portland Metro STEM Partnership
- South Metro Salem STEM Partnership
- Northwest Regional STEM Hub
- Over 50 representatives from the county, including mayors from four cities and US Congresswomen Bonarrici

### Willamette Valley

- 25 representatives from the greater Salem area showcased local partnerships currently supporting STEM & CTE efforts regionally.
- In particular, we heard from the STEM Hub, Workforce Board, Salem-Keizer Education Foundation and the Career and Technical Education Center (CTEC), a state of the art facility built by industry, district and city collaboration.

### Umpqua Valley STEAM Hub

- 35 participants from the far corners of Douglas county included mayors, K-12 administrators, informal STEM partners and local foundation representatives who were able to hear more about local industry needs and current opportunities.

### GO STEM Collaborative

- 45 regional representatives from 5 different counties, talking about how local efforts can be supported and spread through the work of the STEM Hub.

### Central Oregon STEM Hub

- Over 40 participants included a wide-breadth of stakeholders, from state representatives, industry, workforce, K-12 administrators, informal STEM educators and community partners.
- Highlighted much of the work happening regionally, showcasing the importance of providing informal STEM as a comprehensive system of support for youth.

### Klamath Region STEM & CTE Celebration

- Brought together over 40 local representatives focused on the connectivity of regional efforts in supporting youth in the area, with in-depth discussion around how existing partners might be able to expand hands-on experiences to include more youth.
- Student panelists added a personal perspective about local programs offered and potential opportunities to expand their reach.

### Southern Oregon's Education, Workforce & Economic Success in Medford

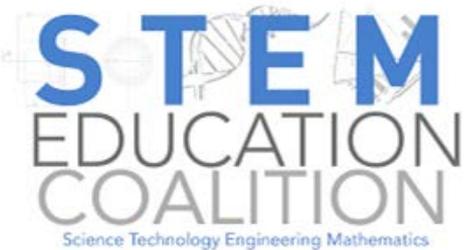
- 70 regional STEM & CTE partners, local elected officials and industry representatives were given a breadth of information about region-wide efforts and local highlights of programs.



# ESSA & STEM Integration Grant

## Utilize partnership with STEM Education Coalition

- Nationally, they work to raise awareness about the critical role that STEM education plays in enabling the U.S. to remain leaders in the global 21st century marketplace
- Members of the STEM Coalition believe that communities must work together to improve the way our students learn STEM.



Establish ESSA Integration Work Group to make recommendations

Increase Awareness



# ESSA Integration Work Group

Representatives from:

- Oregon Department of Education
- Oregon PTA
- Informal STEM Educators / Program Providers
- Oregon State Library
- K-12 Administrators & Educators
- STEM Hub Representatives
- Local Foundations
- State Legislators
- STEM Investment Council
- Community Organizations

Anyone we are missing?

# STEM Policy Integration Timeline

## Work Group Meetings

- November 16th from 12-2pm in Wilsonville
- November 30th
- December 14th
- January & February 2017

## STEM Investment Council Presentation

- December 16th

## State Board of Education Presentation

- January 2017

## Stakeholder Conversations

- December-February

## Regional Community Forums

- April - June

# Questions?

Please contact OregonASK with any questions:

Beth Unverzagt

[beth.unverzagt@oregonask.org](mailto:beth.unverzagt@oregonask.org)

503-689-1656

Or visit [OregonASK.org](http://OregonASK.org) for more information about  
current STEM Policy work

# STEM Investment Council

November 4, 2016



**ODE STEM Innovation Grant:  
Out of School STEM Innovation  
\$1,500,000.00**

# STEM Beyond School was developed by



# What is STEM Beyond School?

Involving OSU Extension, the STEM Hub Network, and over 75 community organizations.

Developing engaging, youth driven, out of school STEM programming at thirty-three sites around the state.

Participating in an educators' Community of Practice to learn and share resources, connections, and project ideas.



# Programming Requirements

Sites provide **70 hours** of STEM programming to **4th-8th grade underserved youth** in **out-of-school time** settings and predominantly in locations that are **off school grounds**.

Programming aligns to **core content standards** - NGSS or CCSS-Math - ***and*** flexes to the **interests of the youth**.



# STEM Beyond School

6 sites in the Eastern Oregon region



at LaGrande and Baker middle schools



Extension Service



of Grant, Harney and Malheur counties



# STEM Beyond School

5 sites in the Central Oregon region



of Crook, Hood River, and  
Wasco counties and Warm  
Springs

# STEM Beyond School

10 sites in the SW Oregon region



of Canyonville

FOR YOUTH DEVELOPMENT®  
FOR HEALTHY LIVING  
FOR SOCIAL RESPONSIBILITY



Lost River Jr/Sr High

NEIGHBORS FOR KIDS

of Depoe Bay

Great Afternoons, Oregon  
Coast Community Action  
in Reedsport



**Klamath Falls  
City Schools**

**100% Graduation is Our Expectation!**



College Dreams of  
Grants Pass

**OSU**  
Oregon State  
UNIVERSITY

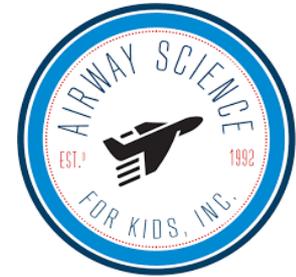
Extension Service



of Benton, Lincoln, and Lane  
Counties

# STEM Beyond School

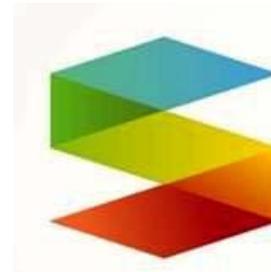
12 sites in the NW Oregon region



**Plaza los Robles**  
Apartment Complex



of Multnomah and Clackamas  
Counties



**NE STEAM**  
Coalition

# Educator Requirements

**Community of Practice** provides site educators with **professional development & networking** in the areas of

- **Effective STEM programming**
- **Proven STEM projects/activities**
- **Fostering STEM Identity**
- **Positive Youth Development**

Site educators are expected to participate in **80 hours of professional development**



# STEM Beyond School

Organizations Currently Providing Support



Education by Design

Support organizations provide professional development and coaching to site providers.



Center for Research on Lifelong STEM Learning

# STEM Beyond School

Organizations Ready to Provide Support



... and everyone we ask.

# STEM Beyond School

Growing Educator Knowledge and Skills

How?

- Twice monthly webinars
- Workshops and ongoing Learning Communities on STEM activities, STEM Identity, and Positive Youth Development
- Focused regional gatherings and professional development

PAID TIME TO PARTICIPATE IN THE CoP!



# What are we really trying to accomplish?

Provide **awesome STEM experiences to underserved students** throughout the state that:

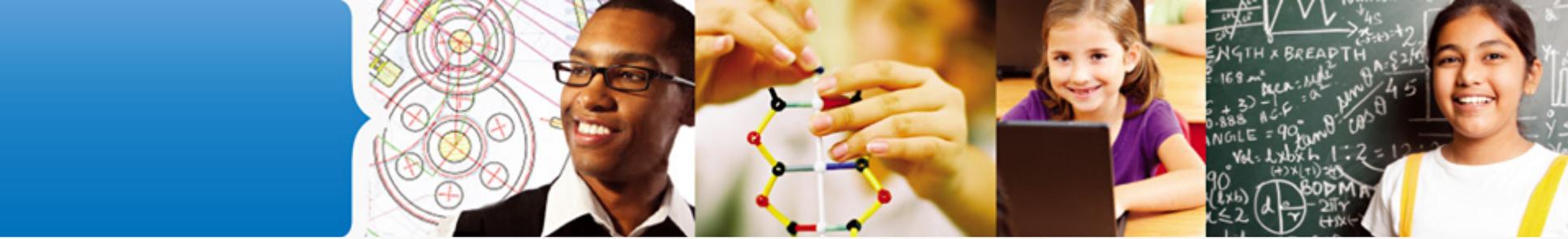
- foster STEM identity
- Promote positive youth development
- get kids excited about STEM!



# What are we really trying to accomplish?

Develop a **strong network of out-of-school STEM education providers** who are supporting each other to **continually learn and improve their programming** to better **meet the needs of our underserved youth** long after this grant ends.





