

<b>Arizona Science Standard (2004)</b> <b>Introduction</b>	<b><i>A Framework for K-12 Science Education</i></b> <b>Summary and Vision</b>
<p><b>The Science Standard was written for ALL K-12 students</b> (page viii)</p>	<p>ALL students have appreciation of the beauty and wonder of science; possess sufficient knowledge of science and engineering .... (page 1)</p> <ul style="list-style-type: none"> <li>• All students need to be provided with equitable opportunities to learn science (page 28-29)</li> </ul>
<p><b>Science instruction must begin at the early grades and progress to more sophisticated understandings at higher grades</b> (page viii)</p> <ul style="list-style-type: none"> <li>• Concepts are designed to spiral or scaffold across grades within a larger grade band (pages xx-xxi)</li> <li>• Major science concepts/understandings need to be developed over an entire K-12 education (page viii)</li> </ul>	<p><b>Students continually build on and revise their knowledge and abilities over multiple years</b> (page 2)</p> <ul style="list-style-type: none"> <li>• Understanding develops over time (page 26)</li> <li>• Student proficiency in science develops in a coherent way across grades K-12 following the logic of learning progressions (page 33)</li> </ul>
<p><b>The Science Standard was designed for three-dimensional instruction</b></p> <ul style="list-style-type: none"> <li>• The six strands and five unifying concepts are intended to be taught together, to represent the true nature of science (page x)</li> <li>• Unifying concepts develop across all grades, connect science disciplines, and connect science to other disciplines (page viii)</li> <li>• Strands 4, 5, and 6 are not intended to be taught in isolation; Strands 1, 2, and 3 are designed to be taught and embedded within each of the content strands (page x)</li> </ul>	<p><b>Science education in grades K-12 is built around three major dimensions</b> (page 2)</p> <ul style="list-style-type: none"> <li>• To facilitate learning, the three dimensions must be woven together in standards, curricula, instruction, and assessment (pages 29-33)</li> </ul>
<p><b>The Science Standard was designed to build conceptual understanding of core ideas and practices in science</b></p> <ul style="list-style-type: none"> <li>• The core ideas associated with each strand are summarized (pages xi- xii)</li> <li>• Each strand is divided into concepts; the core idea of each concept is summarized (pages xiii-xviii)</li> <li>• Performance objectives provide specific knowledge and skills to build deeper understanding of the concepts and/or strands</li> <li>• Performance objectives may be combined and taught in any order; teachers should decide how to best organize the content to meet the needs of their students (page x)</li> </ul>	<p><b>Students, over multiple years of school, actively engage in science and engineering practices and apply crosscutting concepts to deepen their understanding of each field's disciplinary core ideas</b> (page 2)</p> <ul style="list-style-type: none"> <li>• Focus on core ideas and practices (page 25)</li> <li>• Science and Engineering require both knowledge and practice (pages 26-28)</li> </ul>
<p><b>Teachers are encouraged to integrate writing, math, social studies, technology and other academic standards with the Science Standard</b> (page xii)</p>	<p><b>Classroom learning experiences in science need to connect with students' interests and experiences</b> (page 28)</p>

