Tennessee Department of Education
6-12 English Language Arts and Mathematics Guidelines

The Tennessee Department of Education supports a comprehensive and cohesive English Language Arts (ELA) and mathematics program of study for all 6-12 students. Programs should be consistent with the Common Core State Standards (CCSS) and utilize current research in best practices for ELA and mathematics instruction. The overall Department goal is to inform and improve 6-12 instruction and build on the foundation laid in K-5 for all students to become college- and career-ready in literacy and mathematics.

6-12 ELA and Mathematics Guidelines address student rights to high quality literacy, including written expression, and mathematics instruction.

- Students 6-12 must be taught by highly skilled educators who are content-level experts trained in the teaching of ELA and mathematics and who have demonstrated instructional proficiency.
- Students 6-12 must receive grade level ELA instruction that is explicit and systematic, while being given increasing opportunities to explore texts and topics through reading, writing, and research independently.
- Students 6-12 must receive grade level mathematics instruction that is explicit and systematic. Such instruction should lead to closing learning gaps to maintain or move beyond grade level expectations.
- Students 6-12 who continue to struggle in literacy, including written expression, and mathematics must receive daily assistance through an appropriate three-tier Response to Intervention (RTI) Model. The Department encourages explicit, systematic intervention programs for all 6-12 struggling students in the area of deficit.
- Students 6-12 must participate in assessment that provides direction for future instruction. The Department supports assessment through multiple measures of ELA and mathematics abilities including universal screenings, progress monitoring, benchmark indicators, and standardized testing.
- Students must have access to a wide variety of books, technology, and other reading materials in classrooms and school library media centers. Particular attention should be paid to expanding collections to include more grade-level complex texts (as defined by the Common Core text complexity grade bands), especially in the genres of informational text and literary nonfiction. The Department provides district financial support to maintain and enhance 6-12 collections and access to technology.
- Students must have access to a variety of manipulatives, technology, and other mathematics tools in classrooms to explore and make sense of mathematical concepts.
- Students should have the opportunity to engage with the Standards for Mathematical Practice daily through a variety of tasks, classroom discussion, and peer interactions.

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Standards for 6-12 ELA:

6-12 classrooms should align instruction to all of the Common Core ELA Strands:

- Reading Standards for Literature
- Reading Standards for Informational Text
- Writing Standards
- Speaking and Listening Standards
- Language Standards

The following are the *instructional shifts* called for by the Common Core ELA Standards:

1. **Building knowledge** through **content-rich nonfiction**
2. Reading, writing and speaking grounded in **evidence from text**, both literary and informational
3. Regular practice with **complex tex**t and its **academic language**

Educators are encouraged to use the PARCC Model Content Frameworks as a guide for incorporating the Standards into a year of instruction.

6-12 Minimum ELA Recommended Instructional Times:

ELA	6-8 (traditional)	6-8 (block)	9-12 (traditional)	9-12 (block)
Tier I*	55 (daily)	90	55 (daily)	90
Tier II**	30 additional	30 additional	30 additional	30 additional
Tier III***	45-55 additional	45-60 additional	45-55 additional	45-60 additional

*It is strongly recommended that Tier I be a minimum of 45 minutes of uninterrupted instruction.

****Tier II** intervention is in addition to the Tier I instruction. It is recommended that students needing interventions in Tier II should receive them daily. Additional time can be added through several means, including "double blocking" or the insertion of an "intervention period."

*****Tier III** is in addition to the instruction provided in Tier I. Tier III interventions must be more intense than Tier II interventions.

While it is recommended that students in grades 9-12 receive Tier III interventions for 45-60 minutes daily, in some instances this may not be possible. However, students in need of Tier III interventions should receive a minimum of 225 minutes each week. The following charts illustrate the *weekly* minimum intervention times for Tier III in grades 9-12:

Tier III	9-12 (traditional)	9-12 (block)
ELA Weekly Minimums	225-275 minutes	225-300 minutes

Diverse building and grade level structures may have an effect on scheduling.

Note: It is strongly recommended all schools move away from the practice of separating ELA instruction into reading and language arts classes and instead move **toward a single, coherent, integrated ELA course model.** The integrated nature of the standards, as reflected in the modules in the PARCC Model Content Frameworks, requires students to work across multiple strands at once. Separating reading from the work students do in writing and language violates the spirit and intent of the CCSS.

The 6-12 Three-Tier Response to Intervention Model (RTI) for Reading Instruction

Instruction in 6-12 should be student-focused, with constant opportunities for students to read, interact, and engage with a text and each other, with the teacher guiding students to gain their own insights from reading (rather than telling students what a text means). Research indicates that students now "read to learn," particularly in Social Studies, Science, and Mathematics courses, although students well behind grade level may still struggle to "learn to read." In particular, 6-12 students should build the necessary reading skills, including comprehension and stamina, to read, understand, and write about increasingly complex and lengthy texts. Because the CCSS for ELA are so closely integrated across strands, every reading unit should focus on close reading (including re-reading and chunking particularly difficult sections), speaking and listening about the text through text-dependent questioning (requiring students to cite evidence and analyze content and structure), vocabulary development through the text (with a focus on understanding academic vocabulary, or tier II words, using context), and writing-to-sources (students write about what they have read).

