Board Meeting
Jan. 10, 2020
Approval of November Minutes

- Request for Motion to Approve Minutes
STEM AC Strategic Goals

1. Advance **equitable access** to high-quality STEM+CS opportunities for educators, students, and communities

2. **Align** education and workforce needs throughout Idaho

3. Increase **awareness** of the importance of STEM throughout Idaho
Discussion of Draft STEM AC Board Bylaws

- **PROPOSED TIMELINE:**
  - Today: Discussion of draft – today
  - Now – April: Continue draft sharing via email
  - April 2: Vote on Final Bylaws
  - July 1: New Bylaws begin
  - July/August Board Meeting: Hold election of Chair and Vice Chair
GOAL 1: Advance equitable access

- **Grants**
  - VR4Ed
  - Camp & Out-Of-School
  - Rural Community STEM Engagement
  - Early STEM
  - Educurious (Educator)
  - Botball

- **Competitions**
  - Go Girls Cyber Start
  - eCYBERMISSION
  - MakerMinded
  - ISEF
  - FIRST

- **STEM Leadership**
  - Cohort II Training with OSBE and supported by Educurious

- **i-STEM Update**
  - Partnerships with: SDE, H&W, OSBE + industry sponsors
GOAL 2: Align STEM education and workforce
Externship Update

- 10/1-2/7 Application Open for Businesses
- 1/6-2/7 Application Open for Externs
- 2/8-2/14
  - Apps reviewed by STEM AC/WDC
  - Potential candidates forwarded to businesses
- 2/15-3/30 Candidates Interview with Businesses
- By 4/1 Candidates Offered Externships
STEM Designated School (§33-4701)  
2019 – 2023  
Cost: $40,000  

- Barbara Morgan STEM Academy, K-5, West Ada  
- Bingham Academy, 9-12, Blackfoot  
- Galileo STEM Academy, K-8, West Ada  
- Temple View Elementary, PK-6, Idaho Falls  

- STEM Diploma option (§33-523)
GOAL 2: Align STEM education and workforce

STEM School Designation Timeline

• Idaho Code: 33-4401
• Schools can apply anytime, but onsite reviews typically occur in the fall; leads to STEM Certification
• November 2019 – School Visits and Certification
• January 2020 – Approval by STEM AC Board
• February 2020 – Approval by OSBE Board leads to STEM Designation
• Recognition of STEM Designation during legislative session
• Recognition Events at Schools in the Spring
GOAL 2: Align STEM education and workforce
Current Applicants for Certification (Documentation attached)

- Southside Elementary (K-6)
  - Cocolalla
  - Review Conducted: 11/10-12
  - Certified (earned 3.00/4.00 - above 2.8 min)

- N. Idaho STEM Charter Academy (K-12)
  - Rathdrum
  - Review Conducted: 11/12-14
  - Certified (earned 3.36/4.00)
GOAL 2: Align STEM education & workforce needs throughout Idaho

MOTION

• To send the 2019 certified Idaho STEM schools to the Idaho State Board of Education for designation per Idaho code 33-4701.
STEM School Certification Update for 2020

STEM Ecosystem

- STEM Community
- STEM Outcomes
- STEM Learning Culture
- STEM Experiences
# 16 standards across 4 domains

