DIGITAL LITERACY & STEM CURRICULM

Computer Applications & Integrated Projects

Computer Science Projects

PRIMARY — Ages 6-8

TECHNOStart	TECHNOStories	TECHNOMe	TECHNOWhiz
TECHNOPainter	TECHNOBookmaking	TECHNOFit	TECHNOTales

JUNIOR — Ages 8-10

TECHNOJournal	TECHNOInternet	TECHNOPresenter		TECHNOArcade
TECHNOResearch	TECHNOCandy	TECHNOToon	TECHNOSite	TECHNORace
TECHNOEditor	TECHNOSales	TECHNOTimeline	TECHNOTrivia	TECHNOTurtle

INTERMEDIATE — Ages 11-13

TECHNONewsletter	TECHNORestaurateur	TECHNOTravel		TECHNOCode
TECHNOBiography	TECHNOBudget	TECHNOMap	TECHNOFuture AI (COMING SOON)	TECHNOHTML5
TECHNOEarth	TECHNOQuestionnaire	TECHNODebate	TECHNOBot AI	TECHNOPython

SENIOR — Ages 14+

TECHNOWonderland	TECHNOMission	TECHNOSpecialist	TECHNOAd	TECHNOChatbot AI (COMING SOON)
TECHNOAdvertise	TECHNOInvestor	TECHNOPhotoshop	TECHNOComic 3D (COMING SOON)	TECHNOIdentifier AI (COMING SOON)
TECHNOPlanner	TECHNOAnimate			

PROGRESSION OF SKILLS

|	PRIMARY Ages 6-8	JUNIOR Ages 8-11	INTERMEDIATE Ages 11-14	SENIOR Ages 13+
Word Processing	text & basic image formatting, spell check	lists, text wrap, line spacing, margins, page numbers, tables, columns	custom bullets, header & footer, section breaks, styles table of contents	references, mail merge, tab markers, advanced skills
Graphics	draw & format shapes, adjust tool settings, undo, redo, magnify objects	format borders, apply effects, crop, rotate, skew, flip, object order, group	align objects, recolor, merge, set transparency, copy color	apply filters, retouch, red eye, superimpose images, wrap text on path
Presentation	templates, text & basic image formatting, transitions, design theme, play show	insert slides, tables, slide numbers, speaker notes, apply animations, handout	master slide, slide views, header & footer, slide zoom	hide slides, action buttons, advanced formatting, output options
Animation	simple movements, sequence events, set speed, control timing	multiple actions, apply effects, rehearse timings, animate poses	complex actions, broadcasting, keyframes, video production	timeline, frame by frame, tweens, rigging, symbols, layers
Programming	horizontal scripts, block coding, debug, loops (repeat, forever), simple conditionals	vertical scripts, block & text coding, if-elif-else conditions, variables, operators	complex scripts, ordered pairs (x, y), lists, global variables, python, HTML	artificial intelligence, image recognition, chatbot
Digital Citizenship	device care, password security, rules & responsiblities	Internet safety, search strategies, email, plagiarism, online community	footnotes, endnotes, commenting, customize profile	apply skills to be a responsible digital citizen
Data Analysis	TECHNOKids	organize data, format cells, sort data, graphs, calculations, forms	data tables, functions, link data, filters, trendline conditional formatting	build databases (tables, forms, queries, reports), set field properties

TechnoKids Project Matrix | How to Pick a Project

TechnoKids has over 40 projects. If you are designing a course, curriculum unit, or workshop series use the Project Matrix to select a project to teach. This document arranges the projects by grade level and organizes them into a proposed sequence. Please note, these are recommendations only. Any TechnoKids project can be taught independently or blended with other titles to form a unique learning experience for students.

How do I select a project to teach?

- **Grade Level**: The Project Matrix provides a recommended sequence of instruction. The Primary, Junior, and Intermediate collections organize projects into rows. The top row are the simplest projects, and the bottom row are more challenging. The division can be mapped to grade levels. For example, in the Junior collection, the top row is Grade 3/4, the middle row is Grade 4/5, and the bottom row is Grade 5/6.

- **Scope & Sequence:** If you plan to teach multiple TechnoKids projects the Project Matrix recommends an order. In each row, the projects increase in difficulty. For this reason, the project in the first column could be taught at the start of the school year, whereas the project in the last column is best suited to the end of the school year.

