

## **AASD Science Guiding Principles**

### **With respect to Student Learning, we believe...**

- every student is capable of learning science.
- learning is a collaborative responsibility.
- all students bring strengths and experiences to learning.
- responsive environments engage learners.

### **With respect to Instructional Practices, we believe...**

- science instruction should engage students in science so they are thinking and performing as scientists and engineers.
- there should be an emphasis in science classrooms on activities that engage students in inquiry and problem-solving about significant scientific issues and natural phenomenon that foster a connection between application and understanding.
- teaching science is a dynamic process in which best practice evolves.
- effective science programs use differentiated instructional strategies that provide students with multiple opportunities to master and demonstrate their understanding of the science and engineering standards.
- science instruction naturally integrates various content areas and does not take place in isolation.
- science instruction must be rigorous and relevant.

### **With respect to Curriculum & Assessment, we believe...**

- curriculum implementation should be consistent across the Appleton Area School District (AASD).
- purposeful (formative and summative) assessments drive instruction.
- classroom assessments should measure both the progression of learning and the overall proficiency toward understanding specific content.
- there should be a variety of assessments in science, including performance tasks, or activities.
- it is important to have a consistently followed scope and sequence for science courses.
- summative assessments used in science should measure the established grade reporting criteria.

**We believe Professional Development should...**

- be district-wide, purposeful, ongoing, and responsive to staff members' differentiated needs.
- include coaching/mentoring within classrooms; coaches/mentors need to be educated experts and passionate champions.
  - Example: Teachers observing other teachers in their classrooms and engage in professional discussion around teaching and learning.
- bridge staff members from current practices to the NGSS research driven best practices while also including collaboration with additional district resources (Special Education, ELL, Literacy Coaches, etc.).
- be based on teachers having an obligation to participate in and shape the ongoing professional development necessary to achieve expected student outcomes.
- provide guidance and support to teachers to implement the curriculum scope and sequence.
- provide teachers with strategies that may be utilized in the classroom in addition to philosophical theories.

**With respect to Multi-Level System of Supports, we believe...**

- high quality universal instruction grounded in best practices will ensure the highest levels of academic and behavioral success for all students.
- culturally responsive practices lead to increased academic outcomes for students in science.
- instruction needs to be differentiated to appropriately address student needs for learning science.
  - Example: Scaffolded instruction, reteaching, gradual release of responsibility, teaching academic vocabulary etc.

**With respect to Technology & Science Instruction, we believe...**

- proper use of technology will enhance science instruction, while also providing students with increased levels of scientific discourse within the classroom and beyond.

**With respect to Science Resources & Materials, we believe...**

- effective science programs have adequate instructional resources as well as library-media and administrative support.
- students should have access to equitable and comparable experiences in science throughout the district.
- there needs to be a variety of leveled text for students to access a deeper understanding.
- adopted and supplemented materials used in science are directly aligned to our AASD Guiding Principles and AASD Best Practices & Pedagogy for Teaching Science documents for supporting best practices in science education.