

STEAM Proposal for Dover



Science – Technology – Engineering
Arts – Mathematics

Presentation to the Dover
School Board

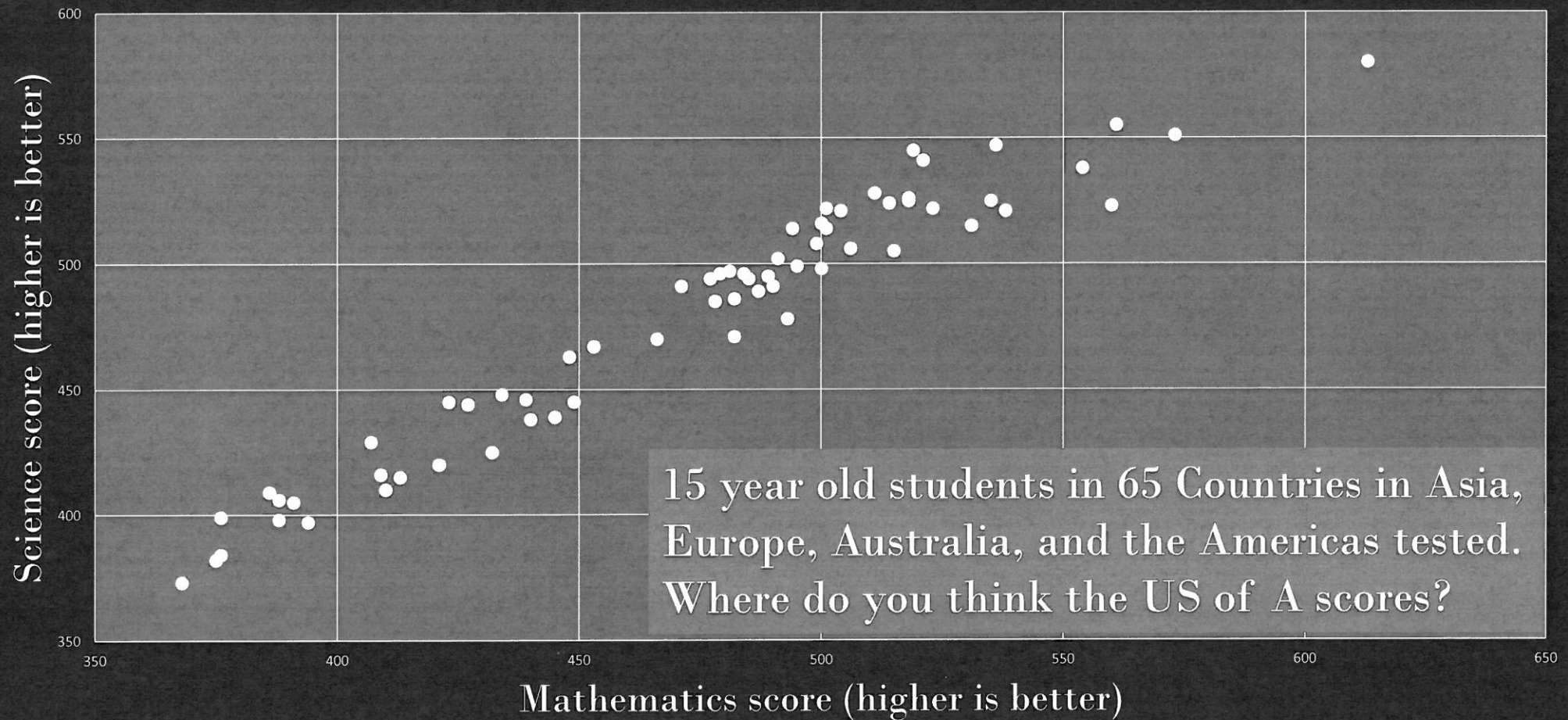
by
Dover STEAM Workgroup

September 14, 2015

Why

We have a big problem today...

