



**GOVERNING BOARD AGENDA ITEM
AMPHITHEATER UNIFIED SCHOOL DISTRICT NO. 10**

DATE OF MEETING: March 24, 2026

TITLE: Study of K-12 STEM Education

BACKGROUND:

The Office of Learning and Instruction previously presented the district's K–12 core content and program curriculum work to the Governing Board on June 13, 2023, and June 27, 2023. Elementary and secondary mathematics and science curriculum updates were presented on June 27, 2023. Since that time, a new K–12 science curriculum has been adopted and implemented across the district. This presentation provides an overview of the newly adopted science curriculum and highlights the district's approach to STEM education across grades K–12.

Alignment of instructional materials to AZ Science Standards

In 2018, the Arizona Science Standards were revised to reflect current scientific advancements and promote a more interdisciplinary approach to science education. These changes shifted science instruction from a focus on rote memorization to an emphasis on critical thinking, problem-solving, and hands-on learning. The revised standards encourage inquiry-based instruction, where students actively engage in investigations and apply scientific concepts to real-world situations.

The Arizona Science Standards are organized around three integrated dimensions:

Science and Engineering Practices:

This dimension focuses on the skills and behaviors scientists and engineers use to investigate the natural world and design solutions. These practices include asking questions, developing and using models, analyzing data, and constructing explanations based on evidence.

Crosscutting Concepts:

These concepts apply across all scientific disciplines and help students make connections between ideas. Examples include patterns, cause and effect, systems and system models, and stability and change.

Core Ideas:

Core ideas represent the fundamental concepts within physical science, life science, earth and space science, and engineering. These ideas are intentionally designed to spiral across grade levels, allowing students to revisit and deepen their understanding over time.

Together, these three dimensions create an integrated approach to science education that prepares students for real-world problem-solving and innovation. The Arizona statewide science assessment (AzSCI) reflects this vision by measuring not only students' knowledge of core content but also their ability to apply scientific practices and connect ideas across disciplines.

In Spring 2025, Amphitheater Public Schools adopted Tier 1 instructional materials for elementary and middle school grades, as well as for core high school science courses. These curricula align with Arizona Science Standards and provide teachers with high-quality instructional resources that support effective science instruction.

Elementary Science:

At the elementary level, the district utilizes Picture-Perfect Science and Mystery Science to support science instruction in grades K–5. Both programs are designed around the 5E Instructional Model (Engage, Explore, Explain, Elaborate, and Evaluate), which guides students through structured inquiry and promotes active learning.

These programs support three-dimensional learning aligned with the Arizona Science Standards and prepare students for the “sense-making” approach required by the AzSCI assessment. Picture-Perfect Science also integrates English Language Arts through the use of high-quality picture books and embedded literacy strategies, helping students develop reading, writing, and communication skills while engaging in scientific investigation.

Both curricula had been used as supplemental resources prior to their formal adoption in Spring 2025. Through continued analysis of our guaranteed and viable curriculum—ensuring equitable access to essential learning and skills within available instructional time—the district determined that these programs strongly support the standards and instructional goals. The district’s unified goal is to provide learning experiences in which students inquire, explore, discover, think critically, and draw evidence-based conclusions.

To support successful implementation, the Office of Learning and Instruction has provided ongoing professional learning and resources for teachers across the district, including:

- Instructional guides for each teacher outlining the scope and sequence aligned to Arizona Science Standards, recommended trade books for each lesson, and materials lists to support lesson preparation. Training was provided prior to the start of the school year in July 2026.
- Mystery Science professional learning sessions provided at the start of the school year, with additional training opportunities in September 2025 and January 2026.
- Collaborative planning opportunities facilitated by the Office of Learning and Instruction in September 2025, with an additional session scheduled for April 2026.

Secondary Science

For grades 6–12, the district adopted the SAVVAS Science curriculum, which is designed to align with the three-dimensional framework of the Arizona Science Standards. By integrating Science and Engineering Practices, Crosscutting Concepts, and Core Ideas, the curriculum emphasizes active “sense-making” and student engagement rather than memorization of isolated facts.