# STEMworks Partnership Overview

Oregon STEM Investment Council,  
November 4, 2016



# What is Change the Equation?

- National 501 (c) (3) Nonprofit to ensure **all students are STEM literate**
- **Non-partisan** and independent
- Supported by **CEOs of major companies** operating in the U.S.
- Focus on scaling the **best programs and strategies**

# What is STEMworks?

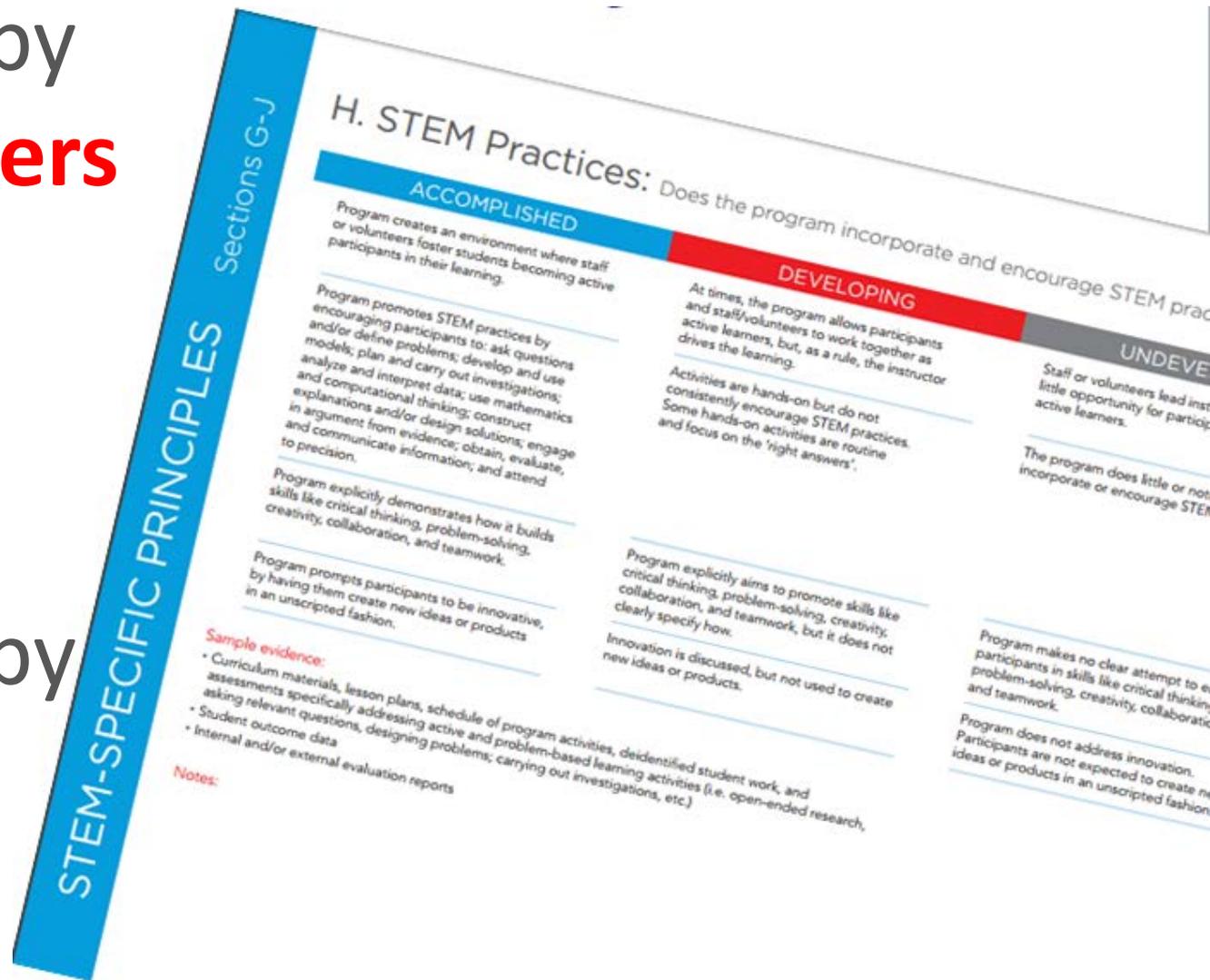
- **Rigorously-vetted** programs
- Tool to **raise ROI**
- **Careful third-party** reviews
- **Profiles** of top programs



The screenshot displays two program profiles on the STEMworks website. The top profile is for the 'Arizona State University Modeling Instruction and Master of Natural Science Programs'. It includes a photo of three people looking at a poster, a title in blue, and a description: 'The Master of Natural Science (MNS) degree and the Modeling Instruction Program are two innovative and successful approaches to science teacher development in Arizona. At a time when many state's physical science teachers are teaching out of field, these programs improve learning and achievement of K-12 students in science and mathematics by providing model-centered professional development for teachers in grades 8 through 12.' Below the text is a green gear icon with the word 'ACCOMPLISHED' and a 'compare' button. The bottom profile is for the 'ASSET STEM Education: Elementary Program'. It includes a photo of a woman in a classroom, a title in blue, and a description: 'ASSET (Achieving Student Success through Excellence in Teaching) STEM Education is a national STEM improvement nonprofit that inspires innovation and excellence in STEM by providing highly effective educator professional development, hands-on classroom materials and consulting services to schools, universities and organizations.' Below the text is a green gear icon with the word 'ACCOMPLISHED' and a 'compare' button. Both profiles have a 'Full Details' button.

# Principles for quality

- Created by **CSR leaders**
- Based in **research**
- **Refined** by WestEd



# Principles for quality

## OVERARCHING

- Well-defined **Need**
- Rigorous **Evaluation**
- **Sustainability**
- **Replication/ Scalability**
- High-impact **Partnerships**
- **Capacity** to meet goals

## STEM-SPECIFIC

- Challenging, relevant **Content**
- STEM **Practices**
- **Inspiration** of STEM interest, engagement
- **Underrepresented Groups**

# Example: STEM Practices

Sections G-J

STEM-SPECIFIC PRINCIPLES

## H. STEM Practices: Does the program incorporate and encourage STEM practices?

ACCOMPLISHED	DEVELOPING	UNDEVELOPED
<p>Program creates an environment where staff or volunteers foster students becoming active participants in their learning.</p> <hr/> <p>Program promotes STEM practices by encouraging participants to: ask questions and/or define problems; develop and use models; plan and carry out investigations; analyze and interpret data; use mathematics and computational thinking; construct explanations and/or design solutions; engage in argument from evidence; obtain, evaluate, and communicate information; and attend to precision.</p> <hr/> <p>Program explicitly demonstrates how it builds skills like critical thinking, problem-solving, creativity, collaboration, and teamwork.</p> <hr/> <p>Program prompts participants to be innovative, by having them <b>create new ideas or products in an unscripted fashion.</b></p>	<p>At times, the program allows participants and staff/volunteers to work together as active learners, but, as a rule, the instructor drives the learning.</p> <hr/> <p>Activities are hands-on but do not consistently encourage STEM practices. Some hands-on activities are routine and focus on the 'right answers'.</p> <hr/> <p>Program explicitly aims to promote skills like critical thinking, problem-solving, creativity, collaboration, and teamwork, but it does not clearly specify how.</p> <hr/> <p>Innovation is discussed, but <b>not used to create new ideas or products.</b></p>	<p>Staff or volunteers lead instruction with little opportunity for participants to become active learners.</p> <hr/> <p>The program does little or nothing to incorporate or encourage STEM practices.</p> <hr/> <p>Program makes no clear attempt to engage participants in skills like critical thinking, problem-solving, creativity, collaboration, and teamwork.</p> <hr/> <p>Program <b>does not address</b> innovation. Participants are not expected to create new ideas or products in an unscripted fashion.</p>

**Sample evidence:**

- Curriculum materials, lesson plans, schedule of program activities, deidentified student work, and assessments specifically addressing active and problem-based learning activities (i.e. open-ended research, asking relevant questions, designing problems; carrying out investigations, etc.)
- Student outcome data
- Internal and/or external evaluation reports