- **Technology Skill:** If you intend to target a specific skill, the Project Matrix groups many of the projects. For example, in both the Junior and Intermediate collections, the first column is word processing, the second column is spreadsheet/data analysis, the third column is presentation, and the last column is coding. The projects are sequenced from top to bottom and gradually introduce new skills.

- **Developmentally Appropriate:** In the Project Matrix the projects build upon one another and increasingly become more complex. Assignments lengthen, students complete a greater amount of work, and tasks require higher order thinking. Moreover, often there is a blend of multiple types of software. If your students are beginners, you can select a project from a lower grade level as these are suggestions only.

- **Product or Subject:** Throughout the TechnoKids curriculum, the same application is used for multiple purposes. For example, students use Slides or PowerPoint to create a book, slide show, presentation, graphic story, timeline, advertisement, interactive map, and online debate. Read the descriptions to pick a digital product you want your students to create or pick one that fits with a subject area you are teaching (e.g., timeline for history, map for geography, or graphic story for language arts).

- **Topic:** Refer to the Project Matrix to select a project that integrates with a topic or theme you are already teaching. Many technology projects are open-ended. This provides an opportunity to blend curriculum content with digital learning tools. Alternatively, you can select one to act either as a starting point for a unit or as a culminating project at the end of a unit.

- **Student Interest:** Engage learners. Have them select a technology project that is personally meaningful. Or, the teacher can choose a title, such as TechnoJournal or TechnoSite, that allows each student to select a topic of personal interest.

- **Instructional Time:** To understand how long a project will take to complete, read the descriptions in the TechnoKids Overview. Each project has a detailed outline. An assignment can range from 30-60 minutes, depending on the grade level. Typically, it takes about 6-8 weeks to complete a project if your students attend class twice a week. However, if they go every day, you can complete a project in about 2-3 weeks. Many can be shortened by omitting assignments or lengthened by including skill reviews and extension activities.

- **Software or App:** Refer to the software table for a summary of the project versions.
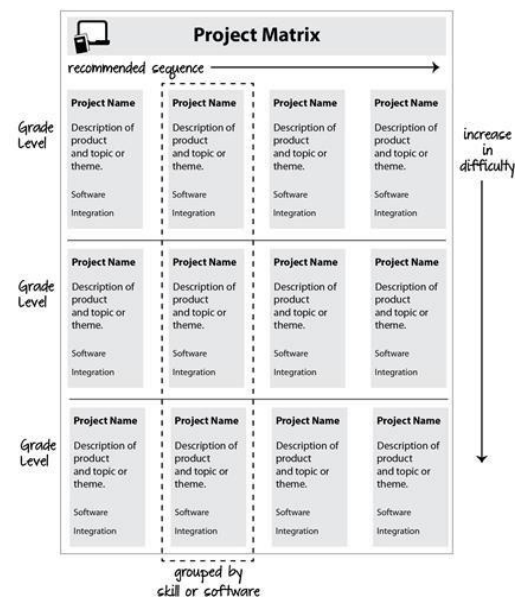
TechnoKids Project Matrix | Scope & Sequence

TechnoKids curriculum has a gradual progression of learning. Skills and competencies scaffold within and across grades. Understanding how technology projects build upon one another can help educators structure their lessons. Whether selecting one project for a unit of study, building a course, or launching a school-wide program, the TechnoKids Scope & Sequence provides recommendations.

TechnoKids curriculum divides into categories: Primary (Grades 1-3), Junior (Grades 3-6), Intermediate (Grades 6-8), and Senior (Grades 8-12). As students advance within and across grades, the technology projects shift from simple to complex.

Primary Technology Projects (Grades 1-3)

Primary technology projects are for beginners. They provide a foundation for learning.

Activities emphasize fundamentals. Students create artwork, write stories, make presentations, and more!

