WARWICK VALLEY CENTRAL SCHOOL DISTRICT

225 West Street - PO Box 595
Warwick, NY 10990
(845)987-3000

TECHNOLOGY PLAN

2015-16 through 2017-18

Warwick Valley Central School District
TECHNOLOGY PLAN
2015-2018

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BOARD OF EDUCATION MISSION AND GOALS

Warwick Valley Central School District Board of Education Mission Statement:

To provide all students with the necessary skills to thrive in the 21st Century as learners, workers and citizens.

Board of Education Goals:

To create an educational system that supports learning in a changing society and prepares all students for a successful life in and beyond school through:

- Continuous collaborative improvement of instruction and instructional leadership that supports delivery of 21st Century skills

- Continuous data-driven improvement in student performance, engagement and satisfaction using relevant assessments that measure 21st Century outcomes

- Supporting student success in home, school and community

- Fostering a culture where individuals are valued and engaged

EXECUTIVE SUMMARY

The mission of the Warwick Valley Central School District's Board of Education is to provide all students with the necessary skills to thrive in the 21st century as learners, workers, and citizens.

In its commitment to preparing students for a 21st Century global economy, the Board of Education has supported the building of a cutting-edge technology infrastructure that will allow the district to keep pace with a rapid changing educational technology landscape and provide students with greater opportunities to rich multimedia and Internet resources in and out of school. The technology resources will also allow students to communicate and collaborate with their peers, become problem solvers and proficient in information literacy.

The District technology department is charged with leveraging the robust technology infrastructure and resources to support a dynamic and exciting teaching and learning process, and provide opportunities for personalized learning.
The technology plan is a dynamic plan that can be updated to reflect trends in technology development and applicable mandates. Its purpose is to provide the District with a road map for the next three years (2016-2018), which will guide its technology maintenance and upgrades, while focusing on supporting the teaching and learning process.

According to the International Society on Technology Education (ISTE), "Today's students need to be able to use technology to analyze, learn, and explore. Digital age skills are vital for preparing

students to work, live and contribute to the social and civic fabric of their communities." The District is committed to maintaining a reliable, secured, manageable and scalable technology infrastructure, to provide exciting learning opportunities for its students.

The technology plan was developed with continued support from the Board of Education, Superintendent, Assistant Superintendent of Curriculum and Instructional Services, District Technology Committee and Department of Technology.

CURRICULUM AND INSTRUCTION

The Warwick Valley Central School District's is fully committed to using technology to enhance its curriculum and instructional practices. We will also be focusing on using technology effectively to develop students' skills in information literacy, critical thinking, problem solving, research, communication and collaboration. We have identified goals and objectives to help guide us in maximizing the District's technology resources to benefit our students.

Goals:

Goal 1: The Warwick Valley Central School District is committed to maintain its network infrastructure to support digital, blended and online learning.

Goal 2: The Warwick Valley Central School District is committed to maintaining a wireless infrastructure to provide students with greater access to rigorous and rich online educational content, through a Bring Your Own Device model and 1:1 computer to student ratio.

Goal 3: The Warwick Valley Central School District is committed to provide learning environments that can support multimedia rich learning experiences for all students.

Goal 4: The Warwick Valley Central School District will continue to support a cloud based environment to provide ubiquitous access to learning resources

Goal 5: The Warwick Valley Central School District is committed to increase student achievement by providing professional development opportunities for its teachers in integrating technological applications to classroom curriculum, instruction and data management.

OBJECTIVES/ TIMELINE/ DESCRIPTION/ DOCUMENTATION

Goal 1: The Warwick Valley Central School District is committed to maintain its network infrastructure to support digital, blended and online learning.

Objective 1A: Google devices will continue to roll out Chrome devices and upgrade its interactive White Boards

Objective 1B: The District will maintain, and upgrade its core network infrastructure as needed to maintain a high level of services to its users.