**Notes:**

*Realizes the vision*

*Good intentions, but...*

*Doesn't even address the issue*

# Example: STEM Practices

Sections G-J

STEM-SPECIFIC PRINCIPLES

## H. STEM Practices: Does the program incorporate and encourage STEM practices?

ACCOMPLISHED	DEVELOPING	UNDEVELOPED
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<p>Program explicitly demonstrates how it builds skills like critical thinking, problem-solving, creativity, collaboration, and teamwork.</p>	<p>Program explicitly aims to promote skills like critical thinking, problem-solving, creativity, collaboration, and teamwork, but it does not clearly specify how.</p>	<p>Program makes no clear attempt to engage participants in skills like critical thinking, problem-solving, creativity, collaboration, and teamwork.</p>
<p>Program prompts participants to be innovative, by having them create new ideas or products in an unscripted fashion.</p>	<p>Innovation is discussed, but not used to create new ideas or products.</p>	<p>Program does not address innovation. Participants are not expected to create new ideas or products in an unscripted fashion.</p>

### Sample evidence:

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- Student outcome data
- Internal and/or external evaluation reports

### Notes:

# Rigorous Application Process

Home Program Profile Program Ratings Reviewer Ratings

Program self-evaluation:

Program: Test Program - use this program to test user interface.

FILES UPLOADED: Uploaded supporting files for all sections

Below are the documents you have uploaded, with descriptions

Show Uploaded Documents »

OVERARCHING PRINCIPLES : Sections A-H

A. NEED Undeveloped

Does the program address a compelling and well-defined need?

Show Additional Details »

B. EVALUATION Accomplished

Does the program use rigorous evaluation to continuously measure and inform progress toward ambitious but measurable goals?

Hide Additional Details »

Your explanation for this rating:

some words need to go here.

Documents that support your rating for this principle:

[ view ] CTE\_Design\_Principles.pdf  
[ view ] CTE\_Design\_Principles\_Rubric.pdf

Accomplished	Developing	Undeveloped
Goals are ambitious but feasible and directly linked to the statement of need. A clear description is provided on how progress will be measured.	Program goals are ambitious and feasible but difficult to measure.	Goals are too ambitious for this program alone to fulfill-or too unambitious to be worthwhile.
Clear milestones with viable timelines are presented.	Scope of work is included, but the timeline is vague or nonexistent.	Program lacks clear milestones or timeline.
Program regularly uses data from external or internal evaluations to identify and act on opportunities for improvement.	Program only sporadically uses evaluation data to identify and act on opportunities for improvement.	Program has no plans for using evaluation data to improve itself.
Current-third party evaluation data demonstrate that the program is reaching its goals. If the program is new, it is based on high quality research and has a plan for a	Program is based on research that does not directly apply to the program's circumstances. Program designers conduct their own evaluation in lieu of	There is no research cited or a plan to evaluate the program's progress

2. Programs explain their self-ratings

1. Programs rate themselves

3. Programs provide evidence to support their self-rating

# Rigorous Review Process

**A. NEED**  
Does the program address a compelling and well-defined need?

Self-rating: **Accomplished**

Reviewer 1: **Undeveloped**  
Reviewer 2: **Undeveloped**

Final score:

Hide Additional Details ▶

Program's explanation for this rating:  
Our statement of need is clear. Everyone needs a hug once in a while, especially before one of those hard math tests! People have told us so. That's why we make sure that every test taker gets to hug a soft teddy bear before taking each test. Research shows that hugs administered by teddy bears are the best hugs of all.

Documents that support the program's rating for this principle:  
TeddybearResearch.pdf Teddy bear research supplied in recent funder report.

Accomplished	Developing	Undeveloped	N/A
Statement of need is clear, compelling, and supported by recent, valid and targeted data.	Statement of need is clear and compelling but cites only general data.	Reviewer Reviewer Description of need is vague or unconvincing and cites little or no data.	
Program makes clear that it adds unique value in addressing the need.	Program identifies other past or present programs that address the same need, but does not fully demonstrate how it adds to those programs.	Reviewer Reviewer Program makes no attempt to identify or evaluate other past or present programs that address the same need.	
Target audiences are well defined and closely tied to statement of need.	Program defines target audiences but does not clearly tie them to statement of need.	Reviewer Reviewer Program does not make clear what audiences it is targeting.	
Program can demonstrate that it is reaching the audience in greatest need of its services.	Reviewer Program makes clear efforts to reach audiences in greatest need but cannot demonstrate what proportion of those audiences it is reaching.	Reviewer Program makes little effort to reach intended audience.	

Reviewer notes:  
For the purposes of this self-eval and the database, it would be helpful for the program to explicitly state what they see as the need for this program, and actually connect the dots. By reading their materials, one can surmise the need and value of the program, but none of the rubric elements are addressed directly by their explanation for this rating. If the 'need' was informed by previous studies, the program should submit that work as evidence. Since this is xx xx program, there is no evidence that they are reaching the audience in greatest need. Rather, they have completed a study (over 10 years ago) and have made their materials available on the web. No data is cited for how it has been used and by who over time. In one of the appendix articles it states, "Four score and seven years ago, our fathers brought forth on this continent a new nation, conceived in liberty and dedicated to the

At least two reviewers per program

Reviewers often disagree with the applicants.

Reviewers leave specific feedback for applicants

# Feedback for programs

- Every program gets **feedback**
- Some programs **reapply**

A tilted image of a 'STEMworks Program Review Summary' form. The form is white with a light blue header and footer. The header includes the 'CHANGE THE EQUATION' logo and the 'West' logo. The main title is 'STEMworks Program Review Summary'. Below the title, there are fields for 'Program Name:' and 'Date Submitted:'. The 'Date Submitted' field contains the date '04/14/2016'. The form is divided into sections for different principles. The first section is 'Principle: A. Need'. It includes a 'Self-Rating:' field with the value 'Accomplished' and a 'Final Reviewer Rating:' field with the value 'Accomplished'. The 'Comments:' field contains the text: 'There is a need for better science education and better prepared students in the work force, as demonstrated by the evidence provided. However, it is unclear how this program is uniquely addressing this need. More information on the intended target audience, and how those participants benefit from the program would have also been helpful for rating this principle.' The second section is 'Principle: B. Evaluation'. It includes a 'Self-Rating:' field with the value 'Developing' and a 'Final Reviewer Rating:' field with the value 'Developing'. The 'Comments:' field contains the text: 'Given existence for 25 years, reviewers would like to see more feedback for the program. Evaluations should be given more weight. This would strengthen the evaluation process.'

**CHANGE THE EQUATION**<sup>TM</sup>

**West**

## STEMworks Program Review Summary

Program Name: \_\_\_\_\_

Date Submitted: 04/14/2016

**Principle: A. Need**

Self-Rating: *Accomplished*

Final Reviewer Rating: *Accomplished*

Comments: There is a need for better science education and better prepared students in the work force, as demonstrated by the evidence provided. However, it is unclear how this program is uniquely addressing this need. More information on the intended target audience, and how those participants benefit from the program would have also been helpful for rating this principle.

**Principle: B. Evaluation**

Self-Rating: *Developing*

Final Reviewer Rating: *Developing*

Comments: Given existence for 25 years, reviewers would like to see more feedback for the program. Evaluations should be given more weight. This would strengthen the evaluation process.

# Very selective process

- Roughly **30%** of applicants have been admitted
- Some are admitted as **“promising”**; some as **“accomplished”**
- All have to **“re-certify”** after 3-4 years.

