

Technology Applications Content Advisor Consensus Recommendations

Concepts/Areas	Recommendations
Structure/organization	<p>Use the Computer Science Teachers Association (CSTA) standards as a guiding principle for the strands.</p> <p>Strands:</p> <ul style="list-style-type: none"> • Computing systems • Networks and the internet • Data and analysis • Algorithms and programming • Impacts of computing <p>Rationale: Using the CSTA standards prepares students for future job openings.</p> <p>House Bill 2984, 86th Legislative Session, 2019, requires that coding, computer programming, computational thinking, and cybersecurity are included in the Texas Essential Knowledge and Skills (TEKS) for technology applications for kindergarten through grades 8. It also requires the SBOE to revise the TEKS every five years to ensure that the standards are relevant to student education and align current or emerging professions.</p> <p>The CSTA standards put an emphasis on technical learning; however, the content advisors would like to advise work groups to use the International Society for Technology in Education (ISTE) standards as the conceptual framework within the strands.</p>
Conceptual Framework	<p>Incorporate the ISTE concepts and practices and the CSTA process standards within the recommended standards.</p> <p>Rationale: ISTE standards are conceptual. The CSTA standards are process oriented. Work groups should find a way to marry the two and reinforce the conceptual framework within the new recommended standards.</p>

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Realignment of current standards	<p>Content advisors recommend reorganizing the content in the current standards into the new strands before completely rewriting the standards. The content advisors are not recommending the work groups completely start over.</p> <p>This process will enable work groups to identify where there are gaps and concepts that need to be reinforced.</p>
Separation of grade bands	<p>Develop differentiated standards by grade level, not by grade band.</p> <p>Rationale: Using data from the survey, the content advisors recognize the need for specific concepts that should be mastered before students move on to the next grade level.</p>
Strand Names	<p>Content advisors would like the strand names to be identified at the beginning of each knowledge and skills statement.</p>
Vertical alignment	<p>The content advisors recommend using the CSTA progression chart.</p> <p>Rationale: Using the progression chart as the basis for writing the new standards supports vertical alignment.</p>

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Introduction	<p>In the introduction, revise the first paragraphs to indicate that technology applications curriculum has five strands based on the Computer Science Teacher Association (CSTA) and performance indicators developed by the International Society for Technology in Education (ISTE). Additionally, remove references to "NET·S."</p> <p>Standards can all be taught within other subject areas. Place these sentences in all grade levels: "Districts have the flexibility of offering technology applications in a variety of settings. Districts are encouraged to offer technology applications in all content areas. This content may also be offered in a specific class while being integrated in all content areas."</p> <p>Reinforce that the conceptual framework of the ISTE should be woven through the strands.</p> <p>Reinforce the idea that the standards are written so that teachers have the flexibility to incorporate new and emerging technologies.</p>
Emerging technologies	<p>Knowing that technology is ever-changing, work groups should consider wording that indicates the flexibility to incorporate new and emerging technologies.</p> <p>Advise against using specific technologies or devices to allow for the flexibility to accommodate new and emerging technologies.</p>
Digital citizenship	<p>Expand the definition of digital citizenship to include not just online etiquette, but behaviors related to cybersecurity, which can be addressed in the CSTA strands of Networks and the Internet (cybersecurity) and Impacts of Computing (digital etiquette).</p> <p>The following topics should be addressed:</p> <ul style="list-style-type: none"> • Passwords • Safe spaces • Cyberbullying • Cybersecurity • Intellectual property • Website usage • Digital footprints

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Resources	<p>Content advisors recommend using the following resources:</p> <p>CSTA Standards: https://csteachers.org/documents/en-us/d227e2a4-ce35-434e-a20b-24355d11b015/1/</p> <p>ISTE Standards: https://www.iste.org/standards/iste-standards-for-students</p> <p>Washington state standards: https://www.k12.wa.us/sites/default/files/public/edtech/standards/pubdocs/k-12-edtech-standards-complete-2018.pdf</p>