Board Meeting
Jan. 10, 2020

IDAHO STEM ACTION CENTER

WW-17

1-4 pm

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)

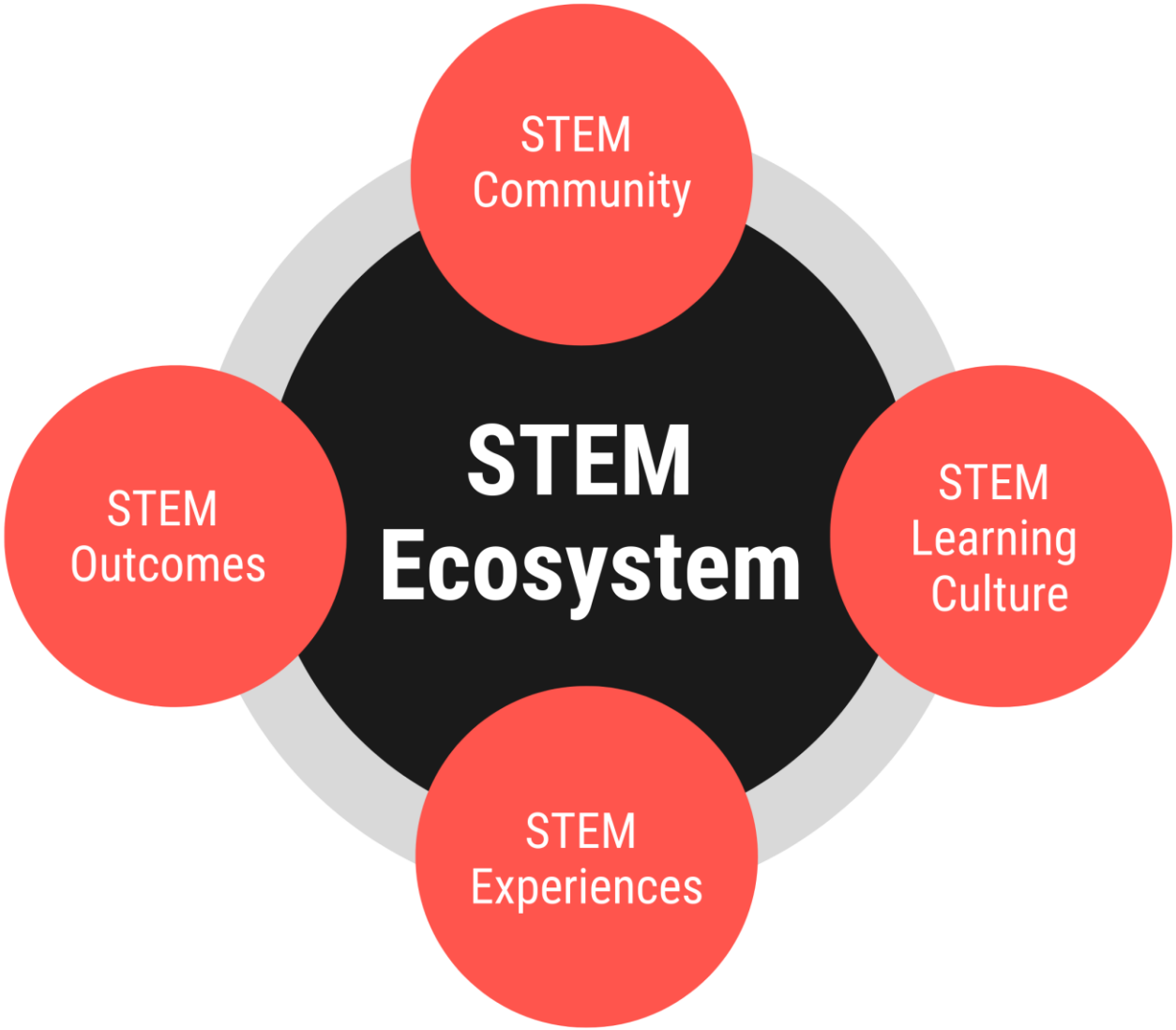
- Southside Elementary (K-6)
  - Cocolalla
  - Review Conducted: 11/10-12
  - Certified (earned 3.00/4.00 - above 2.8 min)
- N. Idaho STEM Charter Academy (K-12)
  - Rathdrum
  - Review Conducted: 11/12-14
  - Certified (earned 3.36/4.00)

