



SHREWSBURY PUBLIC SCHOOLS

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Curriculum and Technology FY20 Budget Details and Recommendations

A report prepared for School Committee by

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Education is a growth industry.

In order to empower learners, our vision for curriculum and instruction must support both student and staff learning. Accordingly, our strategic plan outlines our aspirations for refining existing practices as well as our intent to invest in professional development. There are implications for curriculum, instruction and assessment in our district goals and school improvement plans.

The table below depicts well our chief areas of focus for 2018-2020:

<i>Strategic Priority</i>	<i>Implications for Curriculum, Instruction & Assessment</i>	<i>Investments in Professional Development</i>
Space & Resources to Support Effective Learning	Integrating Science, Technology, Engineering and Arts (STEAM) experiences into the curriculum	* Develop a shared understanding of and vision for STEAM in Shrewsbury
Learning Environments Where Everyone's Success Matters	Building understanding of the components of inclusive practice Expanding the co-taught model from Elementary and SMS to OMS Continuing our efforts to educate staff about cultural proficiency Exploring ways to leverage technology to improve performance	Coordinate professional development opportunities in: * Universal Design for Learning (UDL) * Integrated systems of student support * Sheltered English Instruction for ELs * Components of effective co-teaching for leaders and co-teaching teams * Cultural Proficiency Develop capacity for * Using data tools to effectively monitor student progress
Enhanced Well-being of All	Together with the district steering committee, develop an implementation plan for SEL	Coordinate professional development opportunities in: * Social Emotional Learning (SEL) * Recommend SEL curriculum resources

Connected Learning for a Complex World	Inventory current practices that align with the elements of project-based learning	<ul style="list-style-type: none"> * Identify opportunities to integrate Project-based learning into the curriculum for all students * Develop resources to support complex and connected learning experiences
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It's important to note that this is just part of the work; as we work to achieve district goals we must also respond to state directives. As you know, in the coming year we will implement new Science practices and standards. At the same time, we will prepare to



adjust to the new expectations for the Social Science curriculum coming from the Department of Elementary and Secondary Education (DESE). Finally, each department invests in continuous improvement, efforts which often result in curriculum modifications. Recently, for example, Performing Arts Director Tom O'Toole directed Music educators to refine the General Music curriculum to ensure consistency across the Elementary level. Similarly, new offerings in the Program of Studies for Shrewsbury High are supported by summer curriculum development hours for teachers at the secondary level.

As depicted in the Strategic Priority table, much of the improvements that result in better learning experiences for students start with increasing staff capacity. Thus, the role of the Curriculum, Instruction and Assessment office is to empower staff as they work towards their goals. The budget for this office helps to fund teaching and learning related to each

strategic priority and every content area. The results our students achieve are tied to the investments we've made in developing sound instructional practices, securing powerful tools and maintaining strong systems of support.

