Technology Scope and Sequence

The following K-12 Technology Scope and Sequence was developed by the educational technology faculty at Shorecrest Preparatory School (www.shorecrest.org). Shorecrest is a preschool through high school non-sectarian, co-ed, independent school in St. Petersburg, Florida.

Use this scope and sequence to identify prerequisite technology skills and recognize students' proficiency and progression across grade levels.

TECHNOLOGY SCOPE AND SEQUENCE   [Key = Beginning (B), Developing (D), Secure (S)]

Basic Operations & Concepts	K	1	2	3	4	5	6	7	8	9	10	11	12
Identify the basic components of the computer: monitor, keyboard, mouse, headphones, ports and printers.	B	D	S	S	S	S	S	S	S	S	S	S	S
Turn on/off a computer, laptop and/or hand-held device and log in.	B	B	D	D	S	S	S	S	S	S	S	S	S
Use a mouse or trackpad to manipulate shapes, icons; click on URLs, radio buttons, check boxes; use scroll bar.	B	B	D	D	D	S	S	S	S	S	S	S	S
Use desktop icons, windows and menus to open and close applications and documents; understand difference between closing and quitting applications.	B	B	B	B	B	D	D	S	S	S	S	S	S
Use shortcuts to operate the computer (i.e. Command-P, Command-C, Command-V).	B	B	B	D	D	D	D	S	S	S	S	S	S
Use gestures to navigate hand-held devices.	B	B	B	B	D	D	S	S	S	S	S	S	S
Use the print dialog box to select local printers and change settings (i.e. number of copies, color, paper size, orientation, scale, one-sided vs. two-sided).		B	B	B	B	B	D	D	S	S	S	S	S
Utilize basic troubleshooting steps to solve technical problems independently.			B	B	B	B	D	S	S	S	S	S	S
Apply prior technical knowledge and experiences to figure out how new technologies or applications work.		B	B	B	B	D	D	S	S	S	S	S	S
Manage and deploy software updates.						B	D	D	S	S	S	S	S

TECHNOLOGY SCOPE AND SEQUENCE   [Key = Beginning (B), Developing (D), Secure (S)]

Logins/File Management	K	1	2	3	4	5	6	7	8	9	10	11	12
Use login credentials for access to network devices, accounts, servers, printers and cloud services.		B	B	B	D	D	S	S	S	S	S	S	S
Name documents with appropriate file names and understand where files are being saved.		B	B	B	B	D	D	D	S	S	S	S	S
Create, save, edit, copy and rename files and folders to organize documents and materials.		B	B	B	B	B	D	D	S	S	S	S	S
Delete files and folders; recover files and folders from the trash; empty trash.			B	B	B	B	D	D	S	S	S	S	S
Retrieve previous file revisions/access revision history for documents located in cloud services.				B	B	B	D	D	S	S	S	S	S
Download, upload, attach and zip files and folders via email or cloud services.				B	B	B	D	D	S	S	S	S	S
Use search tools to locate files and applications.		B	B	D	D	S	S	S	S	S	S	S	S
Can associate document extensions with appropriate file types.			B	B	B	D	D	S	S	S	S	S	S
Understand how cloud computing is different from using software applications.			B	B	D	D	D	S	S	S	S	S	S
Is able to upload/download/retrieve files to and from the cloud.			B	B	D	D	D	S	S	S	S	S	S

TECHNOLOGY SCOPE AND SEQUENCE   [Key = Beginning (B), Developing (D), Secure (S)]

Personal Data Management	K	1	2	3	4	5	6	7	8	9	10	11	12
Protect accounts by logging out of shared equipment.	B	B	B	D	D	D	D	S	S	S	S	S	S
Keep passwords confidential, and be proactive if they are compromised.	B	B	B	D	D	D	D	S	S	S	S	S	S
Use passcodes/passwords to secure individual devices.		B	B	D	D	S	S	S	S	S	S	S	S
Create robust passwords and effectively manage password privacy.		B	D	D	D	D	S	S	S	S	S	S	S
Find and adjust privacy settings.					B	B	D	D	D	S	S	S	S

Michigan Integrated Technology Competencies for Students

TECHNOLOGY SCOPE AND SEQUENCE [Key = Beginning (B), Developing (D), Secure (S)]