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



16 standards across 4 domains

Domain	Themes	
STEM Community	-Inclusion & Equity -Community Engagement	-Leadership -STEM Educator Collaboration
STEM Learning Culture	-Communication Learning -Professional Learning	-Project-Based and Inquiry -Self-Directed Learning
STEM Experiences	-STEM Discipline Integration -STEM Extensions	-Performance Assessment -STEM Curriculum Organization
STEM Outcomes	-STEM Content Knowledge -STEM Skills and Competencies	-Strategic Management -Program Evaluation

Domain	Standard Themes	Standard Statements	Standard Concepts
STEM Community	Standard 1 - Inclusion/Equity	Standard 1 - School/program provides equitable opportunities for students to engage in high quality STEM learning	Standard 1 - Concept 1 - School/program has adopted an inclusive model of STEM education that is representative of community served by the institution Standard 1 - Concept 2 - School/program engages in proactive strategies to recruit and support engagement from students traditionally underrepresented in STEM fields of work and learning
	Standard 2 - STEM Educator Collaboration	Standard 2 - STEM educators collaborate to develop, implement, and improve high quality STEM learning activities	Standard 2 - Concept 1 - STEM educators and leaders have formal, protected time scheduled on a regular and frequent basis to plan, revise, and improve STEM learning experiences and pedagogical best practices Standard 2 - Concept 2 - Collaborative time for STEM staff and leadership is structured using a research-based model for effective educator collaboration
	Standard 3 - STEM Community Engagement	Standard 3 - School/program engages diverse STEM community in order to support and sustain STEM programs and initiatives	Standard 3 - Concept 1 - School/program establishes and maintains sustainable partnerships with a variety of community organizations, including local businesses, STEM practitioners, institutions of higher education, and individuals/families Standard 3 - Concept 2 - School/program proactively seeks resources and support from STEM partners to improve STEM teaching and learning
	Standard 4 - Leadership	Standard 4 - School/program has established a shared vision for STEM and has leadership structures to support effective implementation	Standard 4 - Concept 1 - School/program has developed a model of shared leadership whereby structures exist both internally (i.e. STEM Leadership Team, STEM Coordinator) and externally (i.e. STEM Advisory Board, STEM Stakeholder Committee) to support and sustain STEM initiatives Standard 4 - Concept 2 - STEM leadership has effectively communicated a shared vision and mission for the STEM culture, with goals and intended outcomes for STEM initiatives

Domain	Standard Themes	Standard Statements	Standard Concepts
STEM Learning Culture	Standard 5 - Communication	Standard 5 - Leaders ensure that all partners have ongoing opportunities to access information and learn about STEM implementation	Standard 5 - Concept 1 - School/program utilizes a variety of strategies and platforms to share and communicate STEM vision, mission, goals, outcomes, responsibilities, roles, events, and activities to internal and external partners Standard 5 - Concept 2 - School/program plans for and facilitates a variety of STEM events and activities for the school community during and beyond the regular school day
	Standard 6 - Professional Development	Standard 6 - Educators and leaders participate in an ongoing system of STEM-specific professional learning	Standard 6 - Concept 1 - School/program facilitates professional learning opportunities for educators and leaders that lead to improved efficacy in specific areas of responsibility (such as STEM disciplinary content knowledge or instructional coaching) Standard 6 - Concept 2 - School/program facilitates professional learning opportunities for educators and leaders that lead to improved efficacy in STEM-specific practices (such as project-based learning, STEM integration, technology integration, etc.)
	Standard 7 - Project-Based and Inquiry Learning	Standard 7 - Students engage collaboratively in authentic inquiry during ongoing units of study	Standard 7 - Concept 1 - Students are provided opportunities to work collaboratively during project and inquiry-based units of study Standard 7 - Concept 2 - Learning experiences provide opportunities for students to engage in authentic inquiry that requires problem identification, investigation, and analysis
	Standard 8 - Self-Directed Learning	Standard 8 - Students engage in self-directed STEM learning guided by educators who are effective facilitators of learning	Standard 8 - Concept 1 - Students are encouraged to be critical and creative thinkers as owners and managers of their own STEM learning experiences Standard 8 - Concept 2 - STEM educators serve as facilitators who provide guidance and support for students as self-directed learners

Domain	Standard Themes	Standard Statements	Standard Concepts
STEM Experiences	Standard 9 - STEM Extensions	Standard 9 - School/program provides within-school and extra-curricular 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

