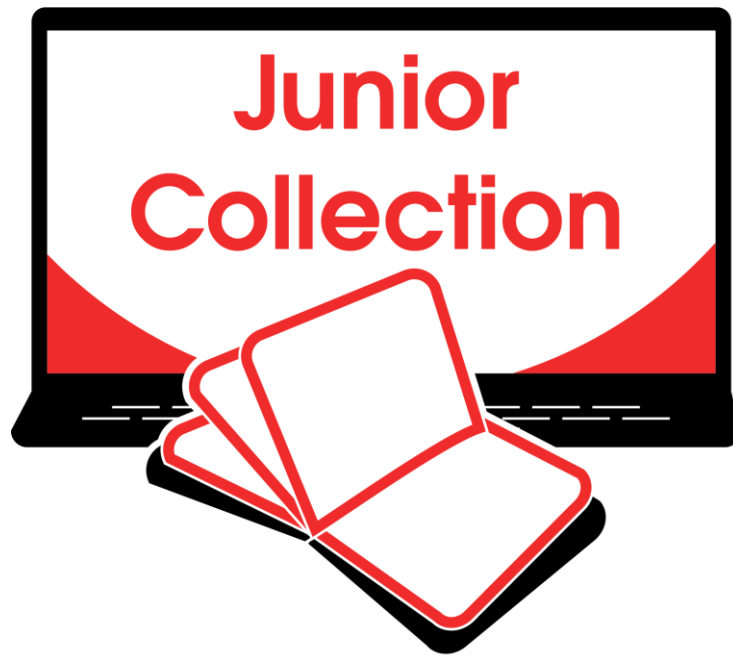# TECHNOKids®

JUNIOR

Curriculum Collection

PROJECT-BASED LESSONS: DIGITAL LITERACY AND STEM ACTIVITIES

A collection of technology projects for
Microsoft Office, Google Docs, programming, and more!

Contents

Overview

TechnoKids Technology Projects are instructional materials that apply an interdisciplinary, project-based approach to learning. The activities support STEM education. Lessons are designed to achieve both digital literacy and academic curriculum objectives. Technology projects can be integrated into curriculum as a technology course, unit of study, workshop series, or after-school class.

This Overview contains the following:

- About TechnoKids – a description of technology projects, integration, ICT/STEM skills, and the site license
- Tips for Getting Started – helpful information to select a project, use PDF files, and access support
- Technology Projects and Software – an outline that correlates software to projects
- Technology Project Matrix – a recommended sequence for implementing the projects organized by level
- Project Descriptions – a detailed explanation of each project
- Helpful Resources – links to information
- Contact Information – free curriculum support by phone or email

About TechnoKids

What Is a Technology Project?

A technology project is a set of activities that have students create a *project* such as a launching a business venture, promoting a theme park, coding a game, or drafting a budget. Project-based learning is an instructional approach that poses challenging questions or presents real-world, meaningful problems. Students investigate these issues, propose solutions, and design original creations.

A technology project includes a teacher guide, student workbook, and resource files:

- A teacher guide has lesson plans for teacher use. It contains technology integration ideas, preparatory steps, learning objectives, assignments, and answer keys.
- A student workbook is a collection of assignments with illustrated step-by-step instructions for student use.
- Resource files are customizable materials such as templates, sample files, parent letters, certificates, program flashcards, and assessment tools. There are both teacher and student resources.

How Can I Integrate Technology Projects into Curriculum?

TechnoKids Technology Projects include activities that integrate into subject areas such as language arts, mathematics, social studies, visual arts, science, history, geography, computer science, or business studies. Refer to the *Technology Integration Ideas* section in each teacher guide for suggestions. Technology projects correlate to Common Core Standards.

What Technology Skills Do Students Learn?

TechnoKids Technology Projects support STEM education. The lessons teach word processing, spreadsheet, graphic design, presentation, programming, web design, internet, digital literacy, animation, and data management skills. Students gain proficiency in Information Communication and Technology (ICT). Refer to the *Skill Summary* in each teacher guide for learning objectives. Technology projects correlate to ISTE Standards.

What Is a TechnoKids Site License Agreement?

TechnoKids Technology Projects are sold as a site license. A site is a single school or learning center. The site license permits unlimited printing/viewing rights of the teacher guides and student workbooks as well as unlimited transfer of digital files to devices at a given location (site) to authorized users. It prohibits posting files in the public domain. Refer to your Site License Agreement for further details.

Tips for Getting Started

Start Teaching in 5 Easy Steps

Are you ready to teach a TechnoKids project? Here's how in 5 easy steps:

Step 1 Get Your Files
Step 2 Install a PDF Viewer
Step 3 View a Project Folder
Step 4 Refer to Getting Started in the Teacher Guide
Step 5 Share Resources with Students

How Do I Select a Project to Teach?

There are a wide range of technology projects. Select one that is right for your students:

- Level – Match a technology project to its recommended grade level. Technology projects are categorized as Primary (Grades 1-3), Junior (Grades 3-6), Intermediate (Grades 6-9), or Senior (Grades 8-12).

- Technology Skill – Choose an option based on the ICT or STEM skills required for your program. Technology projects include activities that teach word processing, spreadsheet, graphic design, presentation, programming, web design, digital citizenship, animation, and data management skills.

- Subject Area – Blend technology into curriculum. Create a product that is specific to a subject area such as digital storytelling for language arts, timeline for history, or interactive map for geography.