# What it takes: “accomplished”

- Highest rating in at least **seven** principles
- Lowest rating in **none**
- Highest rating in **“Need”**
- Highest rating in at least one of the following: **“STEM Content,” “STEM Practices,”** and/or **“Inspiration”**

# What it takes: “promising”

- Lowest rating in **no more than 4 principles**
- Highest rating in **“Need”**
- Highest rating in at least one of the following: **“STEM Content,” “STEM Practices,”** and/or **“Inspiration”**

# How states partner with us

- Simply **select programs from the existing** STEMworks list
- Use STEMworks to **identify additional programs** for scaling in the state

# What states provide

- Reviewers who dedicate **review time** (Ca . 2-3 hours/program)
- **Administrator** to coordinate reviewers
- **Outreach** to STEM program providers

# What states provide (cont.)

- Pledge **not to alter** STEMworks rubric;
- *States **can add principles*** to focus on state priorities (e.g. professional development)

# What CTEq provides

- Online **application and review portal**
- **Training** of state reviewers
- **Technical assistance and support** to state partner and program applicants
- **Quality control** to ensure consistent high standards

# STEMworks review timeline

## Four-month process:

- **Prepare** the review website: 2 weeks
- **Application window**: 6 weeks
- **Review period**: 6 weeks
- **Prepare to announce results**: 2 weeks

# State STEMworks partnerships

- **Arizona** STEMworks initiative
- **Colorado** STEMworks initiative
- **Idaho** professional development (\$\$\$)
- **Indiana** curriculum initiative
- **Iowa** STEM Scale-Up Initiative (\$\$\$)
- **Michigan** STEMworks Initiative (\$\$\$)

# State STEMworks partnerships

- **Arizona** STEMworks initiative
- **Colorado** STEMworks initiative
- **Idaho** professional development (\$\$\$)
- **Indiana** curriculum initiative
- **Iowa** STEM Scale-Up Initiative (\$\$\$)
- **Michigan** STEMworks Initiative (\$\$\$)

# Thank you

Claus von Zastrow

COO/Director of Research

Change the Equation

[cvonzastrow@changetheequation.org](mailto:cvonzastrow@changetheequation.org)



Eileen Boerger, Council Member  
Melissa Leoni, Executive Director

*November 4, 2016*

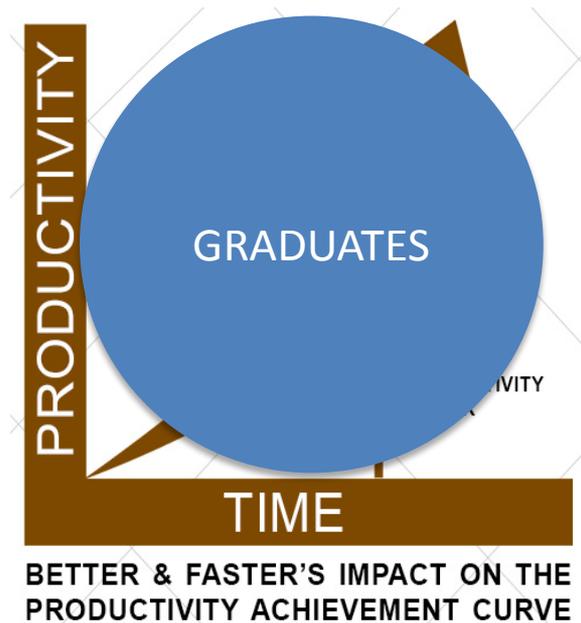
*Making Oregonians the first and best choice of Oregon employers*

# Mission and Vision

- To make Oregonians the first and best choice of Oregon Employers
- Target the most critical professional and technical talent needs in a strategic and focused fashion
- Connect talent to regional and state economic growth opportunities
- Support the growth and competitiveness of Oregon's traded sector and high growth industries with targeted co-investments

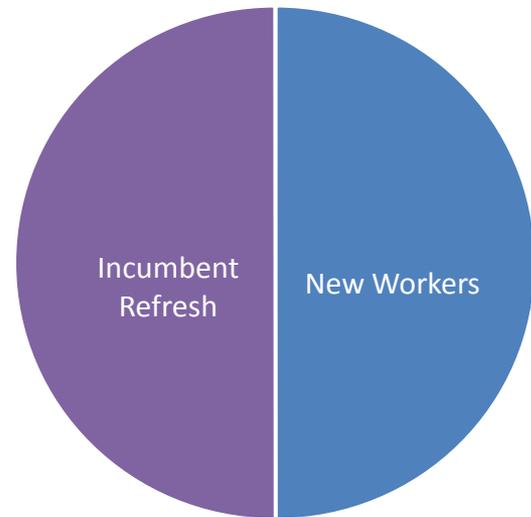
# What we have learned...

- Our initial focus was on MORE graduates focused on industry-needed jobs
- *We learned from industry the problem was not MORE but BETTER and FASTER*
  - *Better prepared to enter the workforce*
  - *Educated to learn to learn so they assimilate faster*



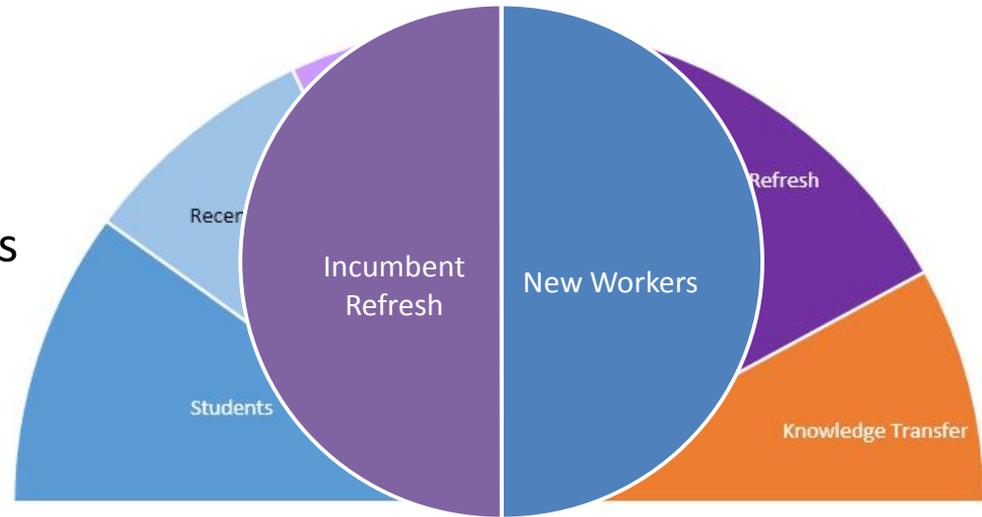
# What we have learned...

- Our initial focus was on students and graduates as new workers
- *We learned from industry that incumbent workers make up 80% of the future workforce, they require ongoing training and their training is woefully behind the demand curve*



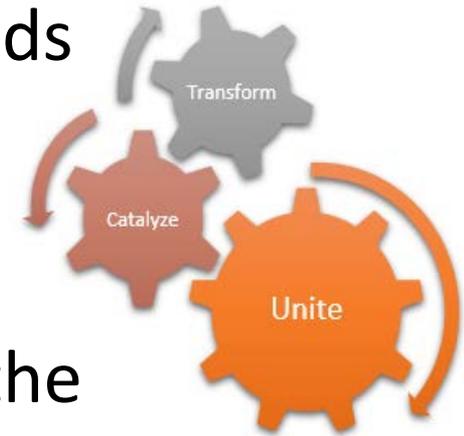
# What we have learned

- Talent needs are far greater than just “students” and “incumbent workers”
- The gap between industry’s needs and education’s understanding is wider than first imagined
- Talent has a new definition – it is a blend of education credentials, interpersonal and employability skills and practical experience
- Job requirements have changed: virtually every key industry job in Oregon requires technical skills and computer literacy