Objective 1C: The District will create a communication/library-media center in the high school with state of the art technology throughout the area.
Objective 1D: The District will continue to plan and support the use of technology in special education settings including assistive technology

ACTIVITY	TIMELINE	DESCRIPTION	DOCUMENTATION
Communicate to stakeholders	Ongoing	Board presentation and newsletters	Project plan and inventory
Conduct and review hardware inventory	Ongoing	We just finished a full review of all of our technology including peripherals. We put a scannable asset tag on each device so it will be easier going forward	Inventory template
Plan to acquire new hardware	July 2015 July 2016 July 2017	District office will work with teachers and administrators to determine needs	Hardware acquisition plan

Upgrade images on replacement computers	July-August 2015 July-August 2016 July-August 2017	Master image will be created to support the needs of the curriculum	Desktop application audit
Conduct an audit of the network infrastructure	April-June 2013	The ASI will work with independent contractors	Inventory/Network documentation/purchase orders
Review IEPS for appropriate technology implementation with our special education policy	ongoing	The ASI, the Director of PPS, and the Supervisor of Special education will meet regularly to review IEPs and determine what technology is needed. They will also bring in outside consultants when needed	IEPs
Continue to use online resources to support the RTI process	Ongoing	The ASI, Educational evaluators, and other service providers will continue to work with teachers and students to analyze data from the online resources to determine what resources are working and what most benefits our students	Data from online resources/RTI Plans

Goal 2: The Warwick Valley Central School District is committed to build a wireless infrastructure to provide students with greater access to rigorous and rich online educational content, through a Bring Your Own Device model and low computer to student ratio.

Objective 2 A: A wall to wall wireless infrastructure will be maintained and upgraded at all district buildings to support the use of district owned mobile devices, a Bring Your Own Device (BYOD) model and low computer to student ratio.

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ACTIVITY	TIMELINE	DESCRIPTION	DOCUMENTATION
Communicate to stakeholders	Ongoing	Board presentations and newsletters.	Project plan
Identify funds to maintain	March-2016 March-2017 March 2018	Assistant Superintendent of Business	District budget
Upgrade and replace wireless at both elementaries	July 2015	Switch from Cisco to Meru wirelss	Purchase orders

Goal 3: The Warwick Valley Central School District is committed to provide learning environments that can support multimedia rich learning experiences for all students.

Objective 3A: The District will maintain the current Smart Boards and start to invest in interactive televisions. These interactive televisions will be connected to the classroom computers for the use of the Internet and multimedia.

Objective 3B: The District will create a communication suite at the HS with all new computers for multimedia productions such as video editing and development

Objective 3C: The District will continue to support and foster a relationship with the community members and local private schools within its boundaries.

ACTIVITY	TIMELINE	DESCRIPTION	DOCUMENTATION
Communicate to stakeholders	Ongoing	Board presentations and newsletters.	Project Plan
Conduct a needs assessment of Interactive TVs and which classrooms should receive the first ones	July 2015	Tech dept.	Inventory PD Plan Survey of admins and staff
Develop plans and create a whole new communication suite	July2015-September 2016	Office of Technology Business office Building and Grounds	Purchase orders
Coordinate with Business Office and Buildings & Grounds	March- August 2015 March- August 2016 March- August 2017	Tech Dept. communicate with the Director of B&G	Project plan
Coordinate and support the local private schools in the district's boundaries	Ongoing	Will advise the local private schools on trends in instructional technology and invite them to PD opportunities that the district has	PD Plan

Goal 4: The Warwick Valley Central School District will continue to support a cloud based environment to provide ubiquitous access to learning resources.

Objective 4 A: The District will plan on maintaining the cloud based environment and provide continued professional development around this

ACTIVITY	TIMELINE	DESCRIPTION	DOCUMENTATION
Communicate to stakeholders	Ongoing	Identify best practices to support technology integration	Research and Best Practices
Review curriculum needs	Ongoing	Assistant Superintendent	Curriculum and Management Learning Solutions
Plan for professional development	Ongoing	ASI with ASB	Purchase orders PD Plan

PROFESSIONAL DEVELOPMENT

Goal 5: The Warwick Valley Central School District is committed to increase student achievement by providing professional development opportunities for its teachers in integrating technological applications to classroom curriculum, instruction and data management.
The Warwick Valley Central School District recognizes that quality professional development has a significant and direct impact on instruction and learning. The district sees professional development as essential to the full achievement of its mission: To encourage programs and activities that will foster excellence and raise expectations of students, staff and community.

Objective 5 A: The District will use Bloom's digital taxonomy and the International Standards for Technology and Education (ISTE)standards as frameworks to plan and conduct its professional development in technology. The District will also leverage the use of online technology for the delivery of its professional development.

The following platforms will be used to conduct professional development sessions:

- Provide direct classroom support by modeling and coaching
- Using webinars, blogs, videoconferences, on-line learning and other social media
- Train the trainer, Learn one, Teach one
- Attending conferences
- In-Service courses
- Professional Learning Communities

The District maintains subscription to the instructional technology tools that are listed on it's website under student resources. They are chosen to support its curricula, response to intervention (RTI), and problem based learning. The District is committed to providing professional development to teachers in the effective use of these resources. These technology resources can be accessed using the Internet including mobile devices such as chromebooks, Smartphones, and tablets.