- Topic – Integrate into a current unit of study. Many technology projects are open-ended. This provides an opportunity to blend curriculum content with digital learning tools.

- Student Interest – Engage learners. Have them select a technology project that is personally meaningful. Alternatively, the teacher can choose a title, such as TechnoJournal or TechnoSite, that allows students to select a topic of interest.

About TechnoKids PDF Files

Teacher Guides, Student Workbooks, and some resource files are in PDF format. They have been locked against editing but can be printed, viewed, and annotated. Refer to the following tips to get started:

- If you are a Windows user, install Adobe Acrobat Reader.

- If you are a Chromebook user, install a PDF Chrome extension such as KAMI.

- If you do not have install privileges for your device, contact your System Administrator.

About the Student Workbook

The Student Workbook is available in two formats: complete workbook and individual worksheets.

- Complete Workbook: This format is designed to be printed double-sided. Place the document in a binder as a reusable class set. Or, print single use copies for each student to follow instructions and answer questions.

- Individual Worksheets: This format has each assignment separately. Control the pace of instruction by assigning a worksheet for each class session. Or, challenge students working at a faster pace with optional enrichment activities. Worksheets can be printed or used digitally.

Where Can I Get More Support?

- Windows Users: Learn how to extract files, install Acrobat Adobe Reader, and annotate worksheets.

- Chromebook Users Learn how to extract files, install a PDF Chrome extension, and annotate worksheets.

- Google Classroom Users Discover how to create a class, share assignments, grade student work, and more!

Junior Technology Projects and Software

TechnoKids Technology Projects are available for Microsoft Office, Office for the Web, Google Docs, and programming. Refer to the table to identify projects that are right for you!

Suggested grade levels:	Microsoft Office				Office for the Web					Web Browser	Google						Code	
	Paint	Word	PowerPoint	Excel	Word Online	PowerPoint Online	Excel Online	Forms Online	Forms for Excel	Web Browser	Drawings	Docs	Slides	Sheets	Sites	Forms	Scratch	Python 3
Junior Grades 3-6																		
TechnoArcade																	•	
TechnoCandy		•	•	•	•	•	•		•			•	•	•		•		
TechnoEditor		•									•	•						
TechnoInternet										•								
TechnoJournal		•			•							•						
TechnoPresenter		•	•		•	•							•					
TechnoRace																	•	
TechnoResearch		•			•							•						
TechnoSale		•		•								•		•				
TechnoSite															•			
TechnoTimeline		•	•		•	•						•	•					
TechnoToon			•			•							•					
TechnoTurtle																		•
TechnoTrivia				•				•						•		•		

Junior Technology Projects | Scope & Sequence

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* math, language arts; coding
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; 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, problem solving; 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; presentation, animation	**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* game development; coding
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, problem solving; spreadsheets, data management	**TechnoTimeline** Explain the significance of events by creating a unique graphic organizer that connects events along a timeline. *PowerPoint or Slides* social studies, history; 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 management	**TechnoTurtle** Develop and debug code to conquer mazes, paint pixel art, create a *Mad Lib Generator* and build a carnival game. *IDLE Python 3* math, language arts; programming

Junior Technology Project Descriptions

TechnoArcade

In this project, students become game developers. They use Scratch coding blocks to create activities for kids. These include Jumble Tumble, Let's Jam, Mystery Island, and Lost Treasure. Upon completion, gaming fans visit an online arcade to share in the fun.

The technology project has 18 assignments that are divided into 6 Sessions:

- Session 1 Arcade Hero
  In session 1, students become arcade heroes. They prepare to build an online arcade for kids. To start, they register for a free Scratch account to gain access to the online coding platform. Afterwards, they explore the program to learn about common tools and terminology. By connecting blocks to make a script they discover how to control a sprite.

- Session 2 Jumble Tumble
  In session 2, students build Jumble Tumble. In this game a press of a key creates a mish mash of characters dashing and rolling across the screen. This chaotic scene uses Motion blocks to control movement. By sequencing the coding blocks, students discover how to direct and loop action. For an extra challenge, they can use if-then logic to create a silly outcome when two sprites crash.

- Session 3 Let's Jam
  In session 3, students put together a band. They design a game that transforms the keyboard into a musical instrument. Players will enjoy leading a jam session as they tap away at the keys. Students wanting a personal touch can add a variable that allows the player to name the new music group.

- Session 4 Mystery Island
  In session 4, students create Mystery Island. In this game, players explore an imaginary land. By tapping objects, they discover strange creatures. To build the code, Looks blocks are combined to change the appearance of sprites. Coders wanting to create an extra surprise can use random operators.

- Session 5 Lost Treasure Part One
  In session 5, students begin to create the game Lost Treasure. In it, players collect items to score points. The player moves the mouse to pick up lost items and carries them to a specific spot. To start, students plan the theme of their game. Next, they insert a setting, hero, and treasure. With this complete, the game designers build code to control the movement of the hero. Sounds and Looks blocks combine to add excitement to the game play.

- Session 6 Lost Treasure Part Two
  In session 6, students finish designing the game Lost Treasure. They create a variable to keep score. Using the wait until coding block, they build a script that ends the game when all hidden items are found. An optional activity has students create a timer to have players race against the clock. Upon completion, a tester plays the game.

