

2022-2023 Annual Report



Mid-Valley
STEM-CTE HUB



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Mid-Valley
STEM-CTE HUB



www.midvalleyystem.org

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Photos in this publication were taken by MVSCH Marketing Specialist, Kacey Montgomery, during Hub programming unless otherwise stated.



Hub Team

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Program Assistant

Chris Singer
Program Coordinator

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(Pictured on right)
Business and Industry Outreach
and Equity Specialist

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Education Outreach and Equity
Specialist

Forrest Johnson
MILL Coordinator and Lending
Librarian

Janice Hardy
Fund Development Manager

Kacey Montgomery
Marketing Specialist

Kathie Vosper
Administrative Assistant

Kelsie Szeszulski
Program Coordinator

Sarah Whiteside
Director



From the Director's Desk



Congratulations, Mid-Valley on three years together with us, Oregon's youngest STEM Hub! I am so pleased to share this year's annual report and celebrate all that we've accomplished with our great team of staff, leadership, and an ever-growing network of committed partners.

Looking back helps us look forward and there are many wonderful highlights from the past year to showcase:

- Learn-on-the-go professional development with educators from preschool through postsecondary, with a special emphasis on STEAM outreach for our rural and special education students;
- Culturally-specific mentorships for Latinx/e middle school youth,
- Business and industry partnerships coming together to provide career-connected learning opportunities for students and educators to increase access and equity to STEAM and CTE fields,
- ...and from Alsea to Sweet Home, Scio to Monroe, the Mid-Valley's STEAM enrichment classroom on wheels, our Mobile Makerspace brings engaging learning opportunities to students' doorsteps.
- Our new Spanish website, monthly newsletter, and expanding portfolio of program assets fully available in Spanish and English,
- The Maker and Innovation Learning Lab (MILL), a makerspace for open STEAM and CTE pedagogy, tinkering, making, and belonging,
- Early elementary computer science and digital literacy programming across our eleven school districts and two online public charter schools,

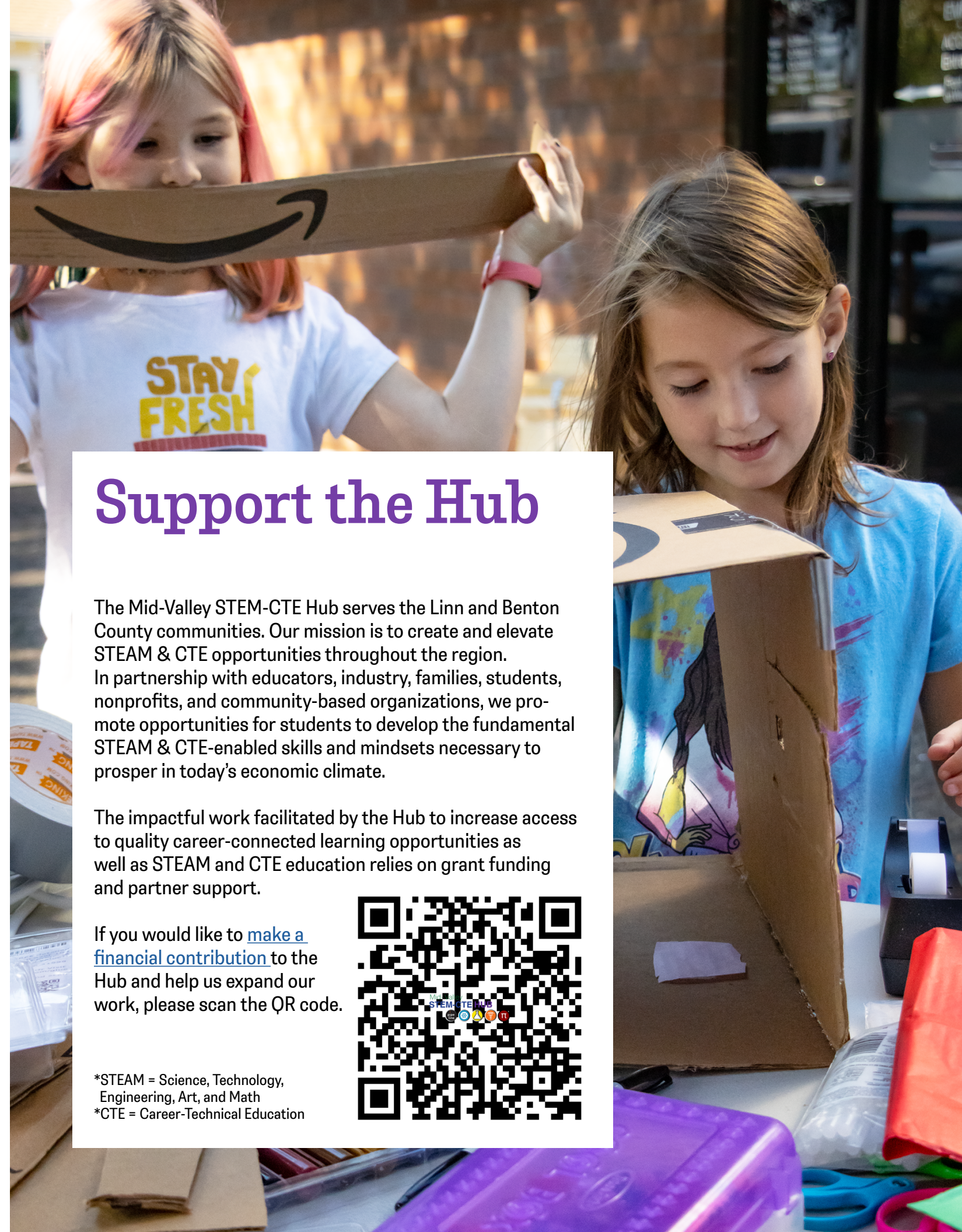
As you flip through this report, read more about these programs, and see the wonderful images that light up these pages, I hope the joy of learning that we have