<table>
<thead>
<tr>
<th>Domain</th>
<th>Themes</th>
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<tbody>
<tr>
<td>STEM Community</td>
<td>- Inclusion &amp; Equity</td>
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<td>- Community Engagement</td>
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<td>- Leadership</td>
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<td>- STEM Educator Collaboration</td>
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<td>STEM Learning Culture</td>
<td>- Communication Learning</td>
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<td>- Professional Learning</td>
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<td>- Project-Based and Inquiry</td>
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<td>- Self-Directed Learning</td>
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<td>STEM Experiences</td>
<td>- STEM Discipline Integration</td>
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<td>- STEM Extensions</td>
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<td>- Performance Assessment</td>
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<td>- STEM Curriculum Organization</td>
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<td>STEM Outcomes</td>
<td>- STEM Content Knowledge</td>
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<td>- STEM Skills and Competencies</td>
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<td>- Strategic Management</td>
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<td>- Program Evaluation</td>
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<tr>
<td>Domain</td>
<td>Standard Themes</td>
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<tr>
<td>STEM Community</td>
<td>Standard 1 - Inclusion/Equity</td>
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<td>Standard 2 - STEM Educator Collaboration</td>
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<td>Standard 3 - STEM Community Engagement</td>
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<td>Standard 4 - Leadership</td>
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<td>Domain</td>
<td>Standard Themes</td>
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<td>STEM Learning Culture</td>
<td>Standard 5 - Communication</td>
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<td>Standard 6 - Professional Development</td>
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<td>Standard 7 - Project-Based and Inquiry Learning</td>
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<td>Standard 8 - Self-Directed Learning</td>
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<td>Standard Themes</td>
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| STEM Experiences     | Standard 9 - STEM Extensions | Standard 9 - School/program provides within-school and extracurricular opportunities for students to extend STEM learning | Standard 9 - Concept 1 - School/program provides a variety of STEM-specific extracurricular and extended day opportunities for all learners (clubs, competitions, summer camps)  
Standard 9 - Concept 2 - Students have multiple formal, age-appropriate opportunities to engage with STEM practitioners, community experts, and/or other STEM partners |
| Standard 10 - Performance Assessment | Standard 10 - Students demonstrate their learning through performance-based assessments and have opportunities to develop self-assessment and self-monitoring skills | Standard 10 - Concept 1 - Students engage in STEM-specific performance assessments that provide opportunities for public demonstrations of learning  
Standard 10 - Concept 2 - Students engage in goal-setting, formative self-assessment, and reflections on learning |
| Standard 11 - STEM Discipline Integration | Standard 11 - STEM learning experiences integrate all STEM disciplines with an emphasis on processes and practices associated with STEM | Standard 11 - Concept 1 - The curriculum and associated learning activities integrate learning across all STEM disciplines (and additional content disciplines in schools that have adopted other inclusive models of integrated learning, such as The Arts for STEAM schools)  
Standard 11 - Concept 2 - The curriculum engages students in STEM processes and practices (such as the Engineering Design Process) |
| Standard 12 - STEM Curriculum Organization | Standard 12 - School/program provides high quality STEM courses and curriculum aligned to recognized standards and organized into interdisciplinary frameworks | Standard 12 - Concept 1 - The STEM curriculum is mapped and aligned to formally adopted and recognized sets of standards and/or benchmarks  
Standard 12 - Concept 2 - The STEM curriculum is organized around multiple real world, interdisciplinary problem- and/or project-based units of study |
<table>
<thead>
<tr>
<th>Domain</th>
<th>Standard Themes</th>
<th>Standard Statements</th>
<th>Standard Concepts</th>
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</table>
| STEM Outcomes          | Standard 13 - STEM Content Knowledge | Standard 13 - Students demonstrate STEM content knowledge representative of STEM literacy outcomes that prepare them for the next level of learning and work | Standard 13 - Concept 1 - School/program has identified learning standards and aligned sources of student performance data for each of the STEM disciplines, as well as content areas included in the institution’s integrated model (i.e. STEAM, STREAM, etc.)  
Standard 13 - Concept 2 - Trend data indicate student growth and mastery of learning standards and expectations associated with frameworks adopted by the school/program for all STEM disciplines, as well as content areas included in the institution’s integrated model (i.e. STEAM, STREAM) |
| Standard 14 - STEM Skills and Competencies | Standard 14 - Students develop STEM skills and cross-cutting competencies that support workforce readiness | Standard 14 - Concept 1 - School/program has identified discipline-specific skills and cross-cutting competencies (i.e. 21st Century Skills, soft skills) and aligned sources of student performance data for each of these areas  
Standard 14 - Concept 2 - STEM events, curriculum, and learning activities provide opportunities for career exploration and workplace experiences |                                                                                                                                                                                                                           |