The programs center on real-world phenomena and hands-on investigations that mirror the performance tasks included in the AzSCI assessment administered in Grades 8 and 11. Students apply their knowledge to analyze scientific problems, conduct investigations, and develop explanations supported by evidence. Instructional tools such as the Student Activity Companion help students document and refine their thinking throughout the inquiry process.

The curriculum also supports student achievement through disciplinary literacy development and targeted differentiation strategies. These features help ensure that students develop the analytical and problem-solving skills necessary for success in high school science courses and future STEM pathways.

To support implementation of the new curriculum, the Office of Learning and Instruction has:

- Provided launch training for all middle and high school science teachers, facilitated by SAVVAS Learning before the start of the 2025 school year.

- Offered follow-up question-and-answer sessions with SAVVAS content experts to support instructional planning and address implementation questions.
- Facilitated Communities of Practice throughout the school year for middle and high school science teachers, led by the district’s Secondary Science and STEM Coordinator.
- Supported department heads through the Secondary Curriculum Collaborative to develop learning continuums aligned with Arizona Science Standards and clearly define essential learning outcomes for each course.

STEM Education in Amphi

Amphitheater Public Schools delivers STEM education through a progressive, developmentally aligned approach. In elementary school, students engage in hands-on exploration and engineering challenges that build curiosity and foundational problem-solving skills. In middle school, learning expands to include inquiry-based science and project-based technology and engineering experiences. By high school, students have access to specialized STEM coursework and career pathway programs that support college and career readiness.

Elementary STEM:

At the elementary level, STEM concepts are integrated into daily learning experiences. Students explore topics such as the environment, space, and energy while applying mathematics and science to real-world situations. Programs such as Picture-Perfect Science integrate literacy and science instruction, while engineering design challenges encourage students to test solutions, evaluate results, and refine their ideas using the Engineering Design Process.

Middle School STEM:

Middle school STEM instruction emphasizes inquiry-based science and project-based learning. Students investigate physical science, earth and space science, and life science through hands-on experiments and real-world phenomena. Middle schools also offer electives in STEM and technology, allowing students to apply their learning to authentic design challenges. Another elective option is an Introduction to CTE, designed to explore science and technology career pathways.

High School STEM:

At the high school level, students can pursue advanced STEM coursework that develops critical thinking and problem-solving skills. Courses include Bioscience, Construction Technology, Engineering, Nursing Services/Health Care Foundations, Computer Science Principles, and AP Calculus. Students may also participate in SARSEF, Career and Technical Education (CTE) programs, and dual enrollment opportunities.

These programs allow students to earn industry-recognized certifications such as Certified Nursing Assistant (CNA), CompTIA IT Fundamentals, and Emergency Medical Responder. Across the district, STEM learning emphasizes collaboration, creativity, innovation, and real-world problem solving. Many schools also provide makerspaces, robotics programs, coding experiences, and engineering challenges that encourage students to design and build solutions to authentic problems.

Future Goals for Elementary and Secondary STEM:

Amphitheater Public Schools recently received an APS Foundation grant to partner with KnowledgeWorks to strengthen and expand K–12 STEM pathways across the district. Building on the work with the Arizona Personalized Learning Network, this initiative will help create a cohesive STEM feeder pattern connecting elementary, middle, and high school learning experiences.

Through this work, students will engage in inquiry-based STEM learning from an early age and transition into increasingly advanced coursework and career exploration opportunities as they progress through school. The initiative is designed to increase student engagement in STEM, expand

equitable access to high-quality STEM learning opportunities, and better prepare students for college and careers in an increasingly technology-driven workforce.

KnowledgeWorks will support the district by facilitating professional learning for educators, providing coaching for school leadership teams, and assisting schools in designing systems that integrate STEM practices across grade levels and subject areas. Through virtual design sessions, in-person convenings, and ongoing coaching, participating school teams will collaborate to strengthen STEM instruction, cultivate a culture of inquiry and innovation, and connect classroom learning to real-world STEM careers.

This partnership will help build sustainable systems that expand opportunities for students and strengthen STEM education across the district.

RECOMMENDATION:

This presentation is provided for study by the Governing Board.

INITIATED BY:

Tassi Call

Tassi Call, Associate Superintendent for Elementary Education K-5

Date: March 17, 2026

Todd A. Jaeger

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