NORTH HAMPTON SCHOOL

TECHNOLOGY PLAN

2021-2024

Education that empowers individuals to be caring,
competent, responsible citizens who value learning as a
lifelong process.

North Hampton School

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NORTH HAMPTON SCHOOL TECHNOLOGY PLAN

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INTRODUCTION

The following plan establishes specific action steps to budget for and implement instructional technology in the interest of enhancing learning and teaching in the North Hampton School over the next three school years. This Technology Plan is designed to provide a blueprint for district technology efforts and is based on the belief that technology should be embedded within practice, used for critical thinking, and be considered as a tool to support all learners including students, staff, and community members. Additionally, our technology program should ensure equity for all of our students and provide the professional development needed for learning and teaching.

DURING THIS THREE YEAR CYCLE, WE HOPE TO ADDRESS THE FOLLOWING GOALS:

1. Enhance student learning through the use of instructional technology
2. Provide high quality professional development for teachers to be able to effectively use instructional technology
3. Plan for the purchasing of devices and equipment that matches students' developmental levels and that has a defined life cycle plan
4. Maintain a robust network infrastructure that provides high performance wireless connectivity

Student Experience

1. Provide equitable access to technology

2. Inspire students to learn using technology and creativity

3. Promote collaboration with peers from all backgrounds

4. Foster problem solving and critical thinking

5. Enable students to showcase their learning digitally

6. Connect with the world outside our school

Staff Experience

1. Develop information technology skills and gain a better understanding of the power of data

2. Assess student performance using digital tools and resources

3. Participate in and use technology resources as a system of communication and collaboration

4. Showcase your professional successes and share best practices

5. Integrate technology into instruction to promote student engagement and learning

Early Elementary Grades PK-2

In the early elementary grades of K-2, our youngest learners use class sets of iPads. These students are dependent learners and are often working in small groups in the classroom learning to read, solving math problems, and investigating science and social studies. iPads are primarily used as learning centers in the classroom but can also be used for whole class use in a 1:1 environment for projects and individual use.

Primary Elementary Grades 3-5

In elementary grades 3-5, students begin reading to learn, have more independence in the classroom, and are developing skills in different subject areas. During this time, while they still spend most of their time in their one classroom, they have a class set of iPads that are accessible at any point in time. Each student will have a designated device as they are learning technology norms through their classroom teacher.

Middle School Grades 6-8

Our middle school students switch classes for each subject and have multiple teachers. Managing and organizing their academic day places demands on their executive functioning skills, for example setting short term goals, meeting due dates, and organizing materials for units of study. Students begin to use technology to communicate with their teachers using email and monitor their learning progress with PowerSchool. The technology program supports students in these efforts by providing technology, currently a Macbook Air, that travels with the student from class to class and potentially home each day.

In grades 6-8, our students are less dependent on the teacher for delivering the curriculum and are uncovering or even discovering information and ideas for themselves. They often work in small groups or teams on projects as they conduct this discovery. Students use their technology devices to conduct research, analyze data, and share their findings. Additionally, many of the formative and summative assessments are submitted digitally. This supports student engagement, equity, and skills development and allows for efficient and personalized feedback by teachers.

Management control systems are applied to the devices so internet filtering and other settings travel with the device.

Grade Span	K-2	3-5	6-8
Stages of Development	• Early Development • Beginning Independence	• Developing Skills • Developing Independence	• Exploring Interests • Moderate Independence • Team Learning • Protected Environment
Technology Program	1:1 in a classroom cart Learning tech norms with TIS and classroom teacher	1:1 in a classroom cart Learning tech norms with TIS and classroom teacher	1:1 Rotating classes 1:1 Take home

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CURRICULUM, INSTRUCTION, AND ASSESSMENT

Goal 1: Enhance student learning through the use of instructional technology

Objective 1: Students will be provided high quality instruction in 21st Century skills including: communication, collaboration, critical thinking, creativity, digital proficiency, and digital citizenship.

As a district we follow the most current ISTE standards and New Hampshire Information and the Communication Technologies Literacy Standards (NH ICT Literacy Standards). Technology is integrated into the delivery of curriculum, aligned with grade level competencies, and utilized for student assessment.