Technology Standards and Curriculum Mapping

Goal 6:

The notion of technology integration suggests that technology taught in isolation is not as effective as when technology is used in context. For instance, teaching students how to conduct internet research without a topic does not carry the same rigor or relevance as conducting research on the Gettysburg Address to write a history paper. Therefore, as we begin to map the district curriculum so to will we integrate clear and defined grade level technology standards. The intent is to integrate the technology standards into any content area and/or incorporate them into the content standards of other subjects.

OVERVIEW OF HARDWARE

The classrooms at the elementary level have either access to Chromebook carts or Android Tablets . Each elementary school has two computer laboratories. (Park has one that is mobile.)

At the middle and high school, classrooms have at least one computer that is used for both instructional and administrative functions. There are computer laboratories that are used for whole class instruction, and technology elective courses. There are also at 16 chromebook carts in each school.

Park Elementary School (K-4)

- All instructional areas connected to the Internet
- Grade and subject appropriate enrichment supporting ELA and Math
- An average of 1 Chromebook cart for every two classrooms
- All classrooms equipped with Smartboards and document cameras

- 4 network printers available for school-wide use
- Xerox copier available- Classrooms computers are connected to the Xerox
- 1 computer lab with 29 desktops
- 1 mobile Computer Lab
- All classrooms equipped with Cisco phones (VOIP)
- Wireless access points provided throughout the building

Sanfordville Elementary School (K-5)

- All instructional areas connected to the Internet
- Grade and subject appropriate enrichment supporting ELA and Math
- An average of 1 Chromebook cart for every two classrooms
- All classrooms equipped with Smartboards and document cameras
- Xerox copier available
- 2 computer labs with 30 desktops
- Library Media Center has a cluster of computers
- All classrooms equipped with Cisco phones (VOIP)
- Wireless coverage throughout

Warwick Valley Middle School (6-8)

- All instructional areas connected to the Internet

- Classrooms have an average of one desktop computer
- All classrooms equipped with Smartboards and most have document cameras
- 7 network printers available for school wide-use
- Xerox copier available
- 4 computer laboratories, 3 PC computer labs and 1 Apple
- All classrooms equipped with Cisco phones (VOIP)
- Wireless coverage throughout
- 16 mobile Chromebook carts

Warwick Valley High School

- All instructional areas connected to the Internet
- An average of one desktop computer in each classroom
- All Classrooms have Smartboards and several have document cameras
- 6 network printers available
- Xerox copier available
- 9 computer lab with 30 desktops each (8 PC and 1 Mac Lab)
- Library media center has 2 labs
- All classrooms equipped with Cisco phones (VOIP)
- Wireless access throughout
- Classroom printers are available
- 16 Chromebook carts

FUNDING AND BUDGET

The Warwick Valley Central School District relies heavily on its local budget to finance its technology projects, operations, acquisitions and maintenance. The District will aggressively seek grant opportunities and State funds to help finance its technology initiatives. We will also work with Orange Ulster BOCES to identify cost effective solutions to maintain our network infrastructure.

CATEGORY	PROJECTED 2015 – 2016	PROJECTED 2016 - 2017	PROJECTED 2017 - 2018
Network hardware (Switch, SAN, controller)	$200,000.00	$200,000.00	$100,000.00
Computer hardware (mobile devices, Interactive TVs and Smart Boards	$200,000.00	$250,000.00	$200,000.00
Supplies (cable, print cartridge, LCD bulbs)	$ 60,000.00	$ 60,000.00	$ 60,000.00
Instructional Software (K-12), Microsoft Campus Agreement, online resources and Administrative software (Internet, spam filter, desktop management, MDM)	$ 250,000	$ 250,000	$ 250,000
Purchased services, (VCenter, SAN, Active Directory upgrades)	$ 20,000	$ 20,000	$ 20,000
Equipment Repair	$730,000	$780,000	$630,000

MONITORING AND EVALUATION

The District is committed to monitoring and evaluating the impact of the technology plan on supporting the teaching and learning process. We will use teacher and student surveys, project documentations, formal and informal feedback and program evaluations to measure the effectiveness and efficiency of the plan.

