Science: General Information

- **Notes on Requirements**
    - A minimum of two years of a laboratory science, including Chemistry 1 (semester) and Biology 1 (semester) is required for graduation. The Science Department also offers college-level Advanced Placement courses, open to selected seniors. Selection is by Departmental approval after considering a student's demonstrated high scientific aptitude and achievement. Seniors are given enrollment priority over qualified juniors.

    - Honors Courses: Biology 1 students who meet certain criteria may attempt to achieve an Honors designation. Honors Biology 2/Chemistry 2 and Honors Physics 1 are open only to selected students.

    - Please note that the selection criteria for Honors Biology 2/Chemistry 2 and Honors Physics encompass more than just the science grade from the previous year. As evaluated by a Departmental aptitude test, grades and effort in other subjects (particularly math and science), and teacher comments, students must have demonstrated (1) quick comprehension and insight; (2) strong problem-solving skills and the ability to make logical connections; (3) the ability to present well-reasoned arguments in a clear, organized fashion; (4) sound fundamental study skills and consistent motivation; and (5) good spatial-relation skills.

- **Chem/Bio/Bio/Chem Sequence**
    - Freshmen at Pingry will normally take our four-semester Chemistry/Biology sequence, which consists of Chemistry 1 in the fall of freshman year, Biology 1 in the spring of freshman year, Biology 2 in the fall of sophomore year, and Chemistry 2 in the spring of sophomore year. Descriptions of these courses are below. Students who are interested in science and have been successful in Chem 1 and Bio 1 are invited to register for Honors Bio 2/Chem 2. The Department will select students for this sequence from among registrants based upon criteria enumerated elsewhere. Students may earn an Honors designation in Biology 1 through the procedure described under "Notes on Procedures and Requirements."

    - Important Note: An alternative sequence is to take Conceptual Physics in freshman year, then the Chem/Bio/Bio/Chem sequence in sophomore and junior years. This sequence is strongly recommended for students who wish to develop their problem-solving and mathematical skills in a concrete environment before encountering the more abstract realm of chemistry. Students registered for Intermediate Algebra or Intermediate Algebra & Geometry during their freshman year should seriously consider this alternative, as should students with a math grade of B– or below in Form II.

- **The Pingry School Science Research Program**
    - The Pingry School is committed to providing students with the most relevant and realistic exposure to the world of science and research. Our core curriculum, elective courses, and extracurricular experiences work together to create a complete experience for students. All components of the program seek to expose students to scientific literature, encourage students to research answers to novel problems, think critically about experimental design, analyze data, and present their findings. Hands-on participation in lab is essential. Key components of the Pingry School Research Program include the S.M.A.R.T. Team Program, Independent Research Teams (IRT), Pingry Community Research Journal, fyi sci, and the Methods in Molecular Biology Research class. Each is headed by a member of the science faculty and targets a specific component of the overall research experience. Together, they serve to provide students with a comprehensive experience.