Core Beliefs about Educational Technology

1. Engagement and learning can increase with the use of technology.

2. Technology can support differentiation of instruction.

3. Active participation of students and their contribution to the learning process can increase with the use of technology.

4. Project and inquiry based learning experiences can be enhanced with the use of technology.

5. Technology supports broader collaboration opportunities both locally and globally.

6. 21st century communication requires fluency in the use of technology.

Digital Tools

Google Classroom and Seesaw are the two primary online platforms utilized for facilitating digital assignments, student work, digital portfolios, and parent/guardian communication. When a student becomes enrolled at NHS, they receive a Google account associated with our school domain (@nhs.sau21.org). G Suite for Education supports compliance with privacy laws, for example the Children's Online Privacy Protection Act (COPPA), the General Data Protection Regulation (GDPR) and Family Educational Rights and Privacy Act (FERPA).

As a district, we provide staff and students with a list of SAU-wide approved digital tools and applications such as Lexia, Freckle, and RAZ Plus that can be utilized to differentiate instruction, personalize learning, and enhance learning in the classroom.

Information and Communication Literacy

At NHS, teachers receive ongoing support for the integration of technology in the curriculum through instructional sessions with the Integration Specialist, email, and grade-level team meetings. Classroom and Unified Arts (UA) teachers also collaborate with the Library Media Specialist and Technology Integration Specialist for curriculum-based projects throughout the year.

Grades K-4

All students in grades K-4 participate in a weekly technology class as a part of their UA schedule. These classes are taught by the Technology Integration Specialist. Classes are designed to help students develop important skills to be able to integrate technology into their learning. During weekly technology classes, students learn: internet safety, digital citizenship, website navigation, proper keyboarding skills, word processing skills, desktop publishing skills, data display and graphing, beginning programming and coding, introduction to movie making, digital music composition, Google Suite for Education tools, and beginning computer animation. Working with students for five consecutive years (K-4) allows students to build and develop skills from year to year. Classes are often co-taught more than once a week when the classroom teacher and the technology integration specialist are collaborating on integrated projects.

Grade 5

As students enter the 5th grade they embark on a unique transition period between elementary and middle school. During this year, students have an opportunity to explore technology tools more independently. The Technology Integration Specialist and Library Media Specialist support 5th graders' use of technology to improve academic achievement by teaching them to be proficient with Destiny, the online catalog system for our school library. Students utilize online research techniques and evaluate resources to gather relevant information. Students find and evaluate websites, become familiar with digital citizenship, and use presentation software resources to create a research project and present it to their peers. Technology integration occurs on a regular basis through co-teaching with the classroom teachers. Keyboarding review occurs at this level utilizing online games that students can access from home in their free time.

Grades 6-8

Students in grades 6-8 build and expand upon technology skills acquired in their elementary years. Teachers are encouraged to keep a virtual version of their classroom in Google Classroom to promote 21st century learning skills for their students. Students actively use GSuite tools, such as Google Docs, Slides, Forms, Sheets, Drawings, Calendar, Classroom, and Sites.

In middle school, technology is integrated seamlessly into the curriculum and includes the use of Google Docs for word processing, Sheets for data collection and graphing, as well as Slides, Sites, and other web-based visual creators for presentations. Advanced tools such as movie making and editing and music composition are introduced using programs such as iMovie and GarageBand. Students are taught how to evaluate websites to maximize effective research. In addition, internet safety and ethical behavior are integrated into the curriculum at an age appropriate level.

Learning Activities	Timeline	Person/Team Responsible
K-4 Students learn about the digital nature of 21st Century skills through direct instruction in computer classes taught by technology integration specialist.	Ongoing	Technology Integration Specialist/Classroom Teachers
All Students utilize digital aspects of 21st Century skills as they are integrated into lessons taught by classroom teachers.	Ongoing	Technology Integration Specialist/ Classroom Teachers
Students in 3rd grade and above utilize keyboarding skills in regular classroom work 2-3 times/week.	Ongoing	Classroom Teachers
Formal keyboarding instruction begins in 2nd grade during computer class.	Ongoing	Technology Integration Specialist

Goal 1. Enhance student learning through the use of instructional technology

Objective 2. Provide equitable access to technology

Each classroom has a presentation system used for the delivery of engaging instruction. Our goal is to establish a universal classroom setup in every room. We believe that by providing equitable access to technology in all classrooms, students will have uniform access to presentation devices, sound systems, and document cameras to enhance teaching and learning.