Curriculum & Instruction Budget Overview

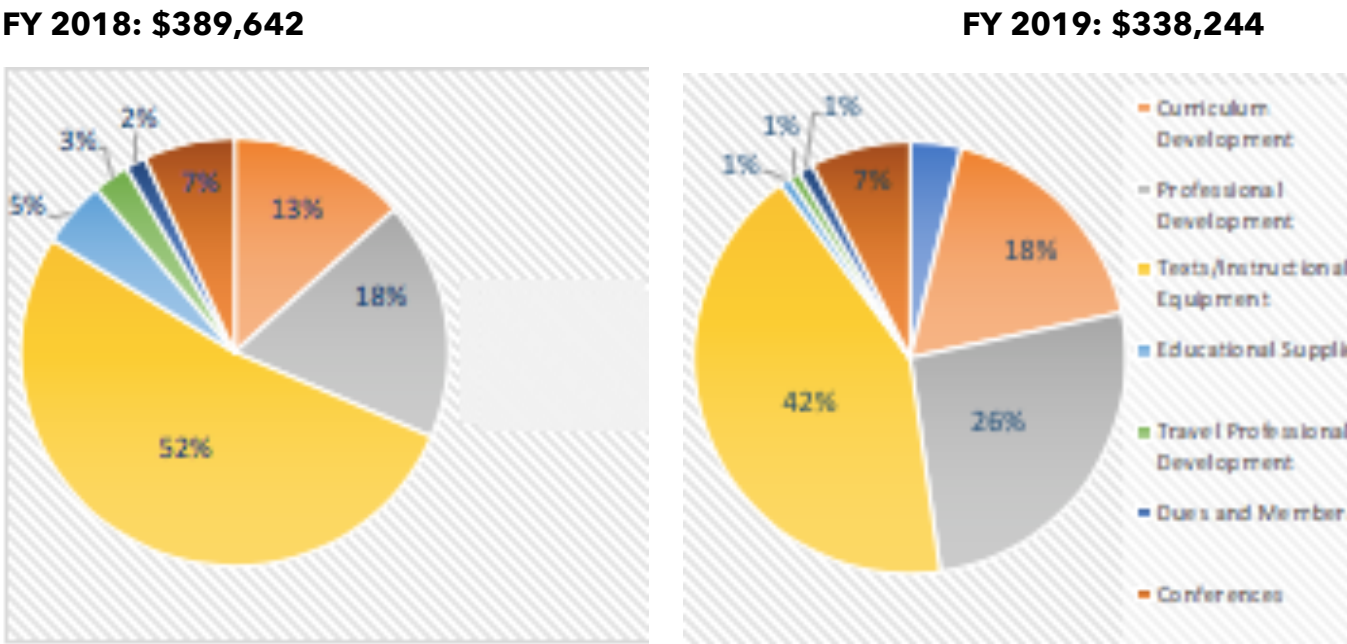
Account	FY2019 Actual Budget	FY20 Proposed Budget	Difference FY19 Actual / FY20 Proposed
Mentoring Stipends	\$30,000	\$30,000	-
Professional Improvements	\$11, 736	\$11, 971	\$235
Curriculum Development	\$55,000	\$56,100	\$1,100
Professional Development Contractual Services	\$80,500	\$82,110	\$1,610
Texts/Instructional Equipment	\$129,508	\$132,098	\$2,590
Educational Supplies	\$2,500	\$2,550	\$50
Travel Professional Development	\$2,500	\$2,550	\$50
Dues and Membership	\$3,500	\$3,570	\$70
Conference Professional Development	\$23,000	\$23,460	\$460
TOTAL	\$338,244	\$344,409	+ \$6,165

For 2020, only modest increases are recommended, in large part due to overall stability, including the likelihood of receiving federal grants that fund professional development.

As was the case last year, the cost of our mentoring program is covered by the Title II grant. Additionally, this same grant partially supports professional development for teacher teams in implementing the co-taught model in grades K-5.

Our work in strengthening school climates and providing professional development to staff interested in learning more about Social Emotional Learning (SEL) was supported by joint-funded initiatives this year. Shrewsbury was successful in our application to two state cohorts- the ExSEL network and the [Systems of Student Support Academy](#), both supported in part by the Rennie Center. A relatively new federal grant, Title IV, funded conferences and instructional materials that support complex, connected learning.

For the most part, the budget for Curriculum, Instruction and Assessment is relatively stable. As you can see from the charts below, allocations proposed for FY 18 and FY 19 were similar, with modest increases depicted across categories:



Given the rapid pace of change present in education, it should be no surprise that periodic investment in upgraded curriculum materials is also needed.

New Needs

On the one hand, our investment in educational materials has changed considerably over time. Starting in 2015, the use of professional development to create instructional materials

Content Area	Anticipated Costs	Cost of Teacher Created Texts	Total Savings
9 th Grade World Civilization	\$53,625	\$9,500	\$44,125
10 th Grade US History 1	\$52,750	\$9,500	\$43,250
11 th Grade US History 2	\$46,250	\$9,500	\$36,750
5-8 ELA Writing Guide	\$93,400 (Write Source)	\$0	93,400
Total			\$217,525

resulted in a reduction of funds needed for textbooks, particularly at the high school.