Tier I addresses the needs of all students. Using flexible, small groups and targeting specific skills in reading, specifically vocabulary/word-study, classroom teachers should be provided with tools and training including:

- Core ELA or literature programs, research-based and aligned to grade-level CCSS standards
- Formative assessment at least three times per year to determine instructional needs
- Ongoing embedded support and professional development.

Tier II addresses the needs of struggling and advanced students. Those students who require assistance beyond the usual time allotted for core instruction should receive additional intensive small-group attention daily. Advanced students should receive reinforcement and enrichment. Note that the Common Core text complexity standards (Reading Anchor Standard number 10) apply to *all students*. While leveled reading is useful in building confidence,

stamina, fluency, and engagement, all students should be given the opportunity to encounter and productively struggle with on- or above-grade-level complex text. With struggling readers, teachers are encouraged to differentiate the *level of scaffolding or support they provide students* (different entry points to text, vocabulary support, modeling of comprehension strategies) rather than the *level of text*. If computer programs are used, students should still have daily interaction with a teacher who can hold them accountable for what they have read and practicing new skills.

Tier III addresses the small percentage of students who have received Tier I instruction and continue to show marked difficulty in acquiring necessary reading and mathematics skills. Students who received Tier II interventions and continue to struggle may also need Tier III interventions. These students require more intensive interventions. Students at this level should receive daily intensive small group intervention targeting specific areas of deficit as based on current assessment data.

The specific nature of interventions for Tier II and Tier III are based on progress-monitoring data and/or diagnostic assessment information. Fidelity checks for all Tiers should occur regularly. If computer programs are used, students still need interaction with and feedback from a teacher who can hold them accountable for what they have read and practiced. Whenever possible, Tier II and III should be taught by qualified, certified teachers.

Focus Content for 6-8 Mathematics:
(It is recommended that 75 percent of **Tier I** instruction is spent on focus content.)

The following are the *instructional shifts* called for by the Common Core Mathematics standards:

1. **Focus** strongly where the Standards focus
2. **Coherence** horizontally linking major topics within a grade and vertically across the grades
3. **Rigor** by shifting toward a balance of conceptual understanding, procedural fluency, and application to problem solving

Grade 6

- Understand ratio concepts and use ratio reasoning to solve problems.
- Apply and extend previous understandings of multiplication and division to divide fractions by fractions.
- Apply and extend previous understandings of numbers to the system of rational numbers.
- Apply and extend previous understandings of arithmetic to algebraic expressions.
- Reason about and solve one-variable equations and inequalities.
- Represent and analyze quantitative relationships between dependent and independent variables.

Grade 7

- Analyze proportional relationships and use them to solve real-world and mathematical problems.
- Apply and extend previous understandings of operations with fractions to add, subtract, multiply and divide rational numbers.
- Use properties of operations to generate equivalent expressions.
- Solve real-life and mathematical problems using numerical and algebraic expressions and equations.

Grade 8

- Work with radicals and integer exponents.
- Understand the connections between proportional relationships, lines and linear equations.
- Analyze and solve linear equations and pairs of simultaneous linear equations.
- Define, evaluate and compare functions.
- Use functions to model relationships between quantities.
- Understand congruence and similarity using physical models, transparencies or geometry software.
- Understand and apply the Pythagorean Theorem.

Fluency Expectations 6-8

Grade	Standards	Expected Fluency
6	6.NS.B.2 6.NS.B.3	Multi-digit division Multi-digit decimal operations
7	7.NS.A.1,2 7.EE.B.3 7.EE.B.4	Fluency with rational number arithmetic Solve multistep problems with positive and negative rational numbers in any form Solve one-variable equations of the form $px + q = r$ and $p(x + q) = r$ fluently
8	8.EE.C.7 8.G.C.9	Solve one-variable linear equations, including cases with infinitely many solutions or no solutions Solve problems involving volumes of cones, cylinders, and spheres together with previous geometry work in grade 7

Focus Content for High School Mathematics:

Algebra I

- Interpret the structure of expressions
- Perform arithmetic operations on polynomials
- Create equations that describe numbers or relationships

- Understand solving equations as a process of reasoning and explain the reasoning
- Solve equations and inequalities in one variable
- Represent and solve equations and inequalities graphically
- Understand the concept of a function and use function notation
- Interpret functions that arise in applications in terms of the context
- Interpret linear models

Geometry

- Interpret linear models
- Prove geometric theorems
- Understand similarity in terms of similarity transformations
- Prove theorems using similarity
- Define trigonometric ratios and solve problems involving right triangles
- Use coordinates to prove simple geometric theorems algebraically
- Apply geometric concepts in modeling situations

Algebra II

- Extend the properties of exponents to rational exponents
- Interpret the structure of expressions
- Write expressions in equivalent forms to solve problems
- Understand the relationship between zeros and factors of polynomials
- Understand solving equations as a process of reasoning and explain the reasoning
- Represent and solve equations and inequalities graphically
- Interpret functions that arise in applications in terms of the context
- Build a function that models a relationship between two quantities

Fluency Recommendations, High School

Although PARCC does not assess fluency in high school, the fluencies below are recommended so that students can move quickly through procedural and computational manipulations in order to devote the majority of their cognitive processes on problem solving.