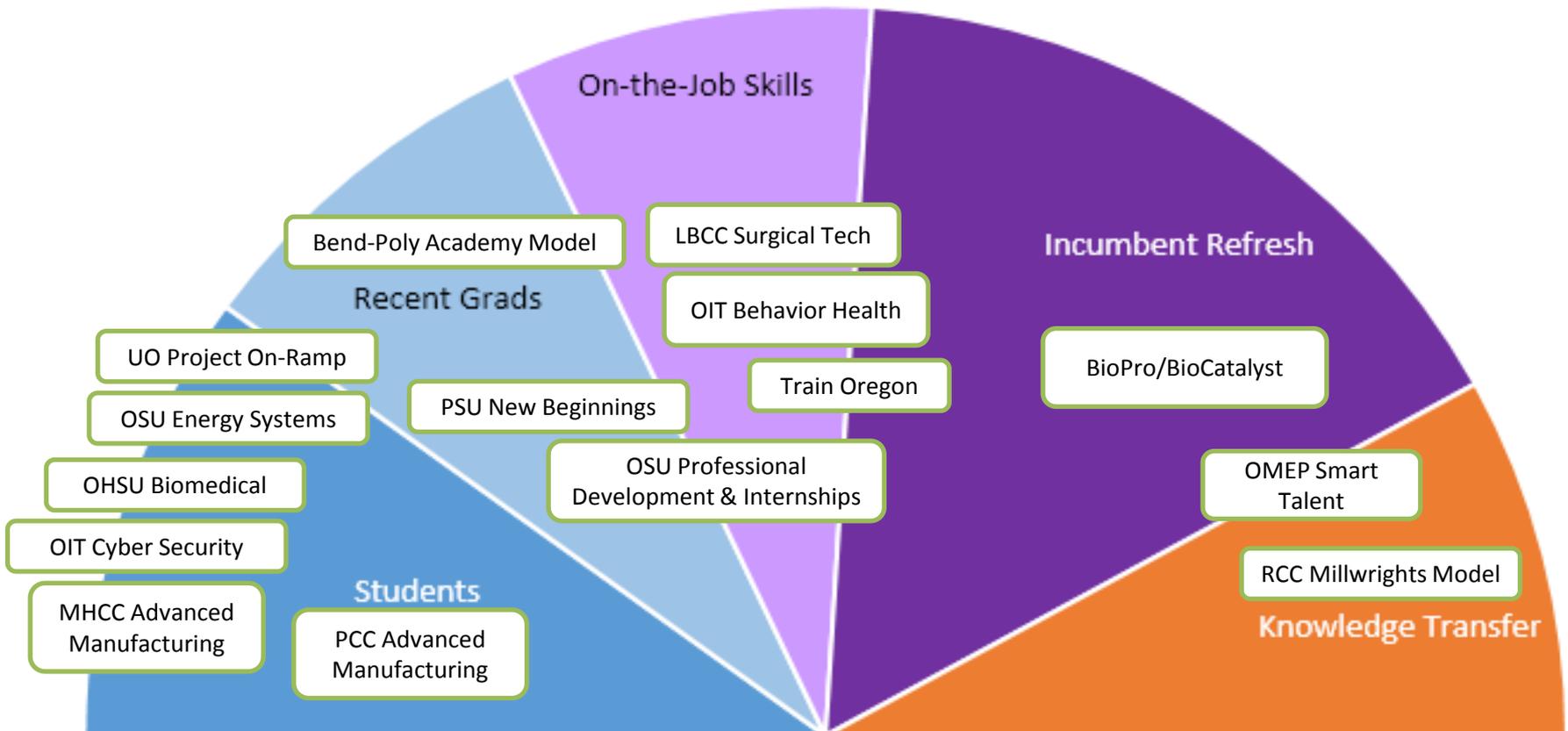
# Addressing these challenges

- We are THE voice for Oregon's talent needs
  - Publish the Oregon Talent Plan
    - A strategic review designed to provide insights into Oregon's talent needs and trends
  - Unite, catalyze, transform and advise the governor, state legislators and key departments and councils
    - Business Oregon Commission
    - Employment Department (OED)
    - Higher Education Coordinating Commission (HECC)
    - Oregon Workforce Investment Board (OWIB)
    - STEM Investment Council



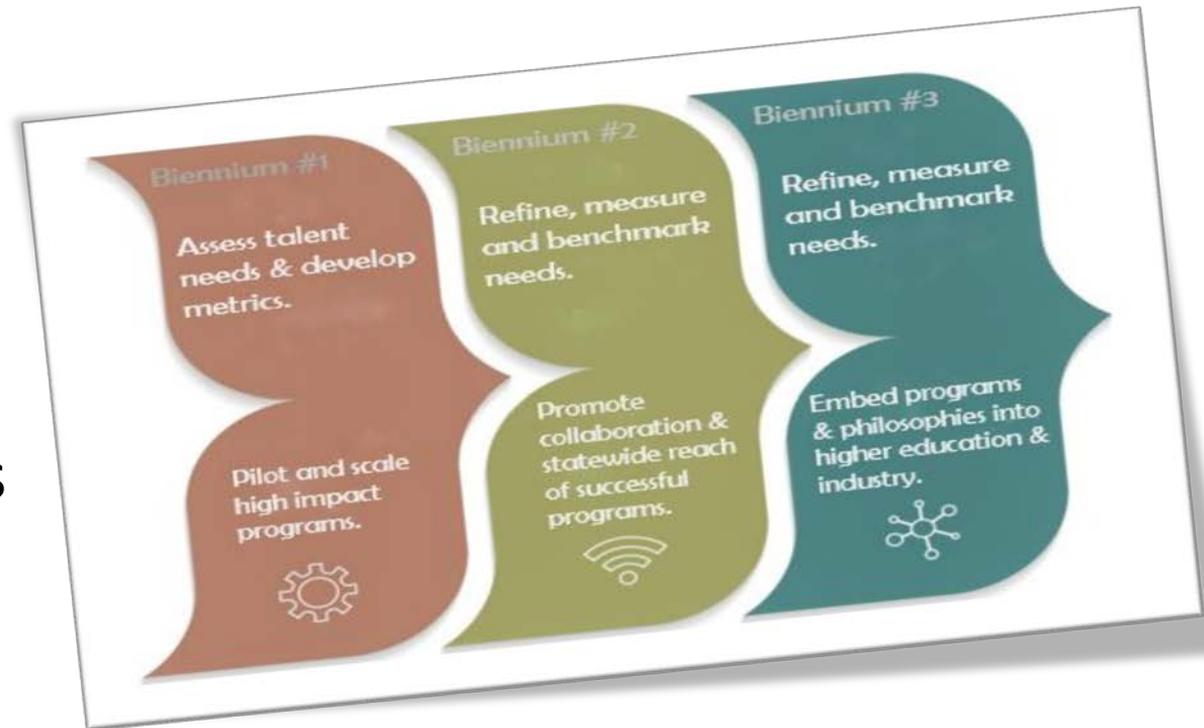
# Engage in Strategic Investments

Making investments in repeatable, transferable programs and delivery models that keep pace with skill changes



# We view our work as a continuum

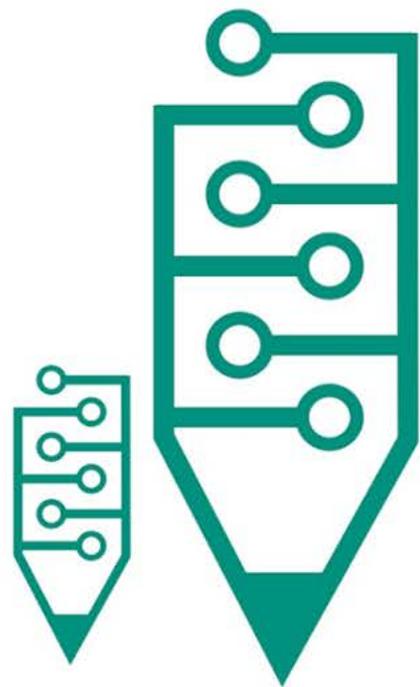
- Pilot program
- Proof models
- Grow and scale
- Extend to others
- Embed



# Questions and Discussion

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[oregontalentcouncil.org](http://oregontalentcouncil.org)



