BRUNSWICK SCHOOL DEPARTMENT

REVENUE AND EXPENSE REPORT FOR FEBRUARY 28, 2014

Revenues	Annual Budget	Revenues through 2/28/2014	Remaining Bal.	% Collected
Unapprop. Fund Bal.	2,800,000.00	2,800,000.00	0.00	100.00%
State Subsidy	10,871,108.38	7,887,958.82	2,983,149.56	72.56%
Federal Subsidy	0.00	0.00	0.00	0.00%
Local Share	21,527,256.00	21,527,256.00	0.00	100.00%
Tuition	166,411.00	98,943.28	67,467.72	59.46%
Misc.	120,000.00	79,118.84	40,881.16	65.93%
Other	86,000.00	86,000.00	0.00	0.00%
Total Revenue	35,570,775.38	32,479,276.94	3,091,498.44	91.31%

	Expenses By Warrant Number	Approved 06/11/13 Approved 08/20/13	Adjustments	Revised Budget	Expended Through 2/28/2014	Remaining Bal.	% Expended
1	Regular Instruction	14,985,129.32	291,378.17	15,276,507.49	7,232,437.79	8,044,069.70	47.34%
2	Spec. Ed. Instruction	4,631,934.67	88,765.00	4,720,699.67	2,369,963.83	2,350,735.84	50.20%
3	CTE	708,809.00	0.00	708,809.00	531,606.51	177,202.49	75.00%
4	Other Instruction	690,644.79	3,551.38	694,196.17	375,873.24	318,322.93	54.15%
5	Student & Staff Support	3,322,511.26	32,991.45	3,355,502.71	1,964,528.69	1,390,974.02	58.55%
6	System Administration	796,689.00	726.00	797,415.00	508,635.53	288,779.47	63.79%
7	School Adminstration	1,374,461.96	23,927.00	1,398,388.96	889,924.73	508,464.23	63.64%
8	Transportation	1,717,135.00	1,033.00	1,718,168.00	1,093,386.04	624,781.96	63.64%
9	Operation & Maintenance	3,978,944.00	66,232.00	4,045,176.00	2,333,890.15	1,711,285.85	57.70%
10	Debt Service	2,669,426.00	0.00	2,669,426.00	2,669,426.00	0.00	100.00%
11	All Other	86,000.00	0.00	86,000.00	89,910.12	-3,910.12	104.55%
12	Adult Education	100,486.00	0.00	100,486.00	87,486.00	13,000.00	87.06%
	Total Budget	35,062,171.00	508,604.00	35,570,775.00	20,147,068.63	15,423,706.37	56.64%

Brunswick School Department
District
Technology Plan
Board Approved April 13, 2011
July 1, 2011 – July 1, 2014

Contents

Technology Committee Members

Mary Gerber, Community Member

Brenda Clough, School Board Member

Joy Prescott, School Board Member

Daurene Jerome, Librarian, Brunswick High School

Luke Potter, Brunswick High School Teacher

David DeCamilla, Student, Brunswick High School

Betsy Mitchell, Librarian, Brunswick Junior High School

Suzi Ring, Teacher, Brunswick Junior High School

Cynthia Brown, Harriet Beecher Stowe Music Teacher

Susan Priest, Harriet Beecher Stowe Teacher

Lugene Doughty, Coffin Elementary School Teacher

Tracey Dearborn, Occupational Therapist

Theresa Heald, Speech Therapist

Sue Woodhams, Director of Technology Integration, Committee Chair

Michael Nelson, Brunswick High School Technology Support Person

Michael Hedger, District, Technology Support Specialist

Jerry Cross, MLTI Technician, Brunswick Junior High SchoolSchool

Daniel Dearing, Secondary Technology Integrator

Schools Covered in the Plan

Brunswick High School

Brunswick Junior High School

Harriet Beecher Stowe Elementary School

Coffin Elementary School

The Brunswick School Departments three year technology plan is characterized by a vision for the use of technology to support learning, improve productivity, and enrich communication and collaboration with students, teachers and community, rather than for technology having a purpose of its very own.

1. Community and Parental Involvement:

Involve a broad representation of the school community in the planning process. Include a description of how the technology will be used effectively to promote community and parental involvement and increase communication with parents, including a description of how parents will be informed about the technology and its proper use.

Community Involvement

The original district technology committee (1998) included students, teachers, administrators, parents, school board members, local business people, and representatives from Bowdoin College, Curtis Memorial Library, Vocational Region 10, and Merrymeeting Adult Education. The committee developed a vision for technology, an inventory of current resources, a needs assessment, and a plan for technology acquisition and training. The district updated the plan in 2003, 2008, 2011, and 2013 to reflect changing needs and to illustrate progress in the achievement of our goals to that date. The Brunswick Technology Committee will continue updating the plan every 3 years to reflect changing needs and goals.

The current technology committee is comprised of teachers, administrators, technology staff, school board representatives, students, and community members. This broad representation enhances communication and ensures a varied perspective as we develop and implement plans for the acquisition and use of technology.

Communication to Stakeholders

- The district supports a widely used e-mail system. This system enhances internal communication with colleagues and external communication with parents/guardians and community members.
- An individualized voicemail system tied into a Voice-Over Internet Protocol (VOIP), using our own fiber network, facilitates communication with teachers by parents/guardians who do not have e-mail access.
- The district website is used to post district information for employees, students, parents/guardians, and community members. It includes: School Board goals and plans, School Board policies, the district budget, curricula, employee and employment information, health and safety updates, staff development opportunities, and the State Report Card. The site also includes: the School Board's adopted policies for employee and student use of school technologies and the Internet. These policies specify proper use of our technologies and networks. Individual school websites include information about each school, calendars, newsletters, homework assignments, teacher blogs, podcasts, and contact information for teachers, administrators, and support staff.

- A web-based student performance information system called *Support System "Family Link"* (Parental Access) has been implemented at the High School and Junior High School.
- The district uses local access cable TV for broadcasts of School Board meetings and presentations, as well activities at the High School. To enhance public awareness, the High School web site includes a daily video podcast of daily school announcements and other school activities.
- Harriet Beecher Stowe, Brunswick Junior High School and Brunswick High School use digital signage to keep parents, students and community members current on events occurring in the school.

2. **Vision:**
"The vision of the Brunswick School Department is to develop a community of life-long learners who contribute positively to society; striving toward significant accomplishment and reaching their full potential. Using and adapting technology as one of the many tools available to them, students shall acquire and apply the skills necessary to think creatively and critically, effectively communicate, and then responsibly and ethically serve in their communities." (Jan. 1995)

- The fundamental goal of technology in the school program is to improve the quality of education. We advocate the seamless integration of technologies into the curricula as additional tools we can use to meet curricular objectives.
- Our initiatives to integrate technology will help stimulate intellectual curiosity and provide students with experiences that will help them develop a technical literacy to enable them to express ideas, enhance their abilities to perform in the classroom, and to serve as members of society.
- The Brunswick School Department will continue to evaluate and adopt emerging technologies to capitalize on educational benefits and improve communication among teachers, students, parents/guardians, and the community.

3. Goals:
Articulate specific goals, aligned with the Maine Learning Results, for using advanced technology to improve student academic achievement.
To achieve the vision described in the statement above, we must have the technological support necessary to meet the following goals:

- All students and the staff in Brunswick schools will be comfortable using technologies and software appropriate to their individual levels of learning to help them become clear and effective communicators *(Maine Learning Results and Common Core).*
- All students and staff will have equitable access to technology.
- All students and staff will have access to reliable technologies and where applicable, connectivity to networks, Internet, and storage space. Ongoing technical support should ensure that our technologies and networks remain stable, efficient, and effective to support self-directed, life-long learners (*Maine Learning Results* and *Common Core*).

- Technologically, graduates will be well prepared to compete and perform effectively, able to achieve creative solutions and solve problems practically, in higher education and/or job market environments (*Maine Learning Results* and *Common Core*).
- We will continue to offer professional development opportunities.
- We will support all students and staff in the appropriate use of technology aligned to their grade level, subject, or specialty area to help them become responsible and involved citizens (*Maine Learning Results and Common Core*).

