The Pierce County Region is home to growing information and technology, healthcare, K-12 education, and construction, spanning from Gig Harbor to Eatonville. The region is made up of 14 school districts. Tacoma Public Schools is the largest district in the region and is served by the Tacoma STEAM Network. The Network’s business, education, and community partners are working to close credential attainment gaps, especially for students of color and students from low-income families. They aim to increase the number of local students who become computer and IT professionals, construction and trades professionals, teachers, and healthcare professionals, which have 3,731 annual projected openings combined over the next five years.

STEM BY THE NUMBERS: PIERCE COUNTY REGION

The Pierce County Region

<table>
<thead>
<tr>
<th>Credentials Attained with Intervention</th>
<th>Credentials Attained without Intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class of 2015: 2,817</td>
<td>2,817</td>
</tr>
<tr>
<td>Class of 2018: 3,248</td>
<td>3,248</td>
</tr>
<tr>
<td>Class of 2021: 3,469</td>
<td>3,469</td>
</tr>
<tr>
<td>Class of 2025: 4,161</td>
<td>4,161</td>
</tr>
<tr>
<td>Class of 2030: 4,770</td>
<td>4,770</td>
</tr>
</tbody>
</table>

Washington State
- Baseline: Class of 2015: 3,248
- Class of 2018: 3,469
- Class of 2021: 4,161
- Class of 2025: 4,770
- Class of 2030: 5,330

Pierce County Region
- Baseline: Class of 2015: 2,817
- Class of 2018: 3,248
- Class of 2021: 3,469
- Class of 2025: 4,161
- Class of 2030: 4,770

Measured six to eight years after high school graduation.
THE OPPORTUNITY: A STRONG DEMAND FOR STEM TALENT

PIERCE COUNTY REGION SUPPLY-DEMAND PROJECTIONS

<table>
<thead>
<tr>
<th>Class of 2016 Currently Projected to Earn Credentials</th>
<th>2024 Annual Projected # of Job Openings Above a Family-Sustaining Wage</th>
<th>Annual Job Openings - King County Surplus*</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Formal Education</td>
<td>1,026</td>
<td>6,828</td>
</tr>
<tr>
<td>High School Diploma or Equivalent</td>
<td>912</td>
<td>3,082</td>
</tr>
<tr>
<td>2 Years or Less</td>
<td>1,461</td>
<td>912</td>
</tr>
<tr>
<td>4 Years or More</td>
<td>1,762</td>
<td>2,858*</td>
</tr>
<tr>
<td></td>
<td>1,762</td>
<td>6,529</td>
</tr>
</tbody>
</table>

By supporting more students to be on track to earn a high-demand credential, the Pierce County Region will ensure that up to 11,416 available family-sustaining jobs (those that pay a regionalized wage of $37,300 or more a year) could be filled by local young adults.

*Over the next 12 years, there will be a surplus of jobs in King County compared to the number of new, local, credentialed individuals in King County. That means that if other regions throughout the state only attended to their own regional job openings, King County would be sorely under-supplied by Washington state-originating kids. This surplus represents a proportion of the surplus jobs that could be supplied by students from the Pierce County Region.

CREATURES OF LIGHT STEAM FAMILY NIGHT

In October of 2017, the Tacoma STEAM Network, in partnership with Readiness Acceleration Innovation Network (RAIN), hosted its first STEAM Family Night at Franklin Elementary School called Creature of Light: Nature’s Bioluminescence. The event drew more than 50 elementary students and families. Participants engaged in activities where they made their own glowing jellyfish crafts, built tasty models of DNA, heard from scientists, used glowing bacteria for research, decoded their own DNA, and learned how and why creatures produce natural light. In addition, each student received their own UV mini LED flashlight to use during various glow-in-the-dark activities during the STEAM night and at home!
**PIERCE COUNTY REGION K-12 STEM INDICATORS BY DEMOGRAPHIC**

**KINDERGARTEN MATH READY (2018)**
66% of 9,152 Pierce County Region children entering kindergarten are math ready compared to 66% of 79,072 children statewide.

<table>
<thead>
<tr>
<th>Washington State</th>
<th>Pierce County Region</th>
<th>Female</th>
<th>Male</th>
<th>Low-Income</th>
<th>American Indian / Alaskan Native</th>
<th>Asian</th>
<th>Black / African American</th>
<th>Latinx</th>
<th>Native Hawaiian / Other Pacific Islander</th>
<th>Two or more races</th>
<th>White</th>
</tr>
</thead>
<tbody>
<tr>
<td>66% of 79,072 students</td>
<td>66% of 9,152 students</td>
<td>66% of 4,378 students</td>
<td>65% of 4,671 students</td>
<td>55% of 4,781 students</td>
<td>44% of 48 students</td>
<td>65% of 384 students</td>
<td>60% of 1,822 students</td>
<td>53% of 239 students</td>
<td>46% of 239 students</td>
<td>65% of 1,378 students</td>
<td>73% of 4,518 students</td>
</tr>
</tbody>
</table>

**3RD GRADE MATH (2017)**
56% of 9,693 of Pierce County Region third graders meet grade level math standards compared to 58% of 86,451 third graders statewide.