# EMSP

East Metro STEAM Partnership

The East Metro STEAM Partnership

**develops** and **aligns**

resources through

**collaborative**

**partnerships** to

support

**STEAM initiatives**



Reynolds  
School District



Gresham Area  
Chamber of Commerce  
and Visitors Center

AMERICA'S  
SBDC  
OREGON



Portland  
State  
UNIVERSITY

MT. HOOD  
COMMUNITY COLLEGE



MICROCHIP



CENTER FOR  
ADVANCED  
LEARNING



Parkrose  
School District  
Portland, Oregon

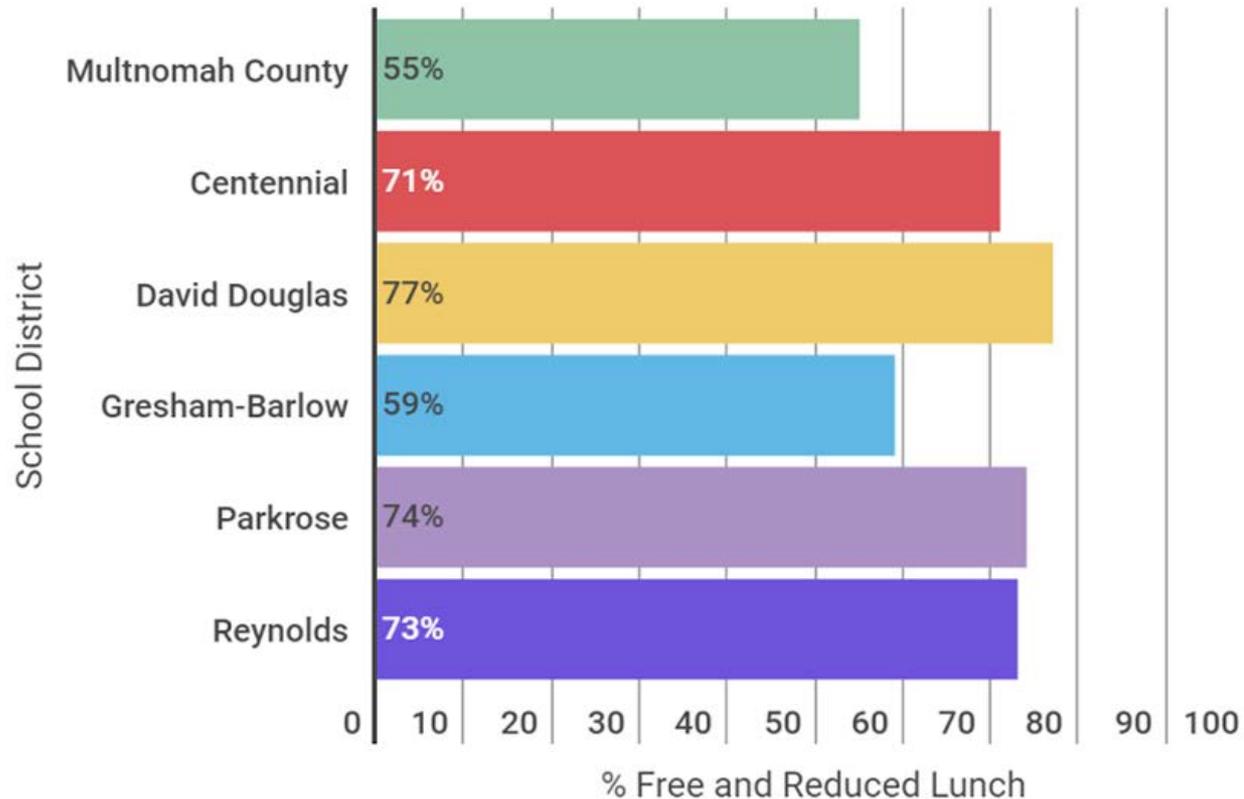
CITY OF  
GRESHAM  
OREGON

TECHOLICY

homeforward



# Students Eligible for Free and Reduced Lunch Prices



Source: Oregon Department of Education Data for 2014-2014 School Year

# Smarter Balance MATH Scores

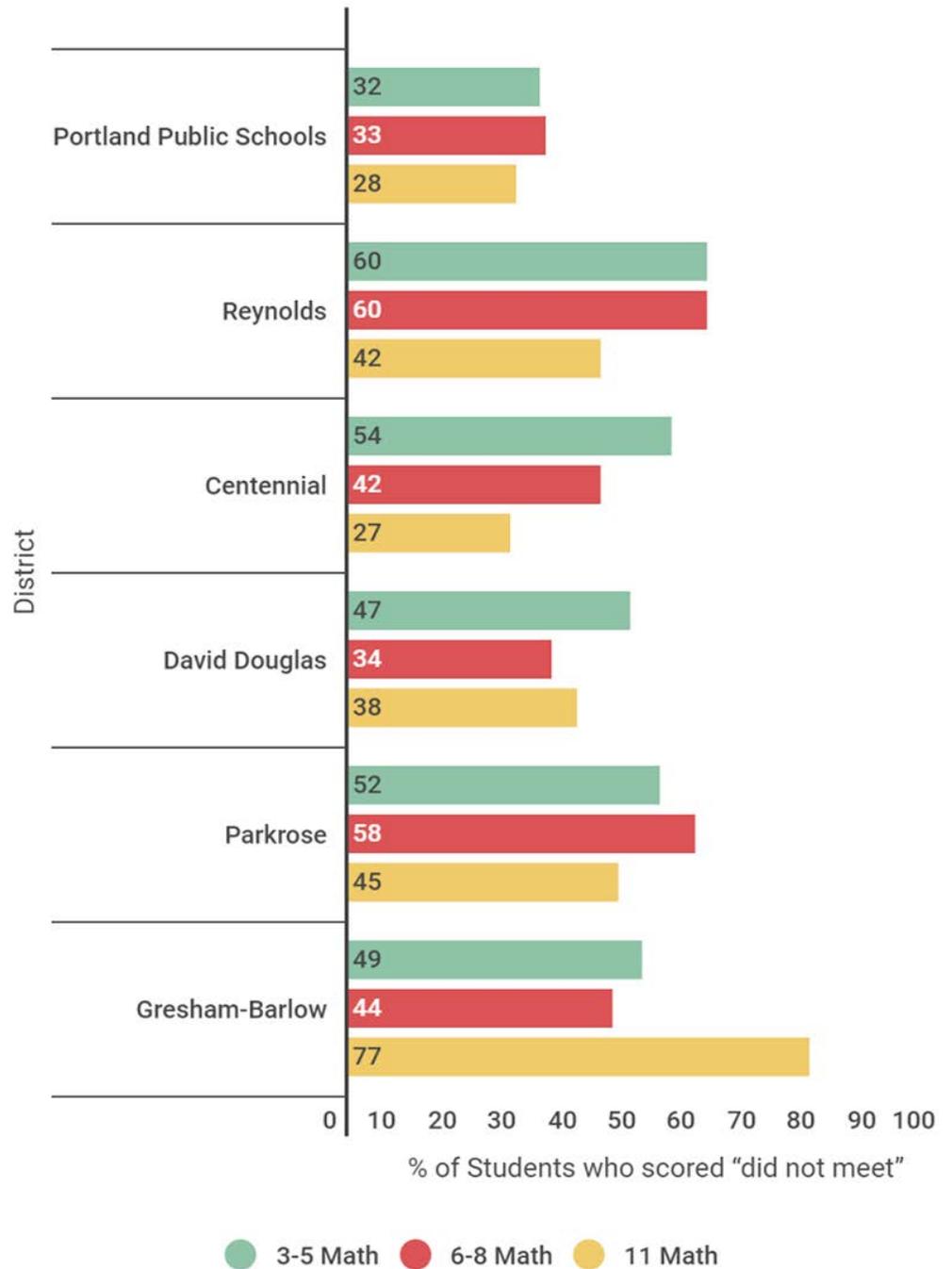
49%

of East Metro Youth

31%

