Science and Math
Parent/Student Info Night

March 4, 2019
Agenda

- MS Overview grades 6-8
- Acceleration
- Placement testing
- Course Overview
- On-Ramp
- H.S. Pathways and Graduation Requirements
Science Pathways: 6th - 8th grade

Science 6

Science 7

Science 7 Accelerated

Science 8

Regents

Biology

Regents Earth Science
Middle School Courses

- Grade 6 – Science practices and life science
- Grade 7 – Physical and Earth/Space
- Grade 8 – Physical (Chemistry/Physics)
New Science Standards

- New standards based on the Next Generation Science Standards
- Implementation is beginning
- New assessments starting in 2022 (2023 for Regents)
Accelerated Program

A couple of scientists had twins

They named one Justin and the other Control
HONORS ≠ ACCELERATION

**Honors** = enriched course
Same standards covered

Middle school honors ≠ High school credit
HONORS ≠ ACCELERATION

**Accelerated Courses** = courses taken earlier in the sequence

Accelerated 7 = grade 7 and grade 8 science standards

8th grade acceleration = Regents HS science class
Is Acceleration Right for Me?

“Students need to be prepared for the extra work and make sure this fits with their overall schedule and their ability to take care of their health and well-being”

Middleschoolcounselor.com
Acceleration Pros

- Designed for students that are highly motivated and excel in science and math.
- “Jump start” on high school classes in the middle school environment.
- Acceleration provides a greater scheduling flexibility for AP classes, electives, and other courses.
Acceleration Cons

- Lose one eighth grade elective due to Regents required lab period
- More academic pressure in 8th grade since the course will become a part of their high school transcript.

Time - how much is on your plate?

- Other commitments: other academic areas, sports, hobbies, etc.
- Do you have the time to commit to a high school class in 8th grade?
Important Note

Acceleration in the middle school is not a requirement for taking honors or advanced placement science classes at the high school.
Grade 6→7 Placement Criteria

★ 35% of ranking: A placement test
  March 13 - Excelsior and Red Springs
  March 14 Columbian and Hathorn
★ 35% of ranking: science midterm exam
★ 20% of ranking: math midterm
★ 5% Science average Marking Periods 1-2
★ 5% Teacher recommendation.
Science 7 Accelerated
Accelerated Courses - 7 Accelerated

Study of matter
- States of matter
- Physical and chemical changes of matter
- Elements, Compounds, Mixtures
- Atoms and the periodic table
- Chemical bonding

Study of physics
- Energy of motion
- Forces
- Types of energy

Science 8 Topics

Science 7 Topics
8th Grade Regents Recommendations

- Proficient reading and writing skills
- Self-motivation and independent learning skills;
- Ability to work collaboratively
- Strong organizational and time management skills
- Eagerness and enthusiasm to participate in all class activities
- 85 or higher test average in Science 7 Accelerated
- 85 or higher test average in Math 7 Accelerated or Math 7
Regents Science

June Regents exam is 20% of the overall average for the course

1500 minutes of required lab time (80 minutes periods every other day)

Grades impact High School GPA/rank on transcript
Course selection for Regents Science

- Students will register course preference online.
- If one course closes due to enrollment, registration will default to the alternate accelerated course.
- If necessary, 7 accelerated midterm results will be used to determine course preference priority.
- Students will be wait-listed and contacted if space in their preferred course becomes available.
- Course selection is due March 8.
HETEROZYGOATS

Just allele uneven.
BIOLOGY - THE ONLY SCIENCE WHERE MULTIPLICATION AND DIVISION MEAN THE SAME THING
Accelerated: Biology Regents

Understanding important biological relationships, processes and mechanisms, and the application of biological concepts.

- Scientific inquiry
- Cell structure/function
- Basic biochemistry
- Photosynthesis and respiration
- Mitosis and meiosis
- Genetics
- Protein synthesis
- Evolution
- Classification
- Body Systems
- Ecology
- Human impacts on the environment
Regents Bio Course Highlights

- Four NYS required labs assessed on Part D of the Regents
- Teacher created lab manual with hands-on activities
- Technology: Online textbooks, Castlearning, digital probes for real-time data collection
- Anatomy: Frog Dissection
- Lake George Field Trip
- Students that successfully complete Accelerated Regents Living Environment should be well prepared for their future high school science classes. Students typically take Regents Earth Science in 9th grade.
YOUR DAD'S BEEN UNDER A LOT OF PRESSURE LATELY.
PANGAEA
when the continents were cuddling.
Accelerated: Earth Science Regents

Study of the Earth and our surroundings in space from the present to the beginning of time

- Rocks and Minerals
- Weathering and Erosion
- Glaciology
- Plate Tectonics (earthquakes)
- Earth History (fossils)
- Weather
- Climate
- Oceanography and Coastal Processes
- Astronomy and Cosmology
Regents Earth Science Course Highlights

- Study the Earth by gathering and interpreting data.
- Create models from data that they have collected themselves, create actual maps, and then build three dimensional models.
- Fall field experiences at Spa State Park.
  - Geology and history
  - Students gather actual data and calculate the actual volume of water and materials that flow in Geyser Creek.
Earth vs Bio?