Extension Activities:
Explore the Scratch Community, Dash and Crash, Pick a Band Name, Surprise Me, Add a Game Title, Create a Timer

Technology Skills: Programming
Technology Integration: Computer Science, Mathematics
Software Applications: Scratch

TechnoCandy

In this project, students develop a plan to boost candy sales. They investigate a problem by conducting a survey and researching candy packaging. A spreadsheet is used to organize, calculate, and graph data. Based on the evidence students recommend a solution in a written report. Optional activities challenge students to explore formulas, learn advanced graphing techniques, or design a candy package.

The technology project contains the following assignments:

- Assignment 1 Spreadsheets and You
  Recognize the practical application of spreadsheets. Set a goal for learning.

- Assignment 2 Explore Spreadsheets
  Learn spreadsheet terminology and acquire basic skills.

- Assignment 3 Understand the Problem
  Grasp the challenge facing the candy business. Formulate a plan to collect information.

- Assignment 4 Conduct a Survey
  Administer a survey about color preferences to investigate the problem.

- Assignment 5 Record Survey Results in a Spreadsheet
  Organize survey results in a spreadsheet. Format the data to make it easy to read.

- Assignment 6 Calculate Survey Data
  Compute totals using the Sum function.

- Assignment 7 Graph the Survey Results
  Represent data in a column chart. Customize the chart style. Interpret the survey results.

- Assignment 8 Research the Candy
  Investigate candy packaging. List predictions and actual amounts of colored candies.

- Assignment 9 Record Research Results
  Organize data in a new worksheet. Calculate totals using the Sum function.

- Assignment 10 Make a Comparison Chart
  Sort data. Create a double bar graph. Edit the title, legend, and axes. Analyze research findings.

- Assignment 11 Report Solution to the Problem
  Recommend a proposal based on the evidence. Support reasoning using graphs.

- Assignment 12 Submit the Report
  Verify the report is complete using a checklist. Revise the content. Print or share the document.

Extension Activities:
Play Spreadsheet Bingo, Have Fun with Cell References, Experiment with Sum, Explore Chart Types or Advanced Chart Editing, Explore Pie and Line Graphs, Draw Packaging, Conduct a Poll or Survey*

Technology Skills: Spreadsheets, Word Processing, Graphics
Technology Integration: Language Arts, Mathematics, Visual Arts, Business Studies
Software Applications: Excel, PowerPoint, Word | Excel Online, Forms for Excel, PowerPoint Online, Word Online | Sheets, Slides, Docs, Forms

Note: Survey activity in the Office Online and Google versions only.

TechnoEditor

In this project, students assume the role of an editor. An editor is someone who makes changes to written material to prepare it for publication. Using Microsoft Word or Google Docs, students learn essential word processing skills that allow them to revise a collection of stories written for children. An exploration of text, picture, and page layout formatting techniques allow them to edit stories, comics, and poetry.

The technology project has 17 assignments that are divided into 6 Sessions:

- Session 1 Edit the Front Cover
  In session 1, students are introduced to a word processing program. They learn how to perform basic word processing tasks such as how to select, format, and delete text. They apply this knowledge to edit the front cover of the book, "A Collection of Stories Written for Children".

- Session 2 Edit a Poem
  In session 2, students continue to edit the book, "A Collection of Stories Written for Children". As an editor, students apply their knowledge of formatting to make the descriptive words in the poem, "A Fun Day in the Sun", look like their meaning. Afterwards, students learn how to insert a picture and format the appearance to make the poem look spectacular.

- Session 3 Edit a Story
  In session 3, students add interest to the story "The Unbelievable Trip to the Store". They learn how to insert and format an online picture. Then they apply these skills to illustrate remarkable events including seeing a car with an elephant on its roof, witnessing a monkey in front of the store door, and glimpsing a frog riding on the back of a bird. This "unbelievable" story will teach students picture formatting techniques.

- Session 4 Edit a Comic
  In session 4, students continue their job as editors. This time, they are editing the content of a comic strip. To prepare for this activity, they must first learn how to draw and format shapes and WordArt. Once students can apply their skills confidently, they create a funny comic that will make the children reading it laugh and smile.

- Session 5 Cut, Copy, & Paste
  In session 5, students learn how to use the cut, copy, and paste commands to edit a story. To begin, students engage in a practice exercise. Once they have mastered these basic editing commands, they apply their knowledge to edit the story titled "The Copy Cats."

- Session 6 Final Edit
  In session 6, students prepare the storybook "A Collection of Stories Written for Children" for publication. To begin, they edit the document to correct any spelling or grammar errors. Afterwards, they use a checklist to verify that the document is ready for publication. Last minute changes are made to the book. Once it is perfect, the document is shared with others.

Extension Activities:
Get Help, Adjust Line Spacing*, Setting Page Margins, Crop an Image*, Adjust Color and Artistic Effects*, Get Creative with WordArt, Even More Editing Tools*, About the Office Clipboard*, Insert Page Numbers

Technology Skills: Word Processing, Graphics
Technology Integration: Language Arts
Software Applications: Word | Docs, Drawings

Note: Select extension activities are not available for all product versions.

TechnoInternet

In this project, students have fun exploring the Internet. This online expedition allows them to safely discover the wonders online as well as learn the importance of responsible digital citizenship. The assignments revolve around an imaginary world. Students can travel to the Visitor's Center, e-Library, e-Media Center, e-Playground, e-Message Depot, or e-Café. Each destination is tracked by adding a marker to an Internet map. Use this project, to create a foundation for future learning.

The technology project contains the following assignments:

- Assignment 1 Practice Internet Safety – Earn an Internet Citizenship card.