Results from Program for International Student Assessment 2012

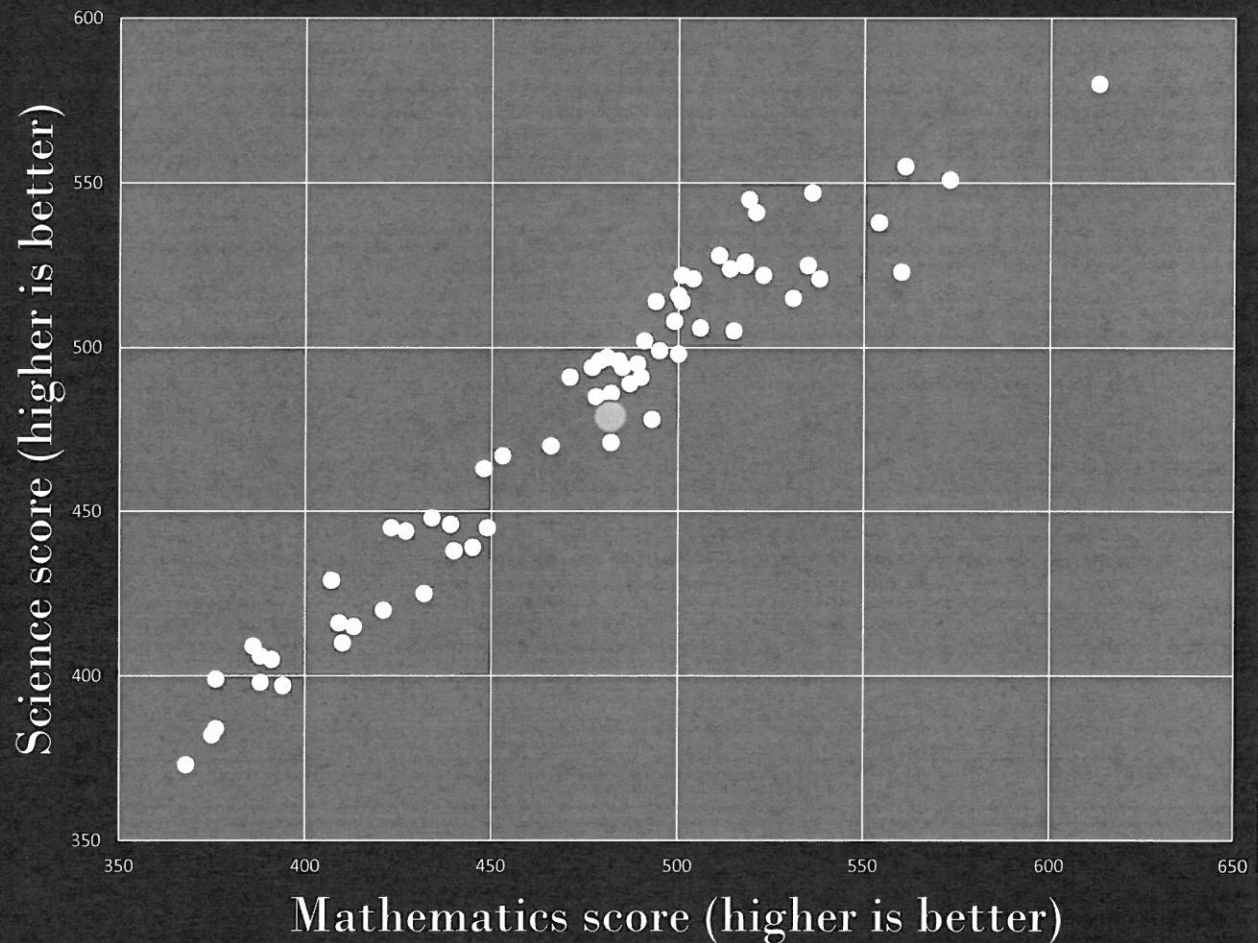


because average isn't good enough!

US is 34th out of 65 countries.

Behind China, Japan, Korea, France, Germany, Estonia, Slovenia, Vietnam, Canada, Australia, Iceland, New Zealand, and more...

