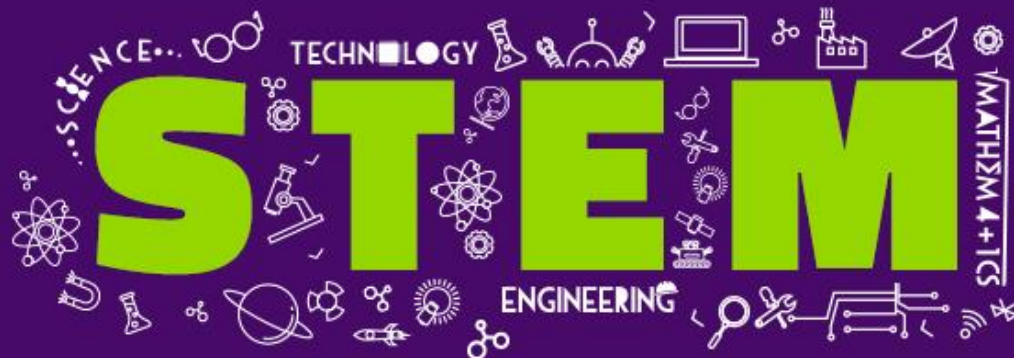
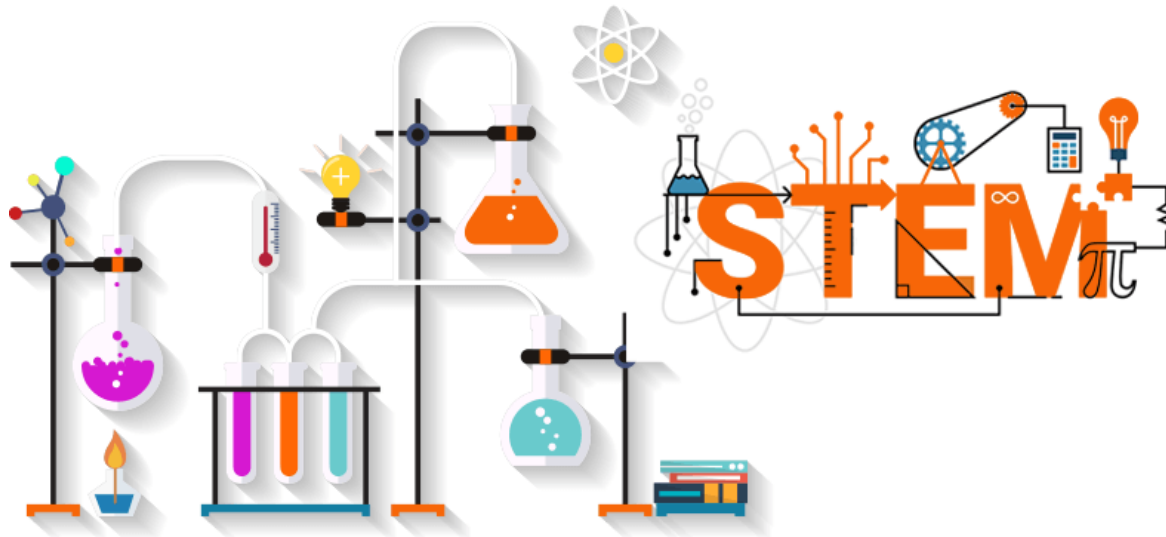


Board of Education Meeting February 6, 2020



Emphasis on STEM Education 2014-2020....

- 1) Science Initiative
- 2) Engineering Initiative



Goals of New Initiatives Which Began in 2014

- Restructure the secondary science sequence to provide more flexibility and more opportunity for all students.
- Universally accelerate all students to take their first science regents class in grade-8.
- All students in a given grade level are taking the same science subject area.
- Greater support and new classes to provide additional opportunities for students to take Chemistry & Physics.
- Utilize Project Lead the Way as a tool to increase engineering opportunities for students.