[Diagram showing percentages and numbers for each demographic category.]
DUAL CREDIT (2017 9-12TH GRADERS)
69% of 36,025 Pierce County Region high schoolers complete at least one dual credit course compared to 56% of 330,854 youth statewide.

CREDENTIAL ENROLLMENT/ATTAINMENT
55% of 7,475 of the originating ninth graders in the Pierce County Region enroll in a postsecondary program and 38% of those originating ninth graders earn a credential by age 26.

Data citations and region-by-region analyses will be posted at www.washingtonstem.org/STEMbythenumbers.

For more information about early STEM and career pathways work in the Pierce County Region, contact Tacoma STEAM Network director Chanel Hall at steam@graduatetacoma.org.
# PIERCE COUNTY REGION STEM INDICATORS

## Ready for Kindergarten
While 66 percent of all Pierce County Region kids are math ready by kindergarten, high-quality early learning opportunities need to be more accessible to families of color and those that are lower-income to close math-readiness gaps.

<table>
<thead>
<tr>
<th>TBD</th>
<th>66%</th>
</tr>
</thead>
<tbody>
<tr>
<td>of Pierce County Region children entering kindergarten are math ready</td>
<td>we are determining availability of high-quality early learning for families and supports for professionals in this region</td>
</tr>
</tbody>
</table>

## K-8 STEM Learning
Between kindergarten and third grade, math-readiness and skills gaps widen for many students, which is correlated with success in related areas of study. School districts need resources and assistance to remove barriers and create opportunities in STEM for all students.

<table>
<thead>
<tr>
<th>TBD</th>
<th>56%</th>
</tr>
</thead>
<tbody>
<tr>
<td>of Pierce County Region third graders meet grade level math standards</td>
<td>we are determining the STEM indicators for each school district in this region in partnership with LASER</td>
</tr>
</tbody>
</table>

## Secondary Pathways
While students in the Pierce County Region are overall less likely to complete dual credit** courses than their peers across the state, students of color and low-income students experience reduced access to and completion of these courses compared to their peers.

<table>
<thead>
<tr>
<th>TBD</th>
<th>69%</th>
</tr>
</thead>
<tbody>
<tr>
<td>of Pierce County Region high schoolers complete at least one dual credit course</td>
<td>we are determining availability of dual credit courses and career pathways programs by type and subject area in this region</td>
</tr>
</tbody>
</table>

**Dual credit programs give students the opportunity to earn high school and college credit simultaneously. Completion of dual credit coursework is highly correlated with higher education enrollment and completion.

## Credential Enrollment/Attainment
Of the originating ninth graders across the state, 59 percent enroll and 40 percent complete a credential. While Pierce County Region students enroll and complete at comparable rates, the region is working to expand credential pathways capacity to close opportunity gaps for key student groups.

<table>
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<tr>
<th>TBD</th>
<th>55%</th>
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</thead>
<tbody>
<tr>
<td>of the originating ninth graders in the Pierce County Region enroll in a postsecondary program and 38 percent of those originating ninth graders earn a credential by age 26.</td>
<td>we are determining local higher education and career training program capacity in this region</td>
</tr>
</tbody>
</table>

STEM by the Numbers is a series of regional reports which examines data that tells us about Washington students’ access to credentials and family-sustaining jobs. Together with our partners, we are advocating for and developing regionalized, cross-sector, and longitudinal data. We highlight student outcomes above, and in future publications we will report on systems indicators, like high school course offerings and availability of STEM professional learning and supports.

Data citations and region-by-region analyses will be posted at www.washingtonstem.org/STEMbythenumbers.

For more information about early STEM and career pathways work in the Pierce County Region, contact Tacoma STEAM Network director Chanel Hall at steam@graduatetacoma.org.
By 2030, Washington STEM and our statewide partners aim to triple the number of students of color, students from low-income and rural families, and young women who are on track to earn high-demand credentials and enter family-sustaining careers in the state.

The City of Makers

Tacoma is a city of makers. It hails from a legacy of makers ranging from manufacturers to artisans. The past 20 years have given rise to a burgeoning creative economy that was recognized by Etsy in 2016 with a Maker City designation. Because of this, the Tacoma STEAM Network is currently planning a Mini-Maker Faire to be hosted at the University of Washington Tacoma. Prioritizing equity, the Network partners have a focus on recruiting makers who are people of color as well as women. Tacoma hosts several events highlighting science, technology, engineering, arts, and math, including the Tacoma Arts Month and STEAM Network Family STEAM Nights. Our Mini-Maker Faire will be the exemplar of maker-infused events that will celebrate, amplify, and empower the do-it-yourself spirit that thrives in Tacoma.

Regional Top Industries and STEM Jobs

- **Medical Assistants & Nurses**
  - Annual # of Openings: 1,255
  - Credential: Certificate → Bachelor’s
  - Average Regional Wage: $44,560 → $83,887

- **Construction & Trades Professionals**
  - Annual # of Openings: 1,235
  - Credential: Apprenticeship
  - Average Regional Wage: $61,547

- **K-12 Teachers**
  - Annual # of Openings: 727
  - Credential: Bachelor’s
  - Average Regional Wage: $63,028

- **Computer & IT Professionals**
  - Annual # of Openings: 466
  - Credential: Certificate → Bachelor’s
  - Average Regional Wage: $77,599

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