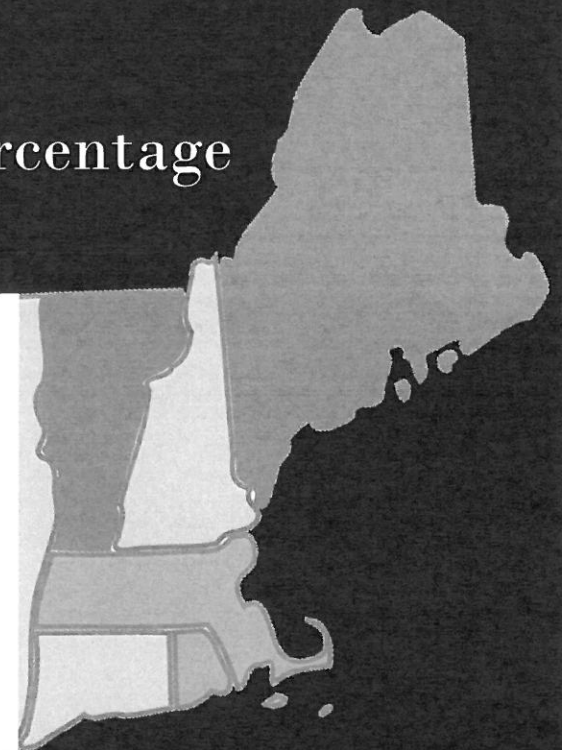
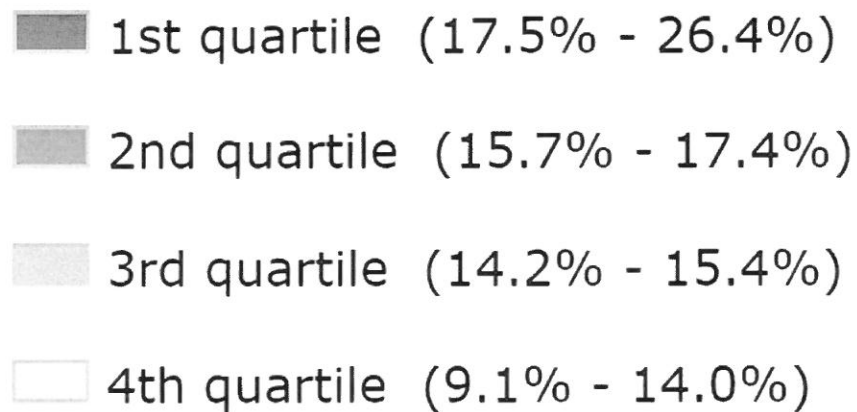
Our science and math educational scores are closer to those of Colombia than China.



New Hampshire can do better

New Hampshire
is behind in
educating our
STEM
workforce in
New England.

