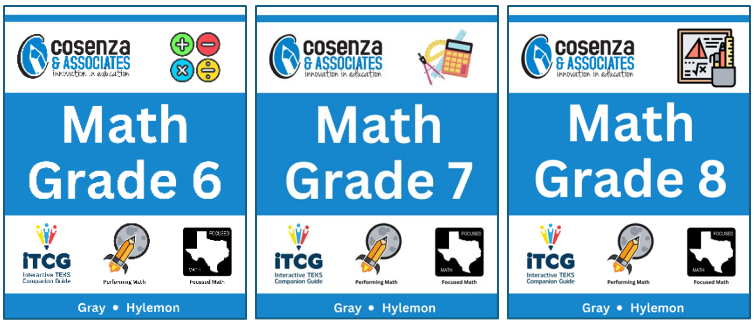
Cosenza & Associates, LLC
Math-Grades 6, 7, and 8



Cosenza & Associates, LLC, is a Texas based company co-founded by a 7th generation Texan. Our Math-Grade 6, Math-Grade 7, and Math-Grade 8 courses were written specifically for the TEKS – for Texas teachers by Texas teachers – rather than written for other standards and adapted for the TEKS. Because our leadership and writing teams have extensive experience teaching children in Texas public school classrooms, we keep teachers' ease of use at the front of our minds while developing instructional resources that anchor procedural fluency in conceptual understanding.

In this document, we highlight a few of the key ways that our Math-Grade 6, Math-Grade 7, and Math-Grade 8 courses address the six indicators of high-quality instructional materials as identified by the Texas State Board of Education.

Intentional Instructional Design

We provide in-depth instructional support at the course, unit, and lesson levels grounded in the vertical alignment of middle school mathematics. We emphasize both the prior learning leading up to a topic that is presented in a unit or lesson as well as what students will be expected to do with this knowledge in subsequent grades or courses. We know this is important because effective review and reteaching occurs in a just-in-time situation where the teacher reviews or reteaches essential skills right before students need them to learn on-level concepts and skills (NCSM, 2020).

Each unit contains a summary of what students will be expected to do and a letter in English or Spanish that can be sent home to families advising them of the content their students will experience and providing suggestions for how they can support their children in learning this content.

Each lesson provides extensive support for teachers to better understand the key elements of the topic and how it relates to students' prior learning and future learning. Suggestions for supporting all learners, including multilingual learners and students with special needs, are tailored to support the topic in the lesson. Detailed advice and instructions are provided for each phase of the lesson: Exploration, Explanation, and Performance Task, and potential timing guidelines are provided.

Progress Monitoring

Teachers must be able to monitor students' progress as they move through the year and students should learn how to monitor their own progress. Our Performance Tasks at the end of each lesson provide a terrific opportunity for teachers to engage in formative assessment and find out what their students actually learned about the mathematics they were just taught.

Spiral review opportunities sprinkled naturally throughout the course provide an opportunity to both review skills from earlier in the course as well as integrate them into current topics. We also provide summative assessments at the end of each unit. These questions could be used as-is or the teacher could use our online test database to edit and customize these questions to meet their students' unique learning needs.

Beyond providing the tools for monitoring students' progress, we also provide the teacher with insights into how to use those tools. For example, each Performance Task includes a set of "look fors" that teachers should look and listen for as students are working and communicating their work. These "look fors" give teachers insights into what key elements of the mathematics should be present and guidance on how to ask questions if they aren't.

Supports for All Learners

We provide differentiation and scaffolds in a variety of ways to support student success. Performance Tasks are differentiated for students who are *not yet proficient*, *somewhat proficient*, *proficient*, and *highly proficient*. Based on students' performance in the Explanation phase of the lesson, the teacher may select one task from the set of parallel tasks (Small & Lin, 2010) for students to work on.