Domain	Standard Themes	Standard Statements	Standard Concepts
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

Initiate		Improve		Impact
Engagement	**Implementation**	**Results**	**Sustainability**	**Embeddedness**
The level of involvement and frequency stakeholders are engaged in the desired practices, processes, or programs.	*The desired practices, processes, or programs are monitored and adjusted for quality and fidelity of implementation.*	*The collection, analysis, and use of data and evidence to demonstrate attaining the desired result(s).*	*Results achieved consistently demonstrate growth and improvement over time (minimum of three years).*	*The desired practices, processes, or programs are deeply ingrained in the culture and operation of the institution.*
Few stakeholders are involved in support of the desired practice or program.	The desired practice or program is minimally implemented.	There is little or no data and evidence of attaining the desired result(s).	The institution has little or no data and evidence to indicate growth and improvement over time.	The desired practice or program is not ingrained in the institution.
Some stakeholders are frequently involved in support of the desired practice or program.	The desired practice or program is being monitored for implementation.	The institution collects and analyzes data and evidence to demonstrate the progress toward attaining the desired result(s).	The institution has some data and evidence to indicate growth and improvement over time.	The desired practice or program is ingrained in parts of the institution.
Many stakeholders are frequently involved in support of the desired practice or program.	The desired practice or program is being monitored and adjusted for quality and fidelity of implementation.	The institution collects, analyzes, and uses multiple sources of data and evidence to demonstrate progress toward attaining the desired result(s).	The institution has consistently documented data and evidence to indicate growth and improvement over time.	The desired practice or program is ingrained in the culture of the day-to-day work of the institution.
Most stakeholders are frequently involved in support of the desired practice or program.	Formal processes are used to demonstrate that the desired practice or program is implemented and monitored with quality and fidelity.	Formal processes are implemented to collect, analyze, and use multiple forms of data and evidence to demonstrate progress toward attaining the desired result(s).	The institution has consistently documented data and evidence to indicate sustained growth and improvement over time.	The desired practice or program is deeply ingrained and protected throughout the culture and the operations of the institution.

Initiate		Improve		Impact
Engagement	**Implementation**	**Results**	**Sustainability**	**Embeddedness**
The level of involvement and frequency stakeholders are engaged in the desired practices, processes, or programs.	*The desired practices, processes, or programs are monitored and adjusted for quality and fidelity of implementation.*	*The collection, analysis, and use of data and evidence to demonstrate attaining the desired result(s).*	*Results achieved consistently demonstrate growth and improvement over time (minimum of three years).*	*The desired practices, processes, or programs are deeply ingrained in the culture and operation of the institution.*

Engagement: Do we currently have data and documentation relative to the level of involvement of our partners for this improvement initiative?
Implementation: Do we current have data and documentation to demonstrate that initiative is monitored and adjusted for quality and fidelity of implementation?
Results: Do we currently have evidence that we collect, analyze, and use data to attain the desired results for this initiative?
Sustainability: Do we have data to demonstrate growth and improvement for this initiative over time?
Embeddedness: Can we demonstrate that this practice is deeply ingrained in the culture and practice of our institution?

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

Fiscal Year	Funds Raised
FY2018	**$216,996**
FY2019	**$482,983**
FY2020 (to date)	**$325,627**

