PISD Mathematics Philosophy

Mathematics Mission Statement
The mission of Prosper ISD mathematics program is to engage and challenge students in mathematical and real-world contexts at high levels through questioning, discourse, sense making, and productive struggle. We believe that all students can be great mathematical thinkers and problem solvers.

Mathematics Team
PK-12 Math Teachers
Principals and Assistant Principals
Curriculum Designers
Curriculum Design Coaches

Mathematics Transfer Goals
- Based on an understanding of any problem, initiate a plan, execute it, and evaluate the reasonableness of the solution.
- Examine and apply a variety of methods to accurately and efficiently solve problems.
- Communicate effectively based on purpose, task, and audience using appropriate vocabulary.
- Articulate how mathematical concepts relate to one another in the context of a problem or abstract relationships.
- Use appropriate tools to deepen understanding of mathematical concepts.

Effective Mathematics Teaching Practices
The National Council of Teachers of Mathematics has designated 8 effective mathematical teaching practices. These math practices are the core from which we teach math within our classrooms at Prosper ISD. These practices include:

- **Establish Mathematics Goals to Focus Learning**: Effective teaching of mathematics establishes clear goals for the mathematics that students are learning, situates goals within learning progressions, and uses the goals to guide instructional decisions.
- **Implement Tasks that Promote Reasoning and Problem Solving**: Effective teaching of mathematics engages students in solving and discussing tasks that promote mathematical reasoning and problem solving and allow multiple entry points and varied solution strategies.
- **Use and Connect Mathematical Representations**: Effective teaching of mathematics engages students in making connections among mathematical representations to deepen understanding of mathematics concepts and procedures and as tools for problem solving.
- **Facilitate Meaningful Mathematical Discourse**: Effective teaching of mathematics facilitates discourse among students to build shared understanding of mathematical ideas by analyzing and comparing student approaches and arguments.
- **Pose Purposeful Questions**: Effective teaching of mathematics uses purposeful questions to assess and advance students’ reasoning and sense making about important mathematical ideas and relationships.
- **Build Procedural Fluency from Conceptual Understandings**: Effective teaching of mathematics builds fluency with procedures on a foundation of conceptual understanding so that students, over time, become skillful in using procedures flexibly as they solve contextual and mathematical problems.
- **Support Productive Struggle in Learning Mathematics**: Effective teaching of mathematics consistently provides students, individually and collectively, with opportunities and supports to engage in productive struggle as they grapple with mathematical ideas and relationships.
- **Elicit and Use Evidence of Student Thinking**: Effective teaching of mathematics uses evidence of student thinking to assess progress toward mathematical understanding and to adjust instruction continually in ways that support and extend learning.