- Assignment 2 Take a Tour of the Internet – Discover the meaning of terminology.

- Assignment 3 Search the Internet – Master search strategies to find information fast.

- Assignment 4 Collect Bookmarks – Search the Internet and then bookmark web pages.

- Assignment 5 Bookmark Sources – Explore encyclopedias, atlases, dictionaries and thesauruses.

- Assignment 6 Examine Information Sources – Evaluate the trustworthiness of a website.

- Assignment 7 Read News on Current Events – Inspect articles from newspapers and magazines.

- Assignment 8 Search the Image Gallery – Filter online images to collect pictures. Respect copyright.

- Assignment 9 Discover the Video Theater – View documentaries, speeches, demos, and more.

- Assignment 10 Survey the Map Collection – Plot a location and generate directions.

- Assignment 11 Explore the Sound Stage – Listen to online radio stations, sound clips, and songs.

- Assignment 12 Visit Webcam Observatory – Observe remote events and attractions.

- Assignment 13 Experience the Arcade – Play online games and rank the entertainment value.

- Assignment 14 Learn About Email – Compare traditional mail to email.

- Assignment 15 Email Guidelines and Safety Tips – Score email safety readiness and netiquette skills.

- Assignment 16 Exchange Email – Compose, send, receive, reply, and forward messages.

- Assignment 17 Send an Email Attachment – Attach a file to an email message.

- Assignment 18 Prevent Cyberbullying – Discuss harmful or hurtful online behavior.

- Assignment 19 Study Chat Guidelines and Safety Tips – Prepare to chat responsibly by taking a quiz.

- Assignment 20 Chat with Friends – Exchange messages with friends in real time.

- Assignment 21 Network at Social Media Place – Explore social media sites.

- Assignment 22 Explore the Blogosphere – Study blog posts.

Extension Activities:
Get Homework Help, Study Online Shopping, Study Online Banking, Visit the Ecard Shop

Technology Skills: Digital Citizenship
Technology Integration: Foundation for Future Learning
Software Applications: Web Browser

TechnoJournal

In this project, students are introduced to word processing by creating a personal journal. They express ideas and describe experiences by writing a series of entries. Students reflect upon a recent event, make a note of favorite things, and list personal wishes. The text on each journal page is formatted and pictures are added to produce an eye-catching booklet. Reader responses to the entries are logged to celebrate the accomplishment.

The technology project contains the following assignments:

- **Assignment 1 Journal Writing**
  Read about journaling. Examine journals to ignite writing ideas.

- **Assignment 2 Be a Detective**
  Investigate the program window. Identify the function of common word processing tools.

- **Assignment 3 Create a Front Cover – Step 1**
  Begin a title page for the journal. Apply text formatting techniques to attract interest.

- **Assignment 4 Create a Front Cover – Step 2**
  Illustrate the journal title page. Explore simple picture formatting techniques.

- **Assignment 5 Yesterday Journal Entry**
  Write a journal entry about a recent event. Decorate using clip art and adjust the text wrapping.

- **Assignment 6 Things I Like Journal Entry**
  Write a journal entry about three favorite things using a bulleted list. Set the line spacing.

- **Assignment 7 Make a Wish Journal Entry**
  Write a journal entry listing three wishes using a numbered list. Apply a border to pictures.

- **Assignment 8 Complete the Journal**
  Proofread the journal using a checklist. Revise the spelling, content, and design of entries.

- **Assignment 9 Print the Journal**
  Prepare the journal for publication. Insert page numbers and then print the journal as a booklet.

- **Assignment 10 Share the Journal**
  Invite readers to respond to the journal by recording their reaction to a favorite entry.

Extension Activities:
About the Keyboard, Journal Writing Ideas

Technology Skills: Word Processing
Technology Integration: Language Arts
Software Applications: Word | Word Online | Docs

Note: Sequence of assignments varies slightly between the Microsoft and Google versions.

TechnoPresenter

In this project, students deliver an informative speech. To start, they study a sample slideshow to gain insight into the purpose of a presentation. Next, they apply an inquiry-based approach to generate a meaningful research question. Students then investigate their topic. Using presentation software, slides are created that apply graphic elements such as bulleted lists and tables to organize facts. To prepare for public speaking students compose a set of notes to accompany each slide. Upon completion, they communicate their findings to an audience. Optional activities explain how to collaborate with a partner, insert a video, create a graphic organizer, or animate text.

The technology project contains the following assignments:

- Assignment 1 Oral Presentations and Public Speaking
  Recognize the purpose of oral presentations. Rate public speaking readiness.

- Assignment 2 Study a Presentation
  Examine a sample presentation to develop an understanding of the content, layout, and design.

- Assignment 3 Select a Topic and Research a Question
  Organize ideas using a planning sheet. Select audience and topic. Formulate research question.

- Assignment 4 Make the Title Slide
  Construct a title slide. Apply a theme to produce a consistent style. Format text and insert an image.

- Assignment 5 Create an Information Slide
  Summarize essential information on a slide using a bulleted list. Elaborate using the notes pane.

- Assignment 6 Build a Table of Fun Facts
  Classify facts into categories using a table. Expand upon a key point using the notes pane.

- Assignment 7 Decorate Slides with Shapes and WordArt
  Capture audience attention. Enhance slides and emphasize information using graphic objects.

- Assignment 8 Presentation Checklist
  Self-evaluate slideshow quality. Revise the presentation to improve appearance and clarity.

