

The Time Is Right  
For A Change!

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Seaford Middle School  
Science Program 6-8

## What is going on? Why now?

- Next Generation Science Standards adopted last year
- What are we doing for students post middle school?
  - The Gatekeeper model
  - Looking at pathways in the high school
- Opportunity to fit with other school initiatives
- Independent external consultant conducted a review of the 6-12 Science Program and supports shifts in program and curriculum

## NGSS – We do that already? Maybe not?

- Three dimensional approach:
  - Scientific & Engineering Practices
  - Disciplinary Core Ideas
  - Crosscutting Concepts
- The idea of change is scary
- Spiraling accomplishes multiple purposes:
  - Common foundation for all students
  - Building upon what we know has been taught
  - Imbuing the crosscutting concepts for preparation in all sciences



## Historically

- 6<sup>th</sup> Grade General Earth Science
- 7<sup>th</sup> Grade General Life Science
- 7<sup>th</sup> Grade Accelerated Science with a lab based on 6<sup>th</sup> Grade indicators
- 8<sup>th</sup> Grade General Physical Science
- 8<sup>th</sup> Grade Accelerated Science ending in Living Environment Regents
- **WHAT DOES THIS DO FOR THE STUDENTS IN THE HIGH SCHOOL?**



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## Accelerated had more opportunities

### Non Accelerated (Have nots)

- 9<sup>th</sup> grade – Biology
- 10<sup>th</sup> grade – Chemistry or Earth Science
- 11<sup>th</sup> grade – Physics
- 12<sup>th</sup> grade – Maybe an AP? Maybe an elective? Maybe no science?

### Accelerated (Haves)

- 9<sup>th</sup> grade - Chemistry
- 10<sup>th</sup> grade - AP Biology
- 11<sup>th</sup> grade - AP or Regents Physics
- 12<sup>th</sup> grade – AP Chemistry or AP Environmental Science



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## Under the new plan.....

- 6<sup>th</sup> and 7<sup>th</sup> grade Science Curriculum will be spiraled so that there is rich exposure to Life Science, Physical Science, and Earth Science before 8<sup>th</sup> grade
- No more accelerated 7<sup>th</sup> grade Science
- 8<sup>th</sup> grade choice:
  - Regents Earth Science OR
  - Regents Living Environment
- SSC – Culminates with NYS Science Assessment
- WHAT WILL THIS DO FOR THE STUDENTS IN THE HIGH SCHOOL?



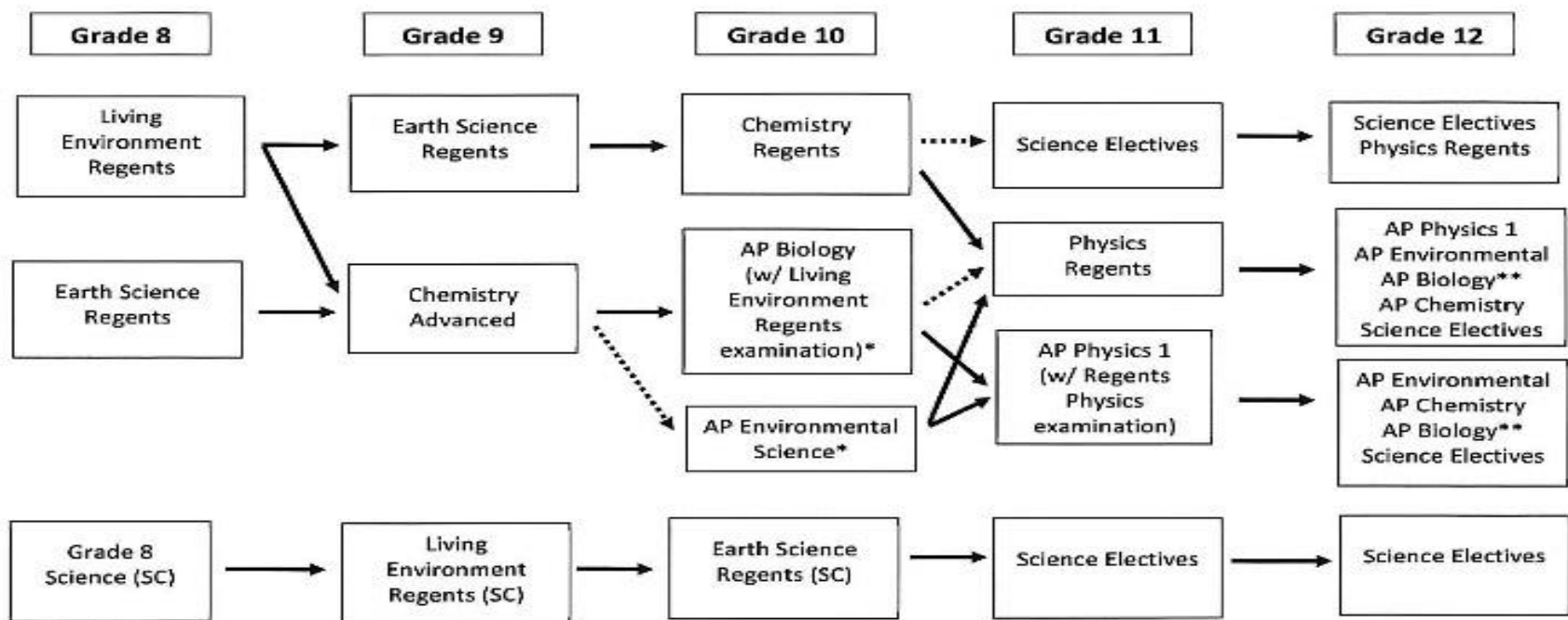
## Diversity of Pathways for All

### ALL STUDENTS.....

- 9<sup>th</sup> grade – Earth Science or Chemistry or Biology or AP Biology
- 10<sup>th</sup> grade – AP Biology or AP or Regents Chemistry
- 11<sup>th</sup> grade – AP or Regents Physics
- 12<sup>th</sup> grade – AP Chemistry or AP Environmental Science or Science Electives

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## Science Acceleration Pathway



\* If a student takes Living Environment Regents in Grade 8, and then Chemistry Advanced in Grade 9, it is recommended they take AP Environmental in Grade 10

\*\*Students who take Living Environment in Grade 8 can elect to take AP Biology as a junior or senior





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## How do we do this?

- Two year gradual move to this model
- Year one:
  - Intense curriculum mapping/writing for 6<sup>th</sup> and 7<sup>th</sup> grades
  - Professional Development in and out of SMS
  - Expand a few more 8<sup>th</sup> grade Regents sections to allow more students to challenge themselves
- Year two:
  - All 8<sup>th</sup> graders in either of two Regents paths

## How do we do this?

- Teacher buy-in is essential
  - Change our philosophy
  - Staff Development
    - District joined the Science Consortium
    - Look at most recent offerings
  - Visitations and Experts
  - Supportive Science Classes as Necessary
- Budget, Schedule, and Resources

## What are those other initiatives?

- Cessation of Literacy Workshop in grades 7 & 8 while maintaining it in 6<sup>th</sup> grade
- Full Year World Language in 7<sup>th</sup> Grade!
- Health moving in concert with Physical Education in 7<sup>th</sup> Grade
- Special Education getting ICT classes in Social Studies
- Special Education ICT classes layered over SSC classes to improve flexibility in scheduling to allow movement to least restrictive environment



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Not all change is bad!

**Science is a way of thinking  
much more than it is a body  
of knowledge.**

Carl Sagan