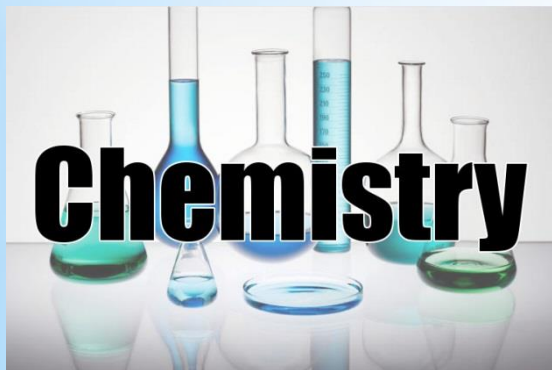


# Science in the Three Village School District



A Presentation to the Board of Education

February 10, 2016

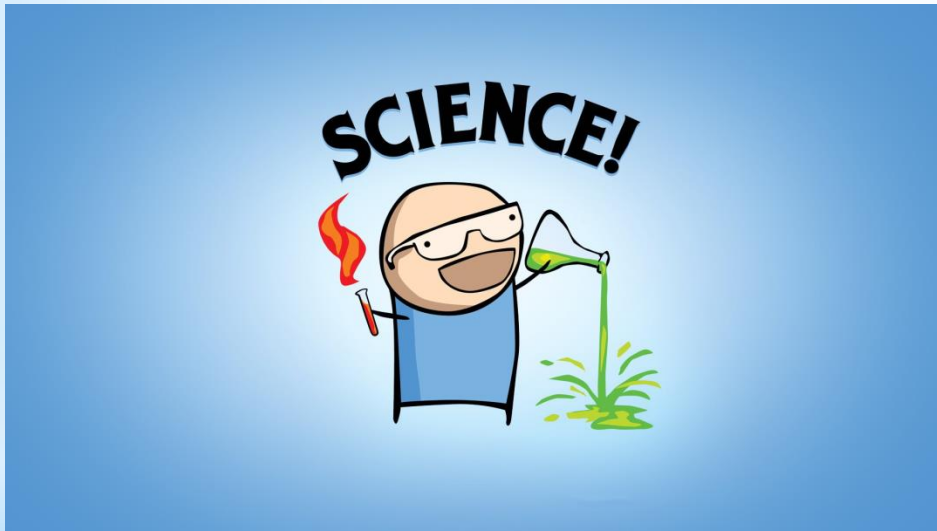


# Science Department Highlights

- Philosophy and Curriculum
- Courses of Study
- Achievement Results (State Assessments)
- Enrichment Programs - Science Research & Electives
- Community Partnerships & Outreach
- New York State Science Learning Standards - update
- Initiatives
- Resources
- Professional Development