Course	Standard	Recommended Fluency
Algebra I	A/G A-APR.A.1 A-SSE.A.1b	Solving characteristic problems involving the analytic geometry of lines Fluency in adding, subtracting, and multiplying polynomials Fluency in transforming expressions and chunking
Geometry	G-SRT.B.5 G-GPE.B.4, 5, 7 G-CO.D.12	Fluency with the triangle congruence and similarity criteria Fluency with the use of coordinates Fluency with the use of construction tools
Algebra II	A-APR.D.6 A-SSE.A.2 F.IF.A.3	Divide polynomials with remainder by inspection in simple cases See structure in expressions and to use this structure to rewrite expressions Fluency in translating between recursive definitions and closed forms

Standards for Mathematical Practice

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

The mathematical practices should be connected to content through engagement in a variety of activities, tasks and discussions. Well-designed, standards-based mathematical tasks can reveal student content knowledge and allow students to demonstrate use of the practices.

6-12 Mathematics Minimum Recommended Instructional Times

Mathematics Tier	6-8 (traditional)	6-8 (block)	9-12 (traditional)	9-12 (block)
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Tier II**	30 additional	30 additional	30 additional	30 additional
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Mathematics Weekly Minimums	225-275 minutes	225-300 minutes

Diverse building and grade level structures may have an effect on scheduling.

The 6-12 Three-Tier Response to Intervention Model (RTI) for Mathematics Instruction

While the Common Core State Standards specifies the content necessary for all students to become college and career ready, we recognize that not every student moves at a uniform pace to meet that goal.

Tier I addresses the needs of all students. Flexible, small groups may be used. Instruction in 6-12 should be student-focused, with constant opportunities to engage in mathematical thinking and reasoning. As teachers shift toward a balance of conceptual understanding, procedural fluency and application, they should engage students in a variety of tasks and activities that address specific goals, always embedding the Standards for Mathematical Practice in all instruction and assessments. Problem solving should be at the heart of the mathematics classroom. Students should have the opportunity to make sense of mathematical concepts on their own and regularly discuss their ideas with peers. Teachers should be skilled in frequently assessing student understanding and pressing students toward the mathematical goals and essential understanding without telling students how to solve problems. Teachers should be skilled in orchestrating classroom discussions that promote connections between student ideas and multiple representations for deeper understanding. Students should have regular practice and support in demonstrating fluency with both number facts and algebraic manipulation. Students should have the opportunity to apply problem-solving skills in new and unfamiliar contexts and situations.

Tier II addresses the needs of struggling and advanced students. Advanced students should receive reinforcement and enrichment. Students who require assistance beyond the usual time allotted for Tier I instruction should receive additional intensive small-group attention daily. Teachers should use the vertical coherence of the CCSS to identify standards from previous grades that might be prohibiting a student from accessing grade-level standards. Research indicates that students' struggles in mathematics are often attributed to a lack of number sense. It is important to diagnose specific student deficiencies through carefully designed assessments in order for the proper support to be given. Students who struggle with fluency can oftentimes continue to learn grade-level concepts. In this case, Tier II intervention should target the necessary fluencies to support the conceptual understanding.

Tier III addresses the small percentage of students who have received Tier I instruction and continue to show marked difficulty in acquiring necessary reading and mathematics skills. Students who received Tier II interventions and continue to struggle may also need Tier III interventions. These students require more intensive interventions. Students at this level should receive daily intensive small group intervention targeting specific areas of deficit as based on current assessment data.

The specific nature of interventions for Tier II and Tier III are based on progress-monitoring data and/or diagnostic assessment information. Fidelity checks for all Tiers should occur regularly. If

computer programs are used, students still need interaction with and feedback from a teacher who can hold them accountable for what they have read and practiced. Whenever possible, Tier II and III should be taught by qualified, certified teachers.

Necessary Services and Support

- Ongoing, sustained, and embedded high quality professional development
- Collaborative teacher work groups
- Parental engagement
- District leadership support, resources and funding
- Tennessee Department of Education leadership support, resources and funding

Additional Services and Support from the Tennessee Department of Education

- Response to Instruction and Intervention (RTI^2) Manual, Spring 2013
- Response to Instruction and Intervention (RTI^2) Implementation Guide, Fall 2013