of Portland Public School Youth

Source:  
Oregon Department of Education  
Data for 2014-2015 School Year



# Smarter Balance SCIENCE Scores

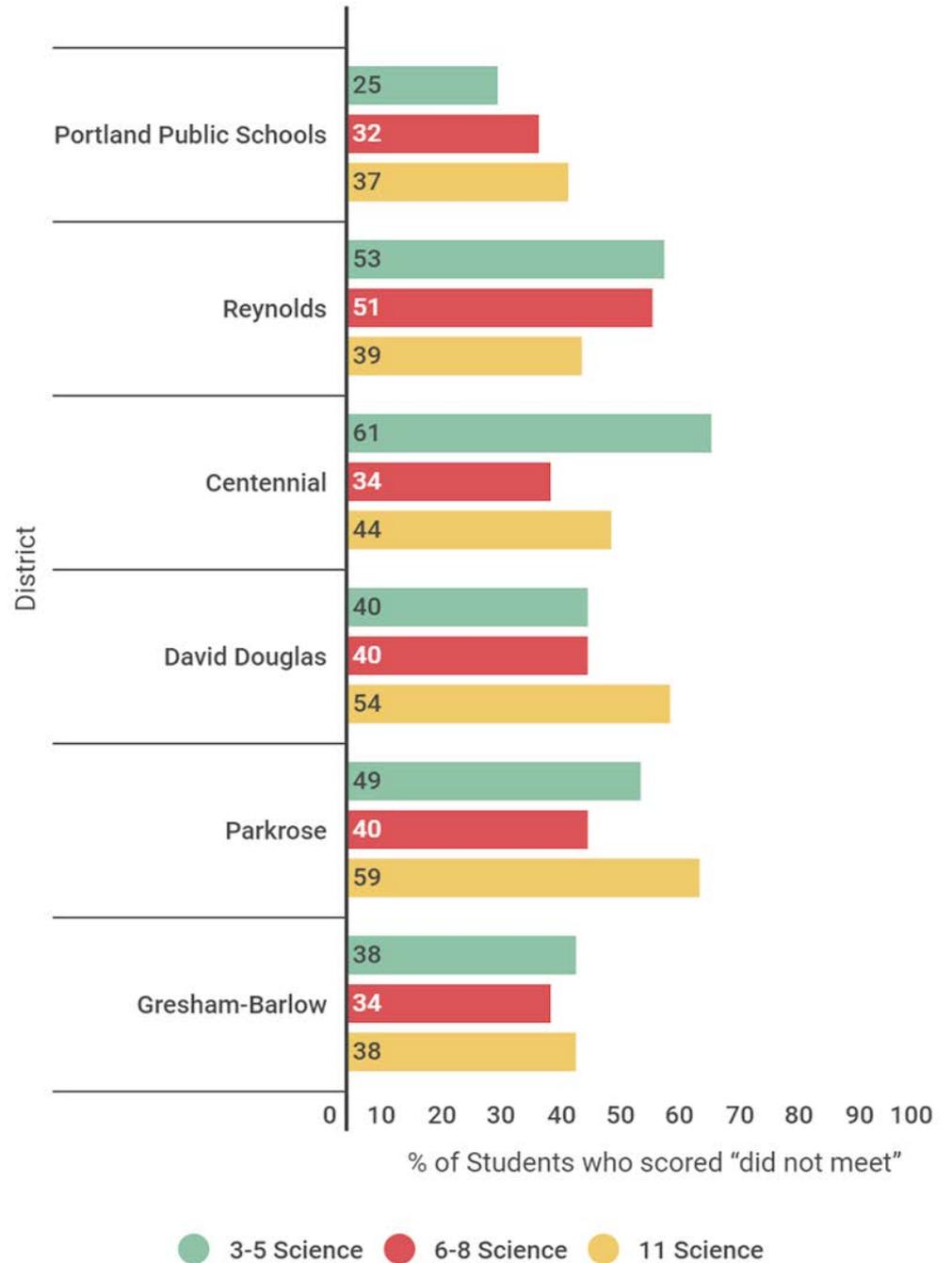
45%

of East Metro Youth

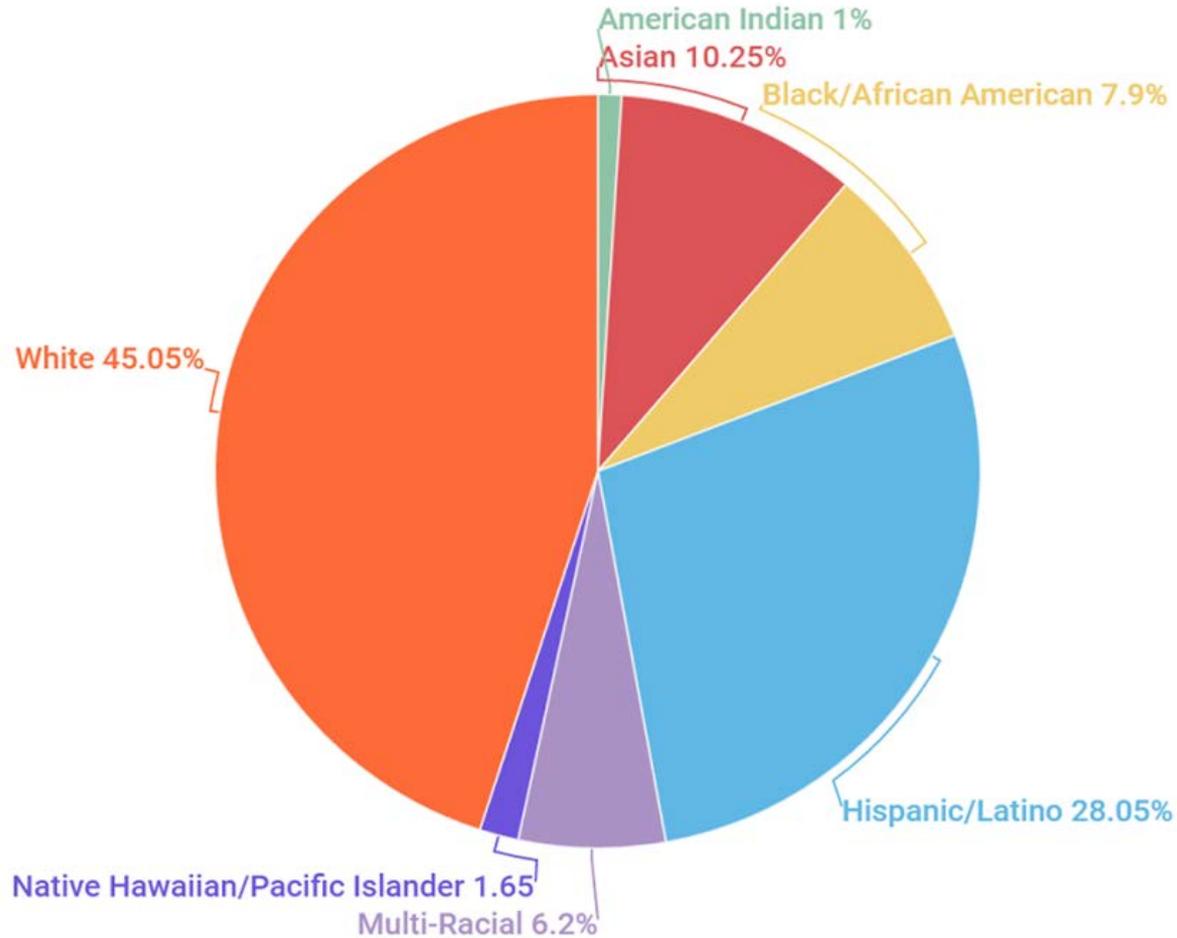
31%

of Portland Public School Youth

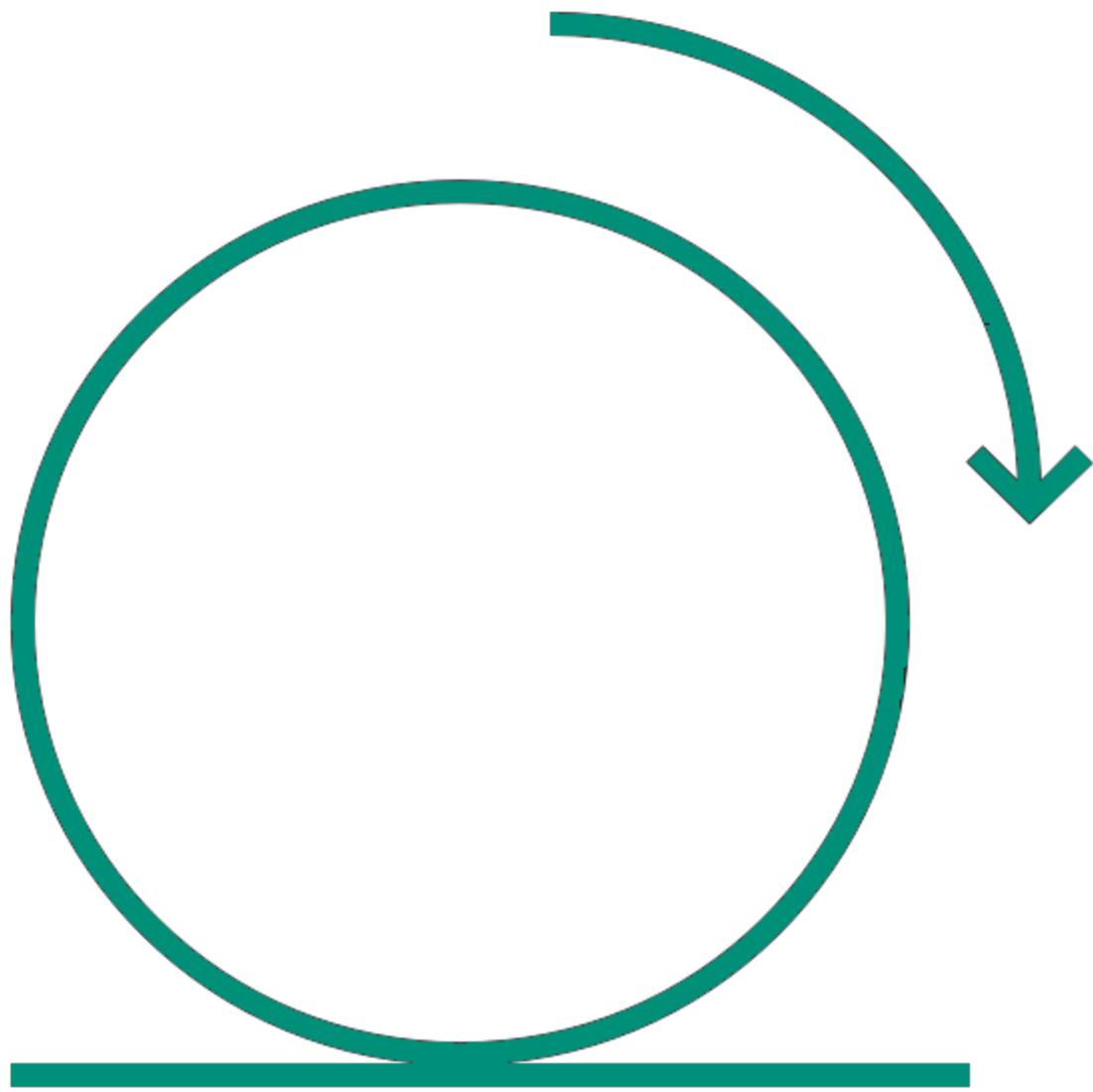
Source:  
Oregon Department of Education  
Data for 2014-2015 School Year



# Student Demographics - East Metro



Source: Oregon Department of Education Data for 2014-2015 School Year



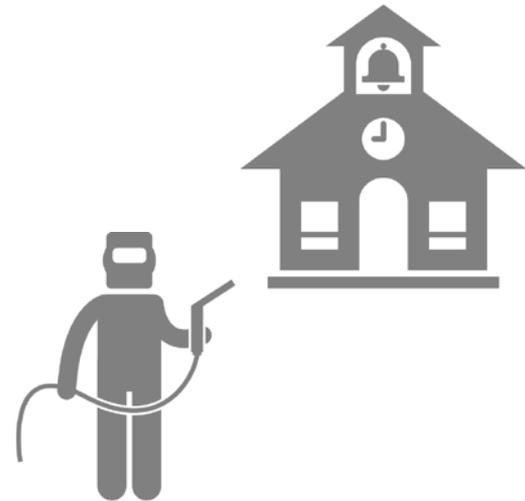
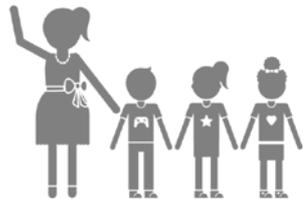
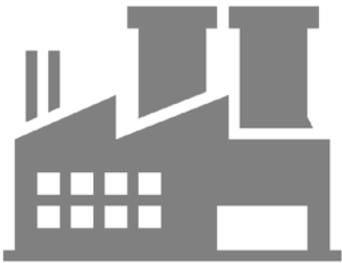
Create

**PARTNERSHIP**

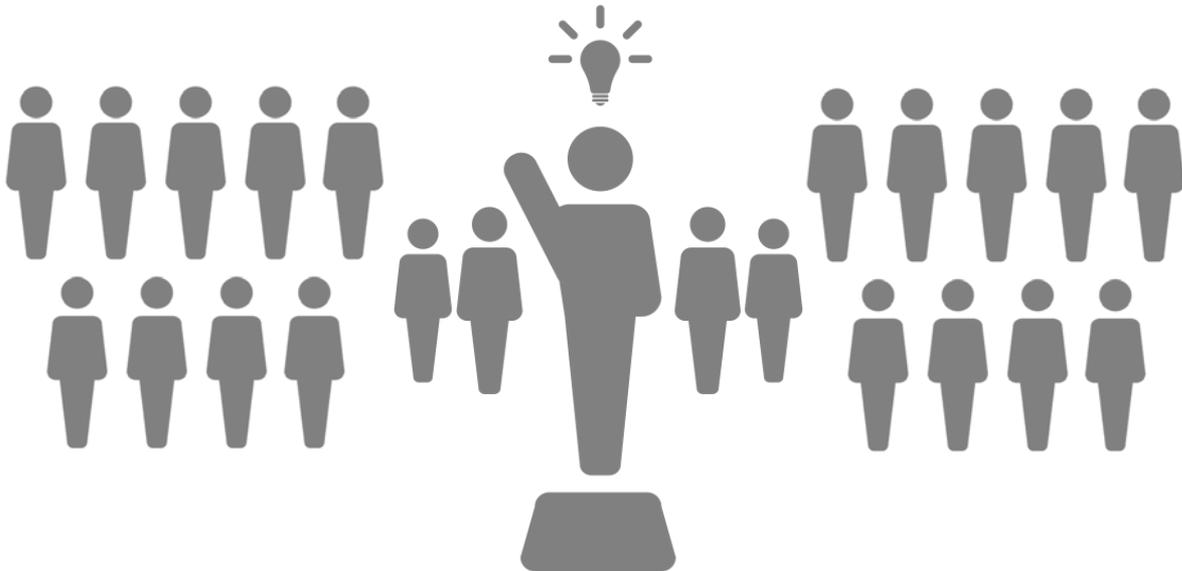
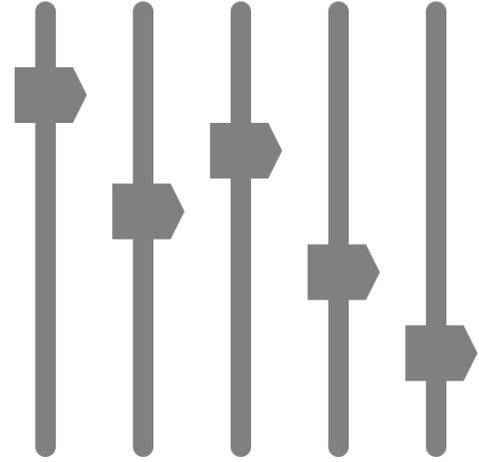
opportunities to support  
formal and informal  
**STEAM** education



Engage **COMMUNITY** and  
**BUSINESS** partners to  
support **STEAM-CTE**  
programs.



**ENGAGE** stakeholders representing  
minority, women, disabled  
and disadvantaged communities  
to increase participation of those  
**UNDERREPRESENTED** in the STEAM  
fields.





Penny Pritzker Retweeted



**U.S. Commerce Dept.** @CommerceGov · Oct 12

Secretary @PennyPritzker Celebrates Manufacturing Day in Portland,  
#Oregon [bit.ly/2e9FGZC](https://bit.ly/2e9FGZC) #MFGday16 #makersgonepro  
@LamResearch

Penny Pritzker





Steve Davee

@sdavee



Following

Just visited an awesome East PDX advanced manufacturer, KCR, that is passionate about mentoring, #CTE, & #makerEd Thanks @ChrisHolden4584!



[Carol CTE Interview 2016 2.0.mp4](#)

<https://youtu.be/5MutUyed4D8>