Objective 1B: The District will maintain, and upgrade its core network infrastructure as needed to maintain a high level of services to its users

Action Steps	Timeline	Success Indicators	Data Sources
Building a more effective desktop management support system	July- August 2015	Closing 95% of service calls within 48 hours	IT Direct

Objective 2 A: The District will maintain a wireless infrastructure to support the use of district owned mobile devices, and low computer to student ratio.

Action Steps	Timeline	Success Indicators	Data Sources
Upgrade and maintain the wireless infrastructure at all buildings	Ongoing	Work completion according to expectations	Project documentation

Objective 3 A: The District will install Interactive televisions. These Televisions will be connected to the classroom computers for the use of the Internet and multimedia and will replace Interactive Boards (Smart Boards)

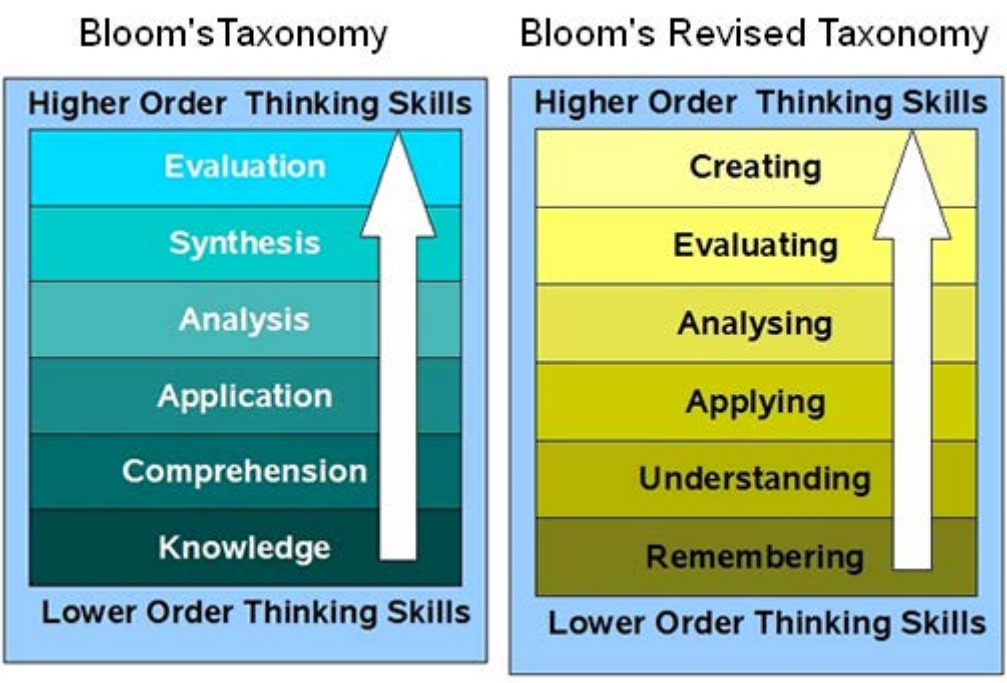
Action Steps	Timeline	Success Indicators	Data Sources
Install Interactive TVs	Ongoing	Physical installation	Project documentation

Objective 5 A: The District will use Bloom's digital taxonomy and the ISTE standards as frameworks to plan and conduct its professional development in technology. The District will also leverage the use of online technology for the delivery of its professional development.

Action Steps	Timeline	Success Indicators	Data Sources

Developing professional development materials and schedule training	Ongoing	Number of participants attending training Request for training Feedback from participants	Surveys Attendance forms

Appendix A: Bloom's Digital Taxonomy


Bloom's Taxonomy
Higher Order Thinking Skills
Evaluation
Synthesis
Analysis
Application
Comprehension
Knowledge
Lower Order Thinking Skills
Bloom's Revised Taxonomy
Higher Order Thinking Skills
Creating
Evaluating
Analysing
Applying
Understanding
Remembering
Lower Order Thinking Skills

Appendix B: ISTE for Administrators

ISTE NATIONAL EDUCATIONAL TECHNOLOGY STANDARDS (NETS) AND PERFORMANCE INDICATORS FOR ADMINISTRATORS

(Developed by the TSSA Collaborative and adopted by ISTE NETS)

I. LEADERSHIP AND VISION—Educational leaders inspire a shared vision for comprehensive integration of technology and foster an environment and culture conducive to the realization of that vision.

Educational leaders:

A. facilitate the shared development by all stakeholders of a vision for technology use and widely communicate that vision.

B. maintain an inclusive and cohesive process to develop, implement, and monitor a dynamic, long-range, and systemic technology plan to achieve the vision.