Online Safety	K	1	2	3	4	5	6	7	8	9	10	11	12
Use technology independently and with peers responsibly and make safe choices.		B	B	D	D	D	S	S	S	S	S	S	S
Understand how to be safe online and in a digital world.	B	B	B	B	B	D	D	D	D	D	D	S	S
Understand the importance of not sharing personal information online.	B	B	B	B	B	D	D	D	D	S	S	S	S
Understand how to practice safe internet searches.			B	B	B	D	D	D	D	D	D	S	S
Evaluate whether sources/websites are safe to conduct research.			B	B	B	D	D	D	D	D	D	S	S
Understand the positive and negative effects social media sites can have on one's life.				B	B	B	B	D	D	D	D	S	S

TECHNOLOGY SCOPE AND SEQUENCE [Key = Beginning (B), Developing (D), Secure (S)]

Digital Identity	K	1	2	3	4	5	6	7	8	9	10	11	12
Recognize how overuse of technology can impact one's mental, physical and emotional health.		B	B	B	B	D	D	D	D	D	D	D	D
Set appropriate profile pictures and other profile content across social media, web pages, blogs, etc.				B	B	B	B	B	B	B	D	D	S
Understand that digital content is permanent and cannot be deleted.			B	B	B	B	B	D	D	D	D	S	S
Build a positive digital footprint/reputation.			B	B	B	B	B	D	D	D	D	D	D
Recognize the difference between active and passive data collection when using the internet and social media sites.							B	B	D	D	D	D	D
Understand how browser settings such as cookies track personal information.							B	B	D	D	D	D	D

TECHNOLOGY SCOPE AND SEQUENCE [Key = Beginning (B), Developing (D), Secure (S)]

Keyboarding	K	1	2	3	4	5	6	7	8	9	10	11	12
Use keyboarding programs and games to assist in development of skills.	B	B	D	D	D	D	D	S	S	S	S	S	S
Use proper posture and ergonomics.	B	B	D	D	D	D	S	S	S	S	S	S	S
Locate and use letter and number keys with correct left and right hand placement (home row).	B	B	B	D	D	D	D	S	S	S	S	S	S
Locate and use correct finger/hand for space bar, return/enter and shift key.	B	B	D	D	D	S	S	S	S	S	S	S	S
Gain profiency and speed in touch-typing.	B	B	B	D	D	D	D	S	S	S	S	S	S
Learn to use special characters as needed (i.e. accents, tilda).			B	B	B	B	D	D	S	S	S	S	S

TECHNOLOGY SCOPE AND SEQUENCE [Key = Beginning (B), Developing (D), Secure (S)]

Painting & Drawing Programs	K	1	2	3	4	5	6	7	8	9	10	11	12
Use basic drawing tools including pencil, paint brush, shape, line, undo, redo and eraser.	B	B	D	S	S	S	S	S	S	S	S	S	S
Use color palette/color wheel to change tool color.	B	D	S	S	S	S	S	S	S	S	S	S	S
Use selection tools to copy, paste, move and modify work.			B	D	D	D	D	S	S	S	S	S	S
Use text tool to add text features to artwork.	B	D	S	S	S	S	S	S	S	S	S	S	S
Use basic design principles (i.e. whitespace, color, balance, texture).						B	D	D	S	S	S	S	S

Michigan Integrated Technology Competencies for Students

TECHNOLOGY SCOPE AND SEQUENCE [Key = Beginning (B), Developing (D), Secure (S)]

Communication & Collaboration Tools	K	1	2	3	4	5	6	7	8	9	10	11	12
Is polite and respectful in all communications and collaborations using technological tools, using appropriate language at all times.	B	B	D	D	D	S	S	S	S	S	S	S	S
Use email, messaging and other tools to share information and communicate ideas with others.			B	D	D	D	S	S	S	S	S	S	S
Compose and send an email.			B	D	D	S	S	S	S	S	S	S	S
Understand the difference between Reply Send, Reply All and Forward when responding to an email.			B	B	D	D	D	S	S	S	S	S	S
Understand the difference between CC (carbon copy) and BCC (blind carbon copy) and use them appropriately.						B	B	D	D	D	D	S	S
Attach a document or file to an email.					B	B	D	S	S	S	S	S	S
Use a course or learning management system to access class pages, class calendars, portfolios and grades.			B	D	D	D	S	S	S	S	S	S	S
Use features of a course or learning management system such as discussion forums, polls, wikis, dropbox, etc. to access and complete assignments.			B	D	D	D	S	S	S	S	S	S	S
Access calendar and student pages on school website as needed.			B	B	D	D	D	S	S	S	S	S	S
Use audience response tools and apps to participate in class discussions.	B	B	B	B	B	D	D	D	S	S	S	S	S
Set up, share and utilize collaborative workspaces, documents or other digital tools for asynchronous and synchronous collaboration.			B	D	D	D	D	S	S	S	S	S	S
Use synchronous collobaration tools such as video conferencing, interactive television and voice over IP to connect with others.	B	B	D	D	D	D	S	S	S	S	S	S	S
Use virtual world and gaming tools to work collaboratively toward common goals.		B	B	B	D	D	D	D	D	S	S	S	S
Use social media tools to connect, collaborate and share.				B	B	D	D	S	S	S	S	S	S
Use digital tools such as blogs, websites and social media to crowdsource, crowdfund and mobilize a community toward a goal.			B	B	B	B	B	D	D	D	D	S	S
Create and maintain a digital portfolio or collection of works related to one's learning.	B	B	D	D	D	D	D	D	D	S	S	S	S

