

## Crosswalk: Previous versus New Physics 6-12 Standards

### General Information about this Revision:

- The structure has changed to include Professional Skills indicators rather than the previous Performance indicators.
- The previous standards only had indicators listed in each standard while the new standards are broken down by Functions and then have the two types of indicators within each Function.
- The new Physics standards are significantly different enough from the previous standards that a standard by standard crosswalk is not helpful. In the chart below, the new standards are presented in the first column for reference purposes. The previous standards are presented in the middle column with notations to the right.
- The new Physics standards are focused on specific content knowledge, problem solving skills, and teaching techniques and technology.

### New Standard 1

PREVIOUS STANDARDS	NEW STANDARDS	WHAT CHANGED?
<p>Standard #4 The teacher of physics demonstrates an understanding of the nature of inquiry and the ability necessary to help students do scientific inquiry.</p> <p>Standard #6 The teacher of physics demonstrates an understanding of science as a human endeavor, of the nature of science, and of science from historical perspectives.</p>	<p><b>Standard 1: Content Pedagogy: Effective science teachers understand how students learn and develop science concepts and practices. They incorporate disciplinary core ideas, scientific and engineering practices, and crosscutting concepts into instruction.</b></p>	<p>Old Standards 4 and 6 are subsumed into New Standards 1 and 2.</p>

### New Standard 2

PREVIOUS STANDARDS	NEW STANDARDS	WHAT CHANGED?
<p>Standard #4 The teacher of physics demonstrates an understanding of the</p>	<p><b>Standard 2: Learning Environments: Teachers work with students and others to</b></p>	<p>Old Standards 4, 6, and 8 are subsumed into New Standard 2.</p>

<p>nature of inquiry and the ability necessary to help students do scientific inquiry.</p> <p>Standard #6 The teacher of physics demonstrates an understanding of science as a human endeavor, of the nature of science, and of science from historical perspectives.</p> <p>Standard #8 The teacher of physics demonstrates an understanding of and an ability to teach science effectively.</p>	<p><b>create and manage environments that support learning.</b></p>	
<h3>New Standard 3</h3>		
<p><b>PREVIOUS STANDARDS</b></p>	<p><b>NEW STANDARDS</b></p>	<p><b>WHAT CHANGED?</b></p>
<p>Standard #12 The teacher of physics designs and manages safe and supportive learning environments.</p>	<p><b>Standard 3: Safety: Effective teachers of science demonstrate and implement safety procedures, material safety practices, and the ethical treatment and use of living organisms (appropriate to their area of licensure).</b></p>	<p>Old Standard 12 is subsumed into New Standards 3 and 5.</p>
<h3>New Standard 4</h3>		
<p><b>PREVIOUS STANDARDS</b></p>	<p><b>NEW STANDARDS</b></p>	<p><b>WHAT CHANGED?</b></p>
<p>Standard #8 The teacher of physics demonstrates an understanding of and an ability to teach science effectively.</p> <p>Standard #11 The teacher of physics assesses students' educational progress through a variety of methods.</p>	<p><b>Standard 4: Impact on Student Learning: Science teachers provide evidence that students' understanding of disciplinary core ideas, science and engineering practices, and crosscutting concepts have increased in sophistication as a result of instruction. Candidates provide evidence</b></p>	<p>Old Standards 8 and 11 are subsumed into New Standard 4.</p>