4. Identify Necessary Technology:
Include a technology assessment. Gather information about technology currently in use so that what will be needed to meet new goals can be determined. Include a list of the equipment and telecommunication services that are necessary to reach the goals.

The Brunswick School Department Technology Department has a life-cycle plan for assessing and purchasing technological equipment to achieve our goal of reliable technology. As technology is constantly changing we recognize the need to provide our staff with professional development that allows them to continue to be effective teachers.

Telecommunication. The District provides an individualized voicemail and E911 services using our own fiber network. These services facilitate communication between teachers and parents/guardians. In addition, the use of cell phones, pagers and walkie talkies provide critical communication support.

Technology Hardware and Services. The Technology Department is responsible for the purchase and maintenance of equipment that services a wide area network which links the District Office, Buildings and Grounds, Transportation, and the four schools. Our equipment provides the infrastructure and services necessary to support our teaching and learning environments and for these reasons, the Technology Department makes use of life-cycle management for hardware components. This allows us to maintain balance with available resources, while also prioritizing for equipment replacement.

Network Hardware. The routing and switching is provided by over 170 devices that guide the network traffic. Due to the need for stability and reliability, and because of costs associated with network hardware, components are replaced every ten years.

- **Servers.** Servers provide services on the network. Currently there are 30 servers in the district providing a variety of services including: email, file and document storage, telecommunications, printing, websites, content filtering services, library services, financial systems, and our student information system. To support these investments, servers are replaced every six years.

Copiers and Printers. Networked printers are almost exclusively laser printers and copiers that are distributed throughout each site to accommodate printing

requirements. Printing to network copiers is encouraged whenever possible, as these provide the least expensive option. This also allows for confidential printing and the deletion of items sent in error. A small number of specialized printers are in place to support specific functions. In order to extend the life of our printers and copiers, and to reduce our cost for supplies and maintenance, we have contracted with a 3rd-party vendor. Because printing is fairly reliable and low cost, printers are only replaced as they fail or when maintenance costs become prohibitive; a minimum of eight years is expected.

Workstations. Workstations, which consist of a variety of Windows and Apple computers, provide users with access to server and print services. Current workstation standards facilitate expedient repair and maintenance, thereby reducing training requirements on technology staff. Since the workstation is the primary technology tool for teachers and students and therefore experience the greatest wear, workstations are replaced every five to six years depending on available resources.

Thin-client Computing. Thin-clients are devices that have no local storage or processing capabilities, but rather connect to a server for desktop processing. These provide an efficient and cost effective way to outfit labs and libraries that provide general computing functions such as Internet and word processing. Thin-clients can be replaced as they fail. This allows for extended life-cycles under normal operations, and because of their lower power consumption and overall cost, they provide us with an ideal solution for some of Brunswick's libraries and computer labs.

- **Audio/Visual Technologies.** The schools use technologies that include projectors and sound systems, interactive whiteboards, and document cameras to provide visual instruction that enhances student learning. The projectors are replaced every six to seven years depending on available resources. Other technologies are replaced as they fail.
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Technology Software. The technology services are delivered by a variety of software applications. While not all inclusive, the major systems are presented below:

Server Operating Systems Microsoft Windows Server products provide the majority of services to the district, managing user login, private and shared data storage, printing, account management, database support, web support, and many business and instructionally related applications. There is one Apple server devoted to administering the *Multi-State Learning Technology Initiative* (MSLTI) program at the junior high.

Workstation Operating Systems. The workstation operating systems provide additional functionality including Internet browsing and multimedia support. All workstations are supported by either *Apple OS X* or *Windows Professional* operating systems. Because Microsoft and Apple adhere to industry standards and best practices for software development life-cycles, the district attempts to

adhere to keeping our operating system standard to within two versions of the current version, as our resources permit.

- **Server Security.** The district is using a web content filtering system, a firewall, and various other industry standard security and antivirus systems. Servers are patched to the current vendor-supplied security updates.
- **School Information Systems.** The district is currently running the *Schoolmaster District Edition* student information system. Additionally, the school libraries use the software product, *Destiny*, to catalog and manage their library resources.

Desktop Productivity Suites. The district is currently supporting multiple desktop productivity suites. *Microsoft Office* is supported for most current document processing including word processing, presentations, spreadsheets, and our electronic mail. In an effort to save money, the district continues to seek software solutions for those functions that include Internet-based applications. Financial benefits include reduced costs for software licensing and for overall student computing requirements.

To achieve our goals and maximize educational benefits for students and staff a list of equipment is provided in section 8.

5. Collaboration with Adult Literacy Service Provider:
Describe how the program will be developed, where applicable, in collaboration with adult literacy service providers.

Brunswick and RSU 75 are partners in the Merrymeeting Adult Education Program, which offers a variety of educational programs including: GED courses, academic courses, and community outreach programs. These programs provide opportunities for adults in the community to access and use technology available at Brunswick High School. We use Brunswick High School's computer labs for several of these classes.

- Through the High School and Junior High School library websites, access to a number of electronic reference databases, including, but not limited to, the *MARVEL!* data bases funded by the State of Maine, is available. Many of these resources are available to our students, staff, and the extended community.
- In addition to supporting specific adult education course offerings, the Brunswick School Department has a history of offering open computer lab time for the community. As long as the community's current level of demand exists, we expect that these resources will continue to be made available for maximum community benefit.
- Students and teachers in the Merrymeeting Adult Education English as a Second Language (ESL) program, regularly use technology hardware and software resources in the schools to assist English Language Learners (ELL) with literacy education.

6. Strategies for Improving Academic Achievement and Teacher Effectiveness:
Describe how funds, specifically Ed Tech funds where applicable, will be used to improve academic achievement, including the technology literacy of all students

attending schools served by the SAU; and describe how funds expended will improve the capacity of all teachers in schools served by the SAU to integrate technology effectively into curricula and instruction.

The Brunswick School Department uses local budgeted funds, some of which comes from the state, to provide resources for improving academic achievement and increasing the technical capabilities of faculty and staff through equipment, software, and professional development. Local funds are provided for two technology integration specialists; one supporting K-5 and one for 6-12.

Improving Academic Achievement

To provide equal access to all learners, students have access to software and hardware that supports their learning, and is aligned with the *Common Core*. Examples of software include *IXL, Boardmaker, ZoomText, CoWriter*, and *Rosetta Stone*. Those students with special needs have access to hardware such as EFM transmitters, switches, touch screens, and low and mid tech devices. This hardware allows students with special needs equal access to the curricula.

- At the High School level, the learning center, designed for remedial and enrichment work, is staffed by a full-time teacher and is open before, during, and after school hours. It makes available to individual students, small groups, and classes, the *Anywhere Learning A+ Program,* which offers over 2,000 lessons that focus on improving academic achievement in reading, writing, grammar, vocabulary, world history, American history, geography, real world math, algebra, trigonometry, chemistry, and physics. The 6-8 grade version is available at the iunior high.
- Our elementary students also have access to web service, *IXL.COM*, a self-paced math skill-building program. The program is aligned to the *Common Core*. The program, which offers a full range of math skills for early elementary students, engages students with its ease of use, its graphics, and the way it encourages success. Remote access to the website also provides additional skill development time from home.

Technology Integration

- Technology funds also support the purchase of digital still cameras, digital video cameras, scanners, document cameras, and related software. Teachers integrate these resources to enhance instruction and encourage their students to use them to improve their technology literacy and learning experiences.
- Online databases are available district-wide to staff and students locally and remotely via our school library sites. These provide teachers and students with a broad scope of electronic information that can be integrated into the curriculum.
- Many classrooms have interactive whiteboards, ceiling mounted projectors, and sound systems that provide dynamic tools to support various teaching styles and the integration of information.

- Some teachers use computer-based textbooks and online resources to develop curriculum, tests, and lesson plans to enhance student learning.
- To enhance technology integration into curricula, a technology website has been developed. It provides lesson plans, answers to frequently asked questions, skill development, terms and definitions, and valuable links on how to evaluate websites. This is a self-directed learning site, produced and maintained by the Brunswick Junior High Media Team for students, staff, and community members.

