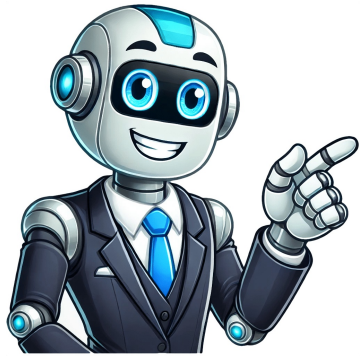


Click to verify







## Tennessee standards for math

The Tennessee State Board of Education unanimously approved new academic standards for Mathematics and English Language Arts after a multi-year public review process. The Standards Recommendation Committee oversaw the revision, incorporating feedback from educators, parents, and stakeholders. The new standards set grade-specific goals, outlining what students should know and be able to do by the end of each grade or course. Fielding Rolston, chairman of the State Board, praised the collaborative effort, expressing gratitude for public input. The revised standards were refined based on feedback from multiple review periods and expert reviews. The Tennessee Department of Education provides various resources for input on standards, including materials from subject matter experts and the public, found at [tn.gov/standards](#). These resources aim to align with the state's academic standards, covering content areas like English language arts, career readiness, and more. Notably, some resources may reference outdated standards or assessments; educators should use their discretion when evaluating these materials. As you navigate through a challenging task or problem, it's essential to make sense of what you're doing. Ask yourself if your approach makes sense, and be willing to modify it as needed. This means being open to learning from mistakes and using them as opportunities for growth. When solving problems, try to see the connections between different ideas and representations. Understand that quantities have meaning in a given context, so choose a representation that reflects this. Use manipulatives and concrete objects to help you understand concepts better, then move on to pictorial and abstract representations as your understanding progresses. To develop your problem-solving skills, work through problems that allow for multiple strategies and solutions. Don't be afraid to ask questions or seek help when needed. Pay attention to the units involved in a problem situation and choose a representation that makes sense based on that context. As you learn and grow, remember that it's okay to make mistakes. In fact, mistakes can provide valuable learning opportunities. Use counterexamples to test arguments, and analyze the reasoning of others by asking probing questions. Compare different plausible arguments and recognize errors as a chance to correct them. To incorporate these mathematical practices effectively in your classroom, establish an environment where students feel comfortable asking questions and sharing their work. Encourage students to learn from their mistakes and view error as an opportunity for growth. Efficient methods require teachers to guide students in developing justification skills, comparing responses with peers', and applying prior knowledge to model real-world problems. Modelers apply math tools like diagrams, tables, graphs, flowcharts, formulas, and assumptions to represent situations, gather data, or determine method suitability. They ensure answers make sense within a context and possibly revise models. Teachers should provide opportunities for students to create concrete and abstract models, perform investigations, and justify their choices. Students can also see connections among different models. Mathematicians strategically use tools like manipulatives, calculators, statistical software, protractors, rulers, compasses, and others based on specific situations. They identify and utilize external resources, detect errors through estimation and math knowledge, and visualize problems to solve them efficiently. Teachers should model the use of appropriate tools, provide choices, and discuss student decisions. Mathematicians attend to precision by communicating understanding clearly using proper math language, defining terms accurately, calculating efficiently, labeling diagrams precisely, and identifying symbols, quantities, and units. Teachers should consistently model precise math language and symbols, set expectations for solution precision, and help students understand when estimates are suitable. Mathematicians look for and make use of structure by recognizing patterns, relationships, and connections among mathematical concepts to solve problems effectively. They use this skill to generalize formulas, identify functions, and apply math to real-world situations. Teachers should provide opportunities for students to develop this skill by identifying structures, making connections, and applying math to everyday life. Patterns and Structures are Essential in Math Problem-Solving Recognizing patterns, structures, and relationships within quantities, processes, and expressions is vital in math problem-solving. Teachers should encourage students to look for these patterns, not just apply given rules or structures. This means helping them identify key features, such as characteristics of shapes or the effect of adding numbers in a different order. Patterning activities also support attention to structure. Teachers can ask young children to identify repeating parts in a pattern and older children to figure out a rule for predicting new instances in growing patterns or function tables. Mathematically proficient students notice regularity in repeated reasoning, such as repeated calculations or processes, and look for general methods and shortcuts. As they work on problems, these students maintain oversight of the process while attending to details. They continually evaluate the reasonableness of intermediate results and build on prior learning to make and apply generalizations to new situations. To incorporate these skills effectively in the classroom, teachers should present opportunities to reveal patterns or repetition in thinking, connect new tasks to prior concepts, and ask for predictions about solutions at midpoints throughout the solution process. The main focus should be on helping students grasp the math content standards by participating in complex and challenging problems that embody the required skills and thought processes.