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	representative of the entire population they teach.	
<b>New Standard 5</b>		
<b>PREVIOUS STANDARDS</b>	<b>NEW STANDARDS</b>	<b>WHAT CHANGED?</b>
<p>Standard #12 The teacher of physics designs and manages safe and supportive learning environments.</p> <p>Standard #13 The teacher of physics improves teaching through ongoing professional practice.</p>	<p><b>Standard 5: Professional Knowledge and Skills: Effective science teachers are aware of and engage in professional development opportunities to continually improve their knowledge and understanding of science content and pedagogy. They conduct themselves as part of the science education community.</b></p>	<p>Old Standards 12 and 13 are subsumed into New Standard 5.</p>
<b>New Standard 6</b>		
<b>PREVIOUS STANDARDS</b>	<b>NEW STANDARDS</b>	<b>WHAT CHANGED?</b>
<p>Standard #5 The teacher of physics demonstrates an understanding of the basic relationships between science and technology.</p> <p>Standard #7 The teacher of physics demonstrates an understanding of the concepts and processes unifying science domains.</p> <p>Standard #9 The teacher of physics enacts a science curriculum that integrates content within the sciences and among other disciplines.</p> <p>Standard #11 The teacher of physics assesses students' educational progress</p>	<p><b>Standard 6: Engineering, Technology, and the Applications of Science: The teacher demonstrates an understanding of concepts and practices of engineering, technology, and the applications of science in developing instruction for students.</b></p>	<p>Old Standards 5, 7, 9, 11, and 13 are subsumed into New Standard 6.</p>

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through a variety of methods.		
Standard #13 The teacher of physics improves teaching through ongoing professional practice.		
<b>New Standard 7</b>		
<b>PREVIOUS STANDARDS</b>	<b>NEW STANDARDS</b>	<b>WHAT CHANGED?</b>
Standard #1 The teacher of physics demonstrates an understanding of the relationships between motions and forces.  Standard #3 The teacher of physics demonstrates an understanding of the basic interactions of matter and energy.	<b>Standard 7: Motion, Forces, Energy, &amp; Heat: The physics teacher demonstrates a solid grasp of the classical mechanics of particles and fluids and thermal physics.</b>	Old Standards 1 and 3 are subsumed into New Standard 7.
<b>New Standard 8</b>		
<b>PREVIOUS STANDARDS</b>	<b>NEW STANDARDS</b>	<b>WHAT CHANGED?</b>
Standard #1 The teacher of physics demonstrates an understanding of the relationships between motions and forces.  Standard #2 The teacher of physics demonstrates an understanding of the conservation of mass and energy, and that the overall disorder of the universe is increased during every chemical and physical change.  Standard #3 The teacher of physics demonstrates an understanding of the basic interactions of matter and energy.	<b>Standard 8: Electricity and Magnetism: The physics teacher demonstrates a solid grasp of electricity and magnetism.</b>	Old Standards 1, 2, and 3 are subsumed into New Standards 8 and 9.

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## New Standard 9

PREVIOUS STANDARDS	NEW STANDARDS	WHAT CHANGED?
<p>Standard #1 The teacher of physics demonstrates an understanding of the relationships between motions and forces.</p> <p>Standard #2 The teacher of physics demonstrates an understanding of the conservation of mass and energy, and that the overall disorder of the universe is increased during every chemical and physical change.</p> <p>Standard #3 The teacher of physics demonstrates an understanding of the basic interactions of matter and energy.</p>	<p><b>Standard 9: Curricular Content Knowledge in Modern Physics: The teacher of physics demonstrates understanding of basic concepts and applications of 20th century discoveries in the fundamental views of space, time, and the wave nature of matter, collectively termed Modern Physics.</b></p>	<p>Old Standards 1, 2, and 3 are subsumed into New Standards 8 and 9.</p>

## New Standard 10

PREVIOUS STANDARDS	NEW STANDARDS	WHAT CHANGED?
<p>Standard #5 The teacher of physics demonstrates an understanding of the basic relationships between science and technology.</p> <p>Standard #10 The teacher of physics understands how to relate science to the daily lives and interests of students and to a larger framework of human endeavor and understanding.</p>	<p><b>Standard 10: General Science, Engineering, &amp; Technology: The physics teacher demonstrates an understanding of the cross curricular ties between physics, life science, earth science, engineering, and technology.</b></p>	<p>Old Standards 5 and 10 are subsumed into New Standard 10.</p>