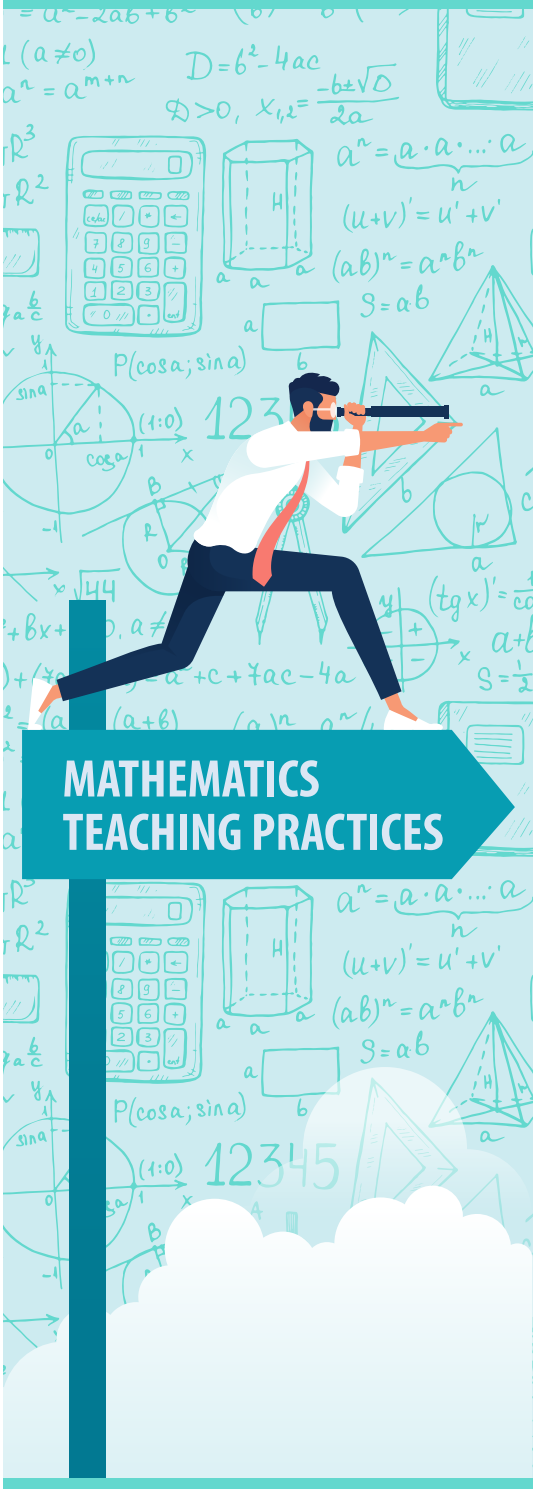
Utah's PK-12 Mathematics VISION



Utah's PK-12 Mathematics Framework challenges educators to develop and extend mathematical proficiency and literacy through:

- The Utah Core Standards for Mathematics,
- High quality, asset-based mathematics educational experiences, and
- Assessment systems that meet the learning needs of each student and provide educators with data to inform instruction and intervention.

Using the appropriate grade-level Utah Core Standards as a foundation, the mathematics learning experiences provide an emphasis on depth over breadth with a focus on the Major Works for mathematics and the support of the Utah Mathematics Core Guides.

In meeting the demands of a changing world, mathematics in Utah will prepare students to think critically, problem solve, innovate, communicate, and collaborate, in line with Utah's Portrait of a Graduate. Students will engage in mathematical experiences through the evidence-based Standards for Mathematical Practice:

1. Making sense of problems and persevere in solving them,
2. Reasoning abstractly and quantitatively,
3. Constructing viable arguments and critiquing the reasoning of others,
4. Modeling with mathematics,
5. Using appropriate tools strategically,
6. Attending to precision,
7. Looking for and making use of structure, and
8. Looking for and expressing regularity in repeated reasoning.