- Assignment 9 Rehearse Presentation with Speaker Notes
  Practice public speaking by presenting with digital or printed speaker notes.

- Assignment 10 Give an Oral Presentation
  Communicate research findings. Engage the audience using a slideshow as a visual aid.

Extension Activities:
Work Together as a Group Project*, Use Annotation Tools*, Insert a Video, Create a Graphic Organizer, Animate Information, Group Presentation Rehearsal, Body Language Skits, Ask an Expert*

Technology Skills: Presentation
Technology Integration: Language Arts, Social Studies, Science, Geography, History, Health
Software Applications: PowerPoint, Word | PowerPoint Online, Word Online | Slides, Docs

Note: Select extension activities are not available for all product versions.

TechnoRace

In this project, students become game developers. They build an imaginary world using Scratch coding blocks. This online rescue mission has players race against time to collect points. Loops, conditionals, and variables combine to produce original game play. Upon completion, gaming fans test the story action. For coders wanting an extra challenge, they can customize animation, create flashing backdrops, or increase difficulty level.

The technology project has 21 assignments that are divided into 6 Sessions:

- Session 1 Start from Scratch
  In session 1, students are introduced to Scratch, an online coding platform. To start, they explore the program to learn about common tools and terminology. Once familiar with the programming environment, students compete in a racing adventure. Afterwards, they experiment with the code to alter the player's experience. This exploration provides a foundation for building their own game.

- Session 2 Become a Game Developer
  In session 2, students become game developers. They invent a storyline for a rescue mission. In it, the player races against time to reach a goal. Along the way they must collect treasure and avoid obstacles. Once students have a plan, they begin to build the game board. First, they insert sprites onto the stage to act as the player, treasure, obstacle, and goal. Next, they use the Paint Editor to create an imaginary world. Afterwards, they build a simple script that will play theme music throughout the game.

- Session 3 Let's Get Moving
  In session 3, students create game controls. The fun starts with an exploration of Motion blocks. They build a script that moves the goal sprite, so it attracts attention. Next, the game developers transfer their knowledge to build controls using the arrow keys. Once the player can move around the imaginary world, students learn how to use logic to prevent walking through objects. Students in need of a challenge can build a script that teleports or launches the player at hyper speed. It is time to get moving!

- Session 4 Avoid Obstacles to Win
  In session 4, students test the player's skill by restricting their movements. To begin, they code a looping script that moves a sprite on the stage so that it temporarily blocks the player. Next, the game developers design code that causes the player to slow down if it touches the obstacle. With this script complete, students apply their knowledge to stop the game when the player reaches its goal. For those wanting to add even more interest, they can switch backgrounds when two sprites collide, or the game is over.

- Session 5 Collect Treasure
  In session 5, students design scripts that allow the player to collect points. The first task is an exploration of the Looks blocks to change the appearance of treasure, so players take notice. Next, students learn about variables. They apply this knowledge to calculate points when a player touches an object such as a coin or jewel. To enhance the game, students can elect to use the Paint Editor to customize the animation of a sprite.

- Session 6 Time is Up
  In session 6, students complete the game by adding a timer to increase the difficulty level. They apply their knowledge of variables to build scripts that track time. When a limit is met the game ends. Upon completion, students invite others to test the story action and provide feedback. It is going to be a race to the finish!

Extension Activities:
Digital Footprints in Scratch, Upload a Sprite, Jump to Hyper Speed, Flash a Backdrop, Paint a New Costume, Add Comments

Technology Skills: Programming
Technology Integration: Computer Science, Mathematics
Software Applications: Scratch

TechnoResearch

In this project, students develop research skills as they create a Fact Card. To start, students brainstorm a topic and plan their research project. Next, they use strategies to retrieve quality information from reliable sources. The facts are then processed using paraphrasing techniques to transform an outline into a one sheet report. The publication is shared with others as a part of a Fun Fact Card Collection. Optional activities challenge students to develop skimming and scanning techniques, practice advanced research strategies, arrange facts in a table, and recognize sources of information. The goal of this project is to teach skills that are transferable to any research project.

The technology project contains the following assignments:

- **Assignment 1 Study the Fun Fact Card Collection**
  Assess research skills. Examine fact cards to gain an understanding of the research project.

- **Assignment 2 Broaden then Narrow your Topic**
  Apply techniques to gain ideas for a research topic. Build a word list. Ask questions to narrow focus.

- **Assignment 3 Organize Ideas and Create an Outline**
  Decide on inquiry questions. Form a document outline that include headings.

- **Assignment 4 Find Facts Fast using an Online Encyclopedia**
  Research details using an online encyclopedia. Track the source of information.

- **Assignment 5 Research a Topic using Google Search**
  Investigate a topic using Internet search strategies to find trustworthy information quickly.

- **Assignment 6 Create a Glossary of Terms**
  Make a glossary using the Define/Smart Lookup tool or online dictionaries. Choose the vocabulary to include in a glossary. Define meaning using Smart Lookup or a dictionary.

- **Assignment 7 Transform the Outline into a Fun Fact Card**
  Paraphrase facts by rewriting them using simple sentences that are easy to read and comprehend.

- **Assignment 8 Format the Text to Make It Easy to Read**
  Produce a professional publication. Format font, bullet a list, adjust line spacing, and indent lines.

- **Assignment 9 Adjust Page Layout and Format Images**
  Design a unique fact card. Customize page orientation, color, margins, and border. Format images.

- **Assignment 10 Fact Card Checklist**
  Peer review a fact card using a checklist. Based on feedback, modify the publication.