In order to provide equity of access and to provide the most efficient training and support for technology devices, it is necessary to provide the same make and model of devices whenever possible across classrooms.

DEVICES

- iPads 1:1 for grades K-5
- Continue current plan of 1:1 laptops for grades 6-8
- iMac desktop computers in classrooms

PHONES

- IP500 V2 Phone System

PRESENTATION

- Smartboard for each classroom
    - Interactive software (Notebook software) allows teachers to plan lessons and presentations using slides and tools (ie. timers, digital rulers, partner generator, etc.).
    - Many curriculum resources are compatible with Smartboard technology (ie. digital Fundations materials, Bridges math games and resources, etc.).
    - Student devices connect wirelessly to share screens and present work.
    - Teachers can save presentations, including student work, for future use.
- Document camera for each classroom
    - Teachers can present from paper resources or hard copies of books.
    - Students can share work without recreating on the whiteboard.

AUDIO

- Redcat system for each classroom
  - System amplifies sound for all students.
  - Teachers can wear a wireless microphone.
  - System comes with second microphone for students to use/share ideas
  - Portability and battery power allow it to be used anywhere in the classroom and in other spaces, for example outdoors.
  - Research shows that all students benefit from sound amplification in the classroom.

Goal 2. Provide high quality professional development for teachers to be able to effectively use instructional technology

The North Hampton School District believes that high quality professional development is an integral part of the teaching and learning process. Teachers must promote the attainment of college and career ready skills by learning and incorporating appropriate technologies that increase student engagement/agency, promote higher-order thinking, connect students with authentic audiences, and boost achievement. In order to achieve this goal, teachers must adapt instructional practices to meet the individual needs of 21st century learners. Therefore, teachers must be properly trained to utilize and integrate technology to facilitate learning as outlined in the scope and sequence of ISTE technology skills. Effective professional learning opportunities will help to ensure that all students are provided with the technology skills needed to succeed in high school and beyond. In order to meet these goals and objectives, we will:

- Give teachers time for lesson development, skills practice, and collaboration to increase their technology integration skills.
- Offer various high quality technology training opportunities through large group, small group, and individual settings.
- Allow teachers to visit other classrooms in and out of the district to observe best practices supporting 21st century learning environments.
- Regularly provide technology tips and support to all teachers and staff.
- Develop an online resource library for technology related professional development opportunities.
- Schedule appropriate professional development opportunities for learning specific digital tools.
- Encourage teachers and staff to further develop their technology skills through additional online training

WORKSHOPS

These may include but are not limited to:
- SmartBoard for Education (Notebook software use)
- GSuite tools
- SeeSaw
- Freckle

COURSES

Formal courses including but are not limited to:
- Google Certified Educator 1 & 2
- Apple Educator

JOB EMBEDDED

Informal learning opportunities embedded within the contracted day which include but are not limited to:
- Professional Learning Communities
- Lesson Studies
- Classroom-embedded learning with Technology Integrationist

FUNDING

Goal 3: A purchasing plan for deploying devices and equipment that matches students' developmental levels, has a defined life cycle plan, and provides level funding in the budget.

DEVICES

- 3-Year Lease for 100 iPads to complete the 1:1 plan for K-5 ($298 each)
- 3-Year Applecare for Leased iPads ($81 each)
- Purchase keyboards and cases for 100 iPads in Year 1 ($100 each)
- Purchase 10 laptops in Year 1, in Year 2, and in Year 3 (replacements, staff, presentation, etc) ($1,000 each)
- Begin replacing MS laptops in Year 1 of *next* 3 year cycle (Year 4)

PRESENTATION DEVICES

- Purchase 5 to 7 Smartboards in Year 1 and in Year 2 ($7,000 each)
- Purchase 3 Redcat systems per year in Year 1 and in Year 2 ($1,160 each)
- Purchase Document cameras in Year 3 ($360 each)