witnessed is palpable. The incredible experience of STEAM learning is not limited to any specific age group or level of expertise. It is a lifelong journey of exploration, discovery, and growth. Working together to think creatively, develop innovative solutions to complex problems, experiment, collaborate, and make connections across disciplines to real-world applications is what STEAM learning is all about.

Thanks to all of you for giving so generously of your time, treasure, and talents to help us orchestrate our collective efforts and take action for equity in order to bring the transformative joy of STEAM learning to our region. There are so many who have contributed to the successes highlighted in this annual report and I am grateful for the time and commitment of each and every one. We look forward to doing this good work together in the upcoming year.

Thanks and be well,
Sarah Whiteside
Director

Thank you to our partners for the continued support and contributions.




Support the Hub

The Mid-Valley STEM-CTE Hub serves the Linn and Benton County communities. Our mission is to create and elevate STEAM & CTE opportunities throughout the region. In partnership with educators, industry, families, students, nonprofits, and community-based organizations, we promote opportunities for students to develop the fundamental STEAM & CTE-enabled skills and mindsets necessary to prosper in today's economic climate.

The impactful work facilitated by the Hub to increase access to quality career-connected learning opportunities as well as STEAM and CTE education relies on grant funding and partner support.

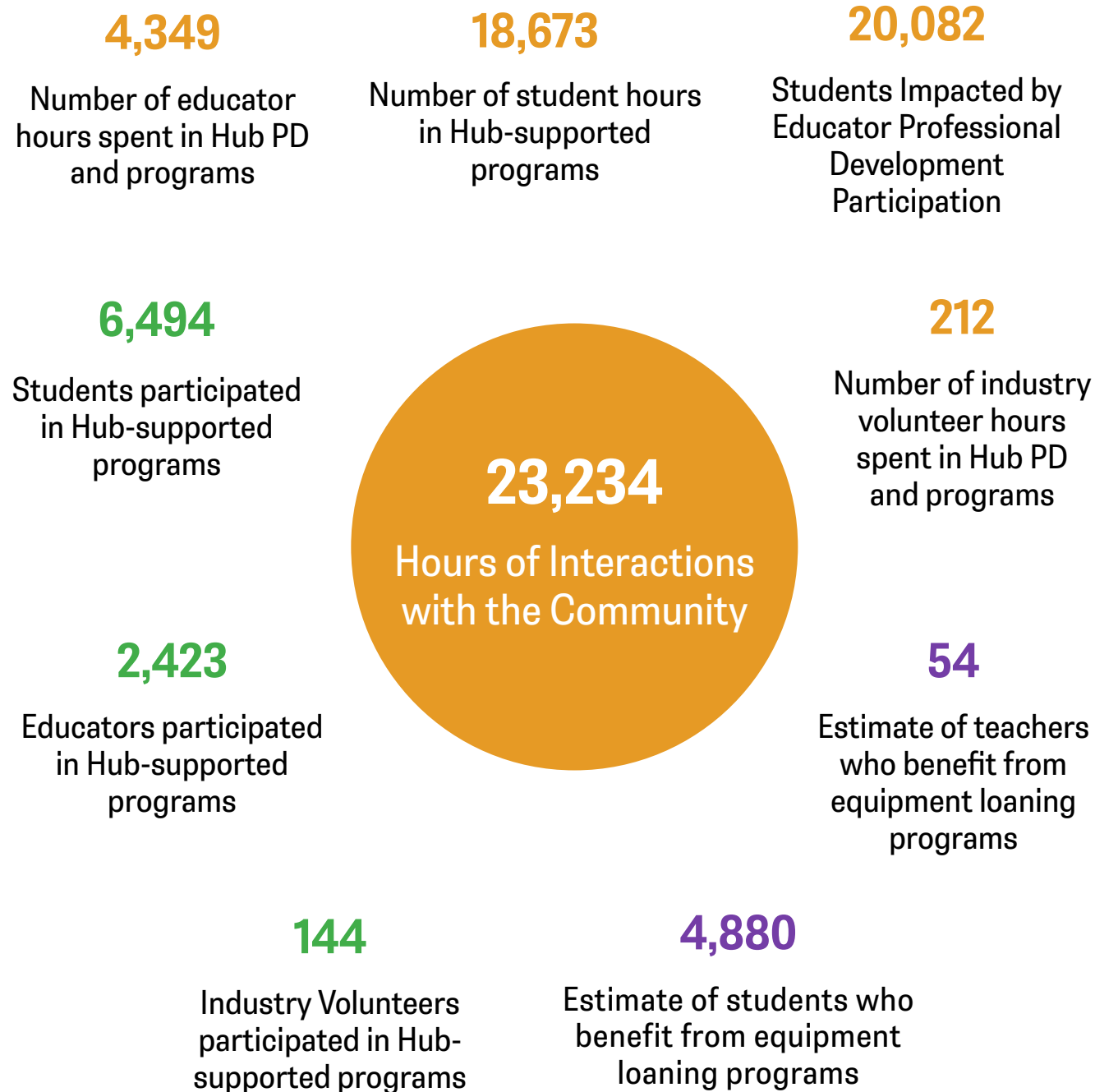
If you would like to [make a financial contribution](#) to the Hub and help us expand our work, please scan the QR code.