- 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


Hecla
MINING COMPANY


Idaho
Central
CREDIT UNION


cradlepoint


IBL
EVENTS


STARK
& ASSOCIATES
COMMERCIAL REAL ESTATE


BLACK BOX

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

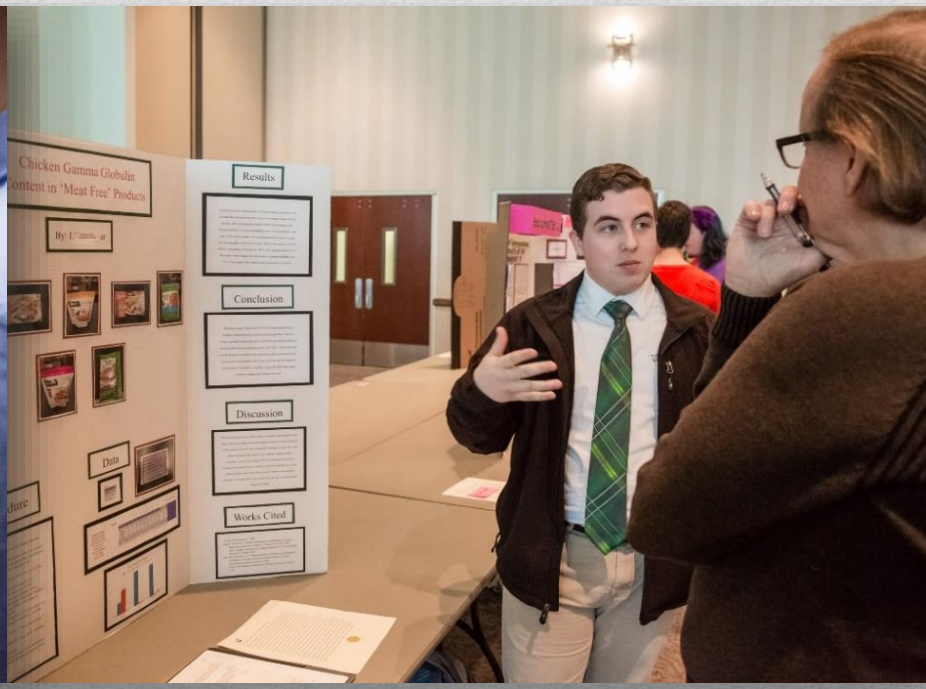
Top Donor Programs in FY20

- 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

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

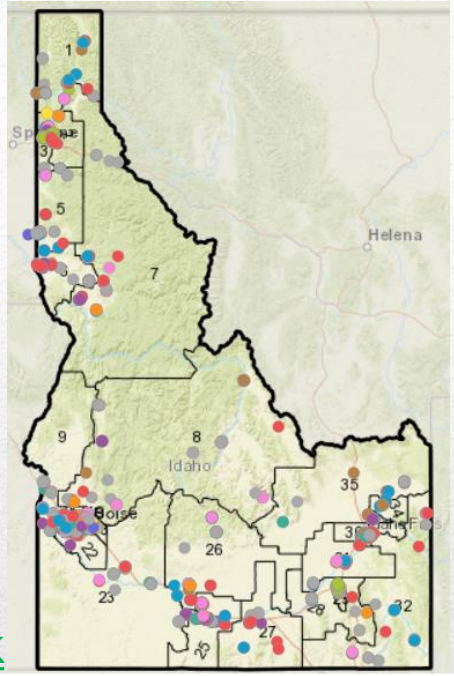
Budget Analysis by Goal

	FY19 – Proposed (Aug 2018)	FY19 –Actual (June 2019)	FY20 – Proposed (July 2019)
GOAL 1 ACCESS: High-Quality Opportunities: STEM+CS Grants	16%	12%	7%
GOAL 1 ACCESS: High-Quality Opportunities: STEM+CS Professional Development	28%	26%	27%
GOAL 2 ALIGNMENT: Education to Workforce: (Competitions, Externships, P3 and Sponsorships, Mentorships, Scholarships, Workforce Programs, STEM Schools, Pilot Projects)	39%	42%	45%
GOAL 3 AWARENESS: Outreach/Awareness Activities	5%	5%	11%
Operating Expenses (office, supplies, software, contractors, travel, memberships)	12%	14%	9%

GOAL 3: Increase awareness of the importance of STEM

Strategic Plan

Performance Report Metrics



Data Map Link

	FY16	FY17	FY18	FY19
Student Engagements	10,428	204,000	406,239	442,318
Educators Interactions	1,200	4,800	12,633	35,768
Community STEM Events	45	140	143	288
Cash	$72,000	$205,000	$750,500	$1,346,800
In-Kind Donations	Did not track	$662,000	$1,787,400	$4,446,500

