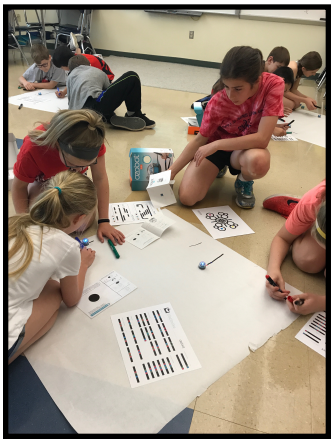
STEAM

FREQUENTLY ASKED QUESTIONS

What is STEAM?

STEAM education is an approach to teaching and learning that integrates the content and skills of science, technology, engineering, the arts and mathematics. While originally designed to encourage students to pursue careers in these areas, STEAM education has evolved into a unique approach to teaching and learning that fosters collaboration, communication, creativity and innovative thinking in all students. The WASD STEAM program encourages students to research, explore, and try different options on their way to a successful result.



Why is STEAM important for our students?

Every job within the 21st Century is likely to require some amount of skill in science, technology, engineering, art or mathematics. The integration of engineering and technology within the mathematics and science curriculum make instruction more meaningful and engaging as well as provides students with critical skills needed for success in the 21st Century.

What has the District done to prepare for STEAM?

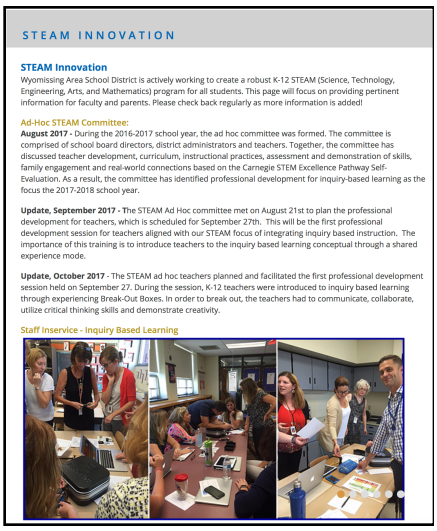
During the 2016-2017 school year:

- Board members, administrators and teachers visited numerous STEM schools to learn from other educators who are have implemented STEM Programs.
- The STEAM Ad Hoc group, comprised of board members, administrators and teachers was formed.
- The STEAM Ad Hoc group completed the Carnegie STEM Excellence Pathway Self-Evaluation of the six STEM learning components (teacher development, curriculum, instructional practices, assessment and demonstration of skills, family engagement and real-world connections).
- The STEAM Ad Hoc group identified three priority areas: Professional Development, Inquiry Based Teaching and Peer Mentoring and Coaching of Teachers.
  - For the 2017-2018 school year, the STEAM Ad Hoc group planned professional development focused on inquiry based instruction.

FREQUENTLY ASKED QUESTIONS (Continued)

Current Implementation Steps?

The WASD implemented the technology infrastructure to support STEAM K-12. Ongoing professional development to enhance teacher knowledge and understanding of inquiry-based learning theory. Additional instructional materials to support inquiry based instruction. Hands on in-service trainings incorporating the use of new instructional materials. In August, the District launched the STEAM page on the district website to communicate our progress with STEAM initiatives to staff, parents and community members.



STEAM INNOVATION

STEAM Innovation

Wyomissing Area School District is actively working to create a robust K-12 STEAM (Science, Technology, Engineering, Arts, and Mathematics) program for all students. This page will focus on providing pertinent information for faculty and parents. Please check back regularly as more information is added!

Ad-Hoc STEAM Committee:

August 2017 - During the 2016-2017 school year, the ad hoc committee was formed. The committee is comprised of school board directors, district administrators and teachers. Together, the committee has discussed teacher development, curriculum, instructional practices, assessment and demonstration of skills, family engagement and real-world connections based on the Carnegie STEM Excellence Pathway Self-Evaluation. As a result, the committee has identified professional development for inquiry-based learning as the focus the 2017-2018 school year.

Update, September 2017 - The STEAM Ad Hoc committee met on August 21st to plan the professional development for teachers, which is scheduled for September 27th. This will be the first professional development session for teachers aligned with our STEAM focus of integrating inquiry based instruction. The importance of this training is to introduce teachers to the inquiry based learning conceptual through a shared experience mode.

Update, October 2017 - The STEAM ad hoc teachers planned and facilitated the first professional development session held on September 27. During the session, K-12 teachers were introduced to inquiry based learning through experiencing Break-Out Boxes. In order to break out, the teachers had to communicate, collaborate, utilize critical thinking skills and demonstrate creativity.

Staff Inservice - Inquiry Based Learning

WHEC

- Identified resources to outfit the STEAM Design Center.
- Began teacher professional development training.
- Planned mid-year deployment of student devices
  - Grades K-2 shared class sets
  - Grades 3 and 4 individual class sets

WREC

- Expanded the use of iPads to a full 1:1 implementation.
- Transitioned the computer lab to a STEAM Design Center.
- Consulted with Office Depot to identify storage and furniture needs for the STEAM Design Center.
- Incorporated STEAM materials provided by WAEF along with donated materials.
- STEAM materials available for classroom use.
- Lesson plans and activities to support the use of STEAM materials.
- Ongoing Teacher training on how to incorporate the materials into instruction.

JSHS

- Currently, over 25 courses incorporating STEAM related content offered as part of the JSHS Program of Studies.
- Reviewed Architect renderings of the STEAM Design Wing at the JSHS with Teacher focus group.
- Reviewing course offerings to align to a STEAM Instructional Framework.

Next Steps?

Continue to develop the WASD STEAM program outlining the following components:

- Instructional Framework
- Curriculum Development
- Staffing Needs
- Facilities Improvements
- Technology Integration
- Opportunities for Community Engagement