K-8 Computer Science Standards

The Background:

Computer science is one of the fastest-growing industries and computer programmers are needed within every field, including healthcare, transportation, and banking. Although not every Tennessee student will enter a STEM field, all students will benefit from learning computer science concepts and practices allowing them to better understand the world around them, improve their logical reasoning and problem-solving skills, and increase their creativity and collaboration.

The existing K-8 technology standards were last revised in 2011. In October 2017, applicants were selected to form an eight-member committee of classroom and technology educators to revise the current K-8 technology standards. The standards writing committee collaborated in a series of in-person and virtual meetings to develop the draft standards utilizing the K-12 Computer Science Framework. Consideration was given to make connections to the Tennessee Academic Standards in math, ELA, science, and social studies. The reviewers also developed vertical progression components to prepare for high school and post-secondary computer science course work.

The draft standards were released for public feedback on the State Board website at the beginning of March 2018. A compilation of feedback was reviewed by the standards writing committee and department content specialists, including math, science, and CTE coordinators. Based on public feedback, revisions were made to provide clarity to the structure and content of the standards.

These draft K-8 computer science standards are divided into six major strands, with each strand developing from one grade level to the next and extending into a student's high-school course work. The five digital readiness strands (**Foundational Concepts and Operations** (FCO), **Analytical and Innovative Thinking** (AIT), **Information Storage and Access** (ISA), **Communication and Collaboration** (CC), and **Digital Citizenship** (DC)) are not meant to be taught in isolation; rather, they should be integrated within grade-level content areas with a goal of cultivating empowered learners throughout their academic career. A sixth strand, **Coding and Computer Programming** (CCP), should be addressed through explicit instruction and time dedicated to computer science. The Tennessee K-8 Computer Science Standards lay a foundation that enables students to be workforce and post-secondary ready in a continuously evolving technological world.

The Recommendation:

The Department of Education recommends acceptance of this item on first reading. The SBE staff concurs with this recommendation.