- **Assignment 11 Create a Fun Fact Card Collection**
  Print the fact card or email a link to teacher. Share collection with others.

- **Assignment 12 Research Self-Reflection**
  Reflect upon learning. Make connections to how skills can be applied to future situations.

Extension Activities:
Save Time! Skim and Scan, Cite Sources of Information, Explore Google Search, Use Primary and Secondary Sources, Arrange Fact Card with Columns and/or Tables

Technology Skills: Digital Citizenship, Word Processing
Technology Integration: Language Arts, Social Studies, Science, Geography, History
Software Applications: Word | Word Online | Docs

TechnoSales

In this project, students plan a bake sale to raise money. This task requires them to investigate food preferences and analyze financial data to make decisions about the fundraiser. Findings are organized into a report with graphs, to show why their decisions will make the bake sale a success.
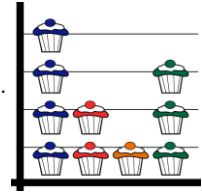
The technology project has 20 assignments that are divided into 6 Sessions:

- Session 1 Introduction to Excel
  In session 1, students are introduced to spreadsheet terminology. To learn basic skills, students play "You Found my X-Cell". This game has students identify cell references, navigate in a worksheet, enter data, fill cells with color, format the appearance of text, change the alignment, apply borderlines, and select multiple cells. It is a fun way to learn essential spreadsheet skills.

- Session 2 What Desserts Do Students Prefer?
  In session 2, students learn how to use spreadsheets to make decisions about their upcoming bake sale. To make this fundraiser a success it is essential that the dessert sold is a popular item. To answer the question "What desserts do students prefer?" students conduct a survey. The results are organized into a worksheet and then placed into a column graph. The data is then analyzed to determine the dessert item that students prefer. Will it be cupcakes, muffins, or cookies?

- Session 3 Session 3 Are There Differences Between Desserts Girls and Boys Prefer?
  In session 3, students continue to analyze the results of the Dessert Preference Survey. To answer the question, "Are there differences between desserts girls and boys prefer?" a double column graph is used to compare the types of desserts both like to eat. This graph will help students to select a bake sale item that everyone will enjoy. By studying the graph, they will be able to make a decision that will ensure success.

- Session 4 What Dessert Flavors Do Students Like?
  In session 4, students must decide the flavors of dessert to have at the bake sale. This information is important because there needs to be plenty of items that people like. They investigate, "What Flavor of Dessert do Students Like?". The results are organized into a worksheet and then placed into a pie graph. The data is then analyzed to determine the flavor students should sell. Will it be chocolate, vanilla, or strawberry?

- Session 5 How Many Desserts Do You Need?
  In session 5, students calculate the number of desserts required for the sale. This information is important because there must be enough items to sell to raise a certain amount of money. To answer the question, "How Many Dessert Items Do You Need?" past sales are studied. The sales information is organized into a worksheet and placed into a line graph. The data is then analyzed to estimate the average money earned in previous sales. This information is used to set a financial goal. Afterwards, formulas are created to calculate a fair price, amount of baked goods needed, and the number of items each student needs to bake. By using math to collect information, students can make good decisions that are sure to make the bake sale a success!

- Session 6 Bake Sale Report
  In session 6, students produce a report about how to make the bake sale a success. Using Microsoft Word, they explain their decisions about the sale. They describe the purpose of the sale, the item to be sold, financial goal, price of each item, total number of baked goods needed, and the amount each student in the class will need to bring to the sale. Afterwards, the report is edited to correct spelling and grammar errors. Upon completion, it is sent to the printer for publication.

Extension Activities:
Change the Sheet Tab Color, Add Pictures into a Bar Graph*, Change the Chart Type, Formatting Tips for Pie Graphs, Different Formulas-Same Result, About the Sale

Technology Skills: Spreadsheet, Data Management
Technology Integration: Mathematics, Computer Science
Software Applications: Excel, Word | Sheets, Docs

Note: Select extension activities are not available for all product versions.

TechnoSite

In this project, students become web designers. They construct a website that includes links to fun places for kids on the World Wide Web. Throughout the design process, students pay attention to the ease of navigation, overall appearance, and quality of the content. This will ensure their web pages will get the Kid Stamp of Approval.

The technology project has 22 assignments that are divided into 6 Sessions:

- Session 1 Be a Website Critic
  In session 1, students become website critics. Before they can analyze web pages on the World Wide Web, they are introduced to Internet terminology. Afterwards, they examine websites and rate them according to ease of navigation, appearance, quality, and safety. They will use their knowledge of what makes a "kid-approved" website when they create their own web pages in the upcoming sessions.

- Session 2 Develop Search Strategies
  In session 2, students learn various search strategies to help them find information fast on the World Wide Web. They apply this knowledge to locate a wide range of items. These skills will be applied in the upcoming session when students find high-quality websites to include on their own web pages.

- Session 3 Become a Web Designer
  In session 3, students become web designers. To prepare for the task, they view an example website that has hyperlinks to interesting places on the World Wide Web for kids. Students examine the characteristics and rate the ease of navigation, appearance, quality, and safety. Next, they use the Internet to gather resources for their own website. The content of each page is planned using the Website Organizer.

- Session 4 Design a Home Page
  In session 4, students start to make their website using Google Sites. They begin by constructing a Home Page that includes a banner, title, and description. They use Layouts to add blocks of information about the topics.

