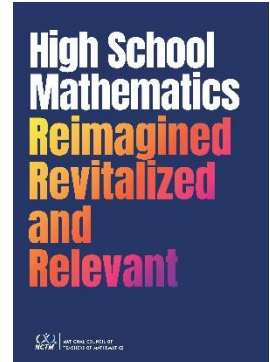


High School Mathematics Reimagined, Revitalized, and Relevant *Talking Points with Quotes*

- **Student-Centered Learning (Reimagined):** High school mathematics should be reimagined to prioritize student interests, needs, and aspirations, shifting from a focus on rote memorization to engaging, inquiry-based learning.
 - *"Students should see themselves as mathematical learners and doers, which includes engaging in questioning and sense-making coupled with problem exploration and solving skills." (p. 3)*
- **Mathematical and Statistical Modeling (Revitalized):** Revitalized mathematics education places modeling at the core, allowing students to apply mathematical concepts to real-world situations, fostering deeper understanding and relevance.
 - *"Modeling is the engine that drives mathematical and statistical inquiry and learning in high school." (p. 9)*
 - *"Ultimately, all high school mathematics classes must have as a foundation engaging experiences based on quality tasks, learning through modeling experiences that reinforce the utility of mathematics, and the application of the technologies to support students' thinking, reasoning, and application of mathematics." (p. 47)*
- **Crosscutting Concepts (Reimagined and Relevant):** Five reimagined Crosscutting Concepts—Patterns and Generalization; Variability and Change; Functional and Structural Thinking; Comparison, Difference and Equivalence; and Making and Interpreting Predictions—should guide the organization and teaching of high school mathematics to ensure it remains relevant to students' lives.
 - *"The five high school Crosscutting Concepts serve as an organizing structure for planning and enacting high school mathematics lessons and courses. These concepts help ensure that students can make sense of important mathematical ideas, and that the mathematics taught in classes are relevant and useful." (p. 20)*
- **Engaging Pedagogy (Revitalized):** Revitalized teaching practices should move away from traditional, teacher-centered instruction to involve dynamic, student-centered learning that promotes collaboration, problem-solving, and active sense-making.
 - *"Engaging mathematics is about students actively working to make sense of what they are doing." (p.5)*
 - *"Promote a classroom culture in which mistakes and errors are viewed as important reasoning opportunities, to encourage a wider range of students to engage in mathematical discussions with their peers and the teacher." (p. 69)*
- **Equitable Access (Relevant):** All students, regardless of background, must have equitable access to high-quality, relevant mathematics education that prepares them for future opportunities, with a focus on dismantling tracking systems and creating interest-driven pathways.
 - *"Our goal is to foster generations of students who leave with the conviction that they can understand, learn, and apply mathematics." (p. 8)*
 - *"Changing the foundation of how high school mathematics classes approach their students also has the benefit of significantly impacting how students leave high school, seeing their mathematical abilities and identity." (p. 47)*



- **Relevance to Real-World Applications (Relevant):** High school mathematics should be relevant and aligned with the demands of today's world, incorporating topics such as data science, statistical reasoning, and quantitative literacy to prepare students for diverse postsecondary options.
 - *"High school students are pragmatic when it comes to studying—Why is this relevant? When is this going to be useful to me?" (p. 2)*
 - *"To truly infuse relevance into the classroom and bridge the gap between mathematics and the real world, students need to grapple with complex and meaningful situations." (p. 13)*
- **Mathematics as a Tool for Empowerment (Reimagined and Revitalized):** Reimagined mathematics education should empower students to use mathematics as a tool for understanding and influencing the world, fostering a strong belief in their mathematical abilities and potential.
 - *"Our goal is to prepare students to be active and informed members of society, and this requires that they leave high school with the ability to interpret and analyze statistical statements and arguments and question and reason statistically." (p. 6)*
 - *"By aligning mathematical concepts and problem-solving skills with issues that matter to students and their communities, we foster the utility of mathematics and begin to equip students with the agency and motivation to leverage mathematics as a force for understanding, communicating, and addressing real-world challenges they experience." (p. 16)*
- **Integration of Technology (Relevant and Revitalized):** Technology should be seamlessly integrated into a revitalized mathematics curriculum to enhance learning, visualization, and problem-solving, making mathematics education relevant to a technologically advanced society.
 - *"Technology allows opportunities for students to be engaged in meaningful inquiry related to topics relevant to who they are and what they see as useful and worthwhile. It plays a central role in the learning process by helping students create robust mental images of concepts through visual dynamic interactive representations." (p. 44-45)*
- **Revitalizing Content and Structure (Revitalized and Reimagined):** The mathematics curriculum should be revitalized and reimagined to make it more relevant, connected, and coherent, with a focus on organizing content in ways that are meaningful and applicable to students' lives and future careers.
 - *Relevance becomes a defining characteristic of mathematics classrooms and learning through mathematical and statistical modeling and the use of contextual and interesting tasks." (p. 8)*
 - *"To aid students in seeing connections among topics, we offer a radical reconsideration of organizing the content of high school mathematics. This work emerges from the study of standards and curriculum over the past three decades to identify what the most important mathematical ideas are that thread throughout and transcend high school mathematics." (p. 19)*
- **Enduring Mathematical and Statistical Practices (Reimagined and Relevant):** Beyond content knowledge, students must develop reimagined and relevant mathematical and statistical practices, including reasoning, modeling, and critical thinking, that will serve them in various aspects of their lives.
 - *"The mathematical and statistical processes that students use to model and explore mathematics and statistics situations are key tools that make mathematics generative. These processes outline the key proficiencies that students should develop and apply across lessons, units, and courses of study and that they should have internalized when they leave high school." (p. 40)*