

High Level Crosswalk between the College Board Standards for College Success (non-Advanced Placement) and the Secondary Colorado Academic Standards

Science		
	CAS (2009)	College Board (2009)
Broad domains within the standards	<ul style="list-style-type: none"> • Physical Science • Life Science • Earth Science <p><i>Note: Nature of Science (scientific practices) are embedded within each of the strands/domains and called out in a separate section</i></p>	<ul style="list-style-type: none"> • Unifying Concepts • Science Practices • Science, Technology and Society • Earth Science • Life Science • Physical Science • Chemistry • Physics <p><i>Note: NGSS (2013) uses Cross-cutting Concepts, Science and Engineering Practices, Earth and Space Science, Life Science, Physical Science, and Engineering Design</i></p>
Orientation of the standards	<ul style="list-style-type: none"> • 6th • 7th • 8th • HS (9-12) 	<ul style="list-style-type: none"> • 6-8 grade band • HS (9-12) <p><i>Note: NGSS uses this same banding</i></p>
Framework	Standard PGC GLE E.O. N.S.	Standard Objective Performance Expectation Essential Knowledge
Alignment to Other National Standards	<ul style="list-style-type: none"> • The CAS is written around concepts and skills that should lead to better application and transfer of understandings. 	<ul style="list-style-type: none"> • BOTH NGSS and CB are written around concepts and skills that should lead to better application and transfer of understandings. • NGSS aligns greatly with CB, but just reorganizes information within the framework differently.

		<ul style="list-style-type: none"> • NGSS and CB BOTH state the standard using a code and an overarching idea/topic of each discipline. For example, CB uses: Standard LS.4, Matter and Energy. NGSS uses: 4-LS1, From Molecules to Organisms: Structures and Processes. • BOTH NGSS and CB use a combined method within the standards (i.e., Concepts, Science and tech practices, Core ideas within the strands of science). • CB uses the following “Unifying Concepts” <ol style="list-style-type: none"> 1. Evolution 2. Scale 3. Equilibrium 4. Matter and Energy 5. Interaction 6. Form and Function 7. Models as Explanations, Evidence and Representations • NGSS uses the following “Cross-Cutting Concepts” <ol style="list-style-type: none"> 1. Patterns 2. Cause and Effect 3. Scale, Proportion, and Quantity 4. Systems and System Models 5. Energy and Matter in Systems 6. Structure and Function 7. Stability and Change of Systems • NGSS uses the following Science and engineering Practices: <ol style="list-style-type: none"> 1. Asking questions and defining problems 2. Developing and using models 3. Planning and carrying out investigations 4. Analyzing and interpreting data 5. Using mathematics and computational thinking 6. Constructing explanations and designing solutions 7. Engaging in argument from evidence 8. Obtaining, evaluating, and communicating information • CB uses the following Science Practices stated as standards: <ol style="list-style-type: none"> 1. Asking scientific questions that can be tested empirically...
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Content Gap Analysis	<p>CB has more items around evolution than the CAS CB has items around principles of behavior, social biology, science and technology, and physics CAS had more items around active and passive transport explicitly</p>	
General Observations	<p>All three sets of standards (CAS, CB, NGSS) use concepts and skills as the basis for their standards, however CB and NGSS are more explicit with their skills (science practices) and they both use cross cutting concepts. Also, CB and NGSS had a much tighter vertical alignment using topics within the standard statement to unify performance expectations. Although the <i>K-12 Framework for Science Education</i> was published in 2011 (used to develop the NGSS), there are many parallels between that and the CB standards from 2009.</p>	

References

The College Board (2009). *College Board Standards for College Success: Science*. New York: The College Board.

CDE (2009). *Colorado Academic Standards for Science*. Denver: The Colorado Department of Education.