Improving Teacher Effectiveness

- We provide and fund opportunities for teachers to participate in workshops, conferences, and other training programs. This encourages our educators to keep abreast of new technologies and assists in developing methods of integrating technology into curricula.
- Local in-district training is available to teachers before and after school, during staff meetings, scheduled staff development time, and during the summer. Training focuses on developing skills and familiarizing staff with the latest proven technologies.
- Technology Integrators work directly with teachers new to the district, helping them to integrate the use of our technologies into their curricula.
- Teachers are required by administration to create a goal to integrate technologies to enhance student learning in their three year goal cycle.
- Full-time Technology Integrators are available to teachers at all grade levels for help with learning how to successfully incorporate the use of a variety of technologies into their curricula.
- During staff meetings, scheduled staff development time, and at district technology fairs, local teachers deliver information technology presentations to their colleagues.

7. Integration of Technology with Curricula, Instruction, and Assessment:
Describe how technology (including software and electronically delivered learning materials) will be integrated into curricula, instruction, and assessment and include a timeline for this integration.

There are two primary goals of technology in the district and classrooms. Initially, technology must support the accessibility of new information. Then it must provide the ability to integrate and present the information discovered both individually and collaboratively with teachers and other students. In order for these goals to be met the technology must be understandable, reliable, and sustainable. The plan described below details how Brunswick School Department achieves those goals through directives from the school board.

How technology is integrated into curricula (Understandable)

- Internet-based software is used as a research tool for all grade levels, and as a collaborative tool between teachers and students in all curricular areas from junior high through high school.

- Specialized software is used to support technology integration into curricula. Examples include but are not limited to: computer-aided design, fine arts, reading and writing comprehension, and graphic organizers.
- External on-line access to grades, assessments, and attendance for parents and students is available for grades 6 through 12.

How will technology be integrated into curricula (Understandable)

- Technology workshops will provide staff a venue to explore new technologies for consideration of application in classroom environments (Yearly).
  As new technologies become available, staff will provide formal proposals which include how the technology is integrated into the curriculum, how the teacher uses the technology in instruction, and how the technology is used in assessing the student learning. A resulting evaluation demonstrates how the goals of the proposal were achieved (Yearly).

How will technology be integrated into instruction (Understandable, Reliable)?

- The infrastructure of hardware and software will be maintained to be a reliable resource to ensure that students and teachers have the necessary tools to use our network and the Internet to pursue their academic goals (Ongoing).
- Various technologies for presenting subject material to students will continue to be provided and upgraded as new technologies develop (Ongoing).

How will technology be integrated into assessments (Understandable, Reliable, Sustainable)?

- To maximize the effectiveness of technology in student learning, the technology department will compile, analyze, and respond, to staff and student feedback through periodic surveys on the use of technology in the curricula (Yearly).
- Computerized adaptive assessments that provide teachers with information needed to improve teaching and learning will be accessible (Yearly).
- Data analysis software that works with the *Student Information System* (SIS) will be used to evaluate student attendance, assessments, behavior, and interventions and how these elements impact student learning (Ongoing).

8. Technology Type & Costs, and Coordination with Funding Resources:

Develop a step-by-step action plan, with timeline, that includes goals, activities, required hardware and software, costs, and funding sources. Describe the type and costs of technology to be acquired and how it fits within the current structure (use the list developed in the technology assessment in # 4, above.). Designate sources of funding, specifically Ed Tech funds, E-Rate funds, and funds from other Federal programs, and state and local sources that support technology acquisition and integration.

In striving for the highest level of technology integration, the goal of the Brunswick School Department is to provide the resources necessary to maintain classroom technology and the supporting infrastructure, while working within budget guidelines.

- To meet our goals, we will replace older equipment on a regular basis using the following life-cycle management guidelines:
  - Software maintenance licensing annually.
  - Computers: replace after 4 years.

- Printers: replace after 8 years.
- Classroom presentation equipment: replace after 6 years.
- Telephone equipment: replace after 6 years.
- Switches and network: infrastructure replace after 8 years.
- Supporting power control equipment: replace after 4 years.
- Servers: replace after 6 years.

- To maximize our educational goals, we aim to be flexible with this replacement schedule to allow for the purchase of newer technologies as they become available and applicable to our goals.

- The following outlines the goals for the next 3+ years (based on current budget projections)

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Goal:	Activity:	Hardware, Software or Training	Estimated Costs	Funding Source
2014-2015				
Communication				
	Maintain parent auto calling system	Annual renewal	$ 7,500	Local
	SubFinder program/Employee Absence reporting	Annual renewal	$ 8,000	Local
Maintain & Improve Infrastructure & Software				
	4 Smart-UPS RT 800 VA	Upgrade Battery Back-ups	$ 14,000	Local
	Server	Replacement	$ 14,000	Local
	Maintain/Upgrade Internet connection, virus protection, content filter and upgrade	Annual Maintenance	$ 35,000	ERate/ Local

	firewall			
	Switches	Replacement	$ 15,000	ERate/ Local
	Upgrade BJH Data Closet	Add Racks, Wire management, & power management	$ 5,000	Local
	Software Improvement, Repairs, and Maintenance	Annual Renewable Software Licenses	$ 92,000	Local
	Tech related supplies	Replacement	$ 10,000	Local
Equity of access				
	Replacement Mac laptops-6th grade	Replacement	$ 24,000	Local
	Classroom Laptops(BHS)	Replacement	$ 32,000	Local
	Check out Laptops (BHS)	Replacement	$ 16,200	Local
	Teacher laptops(district)	Replacement	$ 32,500	Local
	Replace printers	Replacement	$ 3,400	Local
	BHS Music Lab	Replacement	$ 26,000	Local
	Teacher Laptops BHS (MAC)	Replacement of MLTI	$ 40,000	Local
Curricular Integration				
	Discovery Video	HBS, BHS	$ 7,500	Local

	Summer Tech. Workshop	numerous sessions and various lengths	$ 6,000	Local
	Tech. Conferences	Various	Varies	Local
	Curricular support equipment	Ceiling mounted projector and sound system document cameras	$ 40,000	Local
	Software purchases for student & teacher use	Various	$ 15,000	Local
	Curricular software support, update CS4	New or renewal licenses	$ 24,000	Local
Goal:	**Activity:**	**Hardware, Software or Training**	**Estimated Costs**	**Funding Source**
2015-2016				
Communication				
	Maintain parent auto calling system	Annual renewal	$ 7,500	Local
	SubFinder program/Employee Absence reporting	Annual renewal	$ 8,000	Local
Maintain & Improve Infrastructure & Software				
	Server	Replacement	$ 15,000	Local
	Maintain/Upgrade Internet connection, virus protection, and content filter	Annual Maintenance	$ 30,000	ERate/ Local

	Switches	Replacement	$ 13,000	ERate/ Local
	Upgrade BJH Data Closet	Add Racks, Wire management, & power management and re-wiring	$ 3,000	Local
	Software Improvement, Repairs, and Maintenance	Annual Renewable Software Licenses	$ 92,000	Local
	Tech related supplies	Replacement	$ 9,000	Local
Equity of access				
	Replacement Mac laptops-6th grade	Replacement	$ 48,000	Local
	Classroom Laptops(BHS)	Replacement	$ 32,000	Local
	BHS cart	Replacement	$ 48,000	Local
	Teacher laptops(district)	Replacement	$ 45,000	Local
	Printers	Replacement	$ 3,400	Local
Curricular Integration				
	Discovery Video	HBS, BHS	$ 7,500	Local
	Summer Tech. Workshop	numerous sessions and various lengths	$ 6,000	Local
	Tech. Conferences	Various	Varies	Local