# How do we capture student interest?

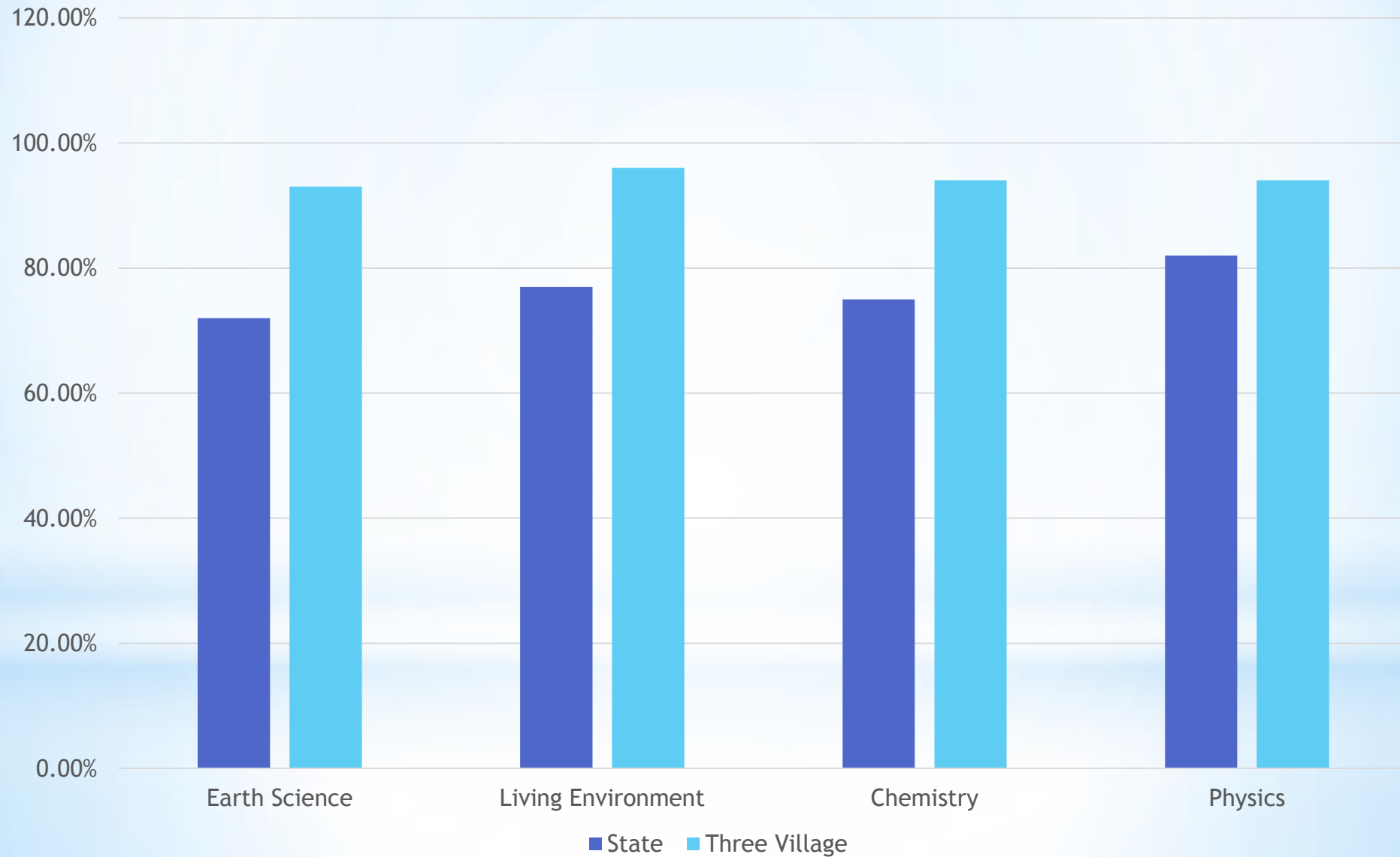


Mr. Bean's Lab Safety



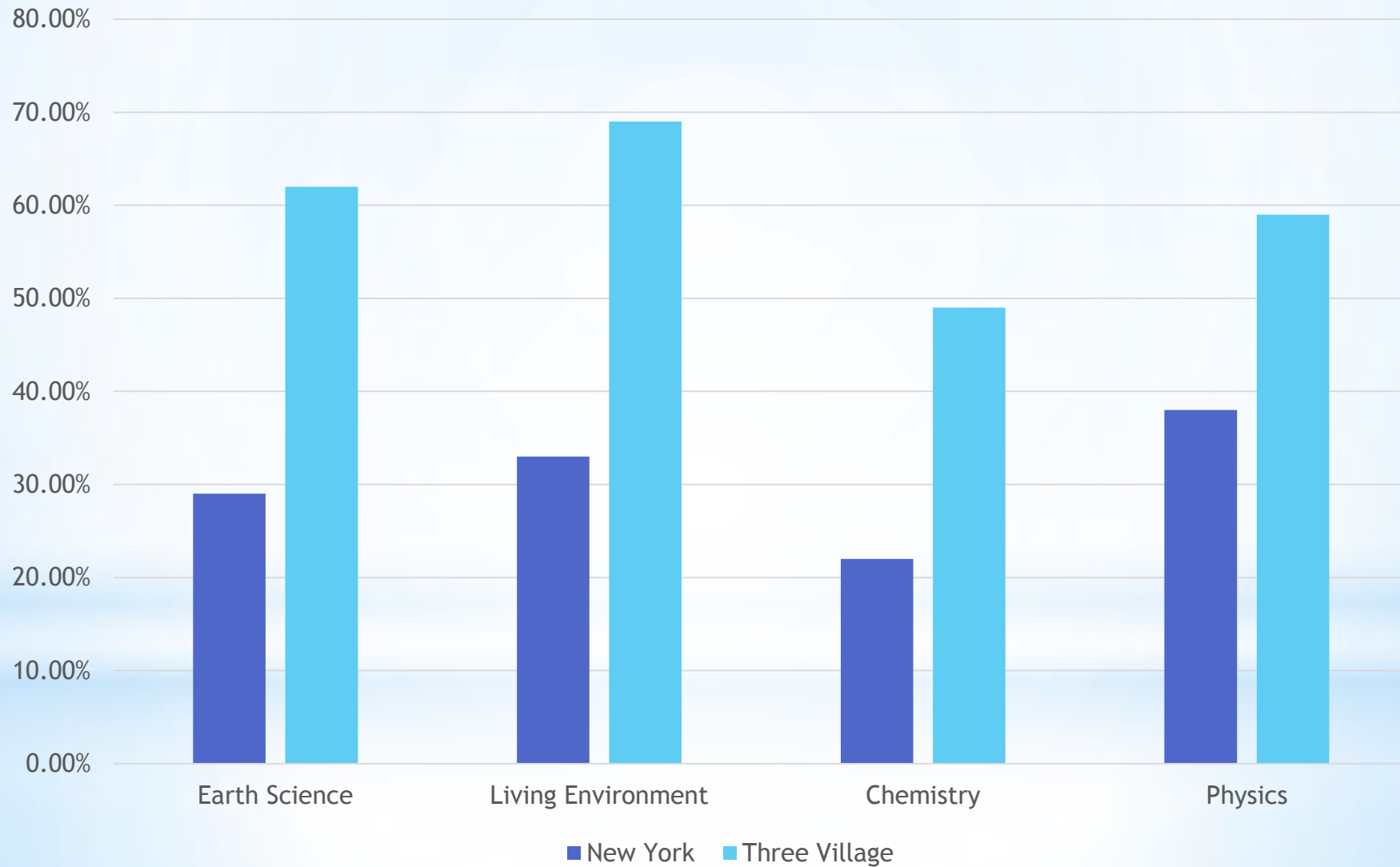
# 2015 Science Regents Passing Scores

## Three Village vs NY State



# 2015 Regents *Mastery* Scores

## Three Village vs NY State



# Science Sequence

GRADE	REGENTS.....	ACCELERATED/HONORS
7	Science 7 (Physical Science)	Science 8 (Life Science)
8	Science 8	Earth Science EarthSmart
9	Earth Science	Living Environment
10	Living Environment	Chemistry H Chemistry R
11	Chemistry R Chemistry H Electives	Physics R Physics H AP Physics 1
12	Physics R AP Biology Forensics H	Physics H AP Chemistry Human Anatomy & Physiology
		AP Physics 1 AP Physics 2 AP Environmental Electives



# Courses of Study

## Ward Melville High School

NY STATE / CORE	AP LEVEL	SCIENCE ELECTIVES
