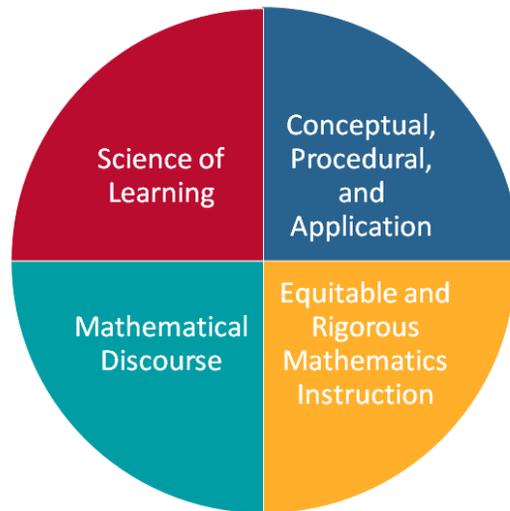


Aldine ISD's Mathematics Framework

Aldine ISD's Math Vision Statement:

Aldine ISD will provide purposeful and rigorous mathematical experiences that engage students in mathematical discourse, develop their problem solving abilities, and build critical thinkers preparing them for success in college, career, and life.



In Aldine ISD, we believe...

- **in applying the science of learning to the teaching of mathematics.** We understand that for students to fully comprehend math, teachers must engage students' preconceptions, build both factual knowledge and conceptual frameworks, and actively develop students' meta-cognitive abilities required of problem solvers. As math teachers, we know that students enter our classrooms with innate experiences and a curiosity to explore the world; it is our charge to engage that wonderment in order for them to fully grasp new learning concepts. We also understand that students must have a deep reserve of factual knowledge and a working conceptual framework in order to develop competence in areas of mathematics, so we cultivate both throughout our modules of study. Lastly, mathematics requires students to take ownership of their understanding of the material and we intentionally build their metacognitive abilities to help them take control of their individual learning goals so they can self-monitor their progress.
- **in teaching mathematics so that students have a rigorous understanding of math concepts by developing conceptual mastery, procedural skills and fluency, and**

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application with equal intensity. We recognize that procedural skills and math fluency are important for students to have because numeracy, number sense, and processes are gateways to more complex functions and concepts. Likewise, we must develop students' understanding of mathematical coherence by building frameworks of key concepts which allows them to transfer knowledge to new situations and apply it to new contexts. Above all else, we ensure that students are tasked with applying their understanding of mathematics concepts in a variety of ways and that we will accept multiple pathways to the solutions.

- **students should have multiple opportunities to process their thinking through daily routines of mathematical discourse.** To do this, we engage students in experiences to share their thinking, articulate and make mathematical arguments, and immerse them in tasks that require them to keep mathematics language at the heart of the work. This allows us to draw upon the diversity of our students' thinking and backgrounds, the strategies of Aldine ISD's Instructional Framework, and our learning environments to create a culture safe for all of our students to feel comfortable and confident using mathematical discourse.
- **in ensuring equitable mathematical instruction occurs in all classrooms that engages all students in challenging and rigorous mathematical opportunities on a daily basis.** We know that our students benefit from productive struggle and have the capacity to respond to complex math questions, problems, and tasks. Therefore, we design lessons with purposeful questions and learning experiences that require both reasoning and problem solving that ensures students apply their thinking and mathematical skills to find the solutions, thus blending the process and content standards together in every lesson.

In order to achieve our vision and remain faithful to our mathematics beliefs, we commit to the following actions:

Students will...

- participate in number sense routines (primary/elementary) and reasoning exercises (secondary) daily to deepen their understanding of mathematical concepts.
- engage in mathematical discourse on a daily basis by expressing their thinking, justifying their findings, and using academic language to explain new concepts and further their comprehension of mathematics.
- practice new learning by engaging in activities that require productive struggle, logical reasoning, and flexible thinking to complete.

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- make connections with relationships and patterns to the real-world to make sense of mathematical concepts and content.
- use manipulatives/mathematical tools and participate in hands-on experiences to access and apply mathematical concepts at a deeper level.
- establish high academic goals for learning, take ownership of monitoring their understanding of the material, and employ strategies to adjust when faced with challenges.

Teachers will...

- actively engage in collaborative planning in preparation for utilizing the district-provided curriculum to ensure implementation with fidelity.
- hold themselves accountable for the mathematical success of every student by becoming knowledgeable in mathematics content, best-practices, and our curriculum through active engagement in professional learning opportunities.
- facilitate rigorous instruction that consistently provide students appropriate challenges and support productive struggle in learning mathematics.
- purposefully build students' background knowledge/vocabulary and create an environment suitable for students to engage in mathematical discourse on a daily basis.
- demonstrate the application of technology, manipulatives, and mathematical tools for students and provide them meaningful opportunities to engage with them to deepen their understanding of mathematics concepts and real-world applications during instruction.
- provide students daily authentic problem solving experiences to build skills and strengthen their procedural fluency and offer them descriptive and timely feedback they can use to reflect upon their work and revise their thinking.

Coaches/Instructional Specialists will...

- provide on-going professional learning opportunities and job-embedded coaching that focuses on improving teachers' understanding of the components of the mathematics curriculum and how to actuate it into their daily instruction.
- facilitate collaborative planning sessions with teachers to ensure they are fully prepared to materialize the district provided curriculum and engage students in quality mathematics experiences.

Campus Administrators will...

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- develop schedules that facilitate high-quality mathematics instruction for all students.
- provide mathematics leadership on the campus that ensures Aldine's ISD's beliefs and commitments are being executed with fidelity.
- prioritize mathematics leaders' and instructional specialists' time so they can focus on improving math practices in classrooms.
- build collective efficacy by allocating protected time for collaborative mathematics planning weekly.

District Administrators will...

- provide a high-quality curriculum that is consistent with the district's Mathematics Framework.
- offer on-going professional learning opportunities and job-embedded coaching focused on improving mathematics leaders'/instructional specialists' understanding of the components of the Mathematics Framework and how to actuate it into their daily work.
- provide quality professional growth opportunities for teachers that build their capacity and knowledge about best practices in mathematics instruction.
- support campus mathematics leaders by providing explicit guidance on how to bring the Mathematics Framework to fruition at their campuses.
- develop aligned and rigorous assessments that provide reliable data about students' mathematics development.