	Curricular support equipment	Ceiling mounted projector and sound system document cameras	$ 40,000	Local
	Software purchases for student & teacher use	Various	$ 15,000	Local
	Curricular software support	New or renewal licenses	$ 8,000	Local
Goal:	**Activity:**	**Hardware, Software or Training**	**Estimated Costs**	**Funding Source**
2016-2017				
Communication				
	Maintain parent auto calling system	Annual renewal	$ 7,500	Local
	SubFinder program/Employee Absence reporting	Annual renewal	$ 8,000	Local
Maintain & Improve Infrastructure & Software				
	Sever	Replacement	$ 13,000	Local
	Maintain/Upgrade Internet connection, virus protection, and content filter	Annual Maintenance	$ 30,000	ERate/ Local
	Switches	Replacement	$13,000	ERate/ Local
Ad	Software Improvement, Repairs, and Maintenance	Annual Renewable Software	$ 92,000	Local

		Licenses		
	Tech related supplies	Replacement	$ 9,000	Local
Equity of access				
	BJH Lab	Replacement	$ 20,000	Local
	Classroom Laptops(BHS)	Replacement	$ 32,000	Local
	Teacher laptops(district)	Replacement	$ 81,250	Local
	Printers	Replacement	$ 3,400	Local
Curricular Integration				
	Discovery Video	HBS, BHS	$ 7,500	Local
	Summer Tech. Workshop	numerous sessions and various lengths	$ 6,000	Local
	Tech. Conferences	Various	Varies	Local
	Curricular support equipment	Ceiling mounted projector and sound system document cameras	$ 40,000	Local
	Software purchases for student & teacher use	Various	$ 15,000	Local
	Curricular software support	New or renewal licenses	$ 8,000	Local

9. Supporting Resources:
Describe the supporting resources such as services, software, other electronically delivered learning materials, and print resources that will be acquired to ensure successful and effective uses of technology.

The Brunswick School Department is cognizant of the need to continuously evaluate, upgrade, and acquire resources to ensure the effective integration and use of technologies in our district. Historically, the school department has demonstrated a commitment to this by providing funds for the purchase of resources and for the hiring of qualified personnel. This ensures the successful implementation and integration of technology and services to meet the academic and service needs of the district. We will continue to maintain, evaluate, and upgrade the resources that are currently available, while also pursuing new ones on the basis of identified needs and the availability of funds.

Brunswick School Department will require these and other supporting resources (services, software, print resources, and other electronically delivered learning materials) in order to successfully implement the District Technology Plan. The supporting resources are likely to change as the District Technology Plan is continually revised.

Services

Location	Position/Description	Function
District Support	Director of Technology	50% staff and student tech. curriculum support, 50% technology admin support
District Support	Network Administrator	Support all network functions
District Support	District Technology Support Specialist	Infrastructure and staff/student level tech. support
District Support	System Administrator and District Support Specialist	Server Infrastructure and staff/student level tech. support
District Support	Data Support Specialist	Student and State Information System
On-site Support (each of 4 schools)	Technology Support Specialist	Staff and student tech. support

Technology Integrators	(1) Elementary and (1) Secondary Integrator	Direct staff and student technology curriculum support
Outsourced Support	Support request (as required)	Infrastructure support
District	Parent Auto-calling System	Telephone Services
District	Contracted	Print Services
District	Contracted	Network Services (wired/wireless)
District	Contracted	Substitute Contact Services

Software

Location	Description	Function
District	Adaptive Technologies	Curriculum Support
District	Library Services	Curriculum Support and Information Skills Integration
BHS	*AutoCAD, Photoshop, InDesign*	Curriculum Support
BHS/BJH	*Anywhere Learning (A+) System*	Curriculum Support

Electronically Delivered Learning Materials

Location	Description	Function
District	Internet-based Learning Materials	Curriculum Support and Enrichment

10. Steps to Increase Accessibility:
Describe the steps being taken to ensure that all students and teachers have increased access to technology. The description must include how Ed Tech funds, if applicable, will be used to help students in high-poverty and high-needs schools, or in schools identified for improvement or corrective action under Section 1116 of Title I; and how

the steps taken will ensure that teachers are prepared to integrate technology effectively into curricula and instruction.

The Brunswick School Board and administration have provided the leadership and financial support to ensure that all students have access to the technology necessary to meet the goals set forth in this plan. Technology access is provided through the following:

- Each elementary school has a computer lab.
- Each elementary school classroom has a minimum of one computer for use by the teacher and students.
- Elementary school teachers and students in grades 2-5 have access to laptop carts for mobile computing needs outside of the lab setting. Grades K-1 are piloting the use of iPads.
- The junior high school has the MSLTI assigned laptops for 7th and 8th graders at least through the 2013-2017 school years. Teachers in grades 7-8 each have a laptop computer provided by the MSLTI program.
- Sixth grade teachers and students at the junior high also have access to laptops stored on mobile carts.
- Junior high school teachers and students have a lab with desktop PCs for all classes to use.
- The junior high school library houses computers for staff and student use.
- The high school has fixed desktop labs dedicated to several applications. These include a graphics lab, a computer applications lab, CAD lab, a learning lab, world language lab, music lab and a general-purpose lab.
- At the high school, a mobile cart is available for general use by any class or teacher from the library. Additional laptops stored on carts are assigned to the following departmental areas: English (3 carts providing a total of 54 laptops), Social Studies (1 carts providing a total of 27 laptops), Science (2 carts with 54 laptops), Art (2 carts with 44 laptops), and PE/Health (1 cart providing a total of 26 laptops). Each of the departments has a networked laser printer to use with the mobile laptop carts.
- The high school library has 25 desktop computers and 12 laptops available for use in the library, plus a few laptop computers that both students and teachers may sign out for overnight or long-term projects. Some laptops are available for year-long loan to students who do not have computers at home.
- Each teacher has a desktop or laptop computer in his/her room for professional or class use.
- Brunswick employs two technology integrators whose job it is to work with staff to facilitate the integration of technology into curricula. Training that addresses the need for technology integration is available, and is scheduled by individual schools to meet specific needs, and by the district to meet global needs. We will continue to provide additional training based on recognized needs and feedback obtained from staff and student surveys. More information is available in Section 12: Professional Development.
- The school department provides many forms of adaptive technologies for students with severe handicaps, visual impairment, and learning disabilities. We

work closely with community support organizations to improve access for impaired students.

- Future studies of the effectiveness of our technology implementation in district schools must also be made to determine the cost effectiveness of purchased technology, and to provide constant quality improvements to the delivery of technology within our schools. These future studies will help shape life-cycle management goals for technology infrastructure design, and the efficacy of future technology purchases.
- The school department has increased the number and use of Interactive Whiteboards with ceiling mounted or stand-alone projectors in all of the schools. In classrooms where there are no Interactive Whiteboards, ceiling-mounted projectors are being installed. As funds allow, we will continue to increase the number of these units in our schools, while remaining cognizant of emerging technologies that might enhance learning experiences.
- The technology department will make internal system and hardware changes to meet increasing needs for the storage of digital works and as we implement subscription based video streaming.
- To take advantage of available technology, we will increase staff training opportunities. Additional sessions will be available after school hours and through expanded summer courses.

11. Promotion of Various Curricula and Teacher Strategies that Integrate Technology:

Describe how various curricula and teaching strategies that integrate technology effectively into the general curriculum and instruction will be identified based on a review of relevant research and promoted to lead to improvements in student academic achievement.

The Administration has made a significant effort to involve the District Technology Committee, all building principals, and key building technology users, in the process of promoting the integration of technology into curricula. The technology department will be piloting a formal technology proposal process that will allow teachers with new ideas to pilot the technology and provide a self-evaluation about the success of their program.

Additionally, the following identification steps will be taken:

- Effective teaching strategies will be identified through communication with other educators and considered for implementation in our district.
- Student and staff technology surveys will be evaluated to help improve ways we use technology for curricular integration.
- Subject to funding availability we will send educators to national conferences that focus on the integration of technology into the curricula.
- Staff members trained in the uses of the Interactive Whiteboard will offer support to other teachers through after school or summer workshops and by establishing grade level user groups to encourage the sharing of ideas for best use practices with the Interactive Whiteboard technology.

