TECHNOKids®

SENIOR
Curriculum Collection

PROJECT-BASED LESSONS: DIGITAL LITERACY AND STEM ACTIVITIES

A collection of technology projects for
Microsoft Office, Adobe, Blender, coding, 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!

Senior Technology Projects and Software

TechnoKids Technology Projects are available for Microsoft Office, Adobe, Blender, and more. Refer to the table to identify projects that are right for you!

Suggested grade levels:	Microsoft Office						Forms Online	Google			Blender	Adobe		Coding | AI	
	Paint	Word	PowerPoint	Excel	Access	Publisher	Forms Online	Docs	Sheets	Forms	Blender	Photoshop	Animate	Scratch	Bot Libre
Senior Grades 8-12															
TechnoAd		•		•			•	•	•	•	•				
TechnoAdvertise		•													
TechnoAnimate													•		
TechnoChatbot AI														•	•
TechnoInvestor		•		•											
TechnoMission	•				•										
TechnoPhotoshop												•			
TechnoPlanner					•										
TechnoSpecialist			•												
TechnoWonderland		•	•	•	•	•									

Senior Technology Projects | Scope & Sequence

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* word processing, Internet, spreadsheets, presentation, desktop publishing, data management	**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* computer studies, data management	**TechnoSpecialist** Develop an information package about hardware. Explain the attributes of computer components to educate the public in making purchasing decisions. *PowerPoint* computer hardware, presentation	**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* media literacy, video production, marketing, data management	**COMING SOON** 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* coding, artificial intelligence, business studies
	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* marketing, 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* financial literacy, 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, graphic design, photo editing		
		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 management	**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		

Senior Technology Project Descriptions

TechnoAd

In this project, students gain essential media literacy skills by becoming digital marketers. They produce a video ad to sell a new product. Their campaign begins with an analysis of selling tactics used in media messages. Next, they investigate how their target customer interacts with online advertising. To further prepare for the task, students explore video production techniques. Once aware of how companies manipulate viewers, they team up to create an advertisement using Blender. Upon completion, they summarize their marketing campaign in professional report.

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

- Session 1 Analyze Online Advertising
  In this session, students investigate their exposure to online advertisers. To start, they consider consumption of media messages. Next, they critically think about how selling tactics, hidden messages, and stereotypes in video ads might influence their behavior or thinking. Afterwards, they build a questionnaire using Forms to discover how people interact with online advertising. These metrics will not only raise media awareness but will also inform placement of their video ad in upcoming sessions. An optional challenge explains how to create a pivot table in Microsoft Excel or Google Sheets to compare groups of data to notice differences in gender or age.

- Session 2 Apply Camera Techniques
  In this session, students become videographers. To start, they analyze video ads to notice how shots, angles, and movement convey a message. Next, they experiment with a video camera to capture wide, medium, and tight shots. Also, they explore how zoom, pan, and tilt control viewer attention. These operational techniques will be used later to produce their own video ad.

- Session 3 Explore Video Editing Tools
  In this session, students discover how to use Blender tools to create an ad. First, students customize the program window for video editing. Next, they import clips and explore how to arrange media in channels. They trim, split, and overlay strips to produce a 15 second video that will captivate customer interest. These production techniques will be applied in the upcoming sessions to advertise a new product.

- Session 4 Advertise a Product
  In this session, students design a video ad concept. Working as part of a creative team, they develop an advertisement for a new product. They write a script and storyboard for each shot. Upon completion, they apply their knowledge of marketing and video production techniques to capture the footage.

- Session 5 Create Video Ad
  In this session, students become video editors. They produce their own unique video ad using the footage captured from the previous session. To start, they import media into Blender. They then apply their editing skills to produce a fifteen-second advertisement. Upon completion, they prepare to write a Marketing Campaign report by exporting the video in different file formats.

- Session 6 Report Marketing Strategy
  In this session, students summarize their marketing campaign. Using either Microsoft Word or Google Docs they explain how their video targets a specific audience. Based on survey data, they recommend the best time of day and digital channel for the ad. To create a professional-looking document they format the layout to include a table of contents, headings, page numbering, and more.

Extension Activities:
Control Ads, Apply the Rule of Thirds, Animate Text with Keyframes, Slogans and Catchphrases, Download a Soundtrack, Add an Image from the Internet, Paste Graphs into Report

Technology Skills: Animation, Data Management, Digital Citizenship, Spreadsheet, Video Production, Word Processing

Technology Integration: Language Arts, Business Studies, Media Arts
Software Applications: Microsoft Forms, Excel, Word | Google Forms, Sheets, Docs | Blender

TechnoAdvertise

In this project, students design advertisements using Microsoft Word. To start, students create a cover letter and résumé to apply for a job at TechnoAd Agency. Once hired, students receive their first assignment to design a flyer. Next, students develop a product catalog that includes styles, table of contents, and an index. Afterwards, they learn how to complete a mail merge to produce a personalized invitation to promote an upcoming event. Finally, students combine their skills to publish a newsletter. Interwoven throughout the project are business-related activities.

