

ACTION CENTER

U · T · A · H

Economic  
Development &  
Workforce Services  
Interim Committee



13 July 2016

# STEM Action Center

## **Mission:**

The STEM Action Center is Utah's leader in promoting science, technology, engineering and math through best practices in education to ensure connection with industry and Utah's long-term economic prosperity.

## **Vision:**

- Produce a STEM-competitive workforce to ensure Utah's continued economic success in the global marketplace.
- Catalyze student experience, community engagement and industry alignment by identifying and implementing the public- and higher-education best practices that will transform workforce development.

# Program Goals

- Proficiency in STEM subjects
- High quality professional learning
- Engaged, problem-based learning
- Outreach, recruitment, and retention in STEM pathways
- Coordination and advocacy for STEM efforts
- Leveraging resources for STEM efforts

# Administrative Goals

- Fulfill requirements of Board
- Administer and monitor legislatively-defined STEM programs
- Oversee operational and program budgets
- Establish accountability in allocation of state funds
- Adhere to state procurement policy and process
- Adhere to reporting requirements of statute
- Comply with agency and state policy and process
- Create and administer public foundation

# Key Projects

## Experimenting, collecting data, expanding on successes

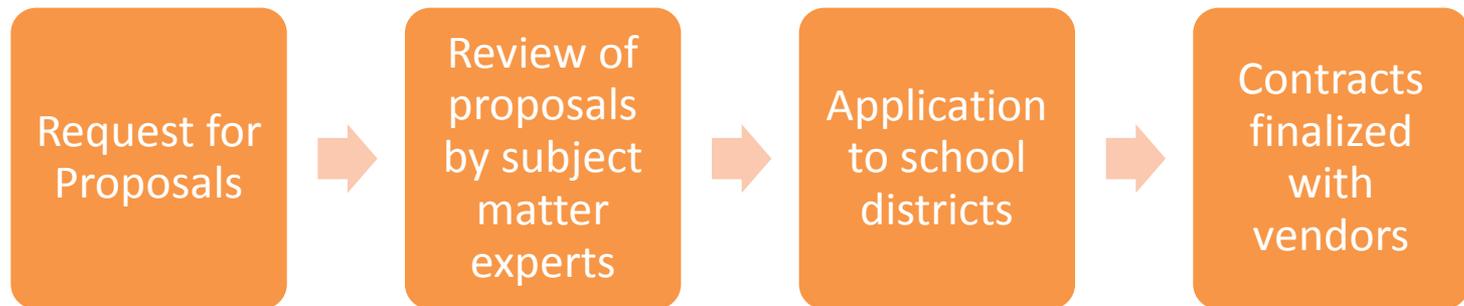
- Math Digital Learning
- Professional Learning
- Middle School Applied Science
- High School STEM Certification
- Elementary STEM Endorsement
- STEM School Designation
- STEM Classroom Grants
- Fairs, Camps & Competitions



# Accountability Matrix Example

K-12 Math Initiative Effectiveness and Accountability					
Funding	Statutory	STEM AC activity	Outcomes	Next Steps	Partnerships
<b>\$5M (K-5)</b> <b>\$3.5M (6-8)</b> <b>\$5M (9-12)</b>  <b>\$3M ongoing (K-12)</b>	<ul style="list-style-type: none"> <li>Select one or more products that:</li> <li>Support math instruction</li> <li>Provide individualized instruction</li> <li>are self-adapting</li> <li>Support informal assessments</li> <li>Embed monitoring and feedback mechanisms</li> <li>Create process for school selection</li> <li>Provide professional development that trains educators on use of products</li> <li>Support independent evaluation</li> </ul>	<ul style="list-style-type: none"> <li>Distributed RFP</li> <li>Created and distributed district/charter application</li> <li>Supported license distribution</li> <li>Facilitated teacher training</li> <li>Tracking usage</li> <li>Evaluation of student performance</li> <li>Contracted with independent evaluator</li> </ul>	<ul style="list-style-type: none"> <li>11 products selected</li> <li>36 districts</li> <li>38 charters</li> <li>653 schools</li> <li>193,213 students</li> <li>78% usage</li> <li>21,414 surveys completed</li> </ul>	<ul style="list-style-type: none"> <li>Increase usage with fidelity</li> <li>Visit and support LEA's with low usage</li> <li>Visit LEA's with high usage to understand learning environment</li> <li>Continue teacher training</li> <li>Implement changes to contracts and RFP, with new funding</li> </ul>	<ul style="list-style-type: none"> <li>Local Education Agencies</li> <li>Math Product Providers</li> <li>Synergize with USOE's K-3 Reading Initiative; sharing knowledge of what's working within each program</li> </ul>