On the other hand, Shrewsbury's commitment to providing students access to rigorous coursework has material implications. Some digital tools cost money. Finally, we continue to use some traditional instructional materials by design.

At Shrewsbury High School, growing enrollment in Advanced Placement (AP) classes means we need to invest in new textbooks. With growing numbers expected overall at SHS, it will be important to attend to updating and replacing text sets and instructional materials both in the classroom and in the Media center.

Curriculum, Instruction & Assessment Budget Details

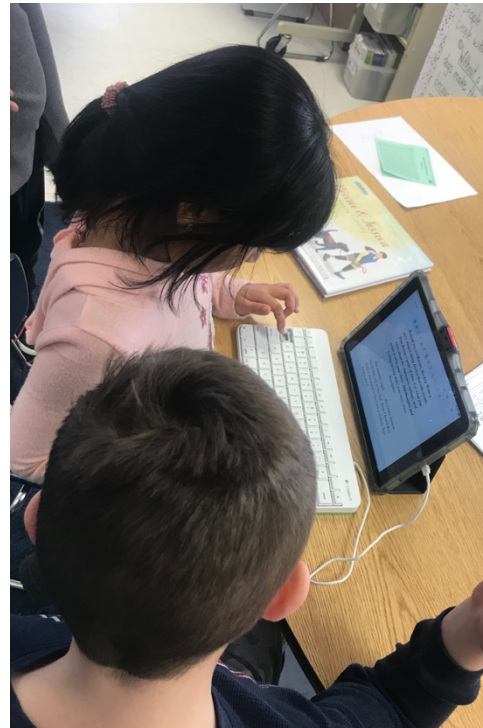
Item	FY 20 Cost
Mentoring Stipends	
This cost provides mentors for new professional staff hired in Shrewsbury. In FY17 we shifted this cost to the Title IIA grant. These federal grant funds may not be available for FY19.	\$30,000
Professional Improvements	
This amount is lower this year because we do not anticipate a loss in Title IIA grant funding.	\$11,971
Curriculum Development	
This line item provides funds for various summer and school year curriculum projects. The district is currently engaged in curriculum work related to the new science standards. This line item also funds the development and organization of digital resources. This work reduces the district's need for textbook replacement.	\$56,100
Professional Development Contractual Services	
This line item will support the Strategies for Effective Teaching (SET) course for new teachers, the Primary Source Partnership, Early Release and Professional Day trainings, consultants for science and project-based learning initiatives. Next year this item will support Social Science curriculum development.	\$82,110
Texts/Instructional Equipment	
Most of the instructional materials being purchased are now digital: Mathematica, accounting software, Listen Current, Noodle Tools, STEMscopes, and various apps. This line item has been reduced over time due to the availability of additional free digital resources. The consumable math resources for K-5 are also included in this line item.	\$132,098
Conference Professional Development	
This line item supports our teachers in attaining the necessary qualifications to teach AP courses, and funds to provide teacher leaders the opportunity to attend conferences that support the district's strategic priorities.	\$23,460

Instructional resources are increasingly digitized, and so the curriculum and technology budgets are increasingly interconnected and interdependent. This report seeks to separate out and summarize proposed expenditures for both the curriculum/instruction and technology departments, but it's important to note that these two groups work in tandem. Although investments may shift over time, our shared goal is to deliver a high quality instructional experience to Shrewsbury's students.

Digital Learning

Digital learning is well-integrated into instruction across all grade levels. For example, in the 1:1 environment, teachers continue to use Apple Classroom, a no-cost classroom management tool, to monitor what students are doing on their digital devices during class time.

Importantly, Pathways, the platform used as the foundation for our professional development program for teachers, mirrors the model we aspire to offer students. Similarly, our investment in Schoology across the district facilitates communication between teachers, students and parents. As digital learning becomes more ubiquitous, low cost/no cost digital materials continue to become available. Although this work does incur some cost on our end, paying our teachers for their work is a sound investment. First, tools we develop here are well matched to our needs. Moreover, digital tools are a savings when compared with textbook expenditures. Finally, this approach depicts well the skills our educators possess. We are fortunate that we have so much talent in Shrewsbury. Our educators have consistently presented at regional and even national conferences, and their expertise fuels internal collaboration.