- Either course can come first because one is not a prerequisite for the other
- Each has some advantages with unique opportunities
- Some students may have a stronger interest in one branch of science making it an easier transition into a more rigorous high school science course
- No matter what course you take, you have one Regents science course completed which gives greater flexibility to take electives and advanced courses
On-Ramp

For students who are not accelerated in 7th grade

Students participate in a 10 day after-school institute for major standards and skills of 8th grade science (intro to chemistry)

May 6 - May 17

Students are then eligible to take Regents science in 8th grade
On-Ramp Placement Criteria

35% of ranking: A placement test
- March 13 - Columbian and Hathorn
- March 14 - Excelsior and Red Springs

35% of ranking: Science midterm exam

20% of ranking: 1st and 2nd quarterly math exam grades.

5% Science average Marking Periods 1-2

5% Teacher recommendation.
High School Pathways
High School Graduation Requirements

Advanced Regents

- 3 years of Science, at least one life science (Living Environment) and Physical Science (Earth Science, Chemistry, Physics)
- 2 Regents Exams (65 or higher, one physical, one life)

Regents Diploma

- 3 years of Science, at least one life science (Living Environment) and Physical Science (Earth Science, Chemistry, Physics)
- 1 Regents Exams (65 or higher)
If it moves
It's BIOLOGY

If it stinks
It's CHEMISTRY

If it doesn't work
It's PHYSICS
Traditional Pathway

Notes:
- Can still take 3-4 honors/AP courses in HS
- It is also possible to replace chemistry with AP Chemistry
- Doubling up in science is also possibility
- AP Biology or Chemistry also possible senior year
- Lots of science elective options- see H.S. course catalog!
Alternate Non-Acc Path

Notes:
Even without acceleration, it is possible to take honors or AP courses all four years of high school!
*Requires guidance/sci dept approval*
Notes:
- Could take PLTW Biomedical course in 9th along with Earth Science Regents
- Some students are taking AP Chemistry as their “first” chemistry course (must also take Regents exam)
Notes:

- Skips Earth Science (requires guidance/dept. approval)
- PLTW Biomedical program starting in 9th grade
- Very intense course path
- Acceleration in math would be strongly recommended
Some students are taking AP Chemistry as their “first” chemistry course (must take Regents exam and AP exam)
Science Research

- Three-year program
- Conduct a research investigation, write/present their findings.
- Opportunity to enroll in the University in the High School Program
- Can earn up to twelve (12) State University of New York credits.
PLTW: Biomedical Science

- PLTW-Principles of Biomedical Science is in its first year
- Potential four-year sequence:
  - Principles of Biomedical Science
  - Biomedical Interventions
  - Biomedical Innovation
- Must be enrolled concurrently in a Regents science and math class to take Principles in 9th grade
The program has three elements:

- College and career pathways that connect AP and PLTW courses
- Recognition for students who participate in the pathways, and recognition for schools (more info on website)
- A portfolio of career-focused opportunities for students
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<th>Level</th>
<th>Engineering</th>
<th>Biomedical Science</th>
<th>Computer Science</th>
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<td>College – AP</td>
<td>AP Biology</td>
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<td>AP Computer Science Principles</td>
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<td>AP Calculus AB</td>
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<td>AP Physics 1: Algebra-Based</td>
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<td>AP Physics C: Electricity and Magnetism</td>
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<td>Career – PLTW</td>
<td>Introduction to Engineering Design</td>
<td>Principles of Biomedical Science</td>
<td>Computer Science Essentials</td>
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<td>Principles of Engineering</td>
<td>Human Body Systems</td>
<td>Cybersecurity (Fall 2018)</td>
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<td>Aerospace Engineering</td>
<td>Medical Interventions</td>
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Websites about PLTW

- More info on Biomedical course: https://www.pltw.org/our-programs/pltw-biomedical-science
- More info on PLTW and AP
  https://www.pltw.org/our-programs/ap-pltw
Many other electives

Forensics
Astronomy
Environmental Science (HS and College Level)
Natural Disaster
Computer Science

See the high school catalog for more details!!
So many more possibilities!
Science Night 3/6/2019
6:30-8:30 pm
THANK YOU FOR LISTENING

PLEASE ASK QUESTIONS IF YOU LIKE
Pathways
For Maple Avenue
Students in Grades 6-8

Kurt Andress
March 5, 2018
Math 6

Math 7
Math 7 Accelerated

Math 8
Algebra I
Traditional Path - High School

8th Grade
Math 8

9th Grade
Algebra I

10th Grade
Geometry

11th Grade
Algebra II

12th Grade
Pre-Calculus/Calculus
Accelerated Path - High School

8th Grade: Algebra I
9th Grade: Geometry
10th Grade: Algebra II
11th Grade: Pre-Calculus
12th Grade: AP Calculus AB/BC
Math Acceleration at Grade 7

What factors into the decision?

1) Math Placement Test score (given March 20 or 21)
2) 6th Grade i-Ready January’s score
3) 6th grade math teacher Feedback form
4) 6th grade midterm exam score
Math On Ramp

For Top 7th grade students not in acceleration

1) Attend a mandatory 19-day intense program
   a. Covers necessary grade 8 topics necessary for success in Algebra I
   b. Meets after school from 2:30 – 4:30 pm
   c. May 20th through June 17th