

## Honors vs College Prep (CP) for Science

### Science:

Based on performance on the Science Placement Exam, incoming freshmen are eligible to place into the following classes. Students who want to re-take the placement exam may do so after completing the Summer Bridges Enrichment.

- Physical Science is a course where students learn essential foundational skills for their science education at Mullen High School.

### Physical Science CP

This two-part course includes the metric system, scientific notation, significant figures, measurement and analysis, the study of matter, the atomic structure, and the periodic table. Students perform hands-on laboratory experiments to investigate concepts studied in class. This is an excellent course to prepare students for subsequent chemistry courses. The second half includes topics of motion, forces, gravity, work, power, energy, simple machines, mechanical waves, and sound. Students perform hands-on laboratory experiments to investigate concepts studied in class. This is an excellent course to prepare students for subsequent physics courses.

- Homework: Based on building scientific math skills

### Physical Science Honors:

This two-part course moves at a faster pace than its CP counterpart does. Students are expected to demonstrate a good grasp of scientific notation, conversion of units, and algebraic manipulation of equations as they enter the class. Topics include the metric system, scientific notation, significant figures, measurement and analysis, the study of matter, the atomic structure, the periodic table, balancing equations, basic stoichiometry, acids and bases. Students perform hands-on laboratory experiments to investigate concepts studied in class. This is an excellent course to prepare students for subsequent chemistry courses. The second half of the course includes topics of motion, forces, gravity, work, power, energy, simple machines, mechanical waves, and sound. Students perform numerous hands-on laboratory experiments to investigate concepts studied in class. This is an excellent course to prepare students for subsequent physics courses.

- Homework: Focused in delving into more advanced Physical Science concepts

### What is the difference?

The pace, depth of the content learned, demonstrated scientific math skills, and the ability to learn and work independently.

### Biology Honors:

A two-part sequence follows a similar syllabus to the college-preparatory course with the major distinctions being pace and expectations. The student who successfully places into Honors Biology will be one who has a sufficient command of math including the metric system, they have well-established abilities in reading comprehension, their writing skills are age-appropriate and they have the important skills of independent thought and action. As with the college preparatory course, students will study the scientific method, the microscope, and introductory chemistry, chemistry of living things, cell structure and function, cell

processes and basic genetics. Student labs will be rigorous and will require technically correct reports. The second part of the course again follows the college preparatory curriculum with a quicker pace and more depth. The topics for the course include DNA and protein synthesis, evolution, ecology, toxicology, plant and animal structure and function. The significant project in the class involves dissection of a fetal pig: a course requirement.

- A Biology Honors student will demonstrate: reading comprehension, basic science content knowledge, mastery of scientific mathematics, the ability to read and interpret graphs and charts, critical thinking skills, the ability to work independently
- Homework: Detail-oriented and application-based. Students use critical thinking and advanced independent thought.

### Sample Math and Science 4-year Plans for students

|                    |                    |                                  |                              |   |
|--------------------|--------------------|----------------------------------|------------------------------|---|
| <b>TRADITIONAL</b> | 9 <sup>th</sup>    | 10 <sup>th</sup>                 | 11 <sup>th</sup>             | 12 <sup>th</sup>  |
|                    | Math               | Algebra I**                      | Geometry**                   | Algebra II**  |
| Science            | Physical Science** | Biology**                        | Chemistry**                  | Physics**, AP Bio, AP Chem or Science electives             |
| <b>ADVANCED*</b>   | 9 <sup>th</sup>    | 10 <sup>th</sup>                 | 11 <sup>th</sup>             | 12 <sup>th</sup>  |
|                    | Math               | Algebra I/Geometry or Geometry** | Algebra II**                 | Pre-Calc/Trig**   |
| Science            | Biology**          | Chemistry**                      | Physics**, AP Bio or AP Chem | Physics**, AP Bio, AP Chem, AP Physics or Science electives |

\*Must take the Math & Science Placement tests to be considered.

\*\* Math and Science H placements available in both tracks