

THE SHIFTS FOR ARIZONA **MATHEMATICS**

MATHEMATICS EDUCATION SHOULD **AMPLIFY**...

Strategies that connect to prior learning, deepening their conceptual understanding of operations, and developing vocabulary through experience to build mathematical understanding.

Rich math tasks that emphasize relevance and real-world connections.

Teachers facilitating, guiding student exploration, problem-solving through discussions, and collaboration.

Active student engagement through open-ended problems with multiple solution paths, emphasizing the learning process more than the final solution.

Meaningful, context-rich math tasks that focus on understanding, reasoning, modeling and applying concepts exploring real-world applications.

Rigorous, on grade-level standards work that fosters high expectations and supports students' growth.

Productive struggle allowing students to build grit or perseverance.

Formative assessment practices that continuously monitor progress, provide feedback, and allow students multiple opportunities to show growth in their learning.

MATHEMATICS EDUCATION SHOULD **MINIMIZE**...

Rote memorization of facts and vocabulary.

Learning of mathematics disconnected from real-world context.

Giving all the information to students using a direct instruction model.

Questions that have only one right answer or solution path.

Completing problems from the textbooks or worksheets with no context, focusing on rote practice.

Below grade-level work and oversimplified activities for students who are perceived to be less capable to do mathematics.

Preventing students from experiencing any struggle or difficulty by providing immediate solutions to all problems.

Summative paper and pencil tests used to measure student learning.