	COMPUTER APPLICATIONS & DIGITAL LITERACY			COMPUTER SCIENCE
Grades 1/2	TechnoStart Earn a computer operator license. Engage in fun activities to learn about hardware, terminology, computer rules, and keyboarding.	TechnoStories Become an author. Use templates to plan, write, edit, and illustrate stories. Share the books during story time with friends or family.	TechnoMe Design an *All About Me* slide show. Outline personal information, accomplishments, goals, and interests in a mini biography.	TechnoWhiz Become a programming whiz kid. Build simple scripts and loops to create silly scenes, feed a pet monster, explore a magical land, and invent a racing game.
	Paint or Drawings visual arts, graphics and computer fundamentals	*Word or Docs* language arts, word processing	*PowerPoint or Slides* social studies, presentation	*Scratch Jr* computer science, math, animation, coding, game development
Grades 2/3	TechnoPainter or TechnoGallery Spark creativity! Produce unique artwork using digital tools. Develop fine motor skills to paint original images and display them in a gallery.	TechnoBookmaking Publish a collection of books. Create a tiny picture book, flip flap story, unfolding riddle book, layer book of facts, bookmarks, card, and more!	TechnoFit Join the TechnoFit Club. Inform others about the importance of a healthy lifestyle by designing a food guide, menu plan, and fitness poster. Be fit and live well!	TechnoTales Blend coding with storytelling. Design a modern fairy tale that has a hero go on a quest. Build scripts to animate the story action.
	Paint or Drawings visual arts, graphics, computer fundamentals	*PowerPoint or Slides* language arts, word processing	*Publisher* health and nutrition, desktop publishing	*Scratch Jr* computer science, language arts, math, animation, coding

Junior Technology Projects (Grades 3-6)

Junior technology projects are for elementary students. They focus upon essential skills. Activities promote the practical application of technology.

Students become responsible digital citizens, conduct research, animate graphic stories, code games, and more!

	COMPUTER APPLICATIONS & DIGITAL LITERACY				COMPUTER SCIENCE
Grades 3/4	TechnoJournal Express ideas and describe experiences in a journal. Reflect upon an event, make a note of favorite things, and list personal wishes. *Word or Docs* language arts, word processing	TechnoInternet Embark on an online expedition to become a responsible digital citizen. Apply search strategies, access digital resources, and communicate safely. *web browser* digital citizenship, Internet	TechnoPresenter Present information effectively. Summarize facts using a slide show and organize speaker notes. Deliver a speech to an audience. *PowerPoint/Word or Slides/Docs* public speaking, research, presentation		TechnoArcade Design arcade games. Build *Jumble Tumble*, *Let's Jam*, *Mystery Island*, and *Lost Treasure*. Invite friends to an online arcade. *Scratch* computer science, math, coding, game development,
Grades 4/5	TechnoResearch Research to design a fact card. Apply strategies to retrieve quality information from reliable sources. Combine images and text in a one-sheet report. *Word or Docs* language arts, digital citizenship, word processing	TechnoCandy Devise a strategy to boost candy sales. Conduct a survey and study packaging to investigate a problem. Recommend a solution based on the evidence. *Excel/PowerPoint/Word, or Sheets/Slides/Docs/ Forms* math, data analysis, spreadsheets	TechnoToon Animate a graphic story. Plan the characters, setting, and plot. Divide the scenes using transitions. Time events to produce a one-of-a-kind cartoon. *PowerPoint or Slides* language arts, animation,presentation	TechnoSite Become a web designer. Construct a website that includes links to fun places for kids on the WWW. Will it get the *Kid Stamp of Approval*? *Google Sites* language arts, digital citizenship, web design	TechnoRace Develop an original game. Players race to complete a mission before time is up. To win they must avoid obstacles and collect treasure. Collaborate to test game design. *Scratch* computer science, math, visual arts, coding, game development, graphics
Grades 5/6	TechnoEditor Edit a collection of stories. Master text, picture, and page layout formatting techniques to publish a high- quality publication. *Word or Docs/Drawings* language arts, word processing	TechnoSales Investigate dessert preferences. Graph and calculate data. Analyze the information to plan a bake sale. Report fundraiser details. *Excel/Word or Sheets/Docs* math, data analysis, spreadsheets	TechnoTimeline Explain the significance of events by creating a unique graphic organizer that connects events along a timeline. *PowerPoint or Slides* history, social studies, presentation	TechnoTrivia Invent a game. Test knowledge about a topic. Set the answer key to calculate points. Analyze quiz results. *Google Forms or Microsoft Forms* math, social studies, data analysis	TechnoTurtle Develop and debug code to conquer mazes, paint pixel art, create a *Mad Lib Generator* and build a carnival game. *IDLE Python 3* computer science, math, language arts, coding, game development

Intermediate Technology Projects (Grades 6-9)

Intermediate technology projects are for middle or high school students. They develop proficiency in using technology.