IDAHO STEM ACTION CENTER

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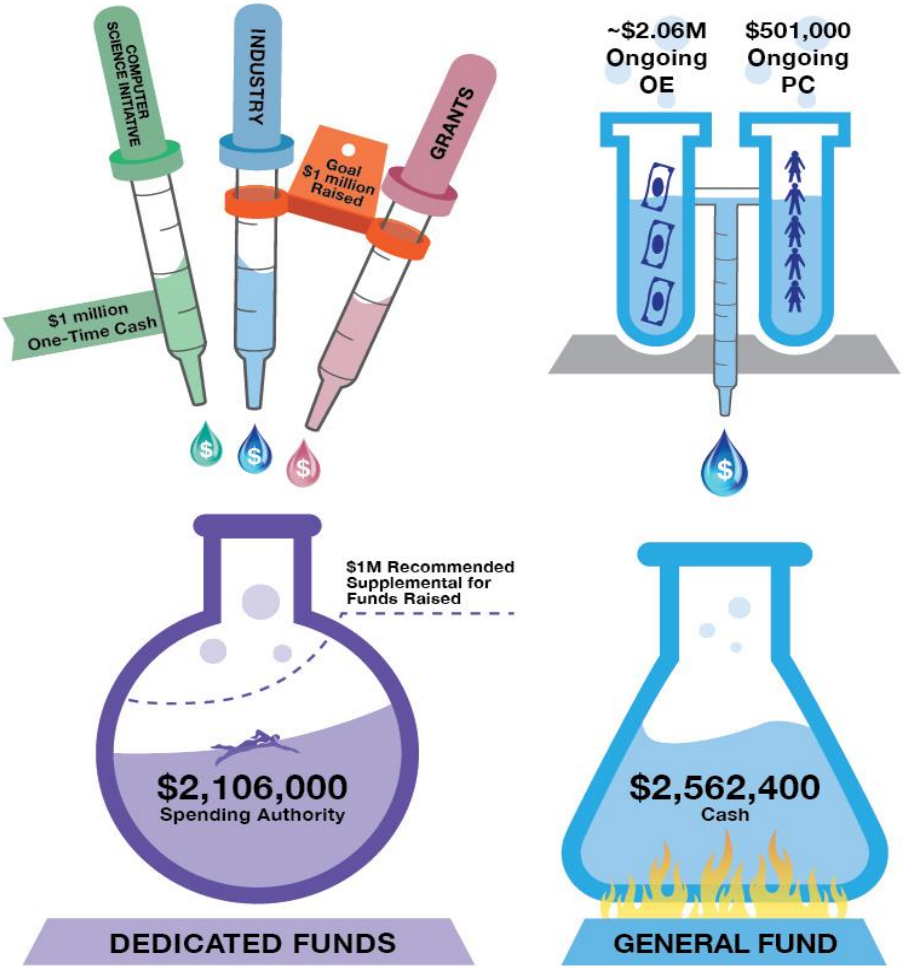
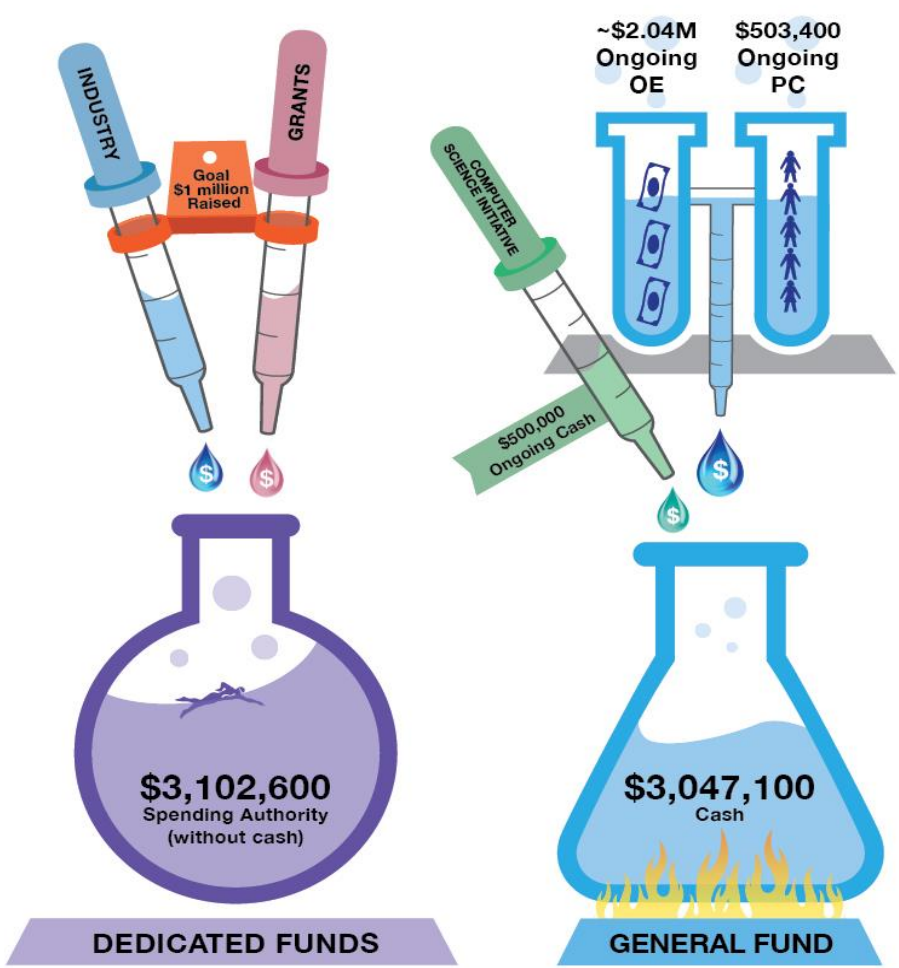
FY20 Appropriation: $5,668,400