2014-2015

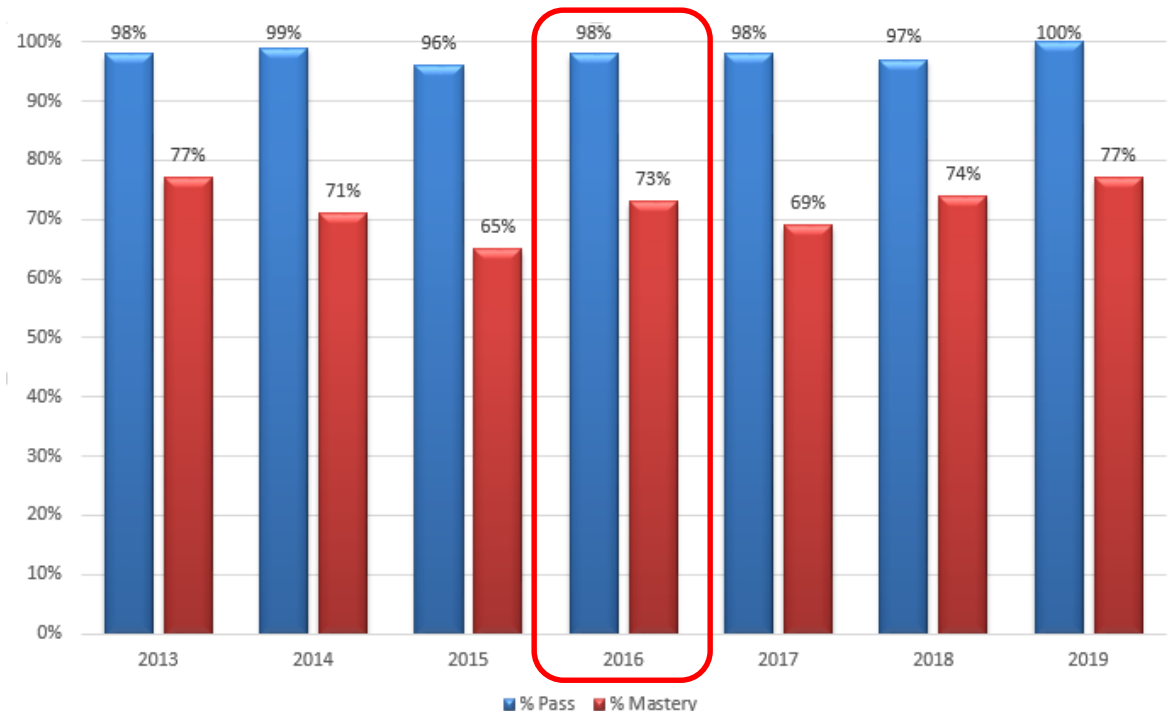
Grade-7

- Restructuring of Science-7 course
 - Ongoing
 - Four Units
 1. Scientific methods and principles
 2. Physics
 3. Chemistry
 4. Introduction to Life Science
 - Use of CK-12 Online

2015-2016

Grade-8-Biology

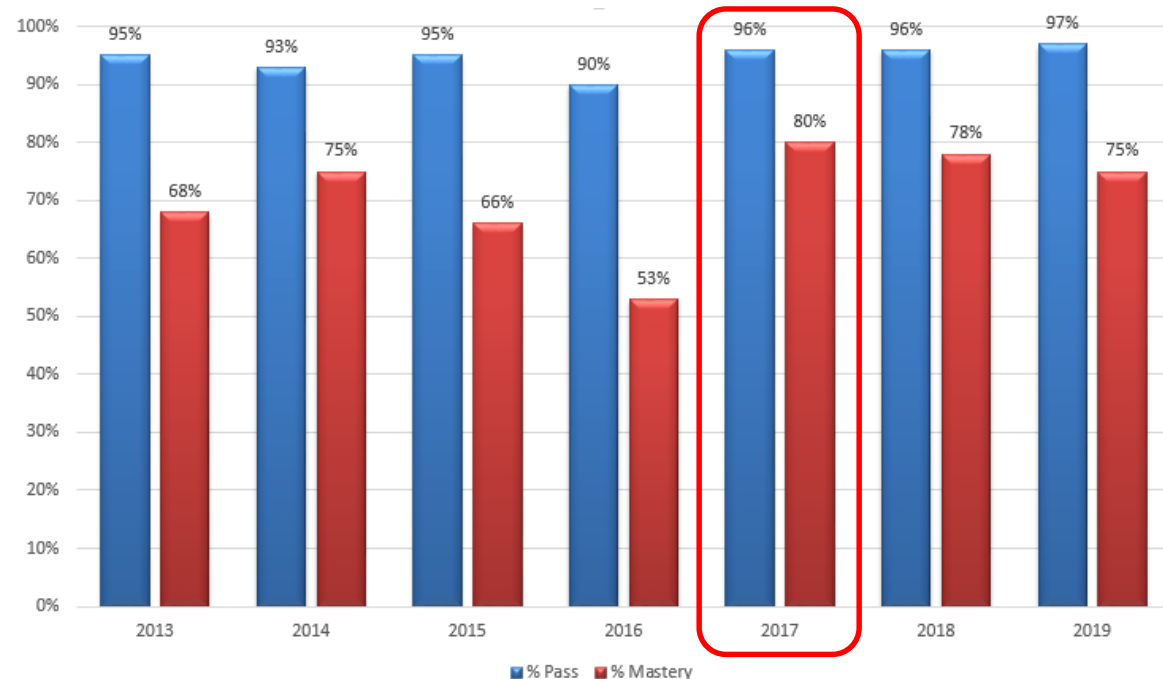
- Universal Acceleration of students into Living Environment or Living Environment Honors.
- Elimination of Science-8.