# Approval Process - Programs



# Approval Process - Administrative



GOED policies and procedures for administrative process



Budget is approved at beginning of fiscal year



Key expenditures in operational budget reviewed and approved by Board



All programs required to align with statute

# Reporting

## Participant Reporting:

- Vendor reporting requirements
- LEA reporting requirements
- Utah State University (3<sup>rd</sup> party evaluator)

## STEM AC Reporting:

- Regular updates to Board
- GOED Annual Report
- Legislative Annual reports
  - Education Interim Committee
  - Public Education Appropriations Subcommittee
  - State Board of Education

# Funding - Operational



6 FTE's



1 PT Foundation Director



1 PT DWS Liaison  
1 PT GOED Liaison  
1 PT Special Projects



2 Interns

# Funding - Programs

Program	Amount	Funding Period
Math		
K-5	\$5M (OT)	FY14-FY16
6-8	\$5M (OT)	FY13-FY16
9-12	\$3.5M (OT)	FY13-FY16
K-12	\$3M (OG)	FY17
Professional Learning	\$5M (OG)	FY14
Elementary Endorsement	\$1.5M (OT)	FY14-FY17
Applied Science	\$3.5M (OT)	FY14-FY16
STEM Certification	\$5M (OT)	FY14-FY17

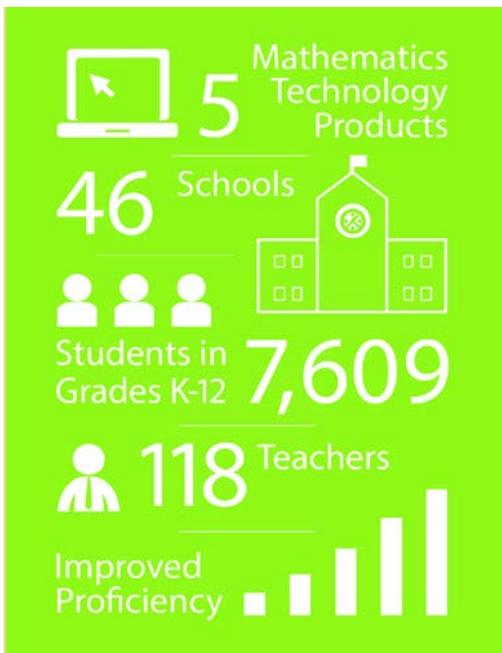
# Public-Private Partnerships

<b>Partner</b>	<b>Amount</b>	<b>Activity Supported</b>
IHC	\$200,000	Creation of STEM teaching modules
Tesoro	\$1.5M	Mobile STEM classroom
Adobe	\$25,000	STEM Resources
Century Link	\$10,000	STEM Assembly program
Tesoro	\$50,000	Marketing & Awareness