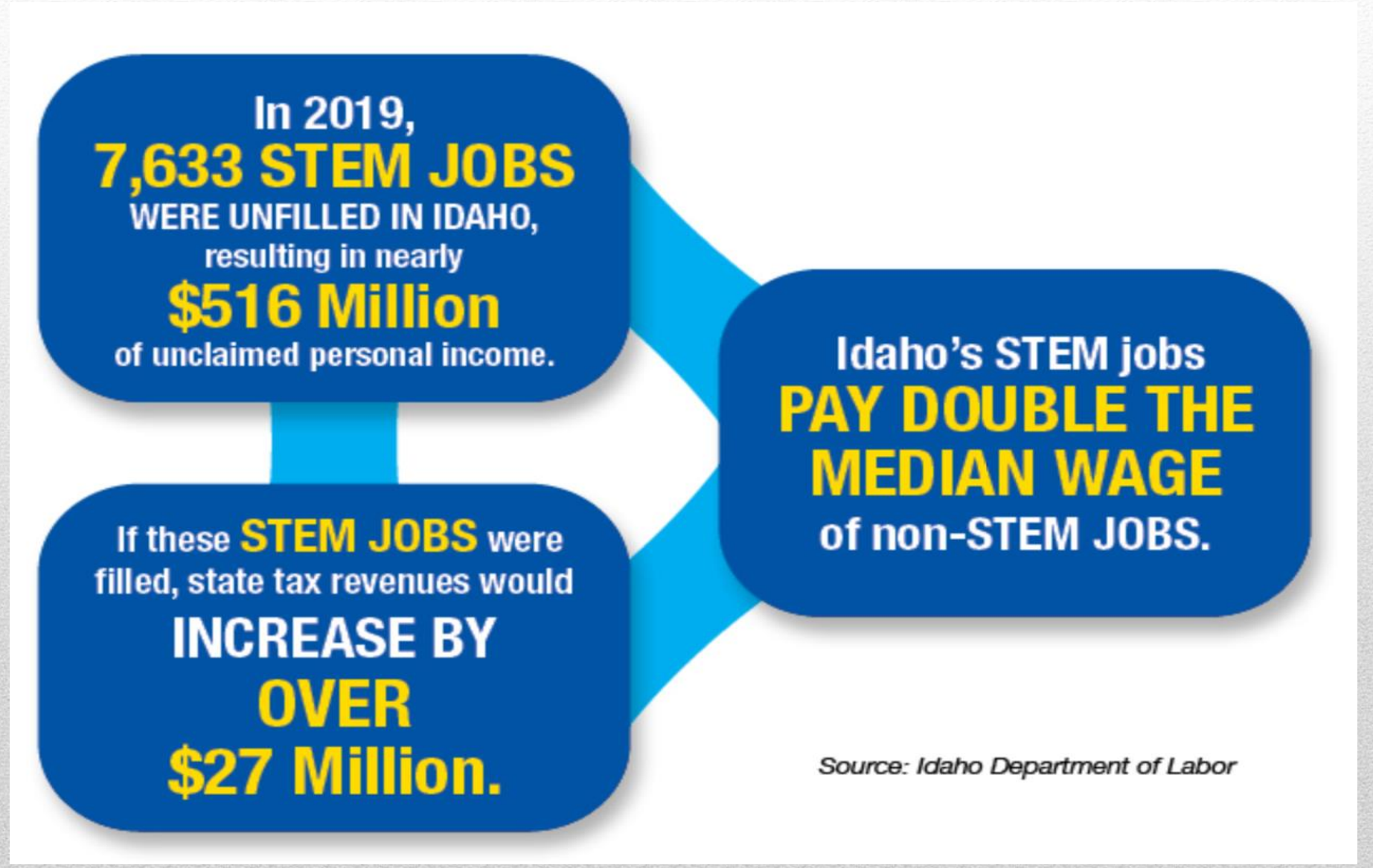
Cash: $3,562,400

FY21 Recommendation: $6,149,700



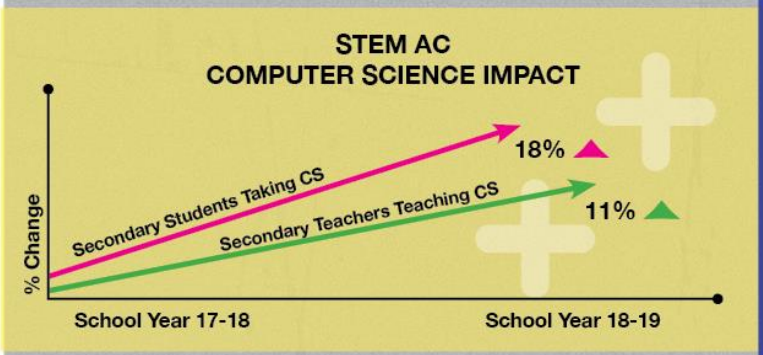
Cash: $3,047,100