TECHNOLOGY SCOPE AND SEQUENCE [Key = Beginning (B), Developing (D), Secure (S)]

Wordprocessing	K	1	2	3	4	5	6	7	8	9	10	11	12
Use a word processing application to write, edit, print and save assignments.	B	B	D	D	S	S	S	S	S	S	S	S	S
Use the menu/tool bar functions to format, edit and print a document.		B	D	D	D	D	D	S	S	S	S	S	S
Highlight, copy and paste text within a document or from an outside source.	B	B	D	D	S	S	S	S	S	S	S	S	S
Insert and resize images within a document.			B	D	D	D	S	S	S	S	S	S	S
Copy, paste and resize images found from outside sources.			B	B	D	D	S	S	S	S	S	S	S
Use the menu/toolbar functions to format a paper using MLA, APA or other appropriate style.					B	B	B	D	S	S	S	S	S
Proofread and edit writing using built-in resources (i.e. dictionary, spell checker, thesaurus, grammar check).		B	B	D	D	D	D	S	S	S	S	S	S

TECHNOLOGY SCOPE AND SEQUENCE [Key = Beginning (B), Developing (D), Secure (S)]

Problem Solving & Computational Thinking	K	1	2	3	4	5	6	7	8	9	10	11	12
Use technology tools to represent solutions to problems in a variety of ways including text, sounds, pictures and numbers.	B	B	B	D	D	D	D	D	S	S	S	S	S
Use technology resources and tools to solve age-appropriate computing problems or for independent learning.	B	B	B	D	D	D	D	D	S	S	S	S	S
Define an algorithm as a sequence of instructions and use the basic steps of algorithmic thinking to solve problems and design solutions.	B	B	B	D	D	D	D	D	S	S	S	S	S
Use a blockbased visual programming interface to build a game, tell a story or solve a problem.	B	B	B	B	B	D	D	D	S	S	S	S	S
Use 2D design tools to create prototypes, models and simulations to demonstrate solutions and ideas.	B	B	D	D	D	D	D	D	S	S	S	S	S
Use 3D design tools to create prototypes, models and simulations to demonstrate solutions and ideas.	B	B	B	B	B	B	D	D	D	D	D	S	S

TECHNOLOGY SCOPE AND SEQUENCE [Key = Beginning (B), Developing (D), Secure (S)]

Spreadsheets & Databases	K	1	2	3	4	5	6	7	8	9	10	11	12
Understand that spreadsheets, databases and other specialized data tools are used to collect, manage, analyze and visualize data.			B	B	B	D	D	D	S	S	S	S	S
Identify and explain terms and concepts related to spreadsheets (i.e. cell, column, row, values, labels, chart, graph).				B	B	B	D	D	S	S	S	S	S
Enter/edit data and text into a spreadsheet and format spreadsheet to accomodate data.				B	B	B	D	D	S	S	S	S	S
Calculate numerical equations using spreadsheet formulas and functions.							B	D	D	S	S	S	S
Designate the format of a cell to accomodate different kinds of text and numerical data.					B	B	D	D	S	S	S	S	S
Utilize spreadsheet data to create tables, charts and graphs.					B	B	D	D	S	S	S	S	S
Identify and explain terms and concepts related to database systems (i.e. field, set, subset, query, ordered, sorted).			B	B	B	D	D	D	S	S	S	S	S
Enter/edit data and/or text into a database and use queries to find information.				B	B	B	D	D	S	S	S	S	S
Use spreadsheets and databases to make predictions, solve problems and draw conclusions.							B	B	D	D	S	S	S