2016-2017

Grade-9-Earth Science

- Three levels of Earth Science Offered:
 - Earth Science Regents
 - Earth Science Honors (New)
 - Earth Science Honors/AP Environmental Science (New)

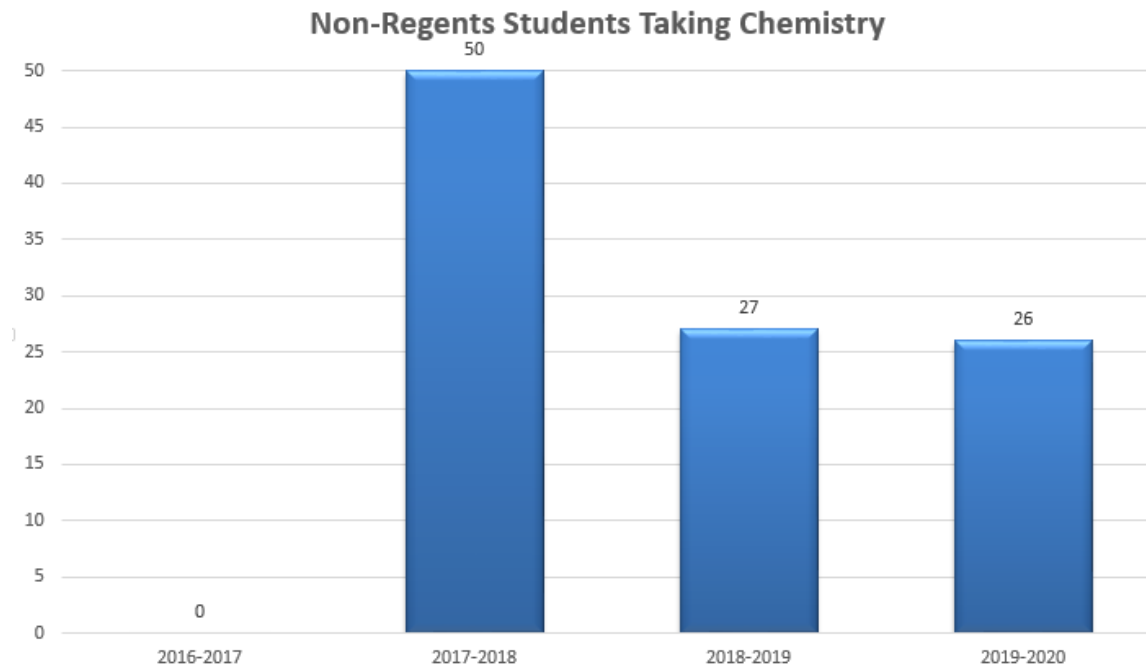


2017-2018

Grade-10-Chemistry

- Three levels of Chemistry Offered:
 - Applied Chemistry (New)
 - Chemistry Regents
 - Chemistry Honors

