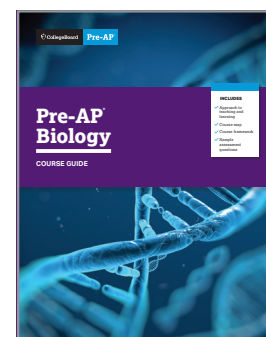




Pre-AP Biology and Pennsylvania Academic Standards for Science and Technology and Engineering Education: Alignment Summary

Pre-AP courses focus deeply on a limited number of concepts and skills with the broadest relevance for high school coursework and college and career success. The course framework serves as the foundation of the course and defines these prioritized concepts and skills.

When teaching a Pre-AP course, teachers have purposeful time and space to bring their own voice and lessons into each unit to best meet the needs of their students and address the full range of state standards. This alignment summary demonstrates the deep connections between the Pre-AP Biology Course Framework and the Pennsylvania Academic Standards for Science and Technology and Engineering Education to support teachers and schools in their planning. Along with the corresponding standards crosswalk, teachers and schools can use this alignment summary when planning and preparing to implement Pre-AP Biology.



Alignment at a Glance: Very Strong

Pennsylvania Academic Standards for Science and Technology and Engineering Education:



- Organisms and Cells
- Evolution
- Genetics

Discipline Highlights



Overall, the alignment between the Pre-AP Biology Course Framework and the Pennsylvania Academic Standards for Science and Technology and Engineering Education is very strong.



All three of the organizing categories of the Pennsylvania Academic Standards for Science and Technology and Engineering Education are addressed in full or in part by the Pre-AP Biology Course Framework.



The Pennsylvania Academic Standards for Science and Technology and Engineering Education and the Pre-AP framework share the deepest alignment within the Organisms and Cells organizing category, and specifically within the strands of Common Characteristics of Life, Energy Flow, Life Cycles, Cell Cycles, Organization, and Molecular Basis of Life.



= **Very strong alignment**



= **Partial alignment**

Alignment between the Pre-AP Biology Course Framework and the Pennsylvania Academic Standards for Science and Technology and Engineering Education is described as *very strong* or *partial*. A *very strong* alignment is one in which the majority of standards are fully addressed by the mapped Pre-AP Learning Objectives (LOs). A *partial* alignment is one in which the standards are partially addressed by the corresponding Pre-AP Learning Objectives. Partial alignment can occur when one framework includes greater specificity or extends beyond the scope of the other framework. Given the focused nature of the Pre-AP course framework, some partial alignments are to be expected.

Alignment at a Glance: Partial

Discipline Highlights



While the overall alignment between the Pennsylvania Academic Standards for Science and Technology and Engineering Education and the Pre-AP Biology Course Framework is very strong, there are a few areas of partial alignment due to the more granular nature of some of the Pennsylvania Academic Standards for Science and Technology and Engineering Education.



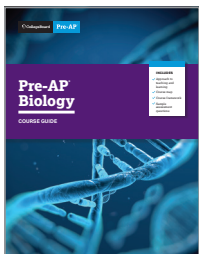
For example, Pennsylvania Academic Standards for Science and Technology and Engineering Education 3.1.B.A5 asks students “to explain the role of water in cell metabolism.” While the Pre-AP Biology Course Framework does ask students to explain the roles of different structures of cells in metabolic functions, the framework does not ask students about the role of water in those functions.



Similarly, Pennsylvania Academic Standards for Science and Technology and Engineering Education 3.1.B.B2 asks students to “compare and contrast the function of mitosis and meiosis.” While the Pre-AP Biology Course Framework asks students to describe and explain each function in detail (e.g., create and/or use models to explain how chromosome number is halved during meiosis; create and/or use models to explain the phases of mitosis), the Pre-AP framework does not specifically ask students to compare and contrast these functions.

Summary

Beyond alignments to the course framework, it is also important for educators to turn to the Pre-AP Shared Principles and Pre-AP Science Areas of Focus to understand the full picture of alignment between Pre-AP Biology and the Pennsylvania Academic Standards for Science and Technology and Engineering Education. The shared principles and areas of focus represent the Pre-AP approach to teaching and learning, and these principles deeply address skill development and disciplinary practices that cannot be easily captured within a standards crosswalk. **In summary, there are ample opportunities for teachers to address the Pennsylvania Academic Standards for Science and Technology and Engineering Education with confidence throughout this course.**



Learn more about Pre-AP Biology at preap.org