Activities emphasize critical, creative, and computational thinking. Students design publications, analyze data, build web pages, program games, and more!

	COMPUTER APPLICATIONS & DIGITAL LITERACY				COMPUTER SCIENCE
Grades 6/7	**TechnoNewsletter** Publish a fan club newsletter. Write an informative article, construct a word search, and express an opinion. Format pages to lay out content attractively. *Word or Docs* language arts, word processing	**TechnoRestaurateur** Launch a business venture. Plan a restaurant, create a logo, conduct a survey, generate funds, build a floor plan, manage finances, and more! *Excel/PowerPoint/Word or Sheets/Slides/Docs/ Drawings/Forms* business studies, language arts, math, visual arts, data analysis, graphics, spreadsheets, word processing	**TechnoTravel** Promote a weekend getaway for tourists. Research the trip. Customize a slide master to create a unique marketing tool that persuades visitors to vacation. *Excel/PowerPoint/Word or Sheets/Slides/Docs* language arts, geography, presentation		**TechnoCode** Spark an interest in computer science. Design an Activity Studio for kids using Scratch. Build blocks of code to design animations, puzzles, stories, and games. *Scratch* computer science, math, language arts, animation, coding, game development
Grades 7/8	**TechnoBiography** Celebrate a remarkable person. Format the bio using styles, graphic organizer, and artifacts table. Build a table of contents. Cite sources in a bibliography. *Word or Docs/Drawings* language arts, history, word processing	**TechnoBudget** Justify a spending plan for a shopping trip. Calculate, and graph data to form a budget. Report financial choices and explain money management strategy. *Excel/Paint/Word or Sheets/Drawings/Docs* business studies, math, visual arts, data analysis, graphics, spreadsheets	**TechnoMap** Highlight the importance of a location by constructing an interactive map. Connect facts about an area or issue using markers and hyperlinks. *PowerPoint /Word or Slides/Docs* geography, history, presentation	**COMING SOON** TechnoFuture AI Create a science fact story that imagines the future using emerging and futurist technologies. *PowerPoint or Slides* computer science, language arts, artificial intelligence	**TechnoHTML5** Develop a web page using HTML and CSS. Write code to set the style of the background, text, lists, graphics, hyperlinks, and tables. Upload to the Internet. *Notepad or other text editor* computer science, coding, web design
Grades 8/9	**TechnoEarth** or **TechnoEnvironment** Raise awareness of an environmental issue. Design either an infographic with Google Apps or a pamphlet with Publisher. Advocate for change. *Word/Publisher or Docs/Sites/Slides/ Sheets/My Maps/Drawings* geography, language arts, science, visual arts, publishing, presentation, web design	**TechnoQuestionnaire** Investigate a research question. Select a sample and construct a questionnaire. Conduct a pre-test to tweak the design. Analyze data to interpret findings. *Google Forms* math, science, data analysis, spreadsheets	**TechnoDebate** Collaborate with a partner to debate an issue. Create an animated conversation that presents a persuasive argument. Defend a position. *PowerPoint Online or Slides* language arts, presentation	**TechnoPython** Program a series of games using Python including Pet Monster Rescue, Guess It, and Adventure Quest. Share your favorite one in a coding presentation. *IDLE Python 3* computer science, math, language arts, coding, game development	**TechnoBot AI** Program a drone delivery system, robot pick-up service, and self-driving tour that solve real world problems using artificial intelligence. *Scratch, PowerPoint or Slides* computer science, science, artificial intelligence, coding, presentation

Senior Technology Projects (Grades 8-12)

Senior technology projects are for middle or high school students. They prepare students for higher learning and career readiness.

Activities emphasize real-world applications of technology. Students market products, build databases, and more!