| Standard 15 - Strategic Management | Standard 15 - School/program engages in a continuous improvement process for STEM | Standard 15 - Concept 1 - School/program engages in a research-based process for continuous improvement that involves establishing strategic vision and STEM goals, as well as planning for, implementing, monitoring and adjusting STEM initiatives  
Standard 15 - Concept 2 - School/program engages in a process for strategic resource management to ensure that there are adequate resources and supports for the full implementation of the STEM program |                                                                                                                                                                                                                           |
| Standard 16 - Program Evaluation | Standard 16 - School/program conducts evaluative activities to ensure the effectiveness of STEM implementation | Standard 16 - Concept 1 - School/program engages in a formal process to evaluate the effectiveness of its STEM initiatives and activities in terms of impact on student learning and development  
Standard 16 - Concept 2 - School/program engages in a formal process to evaluate the effectiveness of its STEM initiatives and activities in terms of improvement of professional and teaching practices |                                                                                                                                                                                                                           |
<table>
<thead>
<tr>
<th>Engagement</th>
<th>Implementation</th>
<th>Results</th>
<th>Sustainability</th>
<th>Impact</th>
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</thead>
<tbody>
<tr>
<td>The level of involvement and frequency stakeholders are engaged in the desired practices, processes, or programs.</td>
<td>The desired practices, processes, or programs are monitored and adjusted for quality and fidelity of implementation.</td>
<td>The collection, analysis, and use of data and evidence to demonstrate attaining the desired result(s).</td>
<td>Results achieved consistently demonstrate growth and improvement over time (minimum of three years).</td>
<td>The desired practices, processes, or programs are deeply ingrained in the culture and operation of the institution.</td>
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<tr>
<td>Few stakeholders are involved in support of the desired practice or program.</td>
<td>The desired practice or program is minimally implemented.</td>
<td>There is little or no data and evidence of attaining the desired result(s).</td>
<td>The institution has little or no data and evidence to indicate growth and improvement over time.</td>
<td>The desired practice or program is not ingrained in the institution.</td>
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<tr>
<td>Some stakeholders are frequently involved in support of the desired practice or program.</td>
<td>The desired practice or program is being monitored for implementation.</td>
<td>The institution collects and analyzes data and evidence to demonstrate the progress toward attaining the desired result(s).</td>
<td>The institution has some data and evidence to indicate growth and improvement over time.</td>
<td>The desired practice or program is ingrained in parts of the institution.</td>
</tr>
<tr>
<td>Many stakeholders are frequently involved in support of the desired practice or program.</td>
<td>The desired practice or program is being monitored and adjusted for quality and fidelity of implementation.</td>
<td>The institution collects, analyzes, and uses multiple sources of data and evidence to demonstrate progress toward attaining the desired result(s).</td>
<td>The institution has consistently documented data and evidence to indicate growth and improvement over time.</td>
<td>The desired practice or program is ingrained in the culture of the day-to-day work of the institution.</td>
</tr>
<tr>
<td>Most stakeholders are frequently involved in support of the desired practice or program.</td>
<td>Formal processes are used to demonstrate that the desired practice or program is implemented and monitored with quality and fidelity.</td>
<td>Formal processes are implemented to collect, analyze, and use multiple forms of data and evidence to demonstrate progress toward attaining the desired result(s).</td>
<td>The institution has consistently documented data and evidence to indicate sustained growth and improvement over time.</td>
<td>The desired practice or program is deeply ingrained and protected throughout the culture and the operations of the institution.</td>
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<td>Initiate</td>
<td>Improve</td>
<td>Impact</td>
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<tr>
<td><strong>Engagement:</strong> Do we currently have data and documentation relative to the level of involvement of our partners for this improvement initiative?</td>
<td><strong>Results:</strong> The collection, analysis, and use of data and evidence to demonstrate attaining the desired result(s).</td>
<td><strong>Sustainability:</strong> Results achieved consistently demonstrate growth and improvement over time (minimum of three years).</td>
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</tr>
<tr>
<td><strong>Implementation:</strong> Do we currently have data and documentation to demonstrate that the initiative is monitored and adjusted for quality and fidelity of implementation?</td>
<td><strong>Engagement:</strong> The level of involvement and frequency stakeholders are engaged in the desired practices, processes, or programs.</td>
<td><strong>Implementation:</strong> The desired practices, processes, or programs are monitored and adjusted for quality and fidelity of implementation.</td>
<td></td>
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</tr>
<tr>
<td><strong>Results:</strong> Do we currently have evidence that we collect, analyze, and use data to attain the desired results for this initiative?</td>
<td><strong>Sustainability:</strong> Do we have data to demonstrate growth and improvement for this initiative over time?</td>
<td><strong>Embeddedness:</strong> The desired practices, processes, or programs are deeply ingrained in the culture and operation of the institution.</td>
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</tr>
<tr>
<td><strong>Sustainability:</strong> Do we have data to demonstrate growth and improvement for this initiative over time?</td>
<td><strong>Embeddedness:</strong> Can we demonstrate that this practice is deeply ingrained in the culture and practice of our institution?</td>
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STEM Ecosystem & Statewide Partners