Higher STEM degrees as a percentage
of degrees conferred

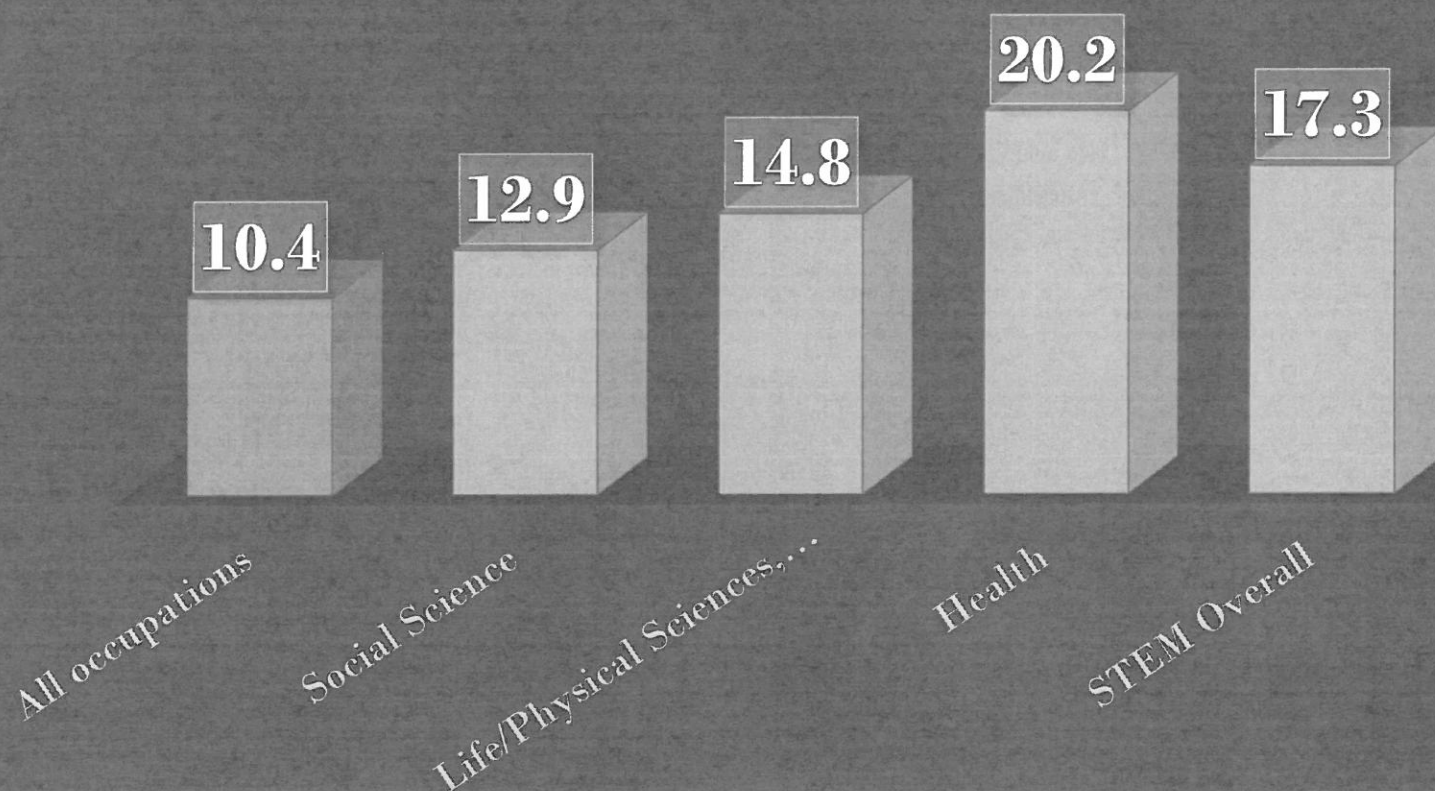


NSF

If we do nothing we'll have a bigger problem tomorrow

60% of jobs
in the 21st
century will
require skills
that only
20% of
Americans
now possess

PROJECTED EMPLOYMENT GROWTH IN
NH, 2010-2020 (PERCENT)



STEM in New Hampshire:
A Labor Demand-Supply
Analysis

STEM jobs also provide a higher standard of living

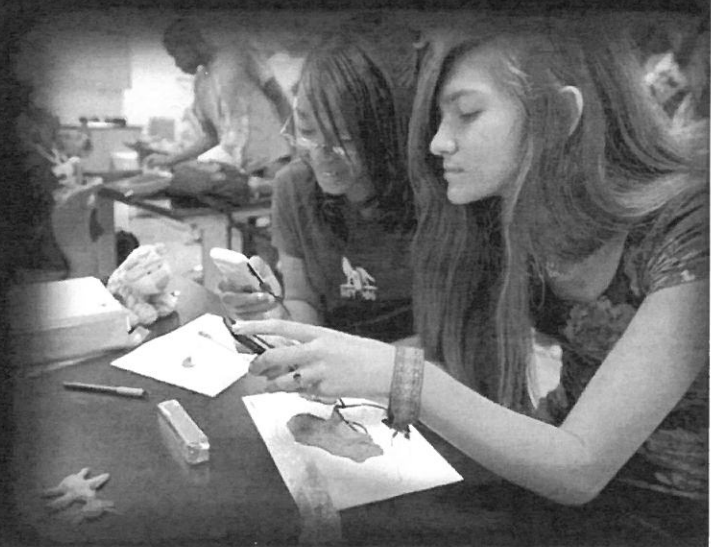
Table 1. Average Hourly Earnings of Full-Time Private Wage and Salary Workers in STEM Occupations by Educational Attainment, 2010

	Average hourly earnings		Difference	
	STEM	Non-STEM	Dollars	Percent
High school diploma or less	\$24.82	\$15.55	\$9.27	59.6%
Some college or associate degree	\$26.63	\$19.02	\$7.61	40.0%
Bachelor's degree only	\$35.81	\$28.27	\$7.54	26.7%
Graduate degree	\$40.69	\$36.22	\$4.47	12.3%

Source: ESA calculations using Current Population Survey public-use microdata and estimates from the Employment Projections Program of the Bureau of Labor Statistics.