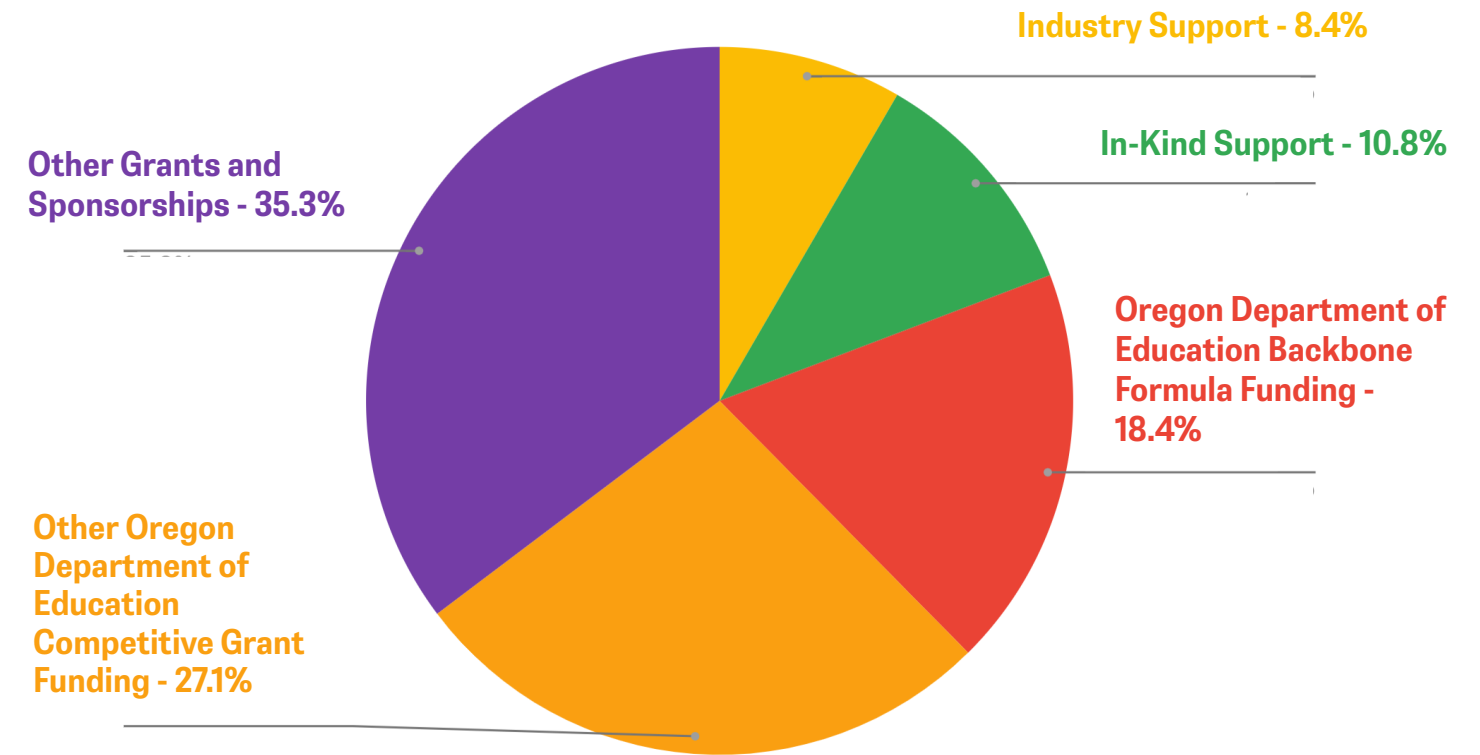
*STEAM = Science, Technology, Engineering, Art, and Math
*CTE = Career-Technical Education

At a Glance

2022-23 Impact Numbers



2021-23 Biennium Funding



“As LBCC President, I am so proud of our affiliation to the Mid-Valley STEM-CTE Hub. The Hub connects industry, technology and education, which are all vital to the communities throughout Linn and Benton counties. Underpinning the Hub’s work is the team’s deep commitment to equity, helping diversify the workforce and the pathways for youth in our region.”

Lisa Avery, Ph.D.
President
Linn-Benton Community College



Students participating in a computer science and coding lesson featuring Beebots.



Computer Science and Digital Literacy

The Mid-Valley STEM-CTE Hub has taken the lead on using Beebots in PreK-2nd grade classrooms to integrate computer science, digital literacy, science, technology, and math. Over the course of the 2022-23 school year, Program Coordinator, Chris Singer, has trained educators and STEM Hub leaders from around the state in using Beebots to integrate computer science in Pre-K through 2nd grade classrooms.

Children love the colorful, little robots and show a high level of perseverance in solving problems with the bots. Singer developed a number of grade-appropriate Beebot lessons, seamlessly integrating math and science with coding. Students learn computational thinking skills such as logical reasoning, abstractions, patterning, algorithms, and decomposition. Beebot lessons

also emphasize important social-emotional skill-building. In creating programs and challenges for their Beebots, students have to work with their classmates and practice collaboration, patience, problem-solving, and learning from their mistakes.

