

All Saints S.T.E.A.M. Academy - Technology Curriculum Map

	Pre-Kindergarten	Kindergarten	Grade 1	Grade 2	Grade 3
Blended Learning					
Trimester 1	<p>Students will be able to identify the <b>main components of a computer</b> (keyboard, mouse, monitor, etc.)</p> <p>Students will practice their <b>mouse skills</b> using left, right, click and drag actions while playing curriculum based games.</p>	<p><b>Digital Literacy Introduce</b></p> <p>Turn on computer.</p> <p>Use pointing device such as mouse to manipulate shapes, icons, click on URLs, use scroll bar, drag items</p> <p>Use desktop icons, windows and menus to open applications and documents</p>	<p><b>Digital Literacy Reinforce</b></p> <p>Turn on computer.</p> <p>Use pointing device such as mouse to manipulate shapes, icons, click on URLs, use scroll bar, drag items</p> <p>Use desktop icons, windows and menus to open applications and documents</p>	<p><b>Digital Literacy Mastery</b></p> <p>Turn on computer.</p> <p>Use pointing device such as mouse to manipulate shapes, icons, click on URLs, use scroll bar, drag items</p> <p>Use desktop icons, windows and menus to open applications and documents</p>	<p>Students practice <b>keyboarding skills</b> on TypingClub, working toward mastery, and calculating words per minute.</p> <p>Students use <b>Microsoft Word</b> documents and are able to log on, open folders, and save work.</p> <p>Students are familiar with manipulating text and can change color, size and font.</p> <p>Students can create and save their own projects in <b>Scratch</b> and use most block types.</p>
Trimester 2	<p>Students will be able to <b>log on</b> to the computer and type the name of a website in the <b>Google search bar</b>.</p> <p>Students will continue their practice using the <b>mouse</b> by playing curriculum based games.</p>	<p><b>Code.org</b> Course 1 Lessons #1-8 Including unplugged activities</p> <p>Students will create computer programs with simple sequences and will use debugging techniques when problem solving.</p> <p>Students will collaborate with others when designing and debugging programs</p>	<p><b>Code.org</b> Course 1 Lessons #9-18 Including unplugged activities</p> <p>Students will create computer programs with simple sequences and will use debugging techniques when problem solving.</p> <p>Students will collaborate with others when designing and debugging programs</p>	<p><b>Code.org</b> Course 2 Lessons #1-19 Including unplugged activities</p> <p>Students will create computer programs with increasingly complex algorithms, including the use of conditionals.</p> <p>Students will be able to give a simple explanation of how the binary system</p>	<p>Students can find information and images from the internet and paste that information into documents and <b>Powerpoint</b>.</p> <p>Students are able to use operator blocks and create their own blocks in <b>Scratch</b>. They are also able to import images and sound into programs.</p>

Trimester 3	As the year progresses, children will explore more of the keyboard and work on mastering <b>mouse and keyboarding skills</b> . By the end of the year, students should have an improved comfort level and be able to easily navigate through familiar activities.	<b>Scratch Jr. Playground Curriculum</b> Students will create original programs in Scratch Jr. by using move and start blocks, the voice recorder, message blocks, scene changes, and the paint tools. Students will be able to trigger actions for one character, by the actions of another (introducing students to conditionals).	<b>Scratch Jr. Animated Genre Curriculum</b> In this unit, prior skills will be reinforced. New skills will focus on the concepts of loops, conditionals and parallel programming. Students will program characters to move at different speeds, use numbers on motion blocks to reduce the number of motion blocks used, use the repeat and repeat forever blocks to make a program repeat, create speech bubbles for characters and use the wait block to pause a character's programming.	<b>Scratch Student Workbook</b> Students will create their own Scratch accounts and will learn to join studios. Students will be able to change sprites and backgrounds, use the sound library and voice recorder, and use look blocks to make a sprite talk and change appearance. Students will use control blocks to create loops and events blocks to trigger events. Students will intentionally design programs with an awareness that starting blocks set up the program and bring it back to the beginning.	Students use the internet to <b>research</b> information for a project of their choosing (using Scratch or Powerpoint). Students practice researching efficiently by saving and retrieving files from folders. Students begin to identify good sources for research.
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Blended Learning	Trimester 1	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8
Students practice <b>keyboarding</b> skills and raising their WPM to a specified goal. Students use additional formatting features in	By the end of the trimester, students have the <b>keyboard memorized</b> and do not need to look at the keyboard in order to type. Students follow formatting protocol for word and	In the beginning of the year, students will review the student acceptable use policy (SAUP). There will be a discussion of <b>internet safety and cyberbullying</b> .	In the beginning of the year, students will review the student acceptable use policy (SAUP). There will be a discussion of <b>internet safety and cyberbullying</b> .	In the beginning of the year, students will review the student acceptable use policy (SAUP). There will be a discussion of <b>internet safety and cyberbullying</b> .	In the beginning of the year, students will review the student acceptable use policy (SAUP). There will be a discussion of <b>internet safety and cyberbullying</b> .	