- First Convening is January 16th
  - 63 partners from throughout Idaho!
  - Grant funding from STEMx
  - Facilitated by the Teaching Institute for Excellence in STEM (TIES).
- NSF Development Grant submitted for future meetings
GOAL 2: Align STEM education with workforce needs throughout Idaho: GRANTS

• New grants submitted to corporate and private foundations.
• Several new partnerships.
• See donors over $2,500 on our home page: STEM.Idaho.gov
GOAL 2: Align STEM education & workforce needs throughout Idaho

**STEM AC Foundation Update**

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Funds Raised</th>
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<tbody>
<tr>
<td>FY2018</td>
<td>$216,996</td>
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<tr>
<td>FY2019</td>
<td>$482,983</td>
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<tr>
<td>FY2020 (to date)</td>
<td>$325,627</td>
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</tbody>
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- Year-end Campaigns
- Northern Idaho Board Member Recruitment Needed
GOAL 2: Align STEM education & workforce needs throughout Idaho

STEM AC Foundation Update

New Partnerships

- Annual Gift to Support Women in Computer Science Awards
- Industry Partners
  - Public-Private-Partnership “P3”
  - Student Competition Sponsorships
  - Time & Talent
GOAL 2: Align STEM education & workforce

Funds Raised in FY20  $948,500

- Idaho National Laboratory  $113,000
- Micron Technology Foundation  $112,000
- Battelle  $63,000
- JR Simplot Company Foundation  $50,000
- Laura Moore Cunningham Fdn  $50,000
- Citizen Schools  $26,000
- J.A. & Kathryn Albertson Fdn  $25,000
- Spark Foundation  $25,000
GOAL 2: Align STEM education & workforce

Top Donor Programs in FY20

- Public-Private Partnerships  $624,000
- Professional Development     $58,000
- Externships                  $57,500
- Competitions                 $136,000
- STEMx (Ecosystem convening) $12,000
Total In-Kind Donations, FY20

$1.65M

Includes grant reviewers, competition judges, training room space, mentors, industry partnerships, and media coverage
Idaho STEM Statutes

- Idaho Code 67-823: STEM Action Center
- Idaho Code 33-1633: Computer Science Initiative
- Idaho Code 67-824: STEM Education Fund
- Idaho Code 33-4701: STEM School Designation
- Idaho Code 33-523: STEM Diploma
- Idaho Code 33-1634: Computer Science for All
- Idaho Code 63-3029A: Established STEM AC as an Idaho Education Tax Credit
1. Advance **equitable access** to high-quality STEM+CS opportunities for educators, students, and communities

2. **Align** education and workforce needs throughout Idaho

3. Increase **awareness** of the importance of STEM throughout Idaho
## Budget Analysis by Goal

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<tbody>
<tr>
<td><strong>GOAL 1 ACCESS: High-Quality Opportunities: STEM+CS Grants</strong></td>
<td>16%</td>
<td>12%</td>
<td>7%</td>
</tr>
<tr>
<td><strong>GOAL 1 ACCESS: High-Quality Opportunities: STEM+CS Professional Development</strong></td>
<td>28%</td>
<td>26%</td>
<td>27%</td>
</tr>
<tr>
<td><strong>GOAL 2 ALIGNMENT: Education to Workforce: (Competitions, Externships, P3 and Sponsorships, Mentorships, Scholarships, Workforce Programs, STEM Schools, Pilot Projects)</strong></td>
<td>39%</td>
<td>42%</td>
<td>45%</td>
</tr>
<tr>
<td><strong>GOAL 3 AWARENESS: Outreach/Awareness Activities</strong></td>
<td>5%</td>
<td>5%</td>
<td>11%</td>
</tr>
<tr>
<td>Operating Expenses (office, supplies, software, contractors, travel, memberships)</td>
<td>12%</td>
<td>14%</td>
<td>9%</td>
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GOAL 3: Increase awareness of the importance of STEM