Over the course of this initiative, Singer visited 50 classrooms for a two-lesson series in which he demonstrated how to use Beebots with students. Participating teachers received a classroom set of Beebots, a charging station, hands-on support, and access to instructional resources and lesson planning materials.

In total, 290 Beebots were distributed to 50 classrooms across six of our 11 regional school districts!

“The Hub helped us challenge and inspire kids who had little contact or opportunity for creative learning and hands-on experiences. Thank you for all you have done for us and continue to do for our community!”

Maureen Holt
2nd Grade Educator
Riverview Elementary

To learn more about opportunities for STEAM early learning and our ongoing computer science integration work, contact us at: midvalleystemctehub@linnbenton.edu





Educator Externships

This summer marked the second year of our Educator Externship program. We were thrilled to expand the program from 2022 to be able to serve triple the number of educators through three full rounds of externships.

The Educator Externship program provides two days of professional development for teachers to tour local postsecondary training facilities and area businesses. The knowledge they gain helps them to better connect their classrooms to career opportunities in the region. Generous grant funding allows us to provide educators with a stipend for their time in the program and to develop curriculum to bring relevant career-connected content back to their students.

In year one, we served ten educators with our externship program pilot. This year's expansion allowed us to serve 29 educators, an increase of 190% over the first year. Teachers from across both counties and several school districts participated including Corvallis, Philomath, Harrisburg, Monroe, Albany, and Lebanon.

The externs visited 11 companies across three sectors: manufacturing, skilled trades, and public works. Participating businesses and entities included:

- Albany/Millersburg Water Reclamation Facility,
- ATI,
- Calapooia Brewing/Vivacity Spirits,
- Entek,
- Hewlett-Packard,
- International Brotherhood of Electrical Workers Local 280,
- Linn-Benton Community College,
- National Energy Technology Laboratory,
- NW Natural,
- Roseburg Forest Products,
- Softstar Shoes.

Participating teachers tour facilities and have an open Q&A with the hosts. Tours emphasize hands-on experiences for educators to better understand the types of skills employers are seeking in their workforce. Educators are also able to network with one another and the employers to build connections for future collaborations.

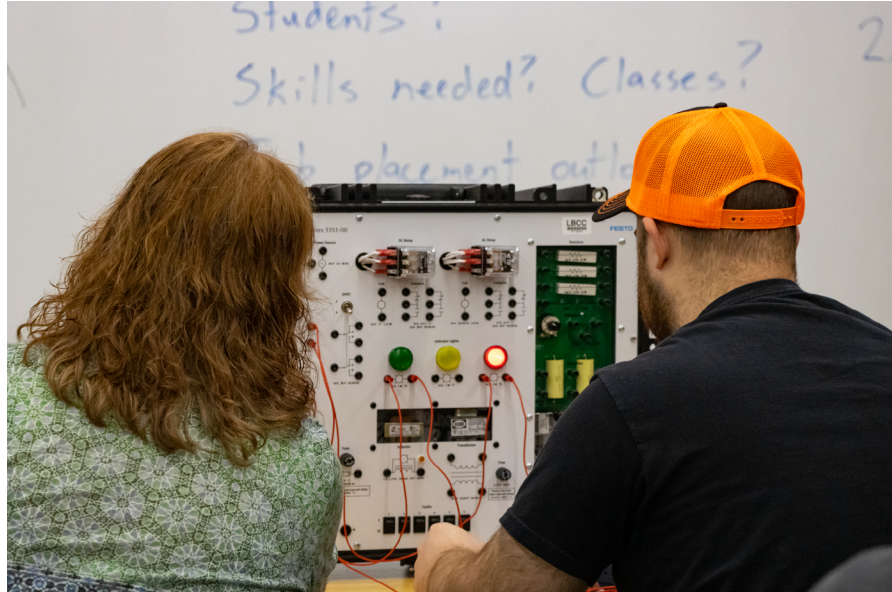
To learn more about externships, contact: midvalleystemctehub@linnbenton.edu

“Touring these companies and programs showed me options to good-paying jobs that can help students reach for something that can move them beyond generational poverty.”

Educator
Periwinkle Elementary

Left: K12 educator learning how to operate a robotic arm in LBCC's Mechatronics Lab.

Right: K12 educators practicing building circuits in LBCC's Mechatronics Lab.



Mobile Makerspace

“With Hub support, we are able to offer ongoing STEM-based activities and programming that challenge girl-identified youth, allow them to explore their interests, and empower them. Our girls are always excited when a visit from the Mobile Makerspace is on the calendar.”

Hannah Engom,
Albany Youth Program Coordinator
Ophelia's Place

The Mobile Makerspace brings STEAM supplies, tools, and technology to provide underserved students, communities, and schools in Linn and Benton counties with hands-on building, tinkering, and learning experiences that are oftentimes otherwise unavailable. These learning opportunities can also play a pivotal role in the social and emotional development of youth through interactive projects.

Since its launch in September 2022, the Mobile makerspace has hosted **33 events at 17 locations**. Some of these locations include:

- Alsea Public Library,
- Boys and Girls Club - Greater Santiam ,
- Brownsville Farmer's Market,
- Colonia Paz (Community of Peace),
- Harrisburg Public Library,
- Monroe Community Library,



Bottom left: Mobile Makerspace coordinator, Kelsie, helping students with their solar panel projects.