	<p><b>Microsoft Word</b>, such as tables, bullets, spell check and additional toolbar functions. Students are introduced to Excel with a focus on creating charts for homework or reading logs.</p> <p>Students are able to use all categories of blocks in <b>Scratch</b>, including operator blocks and creating their own blocks.</p>	<p>paragraph spacing for a variety of document types.</p> <p>Students are able to identify internet <b>security, safety and etiquette issues</b> when presented with various scenarios and can explain how to avoid these issues.</p>	<p>Students will then do an in-depth study of <b>Excel</b> and with an emphasis on the proper use of charts to demonstrate information.</p> <p>Students will then gather <b>original research</b> data on a topic in digital citizenship (social media use, bullying, etc.) and organize the information into a chart.</p>	<p>Students will learn to <b>create web pages using HTML</b> and study the <b>history of the internet</b> (Binary System, ASCII Table, compression, etc.).</p> <p>Students will continue to develop their programming and physical computing skills with <b>Arduino</b>, adding switches and motors.</p>	<p>Students will encrypt and decrypt messages using common <b>encryption</b> techniques. Students will explain the history of encryption and how encryption techniques are changing.</p> <p>Students will then be introduced to computer programming in <b>JavaScript</b> on Khan Academy.</p>
<p>Trimester 2</p>	<p>Students use the internet to <b>research</b>, needing little help to save information and images and use keyboard shortcuts for cutting, pasting and undoing.</p> <p>Students learn to use broadcasting blocks in <b>Scratch</b> to initiate events.</p> <p>Students can create simple designs in <b>Algodoo</b> and test out those designs.</p>	<p>An in-depth review of the <b>Microsoft Word and PowerPoint</b> programs begins. Students will focus on keyboard and mouse shortcuts, templates, and header/footer functions along with letter wizard. A review of computer safety(virus protection, password security) will precede the practice of moving information through emails and flash drives.</p> <p>Students will create a project in <b>Scratch</b> to demonstrate their understanding of computer safety. Their projects will include images and sound imported from the internet.</p>	<p>After a brief overview of Microsoft Office Suite, students will begin working with <b>Publisher</b>. Students will bring all their previous formatting experience and learn how to link text boxes, add images, and alter templates to create polished, businesslike assignments.</p> <p>Students will practice <b>syntax based coding skills</b> in Python and will track their progress on Code Academy.</p>	<p>Using <b>GIMP</b>, students will get an introduction to altering and rendering images.</p> <p>Students will then import original images into <b>Graphtec</b> and print those images in vinyl using the <b>vinyl cutter</b>. Students will learn to make stickers and use the heat press to create their own t-shirts.</p> <p>Students will create a <b>digital portfolio</b> using Google Sites or Wix, showcasing the variety of skills they have learned.</p>	<p>Using <b>Microsoft Movie Maker</b>, students will begin instruction of video editing. After creating scripts and storyboards, students will use digital cameras to create two short films. They will add still photos, music and voice over audio as well as transitions to create their finished product.</p>

<p>Trimester 3</p>	<p>Students show marked improvement in typing skills from beginning of year. Students choose a topic to research and medium to present their work (Scratch, Word, Powerpoint). Each project must include imported images and tables, charts or a spreadsheet.</p> <p>Students use a Makey Makey to physically interact with Scratch.</p>	<p>Web Quests are used to guide students in the process of using the internet for <b>research</b> purposes. Students will practice previously taught research skills to create reports, newspapers and other assignments to demonstrate understanding of classroom topics.</p> <p>Students will be introduced to <b>syntax based coding</b>. They will use Sonic Pi to create original music and P5JS to create original animations.</p>	<p>Students will sign up for a <b>Google Docs account</b>. They will learn to up/download and share documents among themselves and their teachers for classroom assignments. A calendar will also be created so students can keep track of assignments and other classroom activities online.</p> <p>Students will also learn about the <b>physical connections of the computer</b>. They will understand how to set up a system. Use of Peripherals including scanners, digital cameras, speakers, and web cameras will also be covered.</p> <p>Students will program an <b>Arduino</b> microcontroller and wire a breadboard in order to turn LED lights on and off.</p>	<p>Students will enhance their note taking and and brainstorming abilities through <b>Concept Mapping</b>. Using Freeplane, they will create various concept maps to coincide with classroom lessons.</p> <p>They will also get an introduction in <b>basic troubleshooting</b> techniques. The focus will be on print errors, recovering misplaced files, and internet and networking issues.</p> <p>Students will get a soft introduction to JavaScript through <b>Processing.js</b> tutorials.</p> <p>Students will create 3D models using <b>3D design</b> software like TinkerCAD and will learn to print those designs with some assistance.</p>	<p>Students will learn the beginning processes of <b>game creation</b> through Khan Academy tutorials in JavaScript. Students will showcase their skills by creating games and having classmates play and evaluate them.</p> <p>By the end of the trimester, students will be able to design 3D images in a CAD program and <b>3D print</b> without assistance. Students should also be able to <b>troubleshoot issues with the printer</b> (problems with extruder, filament, leveling the print bed, etc.).</p>
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