STEAM works

- Manchester WHS students enrolled in the STEAM program had:
 - Higher attendance – 98% (compared to 87% overall)
 - Higher achievement – only 1% of STEAM lacked credits to become sophomores (compared to 27% overall)



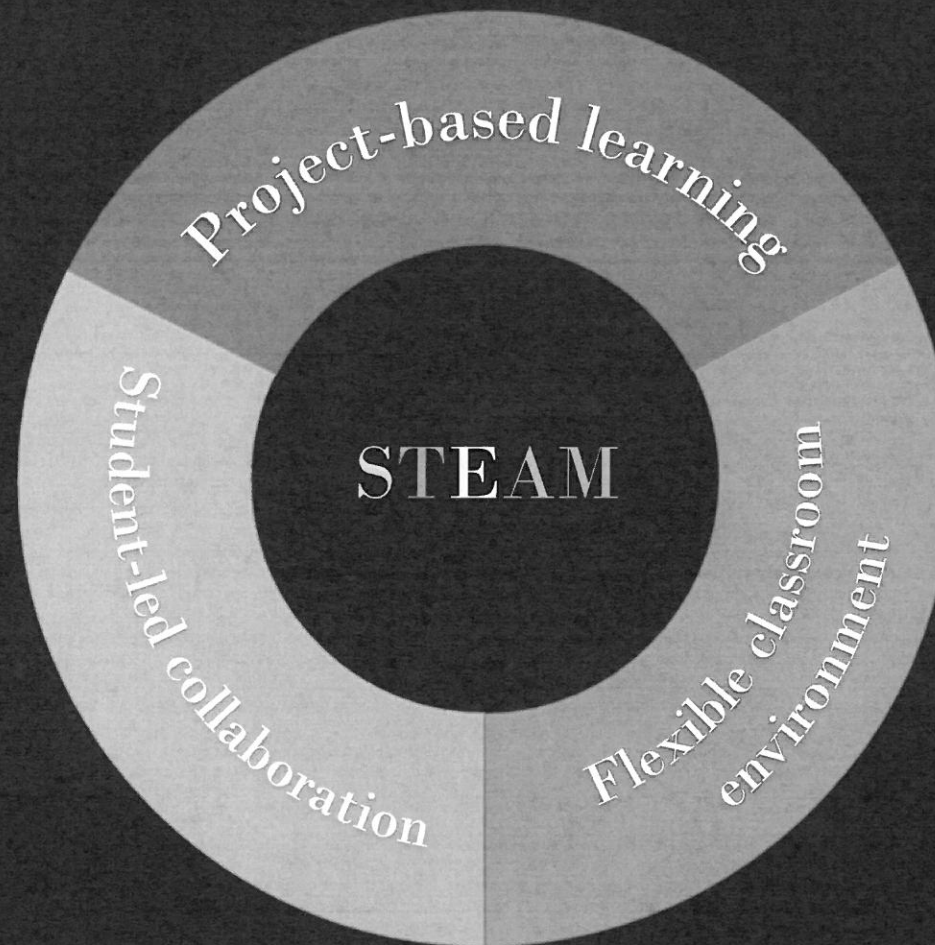