Vocabulary and language acquisition is important for all learners, particularly multilingual learners. In addition to the six-step language acquisition process (Marzano & Pickering, 2005) highlighted in the Teacher Guide, each lesson provides a list of key vocabulary terms and partially completed Frayer models for teachers to use as students encounter and learn new mathematical terms student will encounter in the Explanation phase of the lesson. Teachers may choose to pre-teach vocabulary terms or use the Frayer models to support language acquisition as it naturally arises during instruction.

We also provide explicit instructional supports for multilingual learners or emergent bilingual students. Each lesson is anchored in both TEKS and ELPS for mathematics and specific instructional strategies that support English language learners are provided in each lesson. These strategies are not vague but are directly tied to the content of that lesson.

Depth and Coherence of Key Concepts

We strongly believe in a concrete-representational-abstract approach to learning mathematics. Beginning with a concrete or pictorial presentation of a topic gives students something on which to anchor their learning. Connecting to a representation such as a graph or a table provides a visual

illustration of the concept from which students may extend the idea into an abstract or symbolic representation. In short, when students have a kinesthetic or visual understanding of mathematics, then procedures make more sense and become less mysterious.

Our practice opportunities begin at a skills-based level and proceed into real-life problem situations aligned with the TEKS. Questions progress in rigor and complexity so that by the end of the lesson, students are closer to grade-level proficiency.

Prior learning supports presented in every lesson show teachers (and students) how the content connects across the grade and across grade levels. Keeping the learning fresh is part of why spiral review and interleaved practice is so important. That's why we provide intentional opportunities to build on prior learning directly in the lesson and through periodic spiral review lessons that connect key ideas and concepts at the right moment in time in the instructional flow.

Balance of Conceptual and Procedural Understanding

Balanced instruction is important. Students build their mathematical proficiency when they simultaneously develop conceptual understanding and procedural fluency (NRC, 2001; NCTM, 2014). At times, the teacher will choose to use an inquiry-based method of instruction as students explore and internalize new concepts. At other times, the teacher will choose a more direct instructional approach, particularly when teaching skills. In the Explanation phase, teachers are provided with guidance on using both an inquiry-based approach or explicit instruction approach so that they may make that choice to the benefit of their students.

Our lessons anchor skills in concepts. We use visual models such as hundreds grids, fraction bars, and number lines to represent key ideas and concepts. We use manipulatives such as two-color counters to show students how skills work and why they work like they do. Because no one wants to carry two-color counters or algebra tiles around with them for the rest of their lives, we use these models to anchor generalized procedures and standardized algorithms so that students understand why these procedures make sense.

Procedural fluency is essential to understanding and fully using mathematics in meaningful ways. We build fluency by addressing operations and basic skills in a sustained approach over time. Stepped-out examples show students a sequence of procedures that are necessary in order to solve meaningful problems.

Texas provides teachers with a critical tool to make mathematics more meaningful to every child: the mathematics process standards found in the TEKS. Each lesson addresses a content TEKS/SE, an ELPS standard, and a process TEKS/SE. In an actual lesson, students will likely use more than one mathematical process (multiple representations, communicating reasoning, applying mathematics to real-world problems, etc.). In our courses, we identify a showcase process standard that naturally blends with the content standards the topic requires.

Productive Struggle

Students need time to wrestle with the ideas they encounter in a mathematics lesson. Learning that sticks occurs when students encounter a situation that isn't familiar to them but is close enough to something they already know. In the Explanation phase of each lesson, students encounter *You Try It!* problems where they are asked to solve a problem very similar to one they just encountered. In this way, students check their own understanding and the teacher gains insights into what sense students are making of the mathematical topic at hand.

Students also have multiple opportunities to communicate their mathematical thinking, including *Journal Entries* in the Exploration phase and using multiple representations to convey thinking. Performance Tasks provide beautiful opportunities for students to engage in deeper levels of problem solving as they combine several mathematical ideas and skills to solve a meaningful real-world problem. Students are required to show their thinking as they explain why they did what they did and what mathematical ideas justify their actions.

References

Marzano, R. J., & Pickering, D. J. (2005). *Building academic vocabulary.* Alexandria, VA: ASCD.

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