Strategic Plan

Performance Report Metrics

<table>
<thead>
<tr>
<th></th>
<th>FY16</th>
<th>FY17</th>
<th>FY18</th>
<th>FY19</th>
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</thead>
<tbody>
<tr>
<td>Student Engagements</td>
<td>10,428</td>
<td>204,000</td>
<td>406,239</td>
<td>442,318</td>
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<tr>
<td>Educators Interactions</td>
<td>1,200</td>
<td>4,800</td>
<td>12,633</td>
<td>35,768</td>
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<tr>
<td>Community STEM Events</td>
<td>45</td>
<td>140</td>
<td>143</td>
<td>288</td>
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<tr>
<td>Cash</td>
<td>$72,000</td>
<td>$205,000</td>
<td>$750,500</td>
<td>$1,346,800</td>
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<tr>
<td>In-Kind Donations</td>
<td>Did not track</td>
<td>$662,000</td>
<td>$1,787,400</td>
<td>$4,446,500</td>
</tr>
</tbody>
</table>
FY20 Appropriation: $5,668,400

- $2,106,000 Spending Authority (DEDICATED FUNDS)
- $2,562,400 Cash (GENERAL FUND)
- Cash: $3,562,400

FY21 Recommendation: $6,149,700

- $3,102,600 Spending Authority (without cash)
- ~$2.04M Ongoing OE
- ~$503,400 Ongoing PC
- Cash: $3,047,100

$1M Recommended Supplemental for Funds Raised
STEM and Idaho’s Economy

In 2019, 7,633 STEM JOBS WERE UNFILLED IN IDAHO, resulting in nearly $516 Million of unclaimed personal income.

If these STEM JOBS were filled, state tax revenues would INCREASE BY OVER $27 Million.

Idaho’s STEM jobs PAY DOUBLE THE MEDIAN WAGE of non-STEM JOBS.

Source: Idaho Department of Labor
2019 (actual)
7,633 unfilled STEM jobs
~$27.2 million in lost tax revenue
~$516 million in lost personal income

2026 (projected)
~105,000 total STEM jobs
~$373 million in potential tax revenue
~$7 billion in potential personal income

STEM AC
COMPUTER SCIENCE IMPACT

% Change

Secondary Students Taking CS
Secondary Teachers Teaching CS

School Year 17-18
School Year 18-19

18%
11%

~61% of STEM AC’s budget already supports rural communities, educators, and students

Idaho Department of Labor/Idaho STEM Action Center
802 W. Bannock St., Ste. 900 Boise, ID 83702
208.332.1729 | Angela.Hemingway@stem.idaho.gov
STEM Equity

Goals: Access, Alignment, Awareness

- Literacy
  - STEM literate
  - Career literate
  - Computational literacy
- Partnerships
  - Community-led
  - Industry-driven
- Opportunity
  - Rural
  - Ecosystem
- Research-based
  - Innovative
  - Prosperity
- Engagement
  - Underrepresented populations
- Retention
  - Legacy
  - Growth

All Idaho students have access to a high-quality education that includes STEM.
Legislation for 2020 Session

- Idaho Promise Update – Mentorship and Scholarship
Support Needed To Cultivate Additional Public-Private Partnerships

• Please continue to introduce us to individuals, businesses or companies that have a common mission/vision for STEM education
• Volunteer recruitment to hub
• Public-Private Partnership opportunities
Goal 3 Increase Awareness:

Upcoming STEM AC Events

STEM Matters!
Day at the Capitol
January 15, 2020

STEM on the Blue
April 24, 2020
Public Comment
JFAC:
Mon. Jan 13, 8-10am

**STEM Matters!**:
Wed. Jan. 15, 10am-2pm

**STEM Ecosystem Meeting**:
Thurs. Jan 16, 8am-5pm

**Next Board Meeting**:
Thurs. April 2, 1-4pm
WW-17 in the Capitol