- Schools will be encouraged to make the sharing of ideas a regular part of their scheduled faculty meetings.
- The district technology staff will continue to provide a digital newsletter that includes technology tips and integration ideas.
- Educators will continue to attend MSLTI workshops and ACTEM conferences.

12. **Professional Development:**

Describe how ongoing, sustained professional development for teachers, principals, administrators, and school library media personnel will be provided to further the effective use of technology in the classroom and library media center.

The Brunswick School Department offers a variety of professional development opportunities for its staff. District technology integrators, technology support staff, technology committee members, teachers, and school librarians conduct the sessions.

Examples of staff professional development:

- Two full-time technology integrators work with teachers and students at all levels to integrate the use of technology into established curricula.
- Technology support staff work one-on-one with educators teaching them how to use their computers.
- School librarians train teachers in the use of electronic resources, and a wide array of multi-media equipment.
- Technology committees in each building set goals and help to define workshop needs. Staff technology surveys are evaluated to help with these decisions and building level workshops have been established to help meet defined needs.

Courses and workshops are also available for school staff:

- The technology department offers Interactive Whiteboard training in the summer and thorough the school year.
- The technology department offers web page design training. Staff can then create and update web pages on the district websites.
- The technology department offers other technology courses to support staff development and classroom integration.
- School Library staff participates in online training related to library services through Web Junction Courses through the Maine State Library.
- Staff training on the effective use of the MSLTI laptops and the included software is ongoing throughout the school year. Building, district, and state support staff, offer these sessions.
- Many educators participate in webinars, workshops, conferences, classes and online courses.

In the future:

- The technology department is available to offer training for our administrators and new staff members before the start of each school year.
- The technology department will continue to request that the School Board designate a minimum of one professional development day during the school year to the integration of technology into the curricula.

- To encourage the sharing of successful technology related lesson plans, we will ask principals to take an active role in technology integration by devoting a portion of staff meeting time to the presentation by staff members of relevant lesson plans.
- The technology department will continue to offer summer technology courses that provide recertification credits.

13. Innovative Delivery Strategies:
Describe how the development and use of innovative strategies for the delivery of specialized or rigorous courses and curricula through the use of technology, including distance-learning technologies, will be encouraged, particularly in areas that would not otherwise have access to such courses or curricula due to geographical distances or insufficient resources.

The following are ways the district encourages innovative delivery strategies:

- We participate in programs that use technology to extend learning experiences beyond the confines of the physical classroom, to a diverse array of learning environments around the world. Some of these programs, or courses of instruction, currently include: *EarthKam, Skype, Service Learning Program, and WebQuests*. Each program aims at stimulating the curiosity and creativity of students. This leads students to develop their own ideas, and broaden their academic experiences, while enhancing their spirit of "connectedness" with the world.
- The district employs two technology integrators, one for grades K – 5, and the other for grades 6 – 12. They assist teachers with integrating technology and help students with special projects.
- Some High School students take classes at Bowdoin College and a number of teachers are working on graduate degrees using distance education programs.
- *Google Drive* is used by many educators in grades 6-12 to collaborate with their students. The tool provides students with accessibility to work from anywhere in the world.
- *Family Link* is available for parents and students in grades 6-12 to monitor student progress and attendance.

14. Accountability measures:
Describe the process and accountability measures which will be used to evaluate the extent to which the plan activities are effective in integrating technology into curriculum and instruction, increasing the ability of teachers to teach, and enabling students to reach Maine's Learning Results.

Objective and subjective data will be collected and analyzed for accountability purposes.

- The technology department will regularly gather data from staff and students through surveys. These focus on professional development, instructional practices, assessment practices, and level/ease of access to technology.
- School librarians gather objective data by tracking use of research databases such as the *Gale Databases*. This allows assessment of the level of internal and remote use by students and staff.
- The technology department tracks bandwidth usage to provide information on actual use of the technology infrastructure in order to provide data points for future bandwidth expansion.
- The technology department measures the frequency of student and teacher use of mobile and fixed computer labs at all levels.
- The technology department measures requests by students and staff for innovative technologies such as scientific probes, computer attached microscopes, Interactive Whiteboards, mobile devices, digital portable document cameras, and digital video equipment.
- The technology department measures student and staff usage of teacher developed websites for curricular integration.
- The technology department conducts periodic physical and software inventories to identify surpluses and shortfalls in our technology resources and to refine our budgeting process.

VISUAL ARTS

Brunswick School Department
Grades K-2
Unit 2: Creation and Expression

Essential Understandings	Artists use basic media, tools, and techniques to create original art works.
Essential Questions	What media, tools and techniques are used to create art?
Essential Knowledge	Artists use the elements of art and principles of design to create original works of art. Artists use basic media, tools, techniques, and skills to create works of art that communicate ideas and feelings.
Vocabulary	Terms: -composition, elements of art, principles of design, idea, expression, tools, art media, technique, painting, drawing, printmaking, sculpture
Essential Skills	Imagine, improvise and solve problems Share solutions
Standards: Maine Learning Results and Common Core	Visual and Performing Arts A. Disciplinary Literacy A1. Artists Purpose: Students recognize a variety of purposes for making art, including telling a story, communicating emotion, or beautifying functional objects. A2. Students identify features of composition: a. Identify the Elements of Art: color, form, line, shape, space, texture, and value b. Identify the Principles of Design including balance and pattern. A3. Students name art media and associated tools for multiple art forms and genres. B. Creation and Expression B1. Media Skills: students use basic media, tools and techniques to create original works of art. B2. Composition Skills: students use Elements of Art and Principles of Design to create original art works. B3. Meaning Making: students create art works that communicate ideas and feelings and demonstrate skill in the use of media, tools, and techniques. CCS: Disciplinary Literacy
Sample Lessons And Activities	Create an imaginary painting of an animal Draw an expressive portrait Demonstrate pattern in a stamp print Create a cut paper sculpture Use collage and mixed media to create a textured animal
Sample Classroom Assessment Methods	Share and discuss student art Observation of the creative process Assess student art work
Sample Resources	Art Reproductions from a variety of world cultures Elements of Art and Principles of Design Reproduction

VISUAL ARTS

Brunswick School Department
Grades K-2
Unit 3: Art History and Culture

Essential Understandings	Art and artists both reflect and shape their time period and culture.
Essential Questions	What can art tell us about other cultures?
Essential Knowledge	Art has different meanings and functions in different cultures. Artists use symbols to tell about their culture.
Vocabulary	Terms: World culture, Native American, Asian, ancient, celebration
Essential Skills	Identify art from different world cultures. Identify cultural symbols and celebrations. Identify connections and artistic choices. Identify art in life experiences. Use positive interactions when describing art.
Standards: Maine Learning Results and Common Core	Visual and Performing Arts A. Disciplinary Literacy E. Visual and Performing Arts Connections E1. Students identify family or community symbols or celebrations in the visual art from different world cultures. E2. Students identify connections between the arts and other disciplines. E3. Students identify choices that lead to success in the arts. E4. Students identify the arts in life experiences. E5. Students identify positive interpersonal skills that impact their participation in the arts.
Sample Lessons And Activities	Create art works in the style of a world culture Identify appropriate use of symbolism in art works Describe art connections with other content areas Identify artistic processes used to make art for a celebration
Sample Classroom Assessment Methods	Conversations and observations of the creative process Assess student art work
Sample Resources	Art reproductions from a variety of world cultures

VISUAL ARTS

Brunswick School Department
Grades K-2
Unit 4: Aesthetics and Criticism

Essential Understandings	Through observation, describing and asking questions, one learns about art forms.
Essential Questions	How does one describe art forms? Why do people make art?
Essential Knowledge	There are different meanings for art, such as narrative art and expressive art.
Vocabulary	Terms: Describe, story, narrative, expression
Essential Skills	Describe one's own artwork. Describe narrative and expressive works of art. Use art vocabulary
Standards: Maine Learning Results and Common Core	Visual and Performing Arts A. Disciplinary Literacy D. Aesthetics and Criticism: students analyze, interpret and evaluate art forms. D1. Students observe, listen to, describe and ask questions about art forms. CCS-Disciplinary vocabulary
Sample Lessons And Activities	Describe one's own art work Describe a peer's art work Ask questions about art Observe art works Tell what one likes about an art work
Sample Classroom Assessment Methods	Conversations and observations about one's view of art
Sample Resources	Art Elements of design reproductions Art reproductions of famous artists