Top right: Student painting by creating chemical reactions with acidic and alkaline substances.

Middle and bottom right: Student showing off their projects after a lesson on oceanography and sea mammal migration patterns.



- Ophelia's Place,
- Scio Public Library.

- with acids and bases,
- Oceanography and learning about marine mammals migration patterns.

Mobile Makerspace events have attracted close to 600 participants equalling roughly 713 hours of STEAM out-of-school learning time for youth.

Students and their families participate in guided hands-on STEAM activities with our Mobile Makerspace Coordinator, Kelsie Szeszulski. The STEAM enrichment learners gain fosters curiosity, growth, and confidence that support students' identity development for future STEAM success and life-long learning. Example activities include:

- Circuit building using mini solar panels,
- Engineering with cardboard game design,
- Introduction chemistry

To learn more about the Mobile Makerspace, contact us at: midvalleyystemctehub@linnbenton.edu.

“Our partnership with the MVSCH has had a transformative effect on our after-school community. The Hub has enriched our programming and curriculum, inspired our students, and prepared them for future success in STEM fields.”

Louise-Annette Burgess,
Executive Director
Maxtivity Creative Space





LBCC Education Faculty, Liz Pearce, utilizing the MILL with students for a class project.

The MILL



The Maker and Innovation Learning Lab, better known as The MILL, provides a safe, creative, equitable, and resource-rich space to support collaboration and hands-on experiential learning. The MILL serves LBCC and learners of all ages across Linn and Benton Counties.

The MILL is home to a large selection of tools and implements for creating and tinkering. Some of the tools include sewing machines, 3D printers, woodworking equipment, laser cutters, large format printers, a podcasting studio, and so much more.

“As a welding and fabrication student, the access to a CNC and plasma laser cutter at the MILL provides an easier introduction to CNC systems without the higher cost of materials and mistakes. I feel that access to the tools in the MILL is invaluable for those wanting to learn new skills related to manufacturing technologies.”

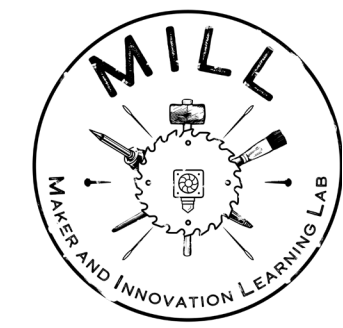
Erik
LBCC Student

The MILL opened its doors in January 2023 and has since served 1,250 patrons, including:

- Fifteen community making events,
- Five K-12 classroom visits,
- Ten LBCC classes, clubs, and groups,
- Three weeks of summer camps for middle schoolers,
- and more!

The MILL boasts a large, interactive workspace that can be custom-arranged to best suit a variety of project/s. MILL staff are on hand to assist students via open pedagogy techniques to learn how to use the tools and equipment safely and for a variety of applications.

To learn more about the MILL, contact us at: midvalleyystem.org/MILL



Culturally-Specific Career-Connected Learning

Ways of knowing, understanding, and learning can differ among cultures, contexts, and available resources. It is important to ensure the success of all students in our community by meeting their current needs, leveraging resources that support them to be successful, economically prosperous, and reach their full potential.

Thanks to the help of an ESSER II After School STEM grant, The Hub is able to offer career-connected learning opportunities to Latinx students in Linn county. In a culturally-specific context, students will gain insight into their strengths, connecting them to the workforce, and exploring their options to thrive in STEAM careers and skilled trades paths.



Parents and CLU service provider discussing Nuestro Futuro opportunities.

Nuestro Futuro (Our Future)

The Nuestro Futuro program seeks to empower Latinx-identifying middle school students with culturally-relevant mentorships to enable them to explore postsecondary pathways. Students are paired with Latinx-identifying mentors to guide them in discovering their strengths and help give their potential a platform. Students are provided access to resources such as identity

and career exploration tools and job shadowing experiences to help them learn about the rich opportunities in their own zip codes and beyond. Together with their families, students will participate in workshops focused on navigating academic pathways and associated requirements, career planning, and support for transitions to high school, college, and other postsecondary programs.

Parents and students will be provided with workshops and activities, informing them of the various academic pathways and their associated requirements. These resources will also help

parents and students understand the current job market, the skills needed for success, and the types of support needed while transitioning to high school and preparing for college.

Nuestro Futuro students build confidence in their academic aptitudes and are supported to make the most of their middle and high school years. STEM and CTE programs and fields are severely underrepresented by Latinx-identified groups. Nuestro Futuro - and all Hub programs - seeks to empower students to pursue their dreams and have the necessary support to achieve their goals.

Visit us at midvalleystem.org to learn more.

“Casa Latinos Unidos’ partnership with the Mid-Valley STEM-CTE Hub has opened new doors and possibilities to support and empower Latinx youth and families in Linn County. Together we are implementing the Nuestro Futuro program, whose goal is to motivate middle schoolers to imagine possibilities for their future around science, technology, and the arts. Using a culturally-appropriate approach, which places the family at the center, the participating students discover their own potential by working with local Latinx leaders and learning about what they do. This program builds upon the strengths and assets of the Latinx community. We plan to continue collaborating with the Hub into the future.”

Ricardo Contreras
Director
Casa Latinos Unidos



Meet Dominga!