<p>LIVING ENVIRONMENT^            R CHEMISTRY            H CHEMISTRY            R PHYSICS            H PHYSICS</p> <p>^graduation requirement</p>	<p>PHYSICS 1            PHYSICS 2*            PHYSICS C*            (Electricity &amp; Magnetism/Mechanics)            BIOLOGY*            CHEMISTRY*            ENVIRONMENTAL SCIENCE*</p> <p>*second-year course</p>	<p>ANIMAL SCIENCE            APPLIED SCIENCE            ASTRONOMY            CONSUMER CHEMISTRY            CURRENT ISSUES            ENVIRONMENTAL CHEMISTRY            FORENSICS            FORENSICS H (SUPA)            HUMAN ANATOMY (Adelphi/SBU ACE)            HUMAN PHYSIOLOGY (Adelphi/SBU ACE)            KNOW YOUR FOOD            LONG ISLAND ECOLOGY            MICROBIOLOGY</p>

# InSTAR

- \* InSTAR®: Independent Science Technology And Research
- \* Three year program (10-12)
- \* DuPont Challenge, Toshiba ExploraVision, BNL Bridge Competition, West Point Bridge Competition, Intel Science Talent Search, Siemens Competition, Science Congress, Long Island Science and Engineering Fair, NYSSEF → ISEF ?