C. foster and nurture a culture of responsible risk-taking and advocate policies promoting continuous innovation with technology.

D. use data in making leadership decisions.

E. advocate for research-based effective practices in use of technology.

F. advocate, on the state and national levels, for policies, programs, and funding opportunities that support implementation of the district technology plan.

II. LEARNING AND TEACHING—Educational leaders ensure that curricular design, instructional strategies, and learning environments integrate appropriate technologies to maximize learning and teaching.

Educational leaders:

A. identify, use, evaluate, and promote appropriate technologies to enhance and support instruction and standards-based curriculum leading to high levels of student achievement.

B. facilitate and support collaborative technology-enriched learning environments conducive to innovation for improved learning.

C. provide for learner-centered environments that use technology to meet the individual and diverse needs of learners.

D. facilitate the use of technologies to support and enhance instructional methods that develop higher-level thinking, decision-making, and problem-solving skills.

E. provide for and ensure that faculty and staff take advantage of quality professional learning opportunities for improved learning and teaching with technology.

III. PRODUCTIVITY AND PROFESSIONAL PRACTICE—Educational leaders apply technology to enhance their professional practice and to increase their own productivity and that of others.

Educational leaders:

A. model the routine, intentional, and effective use of technology.

B. employ technology for communication and collaboration among colleagues, staff, parents, students, and the larger community.

C. create and participate in learning communities that stimulate, nurture, and support faculty and staff in using technology for improved productivity.

D. engage in sustained, job-related professional learning using technology resources.

E. maintain awareness of emerging technologies and their potential uses in education.

F. use technology to advance organizational improvement.

IV. SUPPORT, MANAGEMENT, AND OPERATIONS—Educational leaders ensure the integration of technology to support productive systems for learning and administration.

Educational leaders:

A. develop, implement, and monitor policies and guidelines to ensure compatibility of technologies.

B. implement and use integrated technology-based management and operations systems.

C. allocate financial and human resources to ensure complete and sustained implementation of the technology plan.

D. integrate strategic plans, technology plans, and other improvement plans and policies to align efforts and leverage resources.

E. implement procedures to drive continuous improvements of technology systems and to support technology replacement cycles.

V. ASSESSMENT AND EVALUATION—Educational leaders use technology to plan and implement comprehensive systems of effective assessment and evaluation.

Educational leaders:

A. use multiple methods to assess and evaluate appropriate uses of technology resources for learning, communication, and productivity.

B. use technology to collect and analyze data, interpret results, and communicate findings to improve instructional practice and student learning.

C. assess staff knowledge, skills, and performance in using technology and use results to facilitate quality professional development and to inform personnel decisions.

D. use technology to assess, evaluate, and manage administrative and operational systems.

VI. SOCIAL, LEGAL, AND ETHICAL ISSUES—Educational leaders understand the social, legal, and ethical issues related to technology and model responsible decision-making related to these issues.

Educational leaders:

A. ensure equity of access to technology resources that enable and empower all learners and educators.

B. identify, communicate, model, and enforce social, legal, and ethical practices to promote responsible use of technology.

C. promote and enforce privacy, security, and online safety related to the use of technology.

D. promote and enforce environmentally safe and healthy practices in the use of technology.

E. participate in the development of policies that clearly enforce copyright law and assign ownership of intellectual property developed with district resources.

The materials contained on this panel and on the reverse side of this poster were originally produced as a project of the Technology Standards for School Administrators Collaborative.

ISTE WEB SITE: WWW.ISTE.ORG

For more information, contact:

Don Knezek, Project Director
NETS for Administrators Project
TSSA Standards Project
ISTE's NCPT^3
University of North Texas
E-Mail: dknezek@iste.org
Phone: 210.313.7538

Lajeane G. Thomas, Director
ISTE NETS Project
Louisiana Tech University
E-Mail: lthomas@latech.edu
Phone: 318.257.3923

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Appendix C

International Society for Technology in Education

ISTE Standards Teachers

Effective teachers model and apply the ISTE Standards for Students (Standards•S) as they design, implement, and assess learning experiences to engage students and improve learning; enrich professional practice; and provide positive models for students, colleagues, and the community. All teachers should meet the following standards and performance indicators.