Dominga Sanchez, Ph.D., is the newest member of the Hub team. A California native and recent Oregon State University graduate in Civil Engineering, Dr. Sanchez brings her rich STEM background to the Hub as our Education Outreach and Equity Specialist. Sanchez is passionate about working with students and engaging with diverse communities to remove barriers and diversify representation in STEAM and CTE. To learn more, reach out to sanched@linnbenton.edu



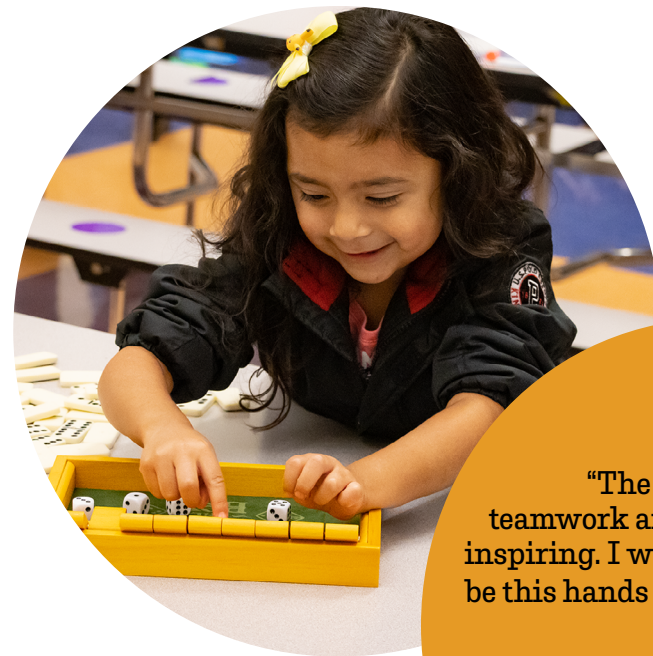
Nuestro Futuro Team

Early Learning

The goal of the Hub's work in early learning is to raise the understanding of Early Childhood STE(A)M within the community through advocacy and messaging as well as to provide STE(A)M-related training support to early childhood educators, providers, and parents.

The Hub concluded the second year of our Early Learning STEAM Cohort in June. Through a partnership with LBCC Family Connections and the Oregon Coast STEM Hub, the STEAM cohort kicked off a professional development series from February to May of 2023 with 20 pre-K teachers from Linn, Benton, and Lincoln counties. This series of four 90-minute workshops focused on integrating STEAM in early childhood settings and curriculum. Participants explored age-appropriate STEAM activities to promote inquiry-based learning opportunities for young children and learned tangible ways to invite young children to observe, explore, investigate, problem-solve, and experiment.

During the past year, we also strengthened our partnership with the Early Learning Hub of Linn, Benton, and Lincoln counties. In May, we partnered on a STEAM & Early Literacy training session in Newport. The Early Learning Hub supported this effort with grant funding that allowed the Hub to launch STEAM & Early Literacy efforts with Pre-K teachers in our region. This work will continue throughout the region over the next two years.



"The engagement, teamwork and cooperation are inspiring. I wish all learning could be this hands on and engaging."

Melissa Malusky
1st grade teacher Philomath
Clemens Primary School

Right: Philomath students using Magna-Tiles to design their dream house.

Above: Student playing a math game that supports learning fundamental math skills.





“The Mid-Valley STEM-CTE Hub creates learning opportunities for students and partnerships for our educators. As we prepare all of our students for a complex world the Hub supports creativity, critical thinking, and career pathways.”

Ryan Noss
Superintendent
Corvallis Public School District

“I greatly appreciate MVSCH’s efforts in promoting equity and diversity in our regional workforce. Through programs such as the Educator Externships and the Student Healthcare Internships, the Hub has given opportunities for individuals to learn more about the opportunities available within our region.”

Dale Moon, Ph.D.
CTE Regional Coordinator & AMTT Associate Dean
Linn-Benton Community College



“I think it’s really special that the Hub is able to travel to rural communities and provide educational opportunities. As someone who grew up in a rural community, it required a lot of travel resources in order to access these types of educational opportunities that the Mobile Makerspace provides.”

Kayley Martinez
Student Employee

Other Programming



OSU Student Club, GEEQ, in the studio for a Closing the Gap episode.

The gender gaps in STEM and skilled trades industries are enormous. Women and gender minorities make up just over 25% of the workforce in science, technology, engineering, and math (STEM), and men vastly outnumber women majoring in most STEM fields in college. In trades occupations, this gap is even larger with women only making up just 9% of the workforce in construction and other skilled trades occupations. And those numbers are much lower for women and gender-diverse people of color.

To help amplify the voices of women and gender-diverse people in Linn and Benton Counties and the surrounding region, the Hub produces a podcast called **Closing the Gap**. With three complete seasons and a fourth on the way, [Closing the Gap](#) features interviews with local women and gender minorities working in STEAM and the skilled trades. On the show, guests share their stories of blazing trails in their chosen fields, give voice to the challenges, and help guide others to join them in shifting the tide toward greater, more equitable representation across these careers.



Elementary students using Educator Lending Library Magna-Tiles for a construction project.

The Educators' Lending Library equips our educators across the region with ready-to-use classroom kits, hands-on resources for teaching engaging lessons in science, technology, engineering, arts, and math. The materials are easy to reserve and can be conveniently delivered via courier to any public library in our two-county region for quick pickup and dropoff.

[Our collection](#) currently includes more than 115 STEAM learning tools and kits. In the 2022-2023 school year alone we were able to serve over 35 preK-college classrooms with lending library-provided learning materials and supports.