## 2015 Siemens Competition



Emily Huang – Harriet O'Brien – Jenny Yang – Roshan Patel  
(missing: Kathryn Zhao)





# Enrichment Programs

## Ward Melville HS

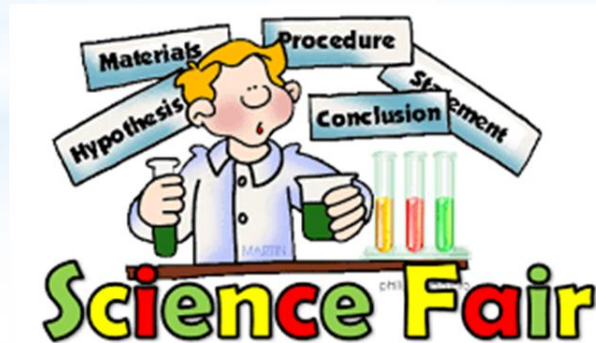
- Robotics Team
- Brain Stormers
- Academic Team
- Science Olympiad
- Science Bowl
- Della Pietra Lecture Series
- Environmental Club



# Enrichment Programs

## Junior High Schools:

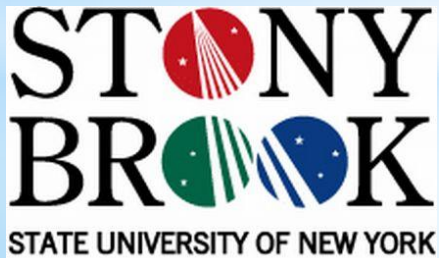
- LI Science Congress
- BNL Open Space Stewardship
- Day in the Life Program
- Science Olympiad
- Science Bowl
- Ecology Clubs





# Community Partnerships & Outreach

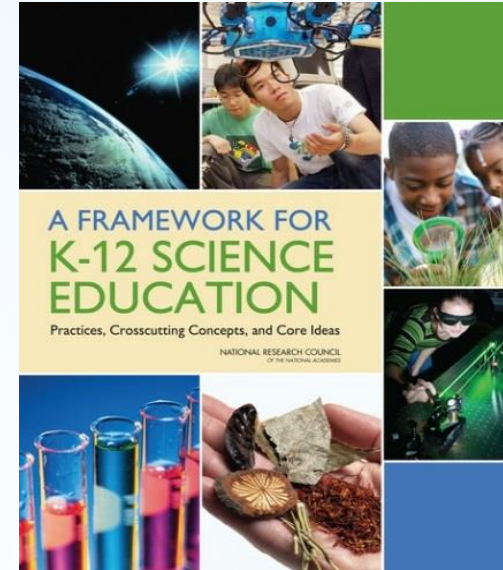
- \* Beach Cleanup
- \* Astronomy Nights
- \* DEC Camp - Three Village Garden Club
- \* SUNY Partnership
- \* DNA Lab at Stony Brook (CESAME)
- \* Day in the Life Program
- \* Open Space Stewardship Program





# New NYS Science Learning Standards (NYSSLS)

- \* Draft Standards Developed in 2015
- \* Based on:
  - The Framework for K-12 Science Education
  - Next Generation Science Standards (NGSS)
  - Input/Feedback from NYS Educators and other Stakeholders
- \* Statewide Strategic Plan for Science will guide the implementation of the NYSSLS
  - Plan involves professional development, resources, administrative and community support



# New York State Science Learning Standards



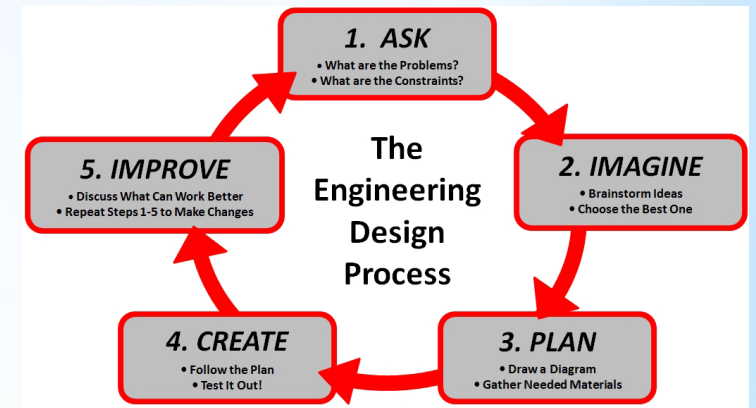
## Three Dimensions (3-D Model)

