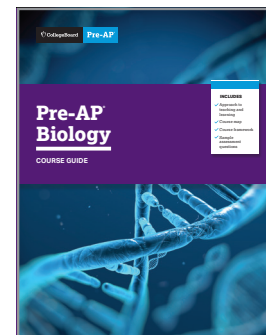




Pre-AP Biology and Indiana Academic Standards for Science: Alignment Summary

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 Indiana Academic Standards for Science 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

IN Biology Science Standards:



- **Standard 1: Cellular Structure and Function**
- **Standard 2: Matter Cycles and Energy Transfer**
- **Standard 3: Interdependence**
- **Standard 4: Inheritance and Variation in Traits**
- **Standard 5: Evolution**

Discipline Highlights

- ✓ Overall, the alignment between the Pre-AP Biology Course Framework and the Indiana Academic Standards for Science is very strong.
- ✓ Across all five strands of the Indiana Academic Standards for Science, the majority of standards are fully addressed by the Pre-AP course framework.
- ✓ Standards 1, 3, and 4 in the IN Biology Science Standards are deeply aligned and fully addressed by the Pre-AP course framework.
- ✓ IN Biology Science Standards 2 and 5 are aligned fully or in part.



= **Very strong alignment**



= **Partial alignment**

Alignment between the Pre-AP Biology Course Framework and the Indiana Academic Standards for Science is described as *very strong* or *partial*. A *very strong* alignment is one in which the majority of the 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.

Discipline Highlights



While the overall alignment between the Indiana Academic Standards for Science and the Pre-AP Biology framework is very strong, there are some expected areas of partial alignment or gaps in alignment due to differences in levels of specificity between the frameworks in certain areas.



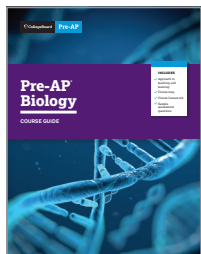
Indiana's Biology Science Standards at times include greater specificity than the Pre-AP LOs and Essential Knowledge frameworks. For example, IN standard B.2.3 asks students to use "mathematical and/or computational representations" to "support claims" about the cycling of matter and energy flow within an ecosystem. While the Pre-AP Biology framework does not include using mathematical and computational representations to make claims about the cycling of matter and energy flow within an ecosystem, the broader expectation of using representational models to illustrate the same concepts is addressed in a number of Pre-AP Learning Objectives, such as ECO 1.2(b), "Create and/or use models to illustrate how organisms' capture and use of energy plays a role in the cycling of carbon in ecosystems," and ECO 2.3(a), "Create and/or use models to explain the transfer of energy through the food web of a community."



Similarly, Indiana's Biology Science Standard B.5.1 contains a more granular statement than the related Pre-AP Learning Objective and Essential Knowledge framework. IN standard B.5.1 calls for the evaluation of "anatomical and molecular evidence" to explain evolutionary relationships and taxonomic categories. The related Pre-AP Learning Objective EVO 1.1(a), "Use scientific evidence to justify a claim of an evolutionary relationship between species," covers the same broad concept, but is counted as partial because it only asks students to justify claims of an evolutionary relationship, and not to further explain taxonomic categories based upon those claims.

Summary

Beyond alignments to the Pre-AP 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 Indiana Academic Standards for Science. 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 Indiana Academic Standards for Science with confidence throughout this course.**



Learn more about Pre-AP Biology at preap.org