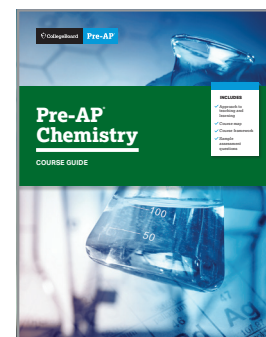




Pre-AP Chemistry and Indiana Science and Engineering Process Standards: Alignment Summary

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 Chemistry Course Framework and the Indiana Science and Engineering Process Standards 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 Chemistry.



Alignment at a Glance: Very Strong

Indiana Science and Engineering Process Standards:



- Properties and States of Matter
- Reactions of Gases
- Bonding and Molecular Structure
- Thermochemistry
- Solutions
- Acids and Bases

Discipline Highlights

- ✓ Overall, the alignment between the Pre-AP Chemistry Course Framework and the Indiana Science and Engineering Process Standards is very strong.
- ✓ Across all eight standards of the Indiana Science and Engineering Process Standards, the majority of the performance indicators are addressed in full or in part by the Pre-AP framework.
- ✓ The Indiana Science and Engineering Process Standards and the Pre-AP Chemistry Course Framework share the deepest alignment within the Properties and States of Matter and Bonding and Molecular Structure concepts.



= **Very strong alignment**



= **Partial alignment**

Alignment between the Pre-AP Chemistry Course Framework and the Indiana Science and Engineering Process Standards 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

Indiana Science and Engineering Process Standards:



- Atomic Structure and the Periodic Table
- Reactions and Stoichiometry

Discipline Highlights



While the overall alignment between the Indiana Science and Engineering Process Standards and the Pre-AP Chemistry framework is very strong, there are a few areas of partial alignment due to the more granular nature of some of the Indiana Science and Engineering Process Standards.



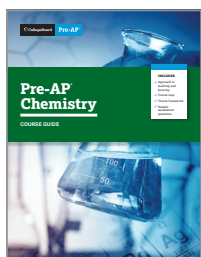
The Indiana Science and Engineering Process Standards sometimes include more detailed language than the Pre-AP learning objectives. For example, in the Reactions and Stoichiometry standard, code C.4.1, the performance indicator states, "Describe, classify, and give examples of various kinds of reactions: synthesis (i.e., combination), decomposition, single displacement, double displacement, acid/base, and combustion." Although the Pre-AP LOs address most of these types of reactions they do not specifically address combustion, so the standard was given a partial rating.



The Indiana Science and Engineering Process Standards include topics about nuclear changes, fission, fusion, transmutations, and isotopes that are not directly addressed by the Pre-AP framework. Despite the lack of an explicit match, however, these topics can be addressed using several compelling examples during instruction.

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 Chemistry and the Indiana Science and Engineering Process Standards. 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 Science and Engineering Process Standards with confidence throughout this course.**



Learn more about Pre-AP Chemistry at preap.org