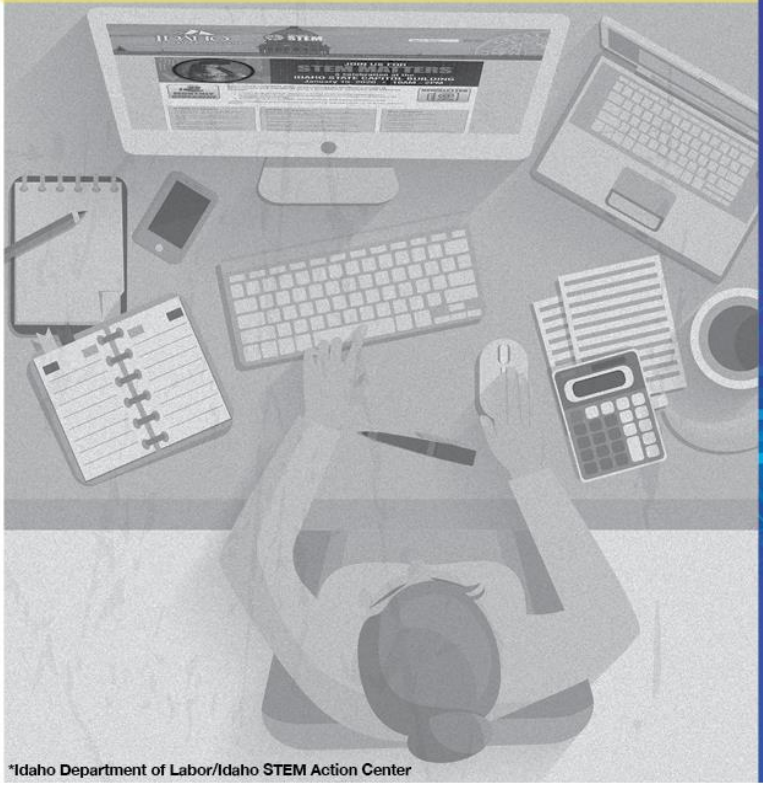
STEM and Idaho's Economy



2019 *(actual)**

7,633 unfilled STEM jobs
~$27.2 million in lost tax revenue
~$516 million in lost personal income