96% of our eligible 10th graders are currently in a Chemistry class

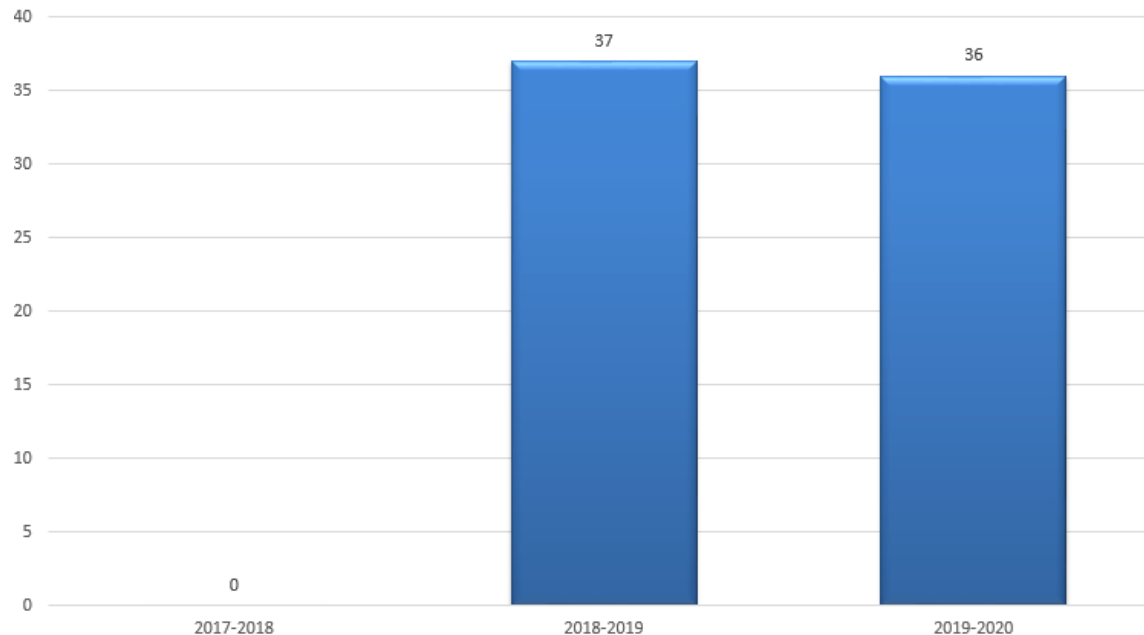


2018-2019

Grade-11-Physics

- Three levels of Physics Offered:
 - Applied Physics (New)
 - Physics Regents
 - Added new offering of Physics X class for support
 - AP Physics-1