TECHNOLOGY SCOPE AND SEQUENCE [Key = Beginning (B), Developing (D), Secure (S)]

Multimedia & Presentation Tools	K	1	2	3	4	5	6	7	8	9	10	11	12
Use a digital camera, video camera or camera on a hand-held device to take pictures and videos.	B	B	D	D	S	S	S	S	S	S	S	S	S
Capture images that incorporate rules of photography.	B	B	B	D	D	D	D	S	S	S	S	S	S
Use photo and video editing tools to adjust images and add effects.	B	B	B	B	D	D	D	S	S	S	S	S	S
Save images in multiple formats.					B	B	D	D	S	S	S	S	S
Use recording and editing equipment to record, edit and publish audio.	B	B	B	B	D	D	D	S	S	S	S	S	S
Create, edit and format text, visuals and audio within a multimedia presentation.	B	B	B	B	D	D	S	S	S	S	S	S	S
Create a series of slides and organize them to present research or convey an idea.	B	B	D	D	D	D	S	S	S	S	S	S	S
Copy/paste or import graphics within a multimedia presentation. Be able to change their size and position on a slide.			B	B	D	D	S	S	S	S	S	S	S
Insert songs, videos or other media on slides.		B	B	B	D	D	D	S	S	S	S	S	S
Add a working hyperlink to a multimedia presentation.			B	B	D	D	D	S	S	S	S	S	S

TECHNOLOGY SCOPE AND SEQUENCE [Key = Beginning (B), Developing (D), Secure (S)]

Internet Searching & Online Databases	K	1	2	3	4	5	6	7	8	9	10	11	12
Use refresh, forward and back buttons to navigate a web browser.	B	B	D	D	S	S	S	S	S	S	S	S	S
Use tab browsing to navigate multiple pages.	B	B	D	D	S	S	S	S	S	S	S	S	S
Create bookmarks and add frequently used sites to the bookmark bar.			B	B	D	D	D	S	S	S	S	S	S
Locate the URL of a website and make a distinction between the suffixes .org, .com, .edu, .net, .gov and international domains.	B	B	B	D	D	D	D	S	S	S	S	S	S
Use age-appropraite search engines to find information.	B	B	B	B	D	D	D	S	S	S	S	S	S
Use browser search tools and advanced search features to find information.		B	B	B	D	D	D	S	S	S	S	S	S
Use a browser's History feature to locate previously visited sites.			B	B	D	D	D	S	S	S	S	S	S
Identify and use hyperlinks within web pages or documents.	B	B	D	D	S	S	S	S	S	S	S	S	S
Use digital tools or platforms to organize, display, annotate and/or share a curated collection.							B	B	B	D	D	D	S
Locate and add browser or other web apps or add-ons to customize learning.							B	B	D	D	S	S	S
Access online catalogs and databases for research.			B	B	B	B	D	D	D	D	S	S	S

TECHNOLOGY SCOPE AND SEQUENCE [Key = Beginning (B), Developing (D), Secure (S)]

Acceptable Use, Copyright & Plagiarism	K	1	2	3	4	5	6	7	8	9	10	11	12
Locate required citation information on web pages and other digital resources and cite in the appropriate style.		B	B	B	D	D	D	D	D	S	S	S	S
Use age-appropriate guidelines to evaluate websites and other resources for accuracy, perspective, credibility and relevance.		B	B	B	D	D	D	D	D	S	S	S	S
Transfer the information learned from online sources into your own words.		B	B	B	D	D	D	D	D	D	S	S	S
Understand all rules and guidelines in the school's Responsible Use Policy.	B	B	B	D	D	D	D	D	D	D	S	S	S
Understand Fair Use guidelines and their application to all forms of work.			B	B	B	B	D	D	D	D	S	S	S

TECHNOLOGY SCOPE AND SEQUENCE [Key = Beginning (B), Developing (D), Secure (S)]

Organizational & Project Tools	K	1	2	3	4	5	6	7	8	9	10	11	12
Use a calendar, task manager or other tools to organize one's self as well as manage projects.			B	B	B	D	D	D	D	S	S	S	S
Use age-appropriate note-taking tools.	B	B	B	D	D	D	D	S	S	S	S	S	S
Use graphic organizers, brainstorming applications or other digital tools to gather and organize information.	B	B	D	D	D	D	S	S	S	S	S	S	S
Use digital tools to create timelines of people, historical events, etc. to organize information sequentially.			B	B	B	B	D	D	D	D	D	S	S

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