### \* Science & Engineering Practices

- \* Asking questions and defining problems
- \* Developing and using models
- \* Planning and carrying out investigations
- \* Analyzing and interpreting data

### \* Disciplinary Core Ideas - Science Content

### \* Cross Cutting Concepts - Scale, Proportion, Stability & Change, Conservation of Energy



- ❖ Connects to other topics in grade level
- ❖ Articulates across grade levels
- ❖ Connections to Common Core State Standards.



# Things to Know.... ....About the DRAFT NYSSLS



- The NYSSLS are standards, NOT curriculum
- Teacher Survey (2016) will be used to modify Draft Document
- Standards must be approved by the Board of Regents, likely by Spring 2016
- A timetable for NYSSLS implementation has not been fully developed.
- Standards will guide the creation of future assessments.
- Current core curricula remain in effect until implementation
- Testing will continue in grades 4, 8 and the high school Regents Exams

# Resources

- \*State of the Art Labs
- \*Document Based Cameras & Video Microscopes
- \*Weather Station
- \*Chrome Books
- \*Moodle
- \*Discovery Education
- \*Castle Learning
- \*EduWARE Test Wizard
- \*Bring Your Own Device (BYOD)



# Professional Development and Growth

## ➤ Superintendent's Conference Days

- Analysis of Assessments
- Lab Safety Update
- Best Practices
- GAFE Training

## ➤ Departmental Meetings

- Sharing Best Practices
- Master Teacher Networking

## ➤ STANYS Conferences

- Local & State

## ➤ Other Workshops

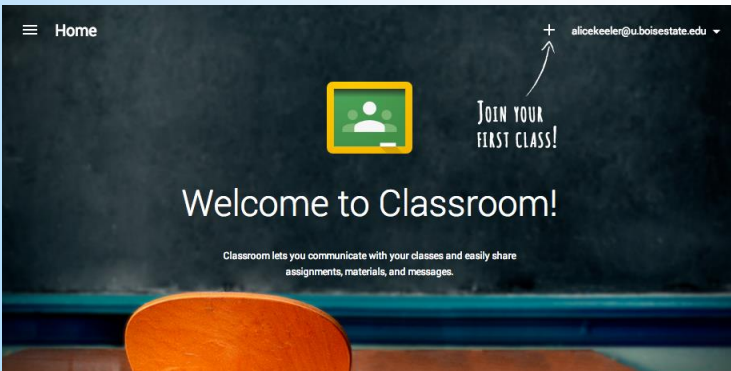
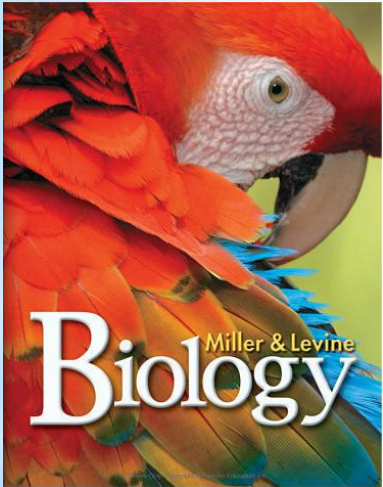
- Cradle of Aviation
- American Museum of Natural History
- Web Based Programs





# Initiatives

- Laboratory Safety
- Textbook Review
- Implementing Common Core Standards in Science
- Implementing STEM/Inquiry Activities
- Bring Your Own Device (BYOD)
- Google Classroom



# Long Term Goals

- Implementation of NYS Science Learning Standards and development of new curricula
- Increase mastery
- Continued articulation
- Continued integration of technology into the classroom
- More upper level advanced courses