Non-Regents Students Taking Physics

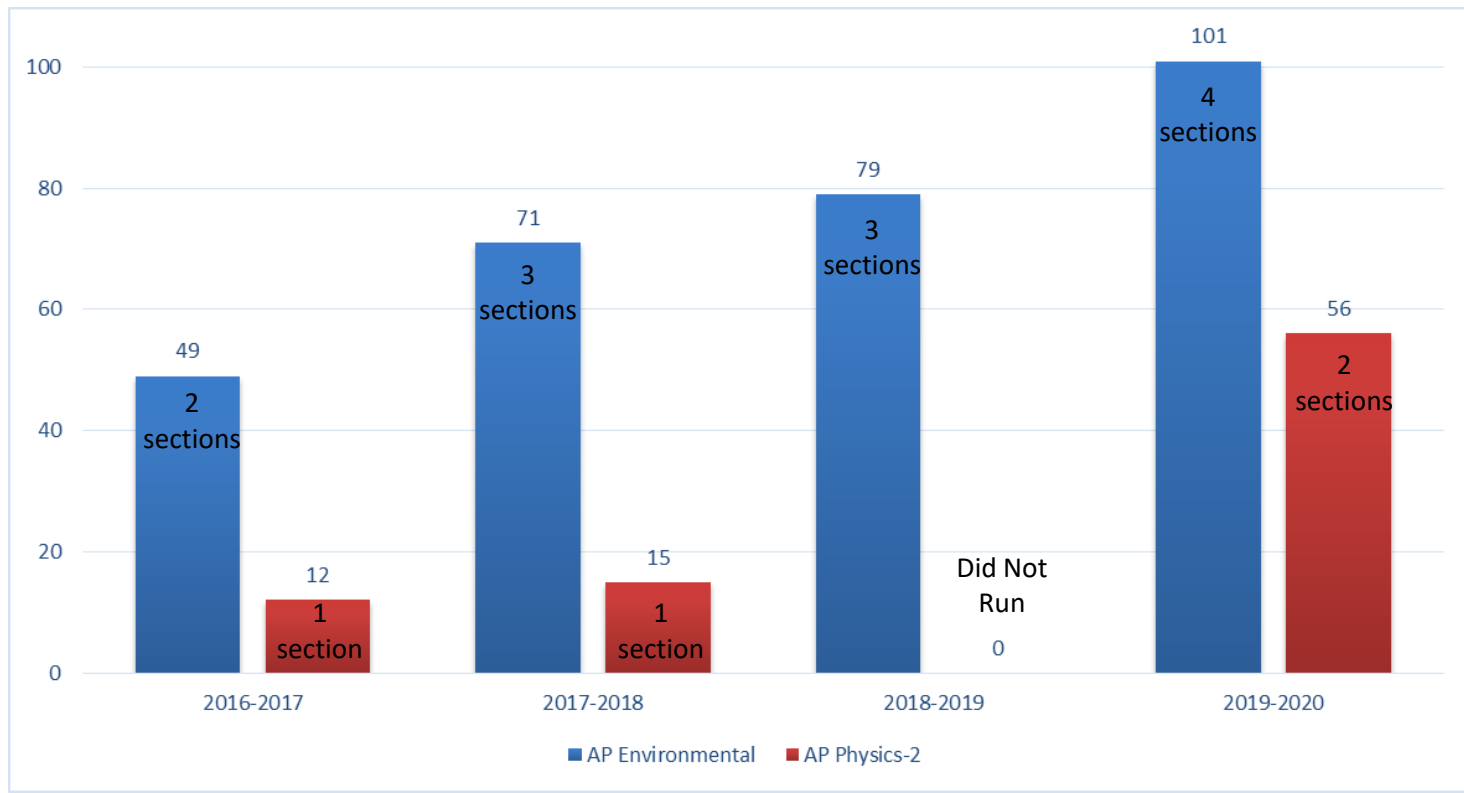


93% of our eligible 11th graders are currently in a Physics class

2019-2020

Grade-12

- Expansion of AP classes:
 - AP Environmental Science
 - AP Physics-2



Engineering with PLTW

- PLTW offers five programs:
 - PLTW Launch, designed for grades K-5; (*modules*)
 - PLTW Gateway, designed for grades 6-8; (*units*)
 - PLTW Computer Science, **PLTW Engineering**, and PLTW Biomedical Science, each designed for grades 9-12. (*courses*)
- PLTW uses a ***project-based curriculum***.
- Students apply what they know to ***find unique solutions***.
- Students ***lead their own learning***.
- Students are ***not passive*** recipients of information in a question-and-answer, right-or-wrong learning environment.

Uses the Design Process to teach
Problem-Solving Skills

PLTW Trained Teachers

Mr. Frank Russo

(AR, DM, IED, POE, AE)

Ms. Alexis Williams

(AR, DM)

Mr. Michael Tarnowski

(AR)

Kim Viscovich & Michael O'Brien

PLTW LAUNCH Lead Teachers

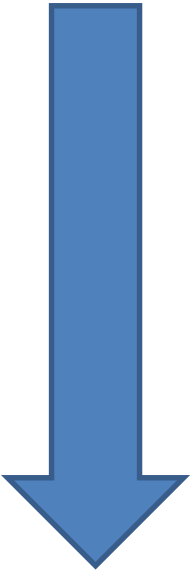
**Teachers must attend off-site training for each
module, unit, or course that they teach.**

PLTW Rollout

Year	Grade-2	Grade-3	Grade-4	Grade-5	Grade-6	Grade-7	Grade-8	Grade-9	Grade-10	Grade-11	Grade-12
2014						Partial Unit					

PLTW Rollout

Year	Grade-2	Grade-3	Grade-4	Grade-5	Grade-6	Grade-7	Grade-8	Grade-9	Grade-10	Grade-11	Grade-12
2014						Partial Unit					



2020	Properties of Matter	Force & Interactions	Collisions			Automation & Robotics	Design & Modeling	Intro to Eng Design	Principles of Eng	Aerospace Eng	Computer Integrated Manufacturing
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2020-2021 and Beyond

- Computer Integrated Manufacturing
 - New Equipment
 - Computer Numerical Control (CNC) Machine
 - Metal Laser Cutter
- Additional Training
 - Frank Russo
 - CIM
 - Alexis Williams
 - IED
 - Michael Tarnowski
 - DM
 - Kim Viscovich & Michael O'Brien will train Grade-4 teachers in the Collisions Unit.

Future of Engineering

- Innovation Lab
 - Relocation of all MS and HS Technology classes to the New STEM Lab.
 - Tentatively scheduled for summer of 2021.

Questions?

