BRINGING STEM EDUCATION TO THE STUDENTS IN CAMPBELL

STEM is an acronym for Science, Technology, Engineering and Math education. We focus on these areas together not only because the skills and knowledge in each discipline are essential for student success, but also because these fields are deeply intertwined in the real world and in how students learn most effectively. STEM is an interdisciplinary and applied approach that is coupled with hands-on, problem-based learning.

A STEM-literate student is not only an innovator and critical thinker, but is able to make meaningful connections between school, community, work and global issues. STEM skills are increasingly necessary to engage in a knowledge-based economy. There is solid evidence to suggest that the fastest-growing and highest-wage jobs in future years will be in STEM fields and all employees will need to utilize STEM skills for problem solving in a wide range of industries.

The implementation of STEM is fast approaching in Campbell City Schools. The Campbell City Schools has entered into a partnetrship with AST2 to bring STEM education to the students of Campbell. The following is information about the INVENTORcloud Progrma and the STORM cloud was taken from the AST2 website and can be found at http://www.ast2.net/wp/?page_id=101.

INVENTOR*cloud*™ Program

The INVENTOR*cloud*™ Program, developed by AST2, is a comprehensive program that offers inquiry and problem based learning in a unique, technology-rich environment for students. INVENTOR*cloud* utilizes hardware technology and software applications to integrate innovation, creativity and design thinking with 21st century career and life skills.

INVENTOR*cloud* challenges students, individually and as teams, to collaborate in problem-based activities to solve real-world challenges. Students apply the design process using computer design and visualization tools to create virtual prototypes which are then produced with rapid prototyping equipment. INVENTOR*cloud*, through virtual presence technology, enables students to remotely access STORM:Lab's rapid prototyping equipment such as 3D printers, laser cutters and mills to turn virtual prototypes into reality.

INVENTOR*cloud* curricula are digital courses for a digital classroom. Content is derived from relevant videos, articles and subject matter sources. The rich, dynamic content creates thought- provoking and interesting courses for a broad range of students. Courses are aligned with Common Core State Standards and select state career & technical education standards and are eligible for dual credit.

The prerequisite Innovation, Creativity and Design Thinking (ICDT) course explores facets of creativity, design and innovation. Scientific processes, critique, brainstorming and ethics, are integrated with 21st century skills of critical thinking, collaboration and communication. Subsequent courses include ICDT: Environmental Sustainability, ICDT: Bio Technologies and ICDT: Creative Entrepreneurship. Learn more at INVENTOR*cloud*.

STORM: Virtual Collaborative Learning Environment

AST2 developed STORM, a secure, private cloud computing technology to integrate equipment, people, information and resources that creates a Virtual Collaborative Learning Environment (VCLE). The technology enables collaboration, research, co-creation, and information sharing among co-located and

geographically distributed people in virtual and mixed reality environments. VCLE is the platform technology for INVENTOR*cloud* and applications in workforce development and industry.

STORM:TeamUp enables access to INVENTOR*cloud* courses as well as digital journals, blogs, calendars, resource scheduling and project management.

STORM:Lab and STORM:Tool supports remote operation of digitally controlled rapid prototyping equipment such as CNC mills, laser cutters and routers, and 3D printers. Support and instruction by STORM:Lab staff is provided through virtual presence by video, audio, text, and operational interaction and control with collaboration.