Teachers will engage students in the Standards for Mathematical Practice through the evidence-based Mathematics Teaching Practices:

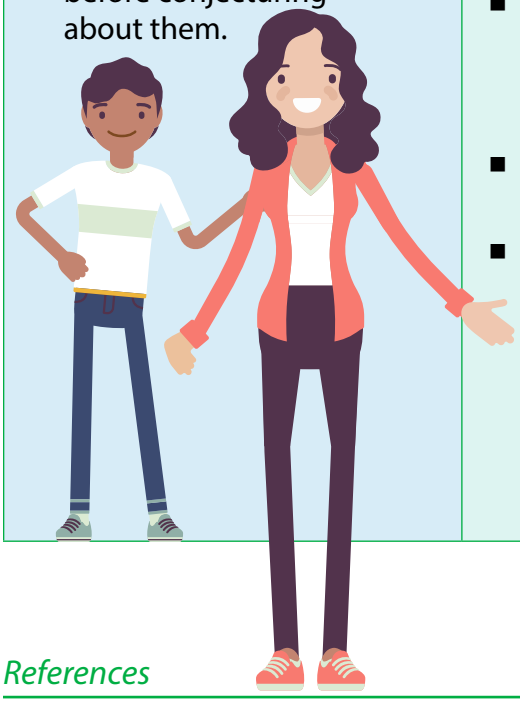
1. Establish mathematics goals to focus learning,
2. Implement tasks that promote reasoning and problem solving,
3. Use and connect mathematical representations,
4. Facilitate meaningful mathematical discourse,
5. Pose purposeful questions,
6. Build procedural fluency from conceptual understanding,
7. Support productive struggle in learning mathematics, and
8. Elicit and use evidence of student thinking.

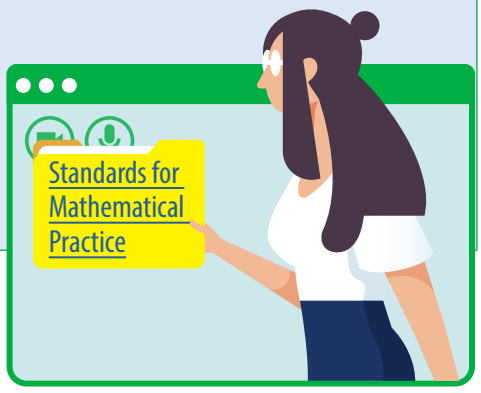
(NCTM, 2014)

ADA Compliant: 2/17/2022

The following table identifies evidence of this vision in action:

What **Students** *are* doing:	What **Teachers** *are* doing:	What **Leaders** *are* doing:
Students are engaging with mathematics through the Standards for Mathematical Practice, which looks like:	Teachers are engaging students with the Standards for Mathematical Practice through the Mathematics Teaching Practices, which looks like:	Leaders are engaging and providing space for teachers to engage with the Standards for Mathematical Practice through the Mathematics Teaching Practices, which looks like:
■ Opportunities to engage with mathematics in an asset-based manner where all students are seen as mathematically competent. ■ Actively engaging in solving context-rich and cognitively deep problems that are aligned with the appropriate grade level Utah Core Standards. ■ Regularly engaging in student-led mathematical discourse about thinking and reasoning. ■ Exploring and grappling with mathematical ideas before conjecturing about them.	■ Believing in asset-based ways for students to engage with mathematics by allowing all learners to be seen as mathematically competent. ■ Regularly communicating that everyone can achieve mathematical success. ■ Clearly communicating learning intentions and success criteria with learners. ■ Carefully selecting rich tasks that support mathematical reasoning, sense making, and problem solving and are aligned with the appropriate grade level Utah Core Standards. ■ Crafting and asking targeted questions that help students focus on key mathematical understandings. ■ Facilitating student-led mathematical discourse. ■ Regularly collecting and using formal and informal evidence to assess student learning and adjusting instruction as necessary to personalize the learning experience for learners.	■ Believing in and communicating asset-based ways for teachers to engage students and allowing all learners to be seen as mathematically competent. ■ Regularly communicating that everyone can achieve mathematical success. ■ Providing time and space for mathematics teachers to engage in collaboration. ■ Organizing resources around a shared, evidence-informed vision of student mathematical competency. ■ Providing time and space for mathematics educators to engage in collaborative goal-setting. ■ Implementing and monitor strategies that support local mathematics goals, resulting in student and teacher growth.





References

National Council of Teachers of Mathematics. (2014). *Principles to Actions: Ensuring Mathematical Success For All*. National Council of Teachers of Mathematics.