Another area where we see the growth in the use of digital devices follows changes in the state testing platform. The Department of Elementary and Secondary Education recently clarified their expectation that students will have experience working in a digital environment prior to taking the new MCAS assessment online. Accordingly, this year we built on our efforts to integrate technology into Grade 4 by expanding digital curriculum in Grade 3.

Elementary 1:2 Program

We are currently in our third year of the implementation of a 1:2 iPad program at the fourth grade level, and our first in third grade. In both grade spans, there is one iPad for every two students. Teachers utilize the iPads to enhance teaching and learning across the

subject areas. Sometimes students work in pairs on collaborative projects and other times students rotate through stations, some of which involve iPad use.

Consistent access to iPads in their classrooms enables teachers to plan lessons, units, and projects that integrate technology in meaningful ways. It also provides teachers with opportunities to take advantage of teachable moments that are enhanced through technology.

Having twelve iPads in the classroom also provides teachers with the opportunity to provide their students with easy access to special events and activities. Students across the district participate in the Hour of Code to celebrate Computer Science Education Week, Increasingly, students and staff alike are seeing digital learning less like an event and more like an everyday experience. In the classroom and in our Media centers, students engage with block coding activities that introduce them to computational thinking concepts.



Most instructional tools available for use with iPads are available at no cost, including:

- Nearpod
- QR codes
- Padlet
- Google Drive/Docs
- Pages
- Numbers
- Keynote
- iMovie

Going forward, it will be important to consider which tools are the best match for teaching and learning at every level, as some of the tools most often used, like Book Creator and Notability, are fee-based.

Digital Instructional Tools

As a result of Shrewsbury's investment in personal technology devices, students can now access digital instructional tools that serve to positively redefine learning experiences. These tools better prepare them for the learning and working environments they will encounter in their future. For example, STEMscopes is a digital resource that is currently used to enhance Science instruction at the middle level. Similarly, students in the younger grades access a resource called Mystery Science to supplement instruction.

STEMscopes

Combining digital resources, supplemental print, and hands-on science, STEMscopes adapts to individual teaching styles while increasing engagement, rigor, and student achievement. With a vast research backbone, extensive and continuous teacher input, and a 24/7 professional development portal, STEMscopes helps teachers deliver meaningful content in an accessible format for a variety of

purposes. Pilot teachers and teams at both the Elementary and Middle levels will be using this new tool.

Mystery Science

Designed to engage young learners, this online science resource poses a question to encourage scientific thinking. The videos are narrated stories with real-life images. Educators pause the clips to allow for reflection and discussion. Every lesson concludes with simple, hands-on activities designed to use everyday classroom supplies.

Information Technology Budget Overview

The Information Technology department is responsible for the purchasing, implementation, maintenance, and support of technology within the district. As the use of technology by teachers and students has increased, the reliability of technology in the district has become increasingly important. In addition to ensuring the reliability of existing services, devices that were formerly not IT-based are becoming increasingly dependent upon IT services (e.g., security cameras, copiers, cafeteria point-of-sale systems, etc.). The proposed IT budget supports these functions.

Account	FY2018 Actual Budget	FY20 Proposed Status Quo	Difference
PD: Dues & Memberships	\$450	\$459	\$9
PD: Conferences	\$4,000	\$4,080	\$80
Inst. Tech: Supplies	\$19,000	\$19,380	\$380
Inst. Tech: Networking	\$133,000	\$133,000	\$0
Inst. Tech: Hardware	\$753,355	\$560,000	(\$193,355)
Inst. Tech: Software	\$100,000	\$103,000	\$3,000
Networking Infrastructure	\$42,000	\$136,000	\$94,000
Data Processing	\$136,000	\$158,000	\$22,000
AV Supplies	\$7,069	\$7,210	\$141
AV Equipment	\$36,316	\$36,316	\$0
Repair and Maintenance: Equip	\$61,520	\$61,520	\$0
TOTAL	\$1,292,710	\$1,218,965	(\$73,745)

* Please note that this budget detail does not include salaries and wages or line items for Media Services, both of which are included the ITAMS total on page 40 of the budget book.