- Session 5 Build Web Pages
  In session 5, students continue to build their website. They follow instructions to insert several web pages. Each one is about a specific topic and will contain hyperlinks to fun places for kids on the WWW. Content on the Home page is joined to each web page to make it easy for visitors to navigate.

- Session 6 Publish a Website
  In session 6, the young web designers publish their websites to the World Wide Web. To prepare, students edit the content and appearance using a checklist as a guide. Next, they have a peer review their website to test each hyperlink. Once, the website is ready for viewers, they publish the website and share the link with classmates.

Extension Activities:
Examine Web Browser Settings, Discover Internet Resources, Add a Logo to the Header, Insert an Image Carousel, Add ALT Tags

Technology Skills: Web Design
Technology Integration: Computer Science, Language Arts, Media Arts, Geography, History, Social Studies
Software Applications: Google Sites

TechnoTimeline

In this project, students create a timeline that summarizes significant events. The graphic organizer will consist of information organized in chronological order. Each event will be analyzed to gain an appreciation of its historical importance on people and future events. To start, students study sample timelines for inspiration. Next, they research a topic and record findings using an organizer. Once the important moments have been pinpointed, a graphic organizer is used to create a visual display. Upon completion, the sequence of events is shared with others.
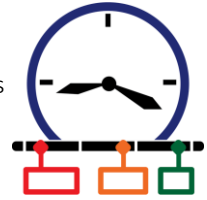
The technology project contains the following assignments:

- Assignment 1 What is a Timeline?
  Examine timelines to gain an understanding of how a graphic organizer summarizes key events.

- Assignment 2 Brainstorm a Topic
  Formulate a plan for building a timeline. Select a timeline type and determine a topic.

- Assignment 3 Organize Research Findings
  Investigate significant events. Arrange details by date in a document.

- Assignment 4 Start to Make the Timeline Slide
  Customize a slide for a timeline. Set the slide size, layout, and theme. Apply a slide background.

- Assignment 5 Organize Events using SmartArt or Objects
  Build a timeline that sequences events in chronological order. Explain the importance of events.

- Assignment 6 Highlight Events in the Timeline
  Emphasize a critical moment or turning point using shapes. Illustrate timeline events using pictures.

- Assignment 7 Use a Checklist to Edit the Timeline
  Self-evaluate the timeline using a checklist. Revise the content and design.

- Assignment 8 Share your Timeline to Get Feedback
  Peer review a friend's timeline. Comment to offer feedback. Use suggestions to improve timeline.

- Assignment 9 Share Timeline with Others
  Celebrate a historical period. Print the timeline or present information to an audience.

Extension Activities:
Is it Significant? Zoom to Feature a Special Event*, Drawing Workshop*, Highlight Events Using Saved Images

Technology Skills: Presentation, Word Processing
Technology Integration: Geography, History, Social Studies
Software Applications: PowerPoint, Word | PowerPoint Online, Word Online | Slides, Docs

Note: Assignment titles and sequence vary slightly between the Microsoft and Google versions. Select extension activities are not available for all product versions.

TechnoToon

In this project, students create a graphic story in the style of a cartoon or animated comic strip. To start, they learn about writing conventions and watch sample stories as a source of inspiration. Students then apply their creativity to construct their story with text boxes, images, callouts, starbursts, and WordArt. Transitions are inserted between slides to divide the scenes. Animation is applied to objects to sequence the timing of events. Upon completion, the graphic story is set to play automatically. Challenging extension activities support learning with optional assignments such as picture editing, advanced animation techniques, and exporting as a video.

The technology project contains the following assignments:

- Assignment 1 Digital Storytelling, Cartoons, & Comic Strips
  Produce silly comic strips by writing text into callouts to describe what is happening.

- Assignment 2 View Sample Digital Stories
  Examine digital stories to learn about the structure and ignite interest in animated storytelling.

- Assignment 3 Organize Story Ideas for the Digital Story
  Invent a cartoon story. Determine the audience. Sketch events into a storyboard to form a plan.

- Assignment 4 Make the Title Slide
  Spark interest in the story with a unique title slide. Format text, text boxes, and slide background.

- Assignment 5 Set the Scene
  Convey information about setting, character, and plot by combining images with callouts.

- Assignment 6 Create the Action Scenes
  Illustrate the remaining scenes. Exaggerate the story action using starbursts and WordArt.

- Assignment 7 Add Transitions and Animations
  Divide the action using transitions. Animate each scene and sequence the timing of events.

- Assignment 8 Digital Story Checklist
  Self-evaluate the content, design, and animation applied to each scene. Revise the story.

- Assignment 9 Share Your Digital Story
  Prepare the story for an audience. Set the slides to play automatically. Invite peers to view it.

Extension Activities:
Generate a Story Idea, Use Images from the Internet, Picture Editing Workshop, Animation Workshop, Peer Edit the Digital Story*, Print a Comic Strip or Comic Book, Make a Video

Technology Skills: Presentation
Technology Integration: Language Arts
Software Applications: PowerPoint | PowerPoint Online | Slides

*Note: Select extension activities are not available for all product versions.

