DOWNRIVER

@WEISS

GSD Board of Education Meeting
February 11, 2016

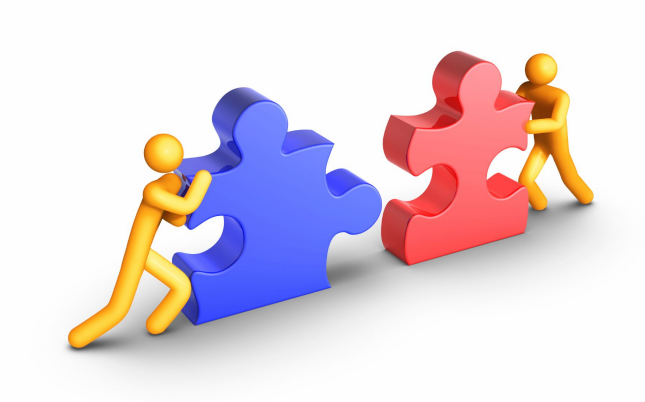
Downriver STEM at Weiss

What is STEM?

Simply put, STEM is:

- Science
- Technology
- Engineering
- Mathematics

Downriver STEM at Weiss



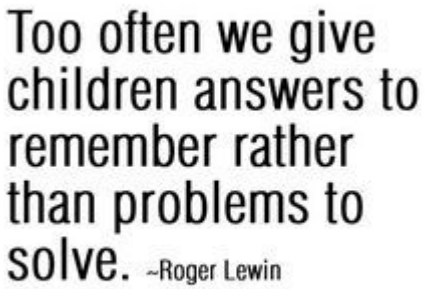
- Create a K-5 STEM School with a focus on Project Based Learning, Engineering, and Technology
- Prevents closure of a building while attracting students from other districts
- Curricular pieces can be put into place in other buildings over time
- Based on best-practice and research-based instructional approaches
- Maintains current boundaries and students
- Space opened for Out of District School of Choice and In District Building of Choice

Curricular and Program Plans

Curricular Plans:

- Incorporate units from Engineering is Elementary (EIE) at all grade levels. (www.eie.org)
  - Units developed by the Science Museum of Boston
  - Examples (20 to choose from):
    - Designing and Building Parachutes
    - Cleaning an Oil Spill
    - Designing Lighting Systems

Curricular and Program Plans



Curricular Plans:

- Use Project-Based Learning (PBL) framework to engage students in relevant cross-curricular learning experiences (www.bie.org)
  - Project Based Learning is a teaching method in which students gain knowledge and skills by working for an extended period of time to investigate and respond to an engaging and complex question, problem, or challenge.
  - Examples:
    - Designing and building a chicken coop to raise chickens
    - Design and plan a new playground from start to finish
    - Design a collaborative “Maker Space” for classrooms

Curricular and Program Plans

- Integrate “one to one” technology in each classroom, redefining traditional classroom experiences
  - iPads in primary grades
  - Chromebooks in upper elementary grades
- Engage students in technology-based learning experiences, such as:
  - Coding
  - Robotics
  - Media Creation

21st Century Skills

21st Century Skills

- CRITICAL THINKING AND PROBLEM SOLVING
- COLLABORATION
- ADAPTABILITY
- INITIATIVE AND ENTREPRENEURSHIP
- EFFECTIVE ORAL AND WRITTEN COMMUNICATION
- ACCESSING AND ANALYZING INFORMATION
- CURIOSITY AND IMAGINATION

The Global Achievement Gap - Tony Wagner, 2008

Professional Development

- Project-Based Learning
  - Facilitated by local educators who are trainers for Buck Institute for Education
  - 3 days of direct training, 2 days of guided project development
  - Late July 2016
- Engineering is Elementary
  - Trainer brought in from Boston Museum of Science
  - 2 day workshop held locally
  - Late June 2016
- Google Certified Educator, Level 1
  - 13 units, online, self-paced
  - Certification test upon completion
  - Completed over the summer

DOWNRIVER

" ...students need the motivations and dispositions that will enable them to innovate... to learn to work in teams, understand and solve problems using multiple disciplines, persevere, take risks, and learn from mistakes." Tony Wagner, author of *Creating Innovators* and *The Global Achievement Gap*