Engineering Winning Strategies

PLTW Colorado Conference 2014

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Game Plan

- Background on Northglenn High School
- Aerospace Engineering
  - City of Northglenn Business Appreciation Breakfast Centerpieces
  - Gliders 2.0
- Engineering Design & Development (Capstone)
  - Altoids Assignment
  - Business Breakfast 2.0
- Looking Ahead
Northglenn High School

- Location: Northglenn, CO – northern suburbs of Denver
- Public STEM High School with two STEM elementary feeder schools
- Population
- Diversity
- New STEM Wing built in 2011
- 3-D Printer, Laser Engraver, Basic Fabrication Lab

Aerospace Engineering (AE): Centerpieces

- City of Northglenn Business Appreciation Breakfast
- Approached School in September
- Timeline – One Month
- Theme: “Building Northglenn Together”
- Constraints
- Process
- Hurdles – Engineering Drive, Mass Production
- Student Empowerment
AE Centerpieces: Final Products

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Northglenn High School
AE Centerpieces: Event Showcase

Gliders 2.0 using Laser Engraver
Wind Turbines using Laser Engraver

Engineering Design & Development: Altoids Assignment

- Week-Long Mini Project
- Mini-Project Philosophy
- Engineering Notebook Re-boot
Capstone: Business Breakfast 2.0

- City of Northglenn Partnership
- Larger Mini-Project
- Timeline – 1.5 Months
- Theme: “Elevate Your Business”
- Design Process
- Increased Expectations

ELEVATE YOUR BUSINESS
2014 Northglenn Business Appreciation Breakfast

Looking Ahead

- Aerospace Engineering
  - Drones?
  - Local Industry Partnership?
- Engineering Design & Development (Capstone)
  - Year-Long Products
    - Continued Design Reviews with Authentic Audiences
  - Possible Biomedical & Engineering Pathways Collaboration
- Speakers, Tours, Field Experiences
- Student Ambassadors, Adding Partners, Growing Facilities/Materials