TechnoTurtle

In this project, students become game designers. They use Python and the Turtle library to conquer mazes, paint pixel art, create a Mad Lib Generator, and build a Carnival Game. The fun begins when students edit code to gain an understanding of the structure of Python scripts. Once familiar with basic concepts, the young programmers are introduced to debugging, loops, variables, and conditional logic. Ignite an interest in programming with meaningful activities designed for beginners.
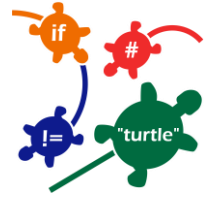
The technology project has 30 assignments that are divided into 6 Sessions:

- Session 1 Python, Turtles and Bugs
  In this session, students become programmers. To start they learn how the Python programming language is used in daily life. Next, they visit the Turtle library to study the commands and make predictions about their function. They test their ideas by modifying a program to control what it draws. Once familiar with running a Python program, students add bugs to the code in order to identify and fix common errors.

- Session 2 Conquer the Maze
  In this session, students control the movement of a Turtle through a series of mazes. The fun begins when the young programmers write their first script. It marches a Turtle around the screen by moving forwards, backwards, and turning. Once they have mastered this set of commands, students are challenged to develop a script that will guide a Turtle through a maze. Can they solve the puzzle?

- Session 3 Draw Pictures
  In this session, students write code to draw pictures. To start, they learn how to plot a point on the canvas using x and y coordinates. They apply this knowledge to stamp a unique design. Next, the young programmers follow instructions to design a robot by combining lines, rectangles, circles, dots, and symbols. Once familiar with how to control the Turtle's drawing tools, students build their own program to draw a picture.

- Session 4 Design Colorful Spirographs
  In this session, students paint stunning artwork. To start, they learn code that repeats a set of instructions forever or for a specific number of times. Next, they complete a series of exercises to discover how to construct looping geometric shapes called spirographs. Once students are familiar with designing patterns, they use the Random library to produce colorful creations.

- Session 5 Create a Mad Lib Generator
  In this session, students design a word game, called a Mad Lib. It has players provide a list of words that are used to complete a silly sentence or story. To prepare for this coding task, students learn about variables by chatting with the computer. Next, they edit a Mad Lib party invitation to discover how to join variables and text together to form sentences. Once familiar with the structure of the code, they program their own wacky word game.

- Session 6 Invent a Carnival Game
  In this session, students become game designers. They combine Python and Turtle programming commands to produce a Carnival Game. To start, they learn about if, elif, and else. Once familiar with conditional logic they invent a game that prompts the player to pick an option to win a prize. Optional challenges enrich the design such as looping a flashing message or showing a picture of their winnings. Get ready for fun. Step right up to win a prize!

Extension Activities:
Imagine Life Without Coding, Dot-to-Dot Fun, Customize the Stamp, Rain Cats and Dogs, Build a Word Game, Guess a Number

Technology Skills: Programming
Technology Integration: Math, Language Arts, Visual Arts, Social Studies
Software Applications: IDLE Python 3

TechnoTrivia

In this project, students design a fun trivia quiz. Using Google or Microsoft Forms, they test their friend's knowledge about a topic. There is no need to keep score, since an automated system calculates points for each person and sends the results. Extension activities have students host a Battle of the Brains, team up to build a Trivia Game, make a Pick your Own Ending story, include a video, review a collection of fun quizzes, customize the theme, and manually mark a short answer question.

The technology project contains 15 assignments that are divided into 6 Sessions:

- Session 1 Test Your Wits
  In session 1, students test their wits. To jump start the fun, they are introduced to trivia quizzes by completing the Wacky Animal Quiz. Once familiar with the structure and purpose of this type of game, students rate their quizmaster type. Get ready to entertain friends and family with odd, silly, and interesting questions.

- Session 2 Build a My Country Quiz
  In session 2, students build a trivia quiz about their country. It will test knowledge about the capital city, flag, landmarks, facts, and national symbols. Students will learn how to pose questions, set the point value, and create an answer key. This activity provides an understanding of Forms features and the structure of a quiz.

- Session 3 Plan Your Trivia Quiz
  In session 3, students become quizmasters. They design a trivia quiz for their family and friends to play. To start, they brainstorm topic ideas. Once they have selected a theme, they formulate a plan. An organizer is used to record the questions, correct answers, and points. Students apply helpful tips to generate thought-provoking questions.

- Session 4 Design a Trivia Quiz
  In session 4, students build their trivia quiz using Google or Microsoft Forms. They follow their plan to create the questions, scoring system, and answer key. Upon completion, the quizmasters conduct tests to verify the game is working properly. They then assess the quality of the trivia quiz using a checklist to highlight areas for improvement.

- Session 5 Host a Trivia Time Event
  In session 5, students take part in a Trivia Time Event. Students invite others to take their quiz. They then test their knowledge by taking quizzes made by classmates. Who is a know-it-all?

- Session 6 Study Trivia Responses
  In session 6, students analyze players' answers to the trivia quiz. Using Google Forms, they view a summary of responses. Graphs for each question illustrate the items that players found easy and difficult. Based on their evaluation, they make recommendations on how to change the trivia quiz to make it even better.

Extension Activities:
Make the Quiz a Battle of the Brains, Collaborate to Build a Trivia Game, Pick Your Own Ending Story, Ask a Question About a Video, Ask a Short Answer Question, Visit Quiz Central, Customize the Theme Header (Google)

Technology Skills: Data Management
Technology Integration: Language Arts, Social Studies, Science, History, Geography, Math
Software Applications: Google Forms, Sheets, Microsoft Forms, Excel

Helpful Resources

Refer to these helpful resources to learn more about how to use TechnoKids technology projects in your classroom.

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https://www.technokids.com/store/computer-curriculum.aspx

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Google Classroom

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