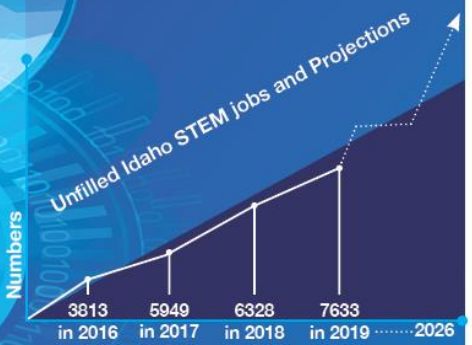


*Idaho Department of Labor/Idaho STEM Action Center

2026 *(projected*)*

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

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



IDAHO STEM ACTION CENTER

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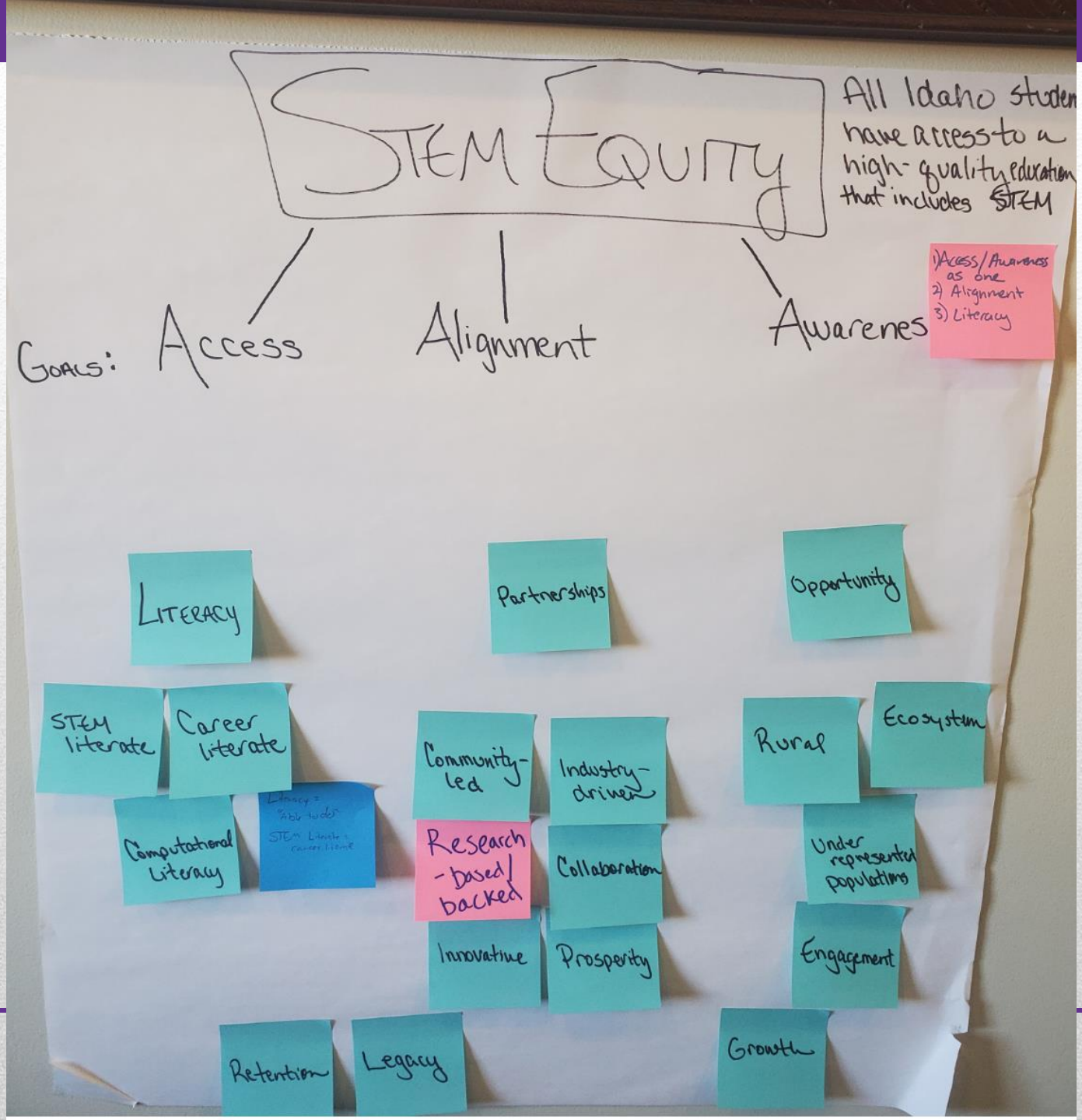
STEM Equity
All Idaho students have access to a high-quality education that includes STEM
Goals:
Access
Alignment
Awareness
1) Access/Awareness as one
2) Alignment
3) Literacy
Literacy
Partnerships
Opportunity
STEM literate
Career literate
Computational Literacy
Community-led
Industry-driven
Research-based/backed
Collaboration
Rural
Ecosystem
Under represented populations
Innovative
Prosperity
Engagement
Retention
Legacy
Growth

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