# Assessment Metrics

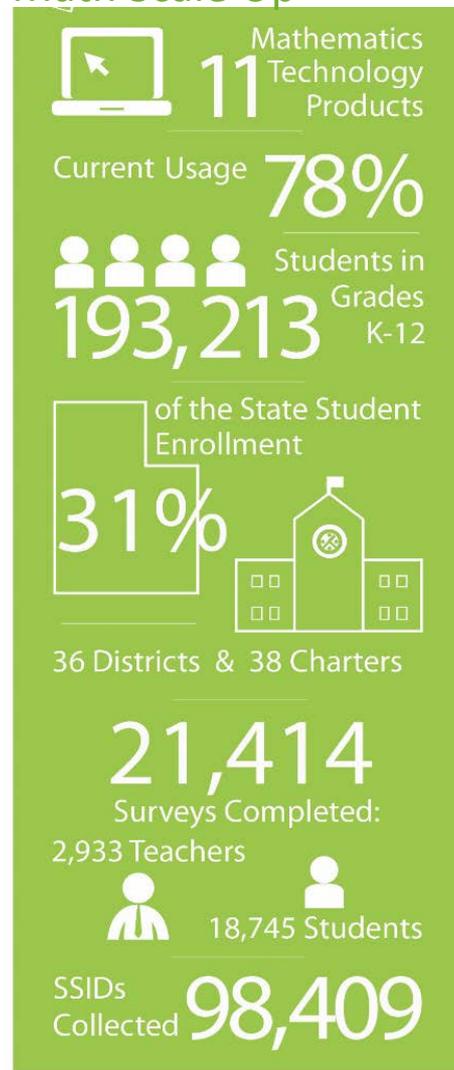
## FY 2014

### Math Pilot

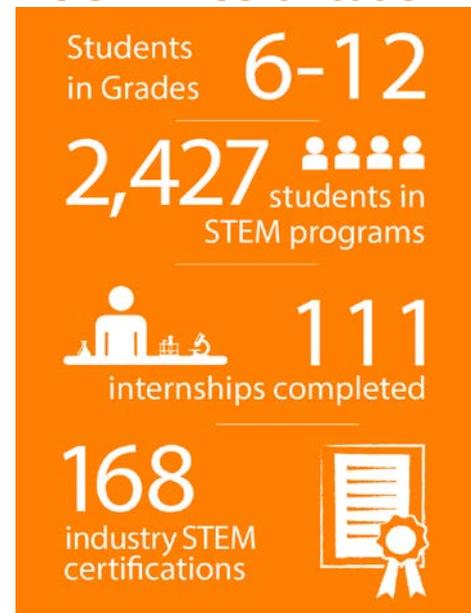


## FY 2015

### Math Scale Up

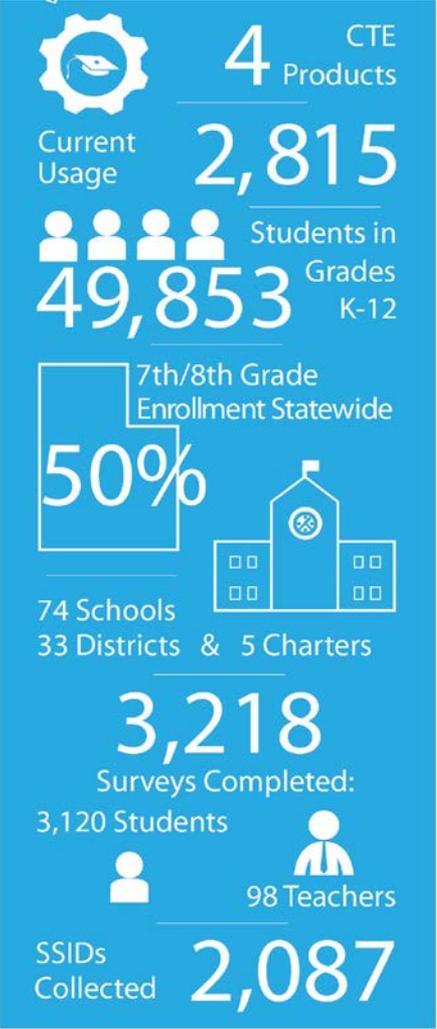


### HS STEM Certification

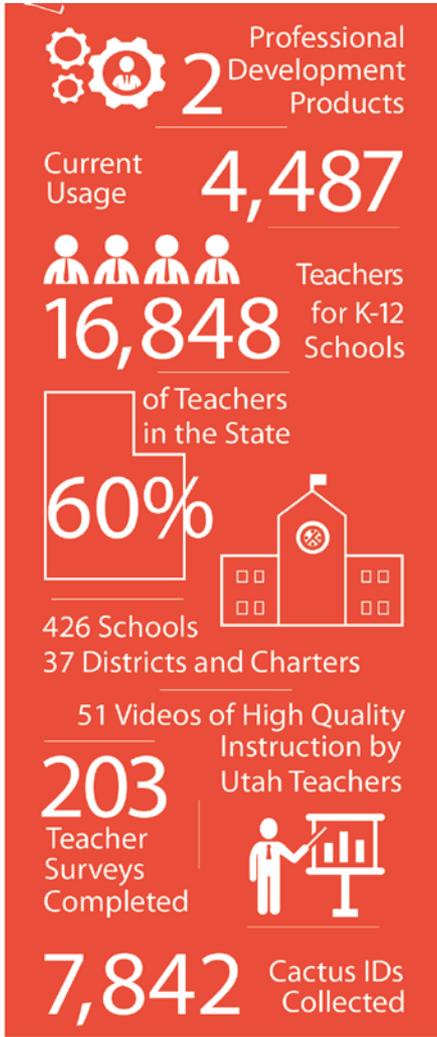


# Assessment Metrics

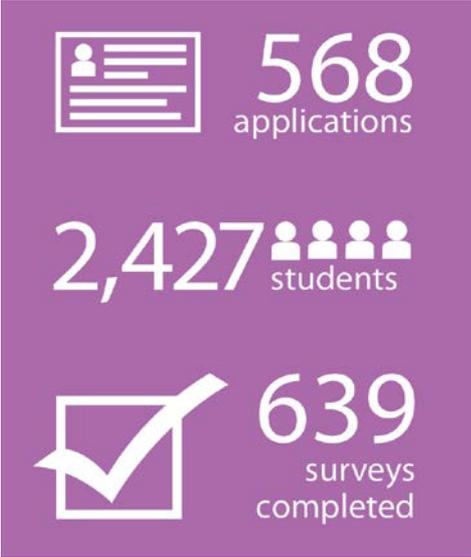
## Applied Science



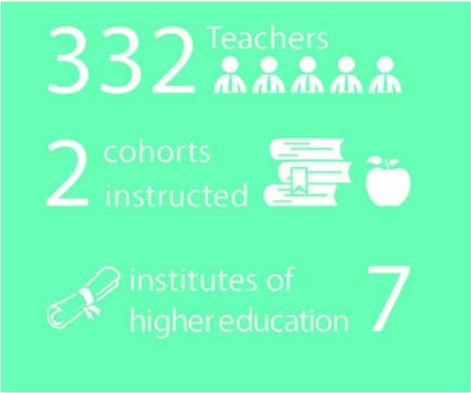
## Professional Development



## Fairs, Camps, & Competitions

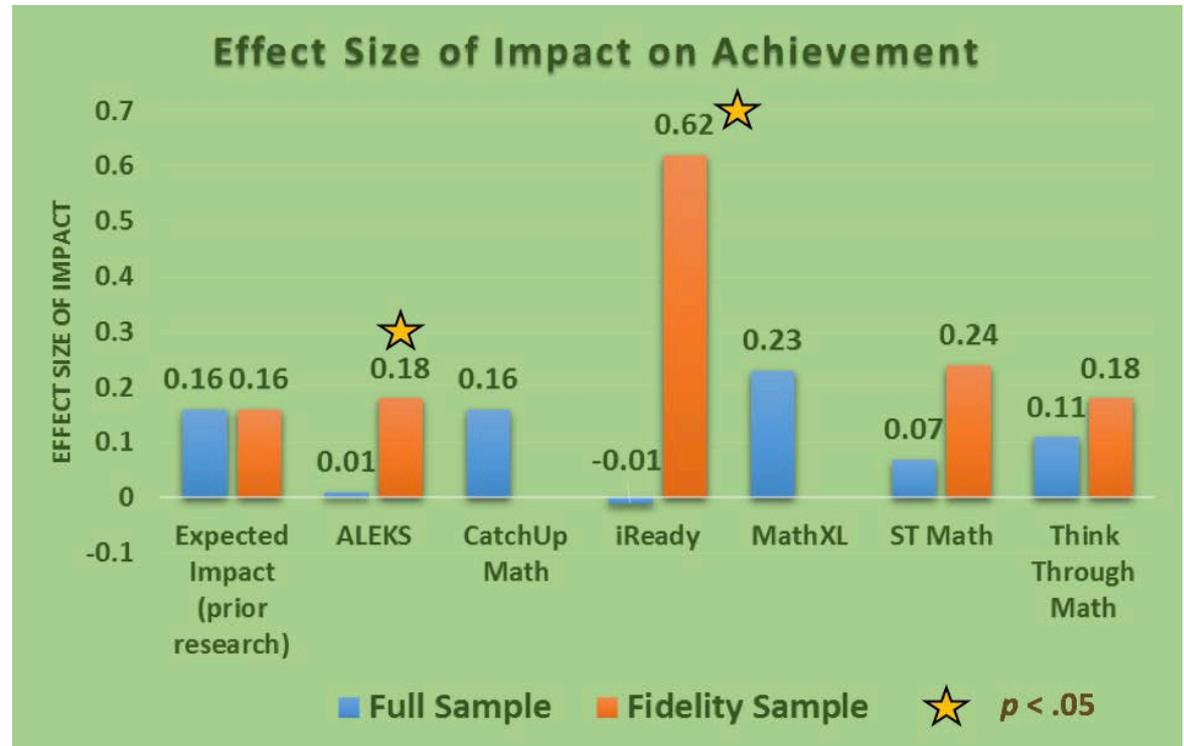


## Elementary STEM Endorsement



# Outcomes - Math

*“This year we scored 72% proficient in 9th grade... Last year our 9th graders were 52% proficient. Our District average is currently at 49%, which is the same as last year. This is all still raw data this year, but I haven't seen these numbers change in the last 2 years.”*



# Outcomes - Fairs, Camps & Competitions



*"I learned a lot about problem-solving and mechanical concepts like torque, stalling, stability, efficiency, gear ratios, etc. I learned how to work with electronics, motors, pneumatics, sensors, and programming. I learned how important the design process and communication are. But the most important thing I learned was how to work hard."*

*"I learned that...When something fails, you take what failed, find the problem and fix or rebuild the part that failed. My motto is failure is the compost for success."*

# Thank you!

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