	COMPUTER APPLICATIONS & DIGITAL LITERACY			COMPUTER SCIENCE
Grades 8-12	**TechnoWonderland** Manage an amusement park to learn about Microsoft Office. Produce a flyer, design a map, create signs, poll customers, advertise rides, and more! *Word, Excel, PowerPoint, Publisher, Access* business studies, data analysis, graphics, Internet, presentation, publishing, spreadsheets, word processing	**TechnoInvestor** Buy and sell stocks on the TechnoStock Exchange. Track the investments and graph future earnings. Report the portfolio holdings and justify decisions. *Excel, Word* business studies, math, data analysis, spreadsheets	**TechnoPhotoshop** Edit photos to produce a digital scrapbook. Filter, retouch, crop, warp, recolor, and superimpose images. Apply design techniques to lay out pages. *Adobe Photoshop* media arts, graphics, photo editing	**TechnoSpecialist** Develop an information package about hardware. Explain the attributes of computer components to educate the public in making purchasing decisions. *PowerPoint* business studies, computer science, computer fundamentals, presentation
	TechnoAdvertise Role-play a marketing executive. Submit a cover letter and résumé to apply for the job. Once hired, design a flyer, catalog, custom mailer, and newsletter. *Word* business studies, word processing	**TechnoMission** Manage data. Plan a simple database. Build a table and data entry form. Filter and sort records. Generate a report that summarizes information. *Access, Paint* science, visual arts, data analysis, graphics, photo editing	**TechnoAd** Become a digital marketer. Analyze data to develop a marketing strategy to target customers. Produce a persuasive video ad. *Forms/Excel/Word or Forms/Sheets/Docs, Blender* business studies, media arts, animation, data analysis, digital citizenship, spreadsheets, video production, word processing	**TechnoChatbot AI** Build chatbots that answer questions and automate tasks. Develop AI solutions that assist event attendees, record fundraiser orders, and recruit new members. *Scratch, Bot Libre* business studies, computer science, artificial intelligence, coding, data analysis, digital citizenship, graphics
		TechnoPlanner Construct a database for a party planning business. Build tables, forms, queries, and reports to organize customer and event information. *Word, Access* business studies, data analysis, word processing	**TechnoAnimate** Animate drawings to make a movie. Create scenes with motion tweens, shape tweens, and motion paths. Set the action and sound on the Timeline. *Adobe Animate* media arts, animation, graphics	

TechnoKids Projects and Software

TechnoKids Technology Projects are available for Microsoft 365, Google Docs, Adobe, Blender, coding apps, and bot builders.

Suggested grade levels:	Microsoft Office						Office for the Web					Google								Adobe		Coding | AI				
	Paint	Word	PowerPoint	Excel	Access	Publisher	Word Online	PowerPoint Online	Excel Online	Forms Online	Web Browser	Drawings	Docs	My Maps	Slides	Sheets	Sites	Forms	Blender	Photoshop	Animate	Text Editor	Scratch Jr	Scratch	Python 3	Bot Libre
Primary Grades 1-3																										
TechnoBookmaking			•					•							•											
TechnoFit						•																				
TechnoGallery												•														
TechnoMe			•					•							•											
TechnoPainter	•																									
TechnoStart	•											•														
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TechnoTales																							•			
TechnoWhiz																							•			
Junior Grades 3-6																										
TechnoArcade																								•		
TechnoCandy		•	•	•			•	•	•	•			•		•	•		•								
TechnoEditor		•										•	•													
TechnoInternet											•															
TechnoJournal		•					•						•													
TechnoPresenter		•	•				•	•							•											
TechnoRace																								•		
TechnoResearch		•					•						•													
TechnoSales		•		•									•			•										
TechnoSite																	•									
TechnoTimeline		•	•				•	•					•		•											
TechnoToon			•					•							•											
TechnoTurtle																									•	
TechnoTrivia				•						•						•		•								
Intermediate Grades 6-9																										
TechnoBiography		•					•	•				•	•													
TechnoBot AI		•													•										•	
TechnoBudget	•	•		•			•		•			•	•			•										
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TechnoPython																									•	
TechnoQuestionnaire																•		•								
TechnoRestaurateur		•	•	•			•	•	•	•		•	•		•	•		•								
TechnoTravel		•	•	•			•	•	•				•		•	•										
Senior Grades 8-12																										
TechnoAd		•		•						•			•		•			•	•							
TechnoAdvertise		•																								
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TechnoChatbot AI																									•	•
TechnoInvestor		•		•																						
TechnoMission	•				•																					
TechnoPhotoshop																				•						
TechnoPlanner					•																					
TechnoSpecialist				•																						
TechnoWonderland		•	•	•	•	•																				