1. Facilitate and inspire student learning and creativity

Teachers use their knowledge of subject matter, teaching and learning, and technology to facilitate experiences that advance student learning, creativity, and innovation in both face-to-face and virtual environments.

a. Promote, support, and model creative and innovative thinking and inventiveness

b. Engage students in exploring real-world issues and solving authentic problems using digital tools and resources

c. Promote student reflection using collaborative tools to reveal and clarify students' conceptual understanding and thinking, planning, and creative processes

d. Model collaborative knowledge construction by engaging in learning with students, colleagues, and others in face-to-face and virtual environments

2. Design and develop digital age learning experiences and assessments

Teachers design, develop, and evaluate authentic learning experiences and assessments incorporating contemporary tools and resources to maximize content learning in context and to develop the knowledge, skills, and attitudes identified in the Standards•S.

a. Design or adapt relevant learning experiences that incorporate digital tools and resources to promote student learning and creativity

b. Develop technology-enriched learning environments that enable all students to pursue their individual curiosities and become active participants in setting their own educational goals, managing their own learning, and assessing their own progress

c. Customize and personalize learning activities to address students' diverse learning styles, working strategies, and abilities using digital tools and resources

d. Provide students with multiple and varied formative and summative assessments aligned with content and technology standards, and use resulting data to inform learning and teaching

3. Model digital age work and learning

Teachers exhibit knowledge, skills, and work processes representative of an innovative professional in a global and digital society.

a. Demonstrate fluency in technology systems and the transfer of current knowledge to new technologies and situations

b. Collaborate with students, peers, parents, and community members using digital tools and resources to support student success and innovation

c. Communicate relevant information and ideas effectively to students, parents, and peers using a variety of digital age media and formats

d. Model and facilitate effective use of current and emerging digital tools to locate, analyze, evaluate, and use information resources to support research and learning

4. Promote and model digital citizenship and responsibility

Teachers understand local and global societal issues and responsibilities in an evolving digital culture and exhibit legal and ethical behavior in their professional practices.

a. Advocate, model, and teach safe, legal, and ethical use of digital information and technology, including respect for copyright, intellectual property, and the appropriate documentation of sources

b. Address the diverse needs of all learners by using learner-centered strategies providing equitable access to appropriate digital tools and resources

c. Promote and model digital etiquette and responsible social interactions related to the use of technology and information

d. Develop and model cultural understanding and global awareness by engaging with colleagues and students of other cultures using digital age communication and collaboration tools

5. Engage in professional growth and leadership

Teachers continuously improve their professional practice, model lifelong learning, and exhibit leadership in their school and professional community by promoting and demonstrating the effective use of digital tools and resources.

a. Participate in local and global learning communities to explore creative applications of technology to improve student learning

b. Exhibit leadership by demonstrating a vision of technology infusion, participating in shared decision making and community building, and developing the leadership and technology skills of others

c. Evaluate and reflect on current research and professional practice on a regular basis to make effective use of existing and emerging digital tools and resources in support of student learning

d. Contribute to the effectiveness, vitality, and self-renewal of the teaching profession and of their school and community

ISTE® Standards

International Society for Technology in Education

ISTE Standards Students

1. Creativity and innovation

Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology.

a. Apply existing knowledge to generate new ideas, products, or processes

b. Create original works as a means of personal or group expression

c. Use models and simulations to explore complex systems and issues

d. Identify trends and forecast possibilities

2. Communication and collaboration

Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others.

a. Interact, collaborate, and publish with peers, experts, or others employing a variety of digital environments and media

b. Communicate information and ideas effectively to multiple audiences using a variety of media and formats

c. Develop cultural understanding and global awareness by engaging with learners of other cultures

d. Contribute to project teams to produce original works or solve problems

3. Research and information fluency

Students apply digital tools to gather, evaluate, and use information.

a. Plan strategies to guide inquiry

b. Locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media

c. Evaluate and select information sources and digital tools based on the appropriateness to specific tasks

d. Process data and report results

4. Critical thinking, problem solving, and decision making

Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.

a. Identify and define authentic problems and significant questions for investigation

b. Plan and manage activities to develop a solution or complete a project

c. Collect and analyze data to identify solutions and/or make informed decisions

d. Use multiple processes and diverse perspectives to explore alternative solutions

5. Digital citizenship

Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.

a. Advocate and practice safe, legal, and responsible use of information and technology

b. Exhibit a positive attitude toward using technology that supports collaboration, learning, and productivity

c. Demonstrate personal responsibility for lifelong learning

d. Exhibit leadership for digital citizenship

6. Technology operations and concepts

Students demonstrate a sound understanding of technology concepts, systems, and operations.

a. Understand and use technology systems

b. Select and use applications effectively and productively

c. Troubleshoot systems and applications

d. Transfer current knowledge to learning of new technologies