YEAR ONE - 2021-2022   **Total: $88, 214**

First year in the 5-Year Lease for Wireless Network Upgrade	$5,500
First year in the 3-Year Lease for 100 ipads 3rd & 4th Grades	100 (x)($298)/3 years = $9,934
First year in the 3-Year Lease for Applecare	100 (x)($81)/3 years = $2,700
Charging and Storage Carts for Macbook/iPads	4 (x)($600) = $2,400
Purchase of keyboards and cases for 100 ipads	100 (x)($100) = $10,000
Purchase of 5 laptops (anticipated for new staff or replacement of student devices)	5 (x)($1,000) = $5,000
Purchase of 10 laptops as part of faculty/staff/building replacement cycle	10 (x)($1,000) = $10,000
Purchase of x Smartboards	5 (x)($7,000) = $35,000
Purchase of x Redcat systems	3 (x)($1,160) = $3,480
Mac Mini (Backup Windows server for server purchased in 2020 - 2021	1 (x)($1,200) = $1,200
Misc small equipment purchases - speakers, dongles for new laptops	$3,000

YEAR TWO - 2022-2023   **Total: $87,814**

Second year in the 5-Year Lease for Wireless Network Upgrade	$5,500
Second year in the 3-Year Lease for 100 ipads 3rd & 4th Grades	100 (x)($298)/3 years = $9,934
Second year in the 3-Year Lease for Applecare	100 (x)($81)/3 years = $2,700
Charging and Storage Carts for Macbook/iPads	6 (x)($600) = $3,600
Purchase of keyboards and cases for 100	100 (x)($100) = $10,000

ipads	
Purchase of 10 laptops as part of faculty/staff/building replacement cycle	10 (x)($1000) = $10,000
Purchase of desktops for office	2 (x)($1800) = $3,600
Printer Replacement	2 (x)($500) = $1,000
Purchase of x Smartboards	5 (x)($7,000) = $35,000
Purchase of x Redcat systems	3 (x)($1,160) = $3,480
Misc small equipment purchases - speakers, dongles for new laptops	$3,000

YEAR THREE - 2023-2024   Total: $88, 814

Third year in the 5-Year Lease for Wireless Network Upgrade	$5,500
Third year in the 3-Year Lease for 100 ipads 3rd & 4th Grades	100 (x)($298)/3 years = $9,934
Third year in the 3-Year Lease for Applecare	100 (x)($81)/3 years = $2,700
Charging and Storage Carts for Macbook/iPads	4 (x)($600) = $2,400
Purchase of desktops for lab	24 (x)($1000) = $24,000
Purchase of desktop for main office	1 (x)($1800) = $1,800
Printer Replacement	2 (x)($500) = $1,000
Purchase of x Smartboards (Replacing old models)	5 (x)($7,000) = $35,000
Purchase of x Redcat systems	3 (x)($1,160) = $3,480
Misc small equipment purchases - speakers, dongles for new laptops	$3,000

GOAL 4: Maintain a robust network infrastructure that provides high performance wireless connectivity

WIRELESS

- 37 Aerohive devices which are reaching end-of-life. - Our Aerohive devices will be replaced by Aruba access points.

SPEED

- Comcast Internet 150M download/20M upload - We will have a 150M download/150 upload, dedicated fiber internet circuit with Consolidated Communications to support video conferences throughout the building.

NETWORK

- 3 Layer-3 switch stacks

STORAGE

- All staff and students have automatic backups to their Google Drive account.

SECURITY

- Sophos UTM Firewall (Network and Web Protection)
- Lightspeed Rocket Web Filter
- Securly Remote Web Filter

SERVER AND INFRASTRUCTURE

- 1 Windows Server for DHCP & DNS services
- 1 backup Mac Mini for DHCP & DNS services
- 1 Mac Mini for Open Directory
- 1 Print Server
- 1 Avaya Phone Server
- 1 Facilities Server

POLICIES

[ACCEPTABLE USE](#)

[TAKE HOME AGREEMENTS](#)

[1:1 MIDDLE SCHOOL AGREEMENT/TAKE HOME OPTION](#)