

BNS Computer Lab and Technology Class Description:

Every middle school BNS student partakes in a Computer Lab and Technology class each year.

This class includes a review of Google Drive and basic computer programs, as well as regular typing practice. Students complete lessons through Typing.com working towards a goal of touch typing consistently at a speed of at least 35 wpm by the end of 8th grade.

The Tech Ed. portion of the class uses the Standards of Technological Literacy (STLs) set forth by ITEEA for guidance. Below are highlighted goals broken up by grade:

6th Grade:

- Students explore the seven different fields of technology as described in the STLs: medical, agricultural and biotechnologies, energy and power, information and communication, transportation, manufacturing, and construction.
- Students learn how to approach and think through problems based on real world scenarios.
- Students are introduced to the engineering design process utilizing it to complete a series of small engineering and/or technology projects under one of the fields of technology.
- Students demonstrate the basics of completing technical drawings and 3D modeling to design a technological solution.
- Students explore technology and engineering related careers.



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7th Grade:

- Students develop problem solving skills by brainstorming solutions to real world scenarios.
- Students demonstrate the ability to use a design process to assess a problem and design a solution.
- Students evaluate how technological systems can be improved and evolve over time.
- By examining global engineering challenges, students explore the impact of technology in society.
- Students explore copyright and trademark laws, including Fair Use, evaluating their impacts on technology and modern society.

8th Grade:

- Students continue to develop their ability to problem solve and use a design process while working to address open-ended problems.
- Students analyze the relationship between technology and society by discussing current events.
- Students examine how different fields of study work together towards a common goal.
- Students investigate using electronic and microcontroller systems.
- Students are presented opportunities to further explore different areas of technology and its uses based on their interest. These opportunities might include working in animation, game design, robotics, and video editing, as well as areas of engineering.



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Technology Student Association Participation:

Blacksburg New School participates as a chapter of the Technology Student Association (TSA). Students choose a challenge from the yearly provided event list to work on independently or with a group. These challenges allow students a chance to explore an area of technology we may not otherwise cover as a class, such as video game design, photo editing, animation, or looking more closely at a specific technology or engineering field. Students may decide to compete in the regional or state competition.

FIRST Lego League:

Students have the option to participate in the FIRST Lego League (FLL) robotics competition each year as part of an after school program. As a team, students learn to build and program an EV3 Lego robot to complete various tasks based on the year's theme. These robots can be programmed using a drag-and-drop language or with Python. Students learn how to make use of different sensors to help guide their robot around the field as they must run autonomously. Additionally, students spend time learning about a specified field of technology or engineering while working to design a solution to a provided problem based on the year's theme.