VISUAL ARTS

Brunswick School Department
Grades 3-5
Unit 1: Creative Problem-Solving

Essential Understandings	The creative process in art involves identifying, describing, and demonstrating creative problem-solving skills.
Essential Questions	What problem-solving skills are used to make art? What steps are used to solve artistic problems?
Essential Knowledge	Artists identify and solve problems and generate and evaluate solutions.
Vocabulary	Terms: imagination, problem, solution, creative problem solving
Essential Skills	Identify artistic problems Imagine, improvise, and solve problems Share solutions
Standards: Maine Learning Results and Common Core	A. Disciplinary Literacy C. Creative Problem Solving C1. Students describe and apply steps of creative problem solving. CCS-Disciplinary Literacy
Sample Lessons And Activities	Experiment and explore painting techniques. Create a cut paper symmetrical design with balance and composition. Develop a pattern demonstrating the Elements of Design using printing. Draw an imaginative creature emphasizing texture. Observe and draw still life using proportion and measurement.
Sample Classroom Assessment Methods	Conversation and observations of the creative process involved in creating art works Share with class Share with peers Assessment of student art work
Sample Resources	Other Resources: Art reproductions of famous art works Art reproductions of the Elements of Design

VISUAL ARTS

Brunswick School Department
Grades 3-5
Unit 2: Creation and Expression

Essential Understandings	Artists use a variety of media, tools, techniques and processes to create original art works.
Essential Questions	What media, tools, techniques and processes are used to create art? How do artists use the Elements of Art and Principles of Design to create original art works using a variety of art media? What feelings, ideas and meanings can be show in an artwork? How do artists demonstrate skill in use of media, techniques and processes?
Essential Knowledge	Artists use the Elements of Art and Principles of Design to create original works of art. Artists use a variety of media, tools, techniques, skills and processes to create works of art that communicate ideas and feelings. Artists make choices about presentation and display.
Vocabulary	Terms: composition, Elements of Art, Principles of Design, idea, expression, tools, art media, technique, painting, drawing, printmaking, sculpture, ceramics
Essential Skills	Demonstrate use of a variety of art media such as: painting, drawing, printmaking, sculpture and ceramics with tools, techniques and processes to create art. Demonstrate use of the Elements of Art and Principles of Design to create original art. Create art that communicates ideas, feelings, and meanings. Demonstrate skill in the use of media, tools, techniques and processes. Choose art for selection and display based on criteria.
Standards: Maine Learning Results and Common Core	Visual and Performing Arts A. Disciplinary Literacy A1. Artists Purpose: Students explain purposes for making art from different times and places, and the relationship to cultural traditions, personal expression, and communication of beliefs. A2. Students describe all the features of composition. a. Describe the Elements of Art: color, form, line, shape, space, texture, and value. b. Describe the Principles of Design, including balance, contrast, emphasis, movement, and pattern. A3. Students describe a variety of media and associated tools, techniques, and processes for multiple art forms and genres.

	B. Creation and Expression B1. Media Skills: Students use basic media, tools and techniques to create original art works. B2. Composition Skills: Students use Elements of Art and Principles of Design to create original art works. B3. Meaning Making: Students create art works that communicate ideas and feelings and demonstrate skill in the use of media, tools, and techniques. CCS: Disciplinary Literacy
Sample Lessons And Activities	Create an imaginary painting of an organic subject Draw an expressive portrait demonstrating an art technique Use the printing process to create positive and negative design Create a ceramic sculpture of an animal from a world culture Demonstrate the use of mixed media to create an expressive collage
Sample Classroom Assessment Methods	Share and discuss student art Observation of the creative process Student art work
Sample Resources	Art reproductions, including world cultures Elements of Art and Principles of Design reproductions

VISUAL ARTS

Brunswick School Department
Grades 3-5
Unit 3: Art History and Culture

Essential Understandings	Art and artists both reflect and shape their time period and culture.
Essential Questions	What can art tell us about history and other cultures?
Essential Knowledge	Art has different meanings and functions in different cultures and time periods. Artists use symbols and characteristics to tell about their culture.
Vocabulary	Terms: history, characteristic, world culture, Native American, Asian, ancient, celebration, artistic choice
Essential Skills	Identify art from different world cultures. Explain how art helps people understand history and/or world cultural symbols and celebrations. Describe characteristics shared between the arts and other disciplines. Identify and demonstrate artistic choices that lead to success. Describe the benefits of creating art. Identify and demonstrate positive interactions when making art.
Standards: Maine Learning Results and Common Core	Visual and Performing Arts A. Disciplinary Literacy E. Visual and Performing Arts Connections E1. Students explain that visual art helps people understand history and world cultures. E2. Students describe characteristics shared between the arts and other disciplines. E3. Students identify and demonstrate choices that lead to success in the arts. E4. Students describe the contribution of the arts in life experiences. E5. Students identify and demonstrate positive interpersonal skills that are necessary to get along with others and participate in the arts. CCS: Disciplinary Literacy
Sample Lessons And Activities	Create art works in the style of a world culture Use symbolism appropriate to create an art work from a world culture and describe artistic choices Create a work of art for a celebration and describe how the art enhances life experiences Describe art characteristics and connections with other content areas Identify positive behaviors used to create and discuss art works
Sample Classroom	Observation of the creative process

Assessment Methods	Student art work
Sample Resources	Art reproductions from world cultures

VISUAL ARTS

Brunswick School Department
Grades 3-5
Unit 4: Aesthetics and Criticism

Essential Understandings	Through observation, describing, and comparing, one learns about art forms.
Essential Questions	How does one describe art forms and how are they different? Why do people make art?
Essential Knowledge	There are different meanings for art, such as narrative art and expressive art. There are different art processes and skills used to create art. Understand purposes for making art from different traditions.
Vocabulary	Terms: describe, story/narrative, expression, difference, artistic process, purpose, traditions
Essential Skills	Describe and compare art work. Describe narrative and expressive works of art. Describe art processes. Use art vocabulary to explain artistic choices and purpose.
Standards: Maine Learning Results and Common Core	Visual and Performing Arts A. Disciplinary Literacy D. Aesthetics and Criticism: students analyze, interpret and evaluate art forms. D1. Students describe and compare art forms. CCS: Disciplinary Literacy
Sample Lessons And Activities	Describe one's own art Describe works by peers Compare art forms based on observation Ask clarifying and probing questions about art Describe artistic processes and skills used by an artist Provide feedback about an artwork
Sample Classroom Assessment Methods	Observation of the creative process
Sample Resources	Art Elements of Design reproductions Art reproductions of famous artists

Brunswick School Department
Grades: 6-8
Unit 1: Sculpture, Construction, and Ceramics

Essential Understandings	• Artists use a variety of concepts, media, skills, and processes to create 3-dimensional works of art. • Sculpture, construction, and ceramics can be created for a variety of purposes.
Essential Questions	• What skills, techniques, and processes are necessary in order to create works of sculpture, construction, and ceramics? • How is 3-dimensional art different than 2-dimensional art or how is it the same? • How does function play a role in the creation of a work of art?
Essential Knowledge	• In 3-dimensional art, the Elements and Principles of Art and Design are used to create a work of art. • Artists use a variety of media, tools, and techniques to create and express through sculpture, construction, and ceramics.
Vocabulary	• Terms: 2-D, 3-D, form, shape, movement, pottery, function, hand-building, slab-building, slab roller, score, slip, smooth, leather hard, wedging, bone dry, coil, pinch-pot, kiln, mold, template, armature, balance, texture, fire, glaze, underglaze, hollow, attach, found-object, construction.
Essential Skills	• Demonstrate proper use of tools, materials, and processes. • Create sculpture, construction, and ceramics using 3-D techniques, media, and processes. • Produce 3-D works of art that show an exploration of the Elements and Principles of Art and Design. • Distinguish between functional and non-functional forms.
Related Maine Learning Results **and** **Common Core Standards**	Visual and Performing Arts A. Disciplinary Literacy A2.Elements of Art and Principles of Design. Students compare features of composition both within an art work and among art works. a. Compare Elements of Art: color, form, line, shape, space, texture, and value. b. Compare Principles of Design including balance, contrast, emphasis, movement, pattern, rhythm, and unity.