It's an investment with a good ROI

Investing in STEAM isn't just good education

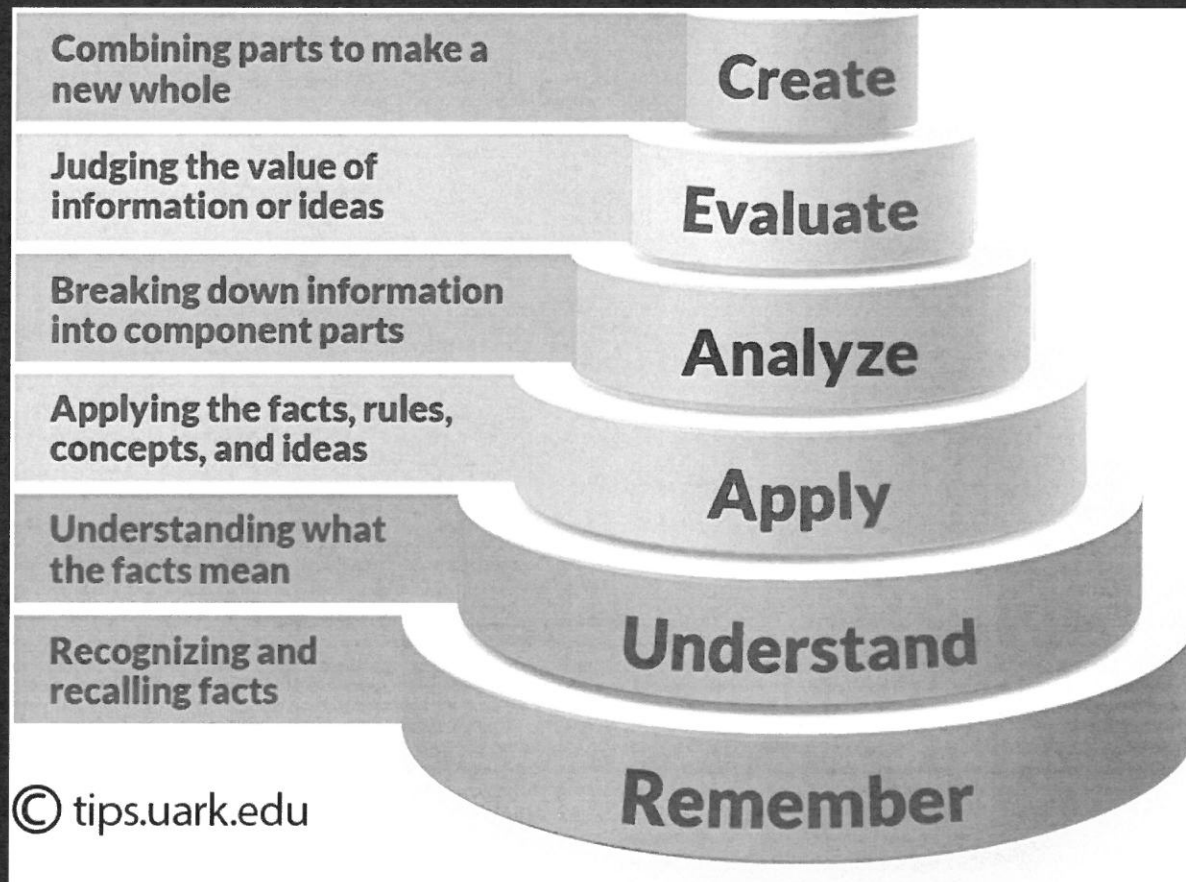
It's good economics

What

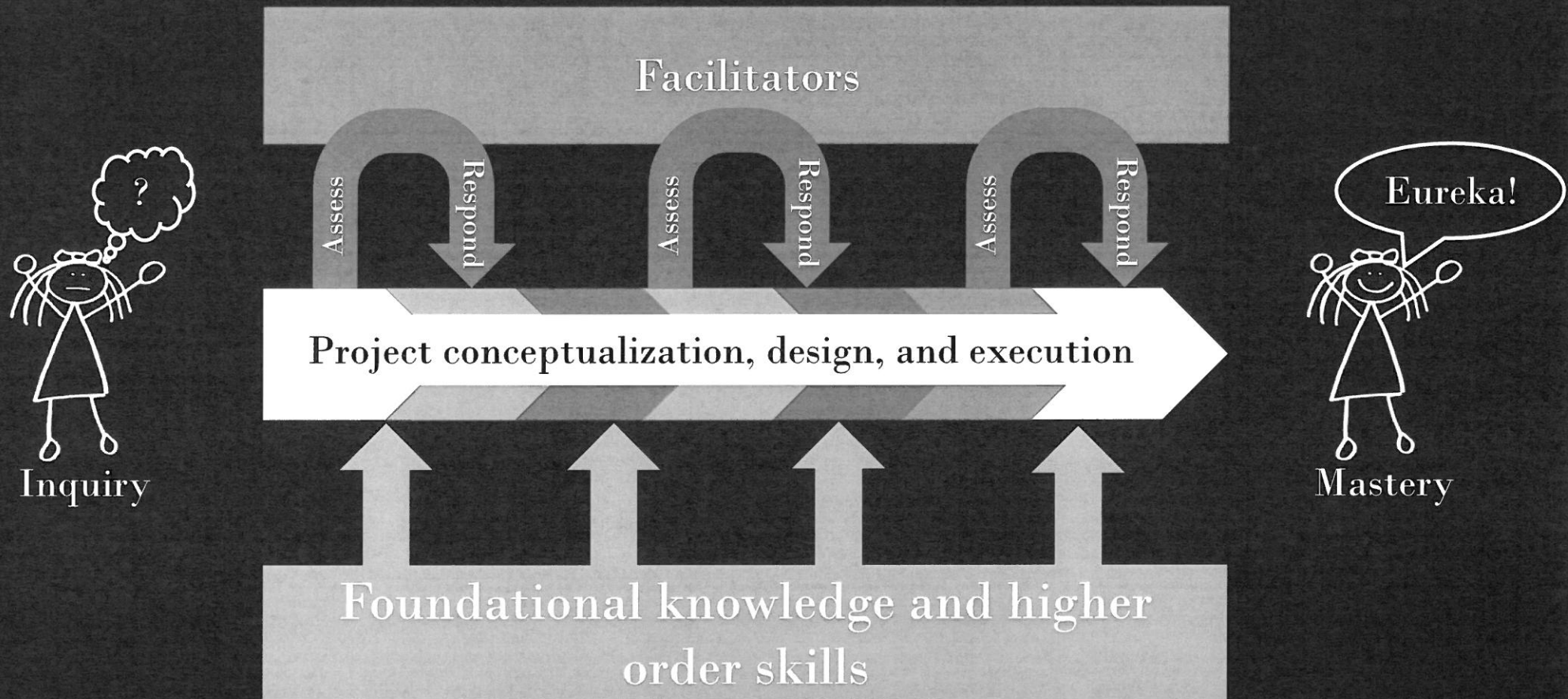
STEAM Education has three essential components



