



Alamo Heights ISD Mathematics Framework

All Alamo Heights ISD students engage in mathematics that is rigorous, purposeful, and designed to develop both conceptual & procedural understanding of mathematical ideas to become confident problem-solvers and self-motivated learners.

At AHISD, we believe in...

1. **Rigorous expectations: All learners are capable of deep, conceptual understanding of mathematics.**

AHISD teachers differentiate instruction based on individual student readiness and leverage research-based instructional strategies, including concrete and pictorial representations as well as real-world applications, to ensure that all students can tap into their immeasurable potential.

2. **Conceptual & Procedural Understanding: Math instruction must be vertically aligned for students to develop an appropriate balance of conceptual understanding and procedural skill.**

For students to become successful mathematicians, they need both conceptual understanding and procedural fluency that build intentionally year over year.

3. **Academic Discourse: Students need opportunities to engage in academic discourse in order to process, solidify, and deepen their understanding.**

Whole class and peer-to-peer discussion, oral or written, provide a critical opportunity for students to explain their thinking, critique the thinking of others and use TEKS-aligned mathematical vocabulary.

4. **Productive Struggle: Students must have opportunities for rigorous thinking and productive struggle in math in order to become more confident learners within and outside the classroom.**

Students need regular, authentic opportunities to grapple with complex tasks that meet the full expectations of the TEKS. This allows students to gain confidence, value the process of learning, celebrate their own progress, and ultimately become College, Career, and Military Ready (CCMR).

Leaders

- Stay up-to-date on research-based practices in math, continuously communicate a clear vision for math instruction, and ensure that feedback to teachers is aligned to that vision.
- Implement an intentional PD plan, including onboarding for new teachers, aligned to this framework.
- Ensure that all teachers have high-quality curricular options, resources, and coaching supports that are aligned to research and teacher needs.
- Protect time for teacher professional development as well as vertical and horizontal collaboration.

Teachers

- Stay up-to-date on research-based practices in math and work to align instruction to this research and vision
- Actively engage in collaboration to ensure that all teachers have a deep understanding of the TEKS and plan daily lessons that leverage scaffolding, research-based strategies, and academic vocabulary.
- Analyze data to understand the effectiveness of their instruction and adjust practices accordingly.
- Create opportunities for students to deepen their conceptual understanding and engage in academic discourse
- Provide opportunities for students to set goals and monitor their progress

Families

- Support students in building mathematical fluency by encouraging practice and homework completion; actively monitor HAC and Google Classroom
- Encourage students to ask questions, advocate for themselves, and attend tutoring sessions
- Encourage a growth mindset and celebrate progress; understand that students learn at different paces
- Trust teachers' professional judgment

Students

- Be curious, seek understanding, and ask questions
- Communicate, collaborate, and participate in peer-to-peer discussion using academic vocabulary
- Think critically and engage in productive struggle, justifying their reasoning and revising their thinking if needed
- Take ownership of their learning and reflect on progress toward goals
- Utilize available resources, such as manipulatives, anchor charts, google classroom, and tutoring