Lebanon High School students visiting a fire department to learn about emergency response careers.

The healthcare sector is a high-wage industry with a constant demand for trained practitioners. To help meet this need, the Hub hosted a **Healthcare Occupations Career Exploration program** in the spring of 2022. Ten high school students from Lebanon Community School District participated in the ten-week program. Participants toured a variety of workplaces and training facilities to gain a holistic view of the diverse array of disciplines within healthcare including emergency medical response, phlebotomy, and occupational therapy. Students also visited LBCC's Healthcare Occupations campus and the College of Osteopathic Medicine of the Pacific - Northwest, both located in Lebanon. To remove financial barriers, participating students were paid a wage for the time they spent in the program and were offered college-level credit through LBCC's High School Partnerships.



Scholarships

Congratulations to our 2023-2025 MVSCHE CTE Signing Day scholar, Cian McMullen.

The Mid-Valley STEM-CTE Hub Scholarship is awarded to one graduating senior from a Linn or Benton County high school that has completed all requirements and has been accepted to a selected CTE program at LBCC for CTE Signing Day. This is a two-year renewable scholarship for \$1,250 annually.

Cian was challenged in deciding where to start with his education but has decided to focus on the Machine Tool program at LB to help pursue a career as a CNC machinist. He is excited about this path because it brings together a lot of his interests like Computer-Aided Design, and will have great opportunities for employment in the future.

Cian has been inspired by a number of things that have steered him towards machining. Watching his father and brother pursue industrial interests as well as agricultural classes in high school taught him basic skills in fabrication, building, welding, and general tool use. Cian is thankful he found something that sparked his interest in his current career path.

Contributions to the MVSCHE Fund through the Linn-Benton Community College Foundation can help provide more scholarships to students pursuing their education at LBCC.

Student Employees



The Hub is pleased to provide learning opportunities to college students through its student employee program. In early 2023, three LBCC students - Joseph Marr, Kayley Martinez, and Austyn Moon - came on board to help launch the Hub's new Maker and Innovation Learning Lab, the MILL, as well as Mobile Maker-space outreach and other STEAM programming.

This work gave the student employees an opportunity to work directly with students of all ages in our community and at LBCC, learn how to use and teach others how to use a myriad of tools and STEAM learning implements, and gain valuable work experience and transferable essential employability skills.

A highlight of our student employees' experience was their

participation in the development of a skateboard-making workshop. The student employees were trained on how to use woodworking tools like saws and sanders at Highland Woodshop and then worked as a team to build skateboard prototypes.

This was important work as they were able to give input and help determine procedures on how this pilot program would operate. To learn more about student employment opportunities, visit us at www.midvalleystem.org.

“Working in the STEM Hub has helped me figure out how I want to help people. It’s been extremely rewarding to help people learn about topics they may not normally be exposed to. I think that providing an equity mindset to this work is exciting because when I was growing up, nothing like this existed and if I wanted to get into any of the topics we touch on at the Hub, I had to put on a face, I had to talk like those people, essentially pass my way into those spaces so that I could get an opportunity to learn something that should really be separate from cultural identities.”

Austyn Moon
Student Employee

Thank you!

A big thank you to our partners, board members, and action teams. We look forward to working with you in 2023-2024!

Leadership Team:

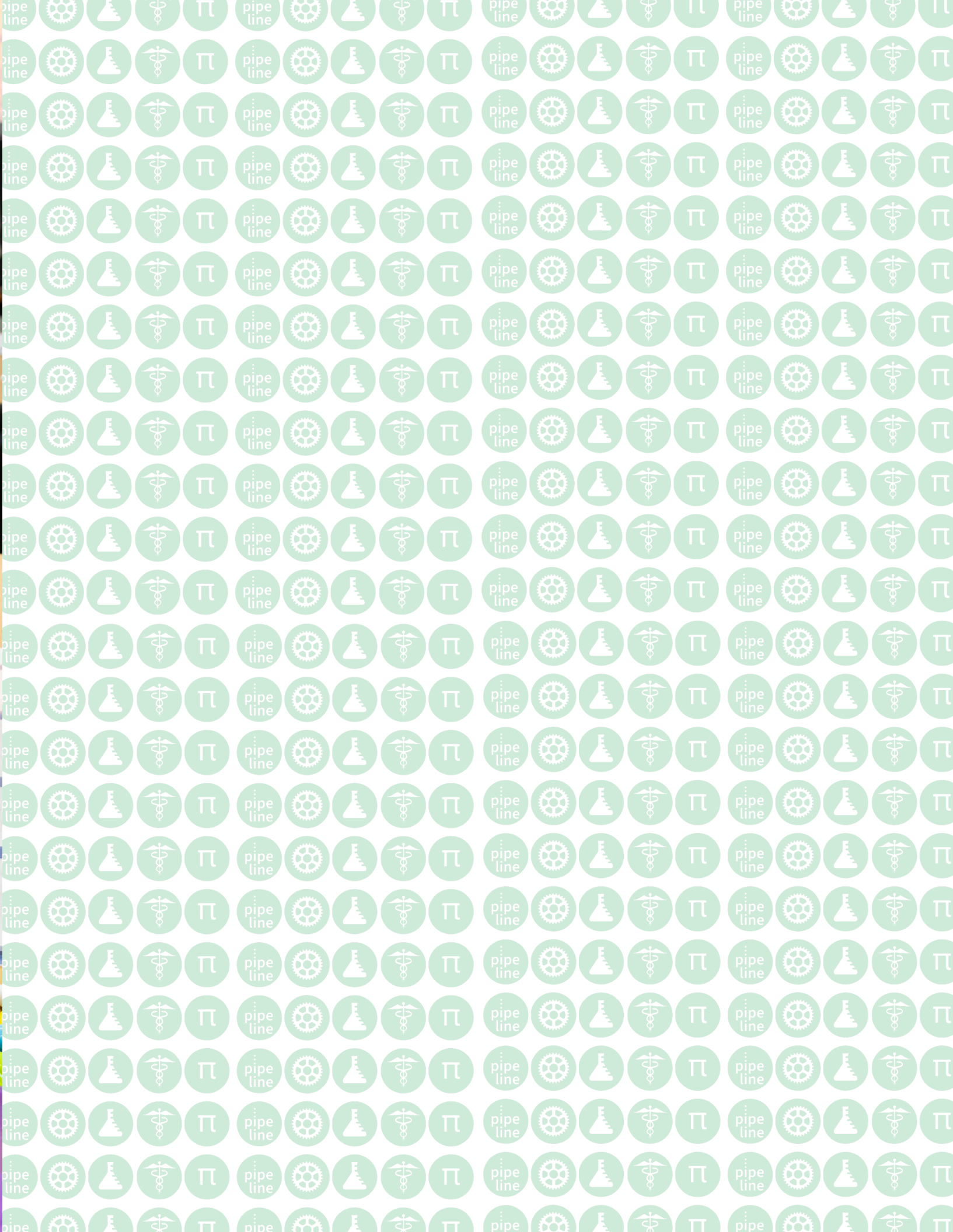
Lisa Avery
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Shawn Hill
Christopher Hughbanks
Jennifer Kessel
Marcia Latta
Oriana Mulatero
Carrie Norris
Chris Reese
Franklin Roberts
Juan Saucedo
Patty Shuckle
Darryl Thomas
Alma Torres