Information Technology Budget Details FY 20

The major drivers of increases in the IT budget are listed below. These are specific item changes included in the net changes shown in the previous table.

Item	FY20 Cost
Inst. Tech: Hardware	
Planned reduction due to completion of the initial High School iPad deployment lease. This decrease was projected as part of the FY17 budget process. In FY20, lease costs will be reduced below the FY18 level and achieve a steady state as the initial HS lease payments are completed (see table below).	(\$223,872)
Inst. Tech: Network Infrastructure	
Replacement of Sherwood switches - the current switches are being phased out of vendor support by 2020	\$128,576
Replacement of Floral Street main switch - the main switch at Floral Street School is no longer supported by the vendor	\$7,300
Data Processing	
PowerSchool Registration and Lottery Management software - this software is helping to improve the efficiency of the registration and preschool/kindergarten lottery process.	\$19,586

iPad Lease Schedule	FY16	FY17	FY18	FY19	FY20
Lease 1 (Grades 5, 9, 10, 11, 12 in FY16)	\$278,707	\$278,707	\$278,707	\$278,707	
Lease 2 (Grades 5 & 9 in FY17)		\$108,016	\$108,016	\$108,016	\$108,016
Lease 3 (Grades 5 & 9 in FY18)			\$94,067	\$78,817	\$78,819
Lease 4 (Grades 5 & 9 in FY19)				\$131,261	\$86,261
Lease 5 (Grades 5 & 9 in FY20)					\$99,835
Total	\$278,707	\$386,723	\$480,790	\$596,803	\$372,931

Note: Reductions in Lease 3 and Lease 4 after initial year due to trade-ins of iPads no longer in use.

Connected Learning for a Complex World

SHS classroom projectors

The current projectors and speakers at SHS are aging and consume valuable classroom space. This proposal would replace the existing projector carts with wall-mounted short-throw projectors and speakers. The projected approximate cost is \$200,000.

SHS computer lab upgrade

This proposed investment would replace the aging computers in the music and digital art lab at SHS, and shift the replaced computers to a lab with less demanding use. The approximate cost is \$39,200.

Reallocation of the Class of 2019 iPads

Replacement Cycle

Our replacement cycle for 1:1 iPads is four years. This cycle has the logistical advantage of corresponding with students' four years of middle school and four years of high school, allowing us to issue refreshed devices upon students' transition from middle to high school and collecting them upon graduation. For the 2018-2019 school year, in keeping with past practice in our 1:1 program, new iPads were acquired for all grade 5 and 9 students.

We have been fortunate to be able to reuse the graduating seniors' iPads over the past few years to upgrade many of our non-1:1 iPads; using the Classes of 2016-2018 iPads, all of these iPads will have been upgraded to the iPad Air 2 model. We plan to trade in remaining Class of 2019 iPads, using this trade-in to lower the lease costs for our grade 5 and 9 iPad purchases.

Conclusion

"Through learning we re-create ourselves. Through learning we become able to do something we never were able to do. Through learning we re-perceive the world and our relationship to it. Through learning we extend our capacity to create, to be part of the generative process of life."

— **Peter M. Senge**

In Shrewsbury, our strength is found in our people. Our people -students and staff alike- are strongest when they are well provisioned and highly engaged. It's our privilege and responsibility to craft a budget that both meets their needs and accounts for their collective aspirations.

Appendix

Please click these links for more information on digital tools:

[Apple Classroom](#)

STEMScopes: <http://stemscores.com/home.php>

Mystery Science: <https://mysteryscience.com>

Nearpod: <https://nearpod.com/>

QR Codes: <https://www.whatihavelearnedteaching.com/using-qr-codes-in-the-classroom/>

Padlet: <https://padlet.com/features>

I Movie: <https://www.apple.com/imovie/>

SeeSaw: <https://web.seesaw.me>

Sphero (robots): <https://www.sphero.com/>