	A3.Media, Tools, Techniques, and Processes. Students explain the effects of media and their associated tools, techniques, and processes using elements, principles, and expressive qualities in art forms and genres. B. Creation, Performance, and Expression B1.Media Skills. Students choose suitable media, tools, techniques, and processes to create original art works. B2.Composition Skills. Students use Elements of Art and Principles of Design to create original art works that demonstrate different styles in paintings, three-dimensional objects, drawings from imagination and real life, and a variety of other media and visual art forms. B3.Making Meaning. Students create art works that communicate an individual point of view. a. Demonstrate skills in the use of media, tools, techniques, and processes. b. Demonstrate knowledge of visual art concepts. c. Communicate a variety of ideas, feelings, and meanings. CCS: Disciplinary Literacy
Sample Lessons and Activities	• Oaxacan animal sculptures using armatures and plaster and showing movement. • Functional slab-built pottery using molds and/or templates. • Clay sculptures of imaginary creatures. • Clay landscape relief sculptures. • Sculptures made from recycled and/or found-objects.
Sample Classroom Assessment Methods	• Rubric • Portfolio • Worksheet • Critique • Peer edit • Reflection/self-evaluation/artist statement
Sample Resources	• Art Department resource library • Art reproductions print file • Internet sources • Student/teacher exemplars

Brunswick School Department
Grades: 6-8
Unit 2: Drawing

Essential Understandings	• Artists use a variety of concepts, skills, and processes to create drawings. • Artists use drawing for a variety of purposes.
Essential Questions	• What skills, techniques, and processes are necessary in order to create works of art using drawing? • What purpose does drawing serve? • What do artists draw?
Essential Knowledge	• In drawing, the Elements and Principles of Design are used to create a work of art. • Artists use a variety of techniques, media, and processes to create drawings. • Artists use drawing to express, illustrate, escape, and understand the world.
Vocabulary	• Terms: value, shading, blending, gesture, contour, positive/negative space, measuring, hatching, cross-hatching, stippling, pattern, texture, viewfinder, shape, depth, observation, imagination, proportion/scale, linear perspective, line, composition, Elements and Principles of Design, thumbnail sketch.
Essential Skills	• Produce works that show an exploration of the Elements and Principles of Design in drawing. • Use a variety of drawing techniques, media, and processes. • Produce drawings that show an understanding of spatial relationships using observational skills. • Produce drawings that show use of imagination. • Demonstrate compositional skills and techniques.
Related Maine Learning Results **And** **Common Core Standards**	Visual and Performing Arts A. Disciplinary Literacy A2.Elements of Art and Principles of Design. Students compare features of composition both within an artwork and among art works. a. Compare Elements of Art: color, form, line, shape, space, texture, and value. b. Compare Principles of Design including balance, contrast, emphasis, movement, pattern, rhythm, and unity.

	A3.Media, Tools, Techniques, and Processes. Students explain the effects of media and their associated tools, techniques, and processes, using elements, principles, and expressive qualities in art forms and genres. B. Creation, Performance, and Expression B1.Media Skills. Students choose suitable media, tools, techniques, and processes to create original art works. B2.Composition Skills. Students use Elements of Art and Principles of Design to create original art works that demonstrate different styles in paintings, three-dimensional objects, drawings from imagination and real life, and a variety of other media and visual art forms. B3.Making Meaning. Students create art works that communicate an individual point of view. c. Demonstrate skills in the use of media, tools, techniques, and processes. d. Demonstrate knowledge of visual art concepts. e. Communicate a variety of ideas, feelings, and meanings. CCS: Disciplinary Literacy
Sample Lessons and Activities	• 1-Point and 2-Point perspective drawing • Observational drawing may include figure and still life drawing • Imaginative drawing • Contour, gesture, blind-contour drawing • Mixed-media drawing • Zentangle • Sketching, rough drafts, thumbnails
Sample Classroom Assessment Methods	• Portfolio • Critiques • Peer edit • Rubric • Worksheets • Reflection/self-evaluation/artist statement
Sample Resources	• Art Department resource library • Art reproductions print file • Internet sources • Student/teacher exemplars

Brunswick School Department
Grades: 6-8
Unit 3: Painting

Essential Understandings	• Artists use a variety of concepts, media, skills, and processes to create paintings. • Painting can be used for a variety of purposes.
Essential Questions	• What are the different kinds of, and purposes for, painting? • What skills, techniques, and processes are necessary in order to create works of art using paint?
Essential Knowledge	• In painting, the Elements and Principles of Art and Design are used to create a work of art. • Artists use a variety of techniques to create and express through painting. • Artists use color theory in order to create and express mood, depth, and other purposes. • Artists develop an intermediate understanding of different painting techniques.
Vocabulary	• Terms: watercolor, tempera, acrylic, dry brush, wet on wet, wash, color wheel, color theory, primary colors, secondary colors, tertiary/intermediate colors, analogous colors, warm/cool colors, complementary colors, brush strokes, value, tint, shade, highlight, shadow, monochromatic, blending, paint palette, substrate
Essential Skills	• Demonstrate proper use and care of painting materials and tools. • Use color theory in painting. • Demonstrate compositional skills and techniques. • Use a variety of painting techniques and methods using tempera, watercolor, and acrylic.
Related Maine Learning Results **And** **Common Core Standards**	Visual and Performing Arts A. Disciplinary Literacy A2.Elements of Art and Principles of Design. Students compare features of composition both within an art work and among art works. a. Compare Elements of Art: color, form, line, shape, space, texture, and value. b. Compare Principles of Design including balance, contrast, emphasis, movement, pattern, rhythm, and unity. A3.Media, Tools, Techniques, and Processes. Students explain the effects of media and their associated tools, techniques, and

	processes using elements, principles, and expressive qualities in art forms and genres. B. Creation, Performance, and Expression B1.Media Skills. Students choose suitable media, tools, techniques, and processes to create original art works. B2.Composition Skills. Students use Elements of Art and Principles of Design to create original art works that demonstrate different styles in paintings, three-dimensional objects, drawings from imagination and real life, and a variety of other media and visual art forms. B3.Making Meaning. Students create art works that communicate an individual point of view. a. Demonstrate skills in the use of media, tools, techniques, and processes. b. Demonstrate knowledge of visual art concepts. c. Communicate a variety of ideas, feelings, and meanings. E. Visual and Performing Arts Connections E1.The Arts and Other Disciplines. Students compare products of the visual/performing arts to understand history and/or world cultures. CCS: Disciplinary Literacy
Sample Lessons and Activities	• Value scale in paint • Observational painting • Imaginative painting • Color theory activities (cookie color wheel) • Painting to express personality • Partner painting
Sample Classroom Assessment Methods	• Rubric • Portfolio • Worksheet • Critique • Peer edit • Reflection/self-evaluation/artist statement
Sample Resources	• Art Department resource library

	• Art reproductions print file • Internet sources • Student/teacher exemplars

VISUAL ARTS

Brunswick School Department
Grades: 6-8
Unit 4: Printmaking

Essential Understandings	• Artists use a variety of concepts, media, skills, and processes to create prints. • Printmaking can be used for a variety of purposes.
Essential Questions	• What skills, techniques, and processes are necessary in order to create works of art using printmaking? • How is printmaking different than other art processes?
Essential Knowledge	• The Elements and Principles of Art and Design are used to create works of art in printmaking. • Artists use a variety of media, tools, and techniques to create and express oneself through printmaking. • Artists develop an intermediate understanding of different printmaking techniques.
Vocabulary	• Terms: artist's proof, relief print, pull, burnish, linoleum, bench-hook, printing plate, title, number, signing, edition, reduction print, carving tool, brayer, baren, collagraph, monoprint, ink.
Essential Skills	• Produce prints that show an exploration of the Elements and Principles of Art and Design. • Produce prints that show an exploration of the different purposes of printmaking. • Demonstrate proper use of tools and safety processes in printmaking. • Create an edition of prints. • Apply knowledge of the creative process when planning prints.
Related Maine Learning Results **And** **Common Core Standards**	Visual and Performing Arts A. Disciplinary Literacy A2.Elements of Art and Principles of Design. Students compare features of composition both within an art work and among art works. a. Compare Elements of Art: color, form, line, shape, space, texture, and value. b. Compare Principles of Design including balance, contrast, emphasis, movement, pattern, rhythm, and unity. A3.Media, Tools, Techniques, and Processes. Students explain the effects of media and their associated tools, techniques, and processes using elements, principles, and expressive qualities in art forms and genres.