Bloom's Taxonomy



Project-based deeper learning and foundational knowledge



How

We have a 3 year, low risk, low cost rollout plan

Year 1: 2015 – 2016 – Lay the foundation

Year 2: 2016 – 2017 – Pilot the program

Year 3: 2017 – 2018 – Expand the program

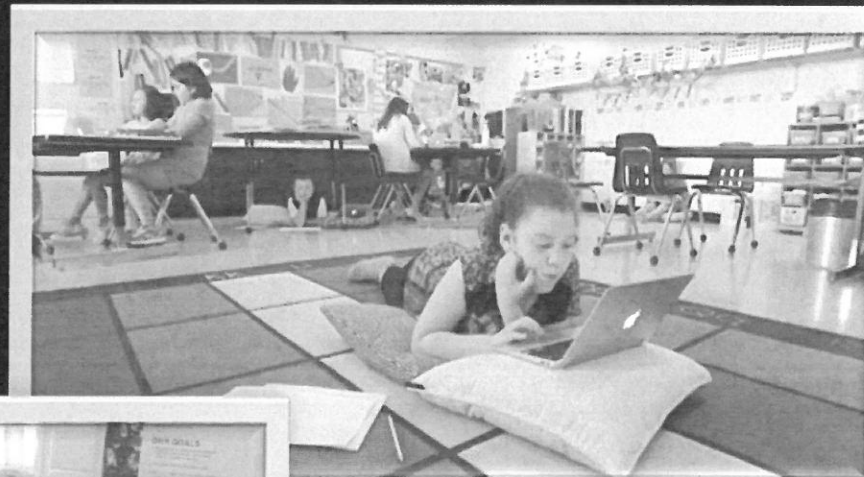
The plan addresses the School Board charge :

- Integration K - 8
- Equity and Access
- Fiscal Feasibility
- Workgroup Membership

This plan provides what children need for the future



Please

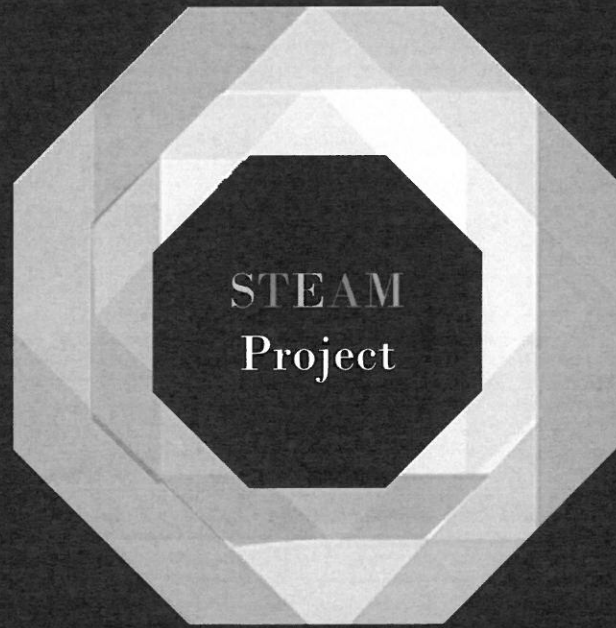


Approve



The Plan

On behalf of the Dover STEAM Workgroup, thank you for your time.



Science – Technology – Engineering
Arts – Mathematics