Fabens Independent School District

Mathematics Instructional Framework

Vision

We envision a mathematics education that empowers every student to become a confident problem-solver, seeing the relevance of math in the world around them. By building a strong foundation of interconnected concepts and focusing on depth over breadth, we will ensure students are prepared for real-world challenges. Through vertical alignment and a culture of productive struggle, we will eliminate learning gaps, foster a positive mathematical identity, and equip ALL students with the skills and mindset to thrive today and in the future.

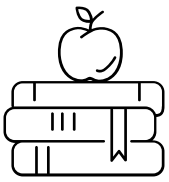
Beliefs

Balanced Approach	Depth of Understanding
We believe that balancing conceptual and procedural understanding in mathematics will not only support short-term academic success for all students, but also better prepare them for real-world applications. Students will embrace mathematics as culturally relevant and recognize its connections to everyday life.	We believe that dedicating our time and effort to exploring the depth of key concepts at each grade level will foster a profound understanding of mathematics in students and help cultivate a positive mathematical identity for all learners.
Alignment	**Growth Mindset**
We believe that mathematics is not a collection of disconnected facts, but a continuous narrative of interconnected concepts from Kindergarten through high school. To create a successful learning pathway, we aim to align the math curriculum in a way that ensures continuity and coherence within and across grade levels. This alignment helps build a strong mathematical foundation, establishes a shared academic language aligned with standards, and deepens students' understanding over time, preventing significant gaps in their learning.	We believe that embracing productive struggle enables all students to build critical problem-solving skills, persevere by viewing mistakes as valuable learning opportunities, think independently, and gain a deeper, more lasting understanding of mathematics. This approach goes beyond just struggling—it's productive struggle with a clear, purposeful focus on growth, understanding and ownership of learning.

Stakeholder Actions

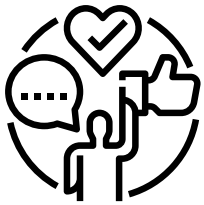
Students

- Explore different ways to solve problems, testing methods and reflecting on which approaches are most effective. Students will understand and critique real-world mathematical scenarios through the lens of their own personal and strong learning experiences.
- Students will visualize and explore mathematical concepts (e.g., using manipulatives, drawings, or graphs to understand abstract ideas). They will share and explain thinking with peers, enhancing their own understanding by articulating their thought process and learning from others' strategies.
- Students will develop a deep understanding of how mathematical concepts progressively build on one another across grade levels and recognize the importance of this progression for their long-term success in learning.
- Students engage with complex problems, embracing the struggle even when solutions aren't immediately clear. They persist through challenges, exploring various strategies and reflecting on their mistakes as opportunities to deepen their understanding. With curiosity and creativity, they approach problems critically, thinking independently and taking ownership of their learning, recognizing that their effort and ability to navigate struggles are key to their success.



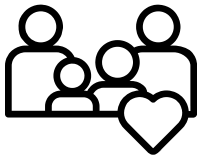
Teachers

- Provide students with opportunities to explore multiple strategies for solving problems, enabling them to choose the most effective approach based on their understanding. Teachers will balance conceptual understanding and procedural fluency by first building strong foundations through hands-on exploration, then reinforcing skills with targeted practice. By integrating realia and students' funds of knowledge, teachers will make math both meaningful and culturally relevant, ensuring a balanced development of understanding and fluency for meaningful application.
- Design and implement lessons that prioritize deep exploration of key mathematical concepts, using a variety of instructional strategies (e.g., hands-on activities, real-world applications, collaborative problem-solving) to promote conceptual understanding. Regularly assess student understanding through formative assessments and adjust instruction to address misconceptions, ensuring that each student can connect new learning to prior knowledge and see the value of persistence and growth in mathematics.
- Implement intentional vertical alignment in lesson planning by connecting current content to prior knowledge and previewing future topics. Scaffold grade-level lessons to reinforce foundational concepts while providing opportunities for acceleration and closing gaps. Begin each lesson by reviewing key prior concepts and highlighting their connection to current and future learning, using visual aids like concept maps to help students see the progression of their mathematical journey.
- Encourage all students to collaboratively engage in productive struggle by designing intentional challenges yet achievable, aligned to learning goals and mathematical concepts, guiding them to explore multiple problem-solving strategies, and fostering a classroom environment where mistakes are valued as essential learning moments.



Leaders

- Provide teachers with time, space, and professional development to deepen their understanding of mathematical concepts and explore diverse problem-solving strategies. Encourage collaboration in planning grade-level lessons that are culturally relevant and connect math to students' personal experiences, promoting deeper engagement and understanding.
- Leaders will offer vertical aligned training on deepening mathematical understanding by encouraging teachers to engage with research-based strategies that promote conceptual learning over rote memorization. Facilitate collaboration among teachers by organizing regular professional learning communities (PLCs) where educators can share best practices, lesson plans, and strategies for fostering deep mathematical understanding and meaningful student discourse.
- Provide professional development and collaborative planning time for teachers to engage in vertical alignment discussions, where they can share strategies, resources, and best practices for connecting current grade-level content with previous and future mathematical concepts. Leaders will facilitate the creation of aligned curriculum maps that outline how key concepts progress within and across grade levels.
- Leaders establish and communicate a clear vision that values productive struggle as an essential part of the learning process, emphasizing that challenges and mistakes are integral to deep learning, not obstacles to be avoided. They ensure teachers receive ongoing professional development to embrace and facilitate productive struggle in the classroom, focusing on creating a safe learning environment that promotes critical thinking, reflection on errors, and independent problem-solving.



Family

- Support their child in making meaningful connections to real world mathematical problems that parents and families encounter on a daily basis.
- Incorporate math into daily life by connecting it to activities like cooking, budgeting, or planning trips. This helps students see its real-world relevance. Foster meaningful conversations by engaging with your children about what they're learning in math. Ask your child to explain their math process, such as "How did you solve this?" or "Why does that make sense?"
- Engage in regular communication with teachers and school leaders to understand the scope and sequence of the math curriculum, and support their child's learning at home by reinforcing how current math concepts connect to what they've learned in previous years and what they will learn in the future.
- Families and community members help foster a growth mindset by encouraging students to embrace challenges and see mistakes as learning opportunities. They can provide positive reinforcement, celebrate effort, and model perseverance, helping students understand that struggling is a natural part of learning.