Partners:

Albany/Millersburg Public Works
Albany Parks and Recreation
Albany Public Library
Albany Public Schools Foundation
Alsea School District
American Association of University Women
ATI
Benton County Early Childhood Collaborative
Benton Community Foundation
Boys & Girls Club of Albany
Boys & Girls Club of Corvallis
Boys & Girls Club of the Greater Santiam
Brownsville Public Library
Calapooia Brewing
Calapooia Food Alliance
Calapooia Middle School
Calapooia Watershed
Casa Latinos Unidos
Central Linn School District
Central Oregon STEM Hub
Central Willamette Credit Union
CodeFellows
College of Osteopathic Medicine of the Pacific - Northwest
Colonial Paz
Columbia Gorge STEM Hub
Concept Systems
Corvallis - Benton County Public Library
Corvallis Clinic
Corvallis Parks and Recreation
Corvallis School District
CSforALL
Early Learning Hub for Linn, Benton, and Lincoln Counties
East Metro STEAM Partnership
Entek
Family Connections LBCC
Ford Family Foundation
Frontier STEM Hub
Greater Albany Public Schools
Greater Oregon STEM Hub
Harrisburg School District
Harrisburg Public Library
Highland Woodshop
HP
International Brotherhood of Electrical Works Local 280
Knife River Training Center
Lane County STEM Hub
Lazarus 3D
LBCC Career Connected Learning Navigator
LBCC College Work Experience
LBCC College Technical Experience (CTE)
LBCC Foundation
LBCC Healthcare Occupations
LBCC Peace Initiative
LBCC Summer Camp Program
Lebanon Community School District
Lebanon Fire District
Lebanon Public Library
Linn-Benton Community College
Linn Benton Lincoln ESD
Linn Benton NAACP
Linn County Department of Health Services
Linn County Early Childhood Collaborative
Live Longer Lebanon
Maxtivity Arts and Crafts Creative Space
MidCoast Watersheds Council
Monroe Public Library
Monroe School District
National Energy Technology Lab
Northwest Oregon Works
Northwest STEM Hub
NW Natural
Ophelia's Place
Oregon Ask
Oregon Association of Education Service Districts
Oregon Coast STEM Hub
Oregon Department of Education
Oregon Coast Community College
Oregon Community Foundation
Oregon Freeze Dry
Oregon STEM
Oregon State University Precollege Programs
OSU College of Engineering
OSU Department of Fisheries, Wildlife, and Conversation Sciences
OSU Outdoor School
Pacific Power Foundation
Philomath Community Library
Philomath School District
Philomath Youth Activities Club
Portland Community College
Portland Metro STEM Partnership
Rainbow Dance Theatre / Darryl Thomas
Roseburg Forest Products
Roundhouse Foundation
Samaritan Health Services
Santiam Canyon School District
Scio Public Library
Scio Saturday Market
Scio School District
Softstar Shoes
South Metro-Salem STEM Partnership
Southern Oregon STEM Hub
Sweet Home School District
Strengthening Rural Families
Talent Maker City
Umpqua Valley STEAM Hub
Valliscor
Vivacity Spirits
Willamette ESD
Willamette Valley Cancer Institute and Research Center
Willamette Workforce Partnerships
YMCA of Albany
Youth Development Division Youth Solutions



Mid-Valley STEM-CTE HUB



www.midvalleystem.org