	B. Creation, Performance, and Expression B1.Media Skills. Students choose suitable media, tools, techniques, and processes to create original art works. B2.Composition Skills. Students use Elements of Art and Principles of Design to create original art works that demonstrate different styles in paintings, three-dimensional objects, drawings from imagination and real life, and a variety of other media and visual art forms. B3.Making Meaning. Students create art works that communicate an individual point of view. a. Demonstrate skills in the use of media, tools, techniques, and processes. b. Demonstrate knowledge of visual art concepts. c. Communicate a variety of ideas, feelings, and meanings. CCS: Disciplinary Literacy
Sample Lessons and Activities	• Collagraph prints of exaggerated facial expressions. • Abstract linocut prints inspired by nature, intended for textile design. • Monoprinting on acrylic or gelatin sheets. • Multi-color prints inspired by Pop Art, reflecting contemporary culture.
Sample Classroom Assessment Methods	• Rubric • Portfolio • Worksheet • Critique • Peer edit • Reflection/self-evaluation/artist statement
Sample Resources	• Art Department resource library • Art reproductions print file • Internet sources • Student/teacher exemplars

Brunswick School Department
Grades: 6-8
Unit 5: Art History and Culture

Essential Understandings	• Art and artists both reflect and shape their time period and culture.
Essential Questions	• What can art tell one about society and other cultures – now and in previous time periods? • How can the study of other time periods and cultures influence the creation of a work of art? • What is the role of the artist in society?
Essential Knowledge	• Art has different meanings and functions in different times and places. • The Elements and Principles of Art and Design can be used to describe and understand artworks from different time periods. • Artists often create works inspired by art and cultural traditions other than one's own. • Art movements reflect how different artists create work in response to the world around them.
Vocabulary	• Terms: art movement, style, culture, time period, abstract, realism, Renaissance, contemporary, representational, non-objective, surreal, Pop Art.
Essential Skills	• Create works inspired by various art styles, movements, time periods, and cultures, including one's own contemporary society. • Identify the style of a particular artist, style, or art movement.
Related Maine Learning Results **And** **Common Core Standards**	Visual and Performing Arts A. Disciplinary Literacy A1.Artist's Purpose. Students explain and compare different purposes of artists and their artwork, in the context of time and place. D. Aesthetics and Criticism D1.Aesthetics and Criticism. Students analyze and evaluate art forms. a. Compare and analyze art forms by applying grade span appropriate arts concepts, vocabulary, skills, and processes as referenced in Standard A: Disciplinary Literacy. b. Compare the quality and effectiveness of art works using multiple criteria from observations, print and/or non-print resources.

	c. Compare the effectiveness of selected media, techniques, and processes in communicating ideas. d. Explain and compare different purposes of artists and art work in the context of time and place. E. Visual and Performing Arts Connections E1.The Arts and History and World Cultures. Students compare products of the visual/performing arts to understand history and/or world cultures. CCS: Disciplinary Literacy
Sample Lessons and Activities	• Create a work of art that reflects an historical context, art movement, or famous artist. • Make a poster, digital presentation, pamphlet, web page, or timeline that teaches others about a famous artist or art movement.
Sample Classroom Assessment Methods	• Rubric • Portfolio • Worksheet • Critique • Peer edit • Reflection/self-evaluation/artist statement
Sample Resources	• Art Department resource library • Art reproductions print file • Internet sources • Student/teacher exemplars

Brunswick School Department
Grades: 6-8
Unit 6: The Creative Process

Essential Understandings	• The creative process in art involves a variety of mental strategies and problem solving skills, as well as an understanding of physical media, tools, and techniques.
Essential Questions	• What creative thinking strategies, processes, and problem solving skills are used by artists? • What is the creative process? • What habits of mind do artists need to develop? • What media, tools, and techniques are used to create art? • How and where do artists get ideas?
Essential Knowledge	• Artists identify problems, generate solutions, solve problems, and evaluate solutions. • Artists often use specific creative thinking strategies to plan and come up with ideas for one's artwork. • Artists often use a sketchbook or journal to engage in and document the creative process. • The creative process includes proper use of specific tools and materials, as well as safety and care of art materials and studio spaces. • Artists use creative strategies to overcome obstacles and adapt to challenges. • Artists develop ideas and work toward improving them throughout the process of creating a work of art. • Artists often collaborate with others to produce artwork.
Vocabulary	• Terms: brainstorm, thumbnail sketch, creativity, point of view, sketchbook/journal, rough draft, craftsmanship, portfolio, originality, idea/concept, revise, imagination, collaboration, experiment, practice, problem solving, exhibit, revise, rearrange
Essential Skills	• Reflect upon personal artwork and the artistic process. • Demonstrate proper use and care of materials and equipment. • Develop working knowledge of art vocabulary. • Develop creative thinking skills: i.e. brainstorming, divergent thinking strategies. • Select and prepare works for end-of-year art show. • Demonstrate quality and craftsmanship on finished pieces of artwork. • Show evidence of personal voice and choice. • Develop realistic time-management strategies appropriate to planning and completing works of art (meeting deadlines).
Related Maine Learning Results **And**	Visual and Performing Arts A. Disciplinary Literacy

Common Core Standards	A1.Artist's Purpose. Students explain and compare different purposes of artists and their artwork, in the context of time and place. A3.Media, Tools, Techniques, and Processes. Students explain the effects of media and their associated tools, techniques, and processes using elements, principles, and expressive qualities in art forms and genres. B. Creation, Performance, and Expression B3.Making Meaning. Students create art works that communicate an individual point of view. a. Demonstrate skills in the use of media, tools, techniques, and processes. b. Demonstrate knowledge of visual art concepts. c. Communicate a variety of ideas, feelings, and meanings. B4.Exhibition. Students select, prepare, and help with exhibiting their works in the classroom, school, or other community location, and articulate an artistic justification for their selections. C. Creative Problem Solving C1.Application of Creative Problem Solving. Students describe and apply creative-thinking skills that are part of the creative problem-solving process. a. Fluency b. Flexibility c. Elaboration d. Originality e. Analysis E. Visual and Performing Arts Connections E2.The Arts and Other Disciplines. Students explain skills and

	concepts that are similar across disciplines. E3.Goal Setting. Students set goals related to time management, interpersonal interactions, or skill development that will lead to success in the arts. E4.Impact of the Arts on Lifestyle and Career. Students explain the impact of artistic and career choices on self, others, and the natural and man-made environment. CCS: Disciplinary Literacy
Sample Lessons and Activities	• Maintain a working portfolio. • Create thumbnail sketches and rough drafts to plan for larger projects. • Design and implement an Independent Project. • Practice, experiment, and play with art processes before engaging in larger studio assignments. • Brainstorm and engage in creative thinking as part of planning for studio projects. • Reflect upon and/or discuss the creative process before, during, and after studio projects.
Sample Classroom Assessment Methods	• Thumbnails and rough drafts • Critiques • Peer editing • Practice/experiment/play • Rubrics • Portfolios • Reflection/self-evaluation/artist statement
Sample Resources	• Art Department resource library • Art reproductions print file • Internet sources • Student/teacher exemplars