The technology project has 20 assignments that are divided into 6 Sessions:

- Session 1 Job Search
  In this session, students apply for a job at TechnoAd Agency. To prepare for this task, students review cover letters and résumés and then answer questions to determine their qualifications. Once they have a list of their characteristics, skills, and experiences that make them a perfect match for the position, they open Microsoft Word to gain familiarity with the program. Next, they follow instructions to write a cover letter and résumé. These well-formatted business documents are sure to draw the attention of TechnoAd Agency!

- Session 2 Create a Flyer
  In this session, students begin work for TechnoAd Agency. Their first task is to design a flyer for TechnoTeen Company. They have requested a flyer to promote their Summer Heat sales event. To prepare for this task, students answer questions to learn about the commands on the Insert tab. Once familiar with the range of options, they follow instructions to produce an eye-catching ad using pictures, shapes, and more! The flyer is sure to draw attention with a SmartArt Graphic highlighting sales items, colorful header and footer that lists store details, text box with discounts, and a catchy phrase written using WordArt. This ad is sure to sizzle!

- Session 3 Design a Catalog – Phase 1
  In this session, students are responsible for creating a catalog. To complete this publication, the task is divided into two phases. In Phase 1, students explore the commands on the Layout tab. Next, they select the products to include in the catalog using an organizer. With a plan in place, students start construction of the catalog. They use their skills to divide a document into sections. Using Layout commands, they add headers and footers to each section, produce a cover page, apply a watermark to the table of contents, and arrange a company message. Students then learn how to build a table to produce an order form and product pages.

- Session 4 Design a Catalog – Phase 2
  In this session, students complete their catalog by inserting page references. To prepare for this task, students explore the function of commands on the References tab. They follow a set of instructions to edit a document so that it includes a table of contents, footnotes, endnotes, citation, bibliography, caption, and an index. Afterwards, students apply their skills to add references to their catalog to permit customers to find information fast. Upon completion, they use a checklist to verify that their document is ready for publication.

- Session 5 Send a Custom Form Letter
  In this session, students invite customers to an exclusive shopping event using mail merge. Mail merge places unique information into a document that has placeholders. Using the Mail Merge Wizard, students produce a personalized invitation. Afterwards, they generate mailing labels using commands on the Mailings tab.

- Session 6 Produce a Newsletter
  In this session, students produce a newsletter. It will include a news article, special appreciation section, upcoming events, reminders, tips, and a calendar. The goal is to have students apply their word processing skills to create the publication. For example, they will use their knowledge of Microsoft Word to format text, modify styles, insert objects, adjust page layout, and create a table of contents. Upon completion students will use commands on the Review and View tabs to improve the content, design, and layout.

Extension Activities:
The Interview, Prepare a Summary Report, Create a Catalog Organizer, Edit a Document to Cite the Source, Mail Merge Using Excel, Commands on the Review Tab

Technology Skills: Word Processing, Desktop Publishing, Graphics

Technology Integration: Language Arts, Business Studies, Marketing
Software Applications: Word

TechnoAnimate

In this project, students become animators. They learn animation techniques by creating scenes for a graphic story in Animate CC. By completing a series of activities, they discover how to produce realistic movement using frame by frame, motion tweens, shape tweens, Asset Warp Tool, Bone Tool, motion paths, and classic tweens. Once they have mastered the basics of animation, they apply their skills to design a unique project such as a graphic novel, electronic greeting card, or advertisement.

The technology project has 34 assignments that are divided into 7 Sessions:

- Session 1 Out of This World
  In this session, students are introduced to Animate CC. To begin, they view an example called "Out of this World" to gain an understanding of types of animation. Afterwards, they open Animate to learn about the program environment. Once familiar with common tools they practice drawing. With these skills mastered, they apply their knowledge to create the first scene in a space adventure.

- Session 2 On an Alien Planet
  In this session, students continue animating their space adventure. They create two scenes using frame by frame animation. To start, they create the planet surface that shows grass growing and a flower blooming. Afterwards, they apply their new skills to make a hover craft drive over bumpy terrain. The session ends with students selecting an Animation Challenge and creating it using Frame by Frame Animation.

- Session 3 Blast Off Into Out Space
  In this session, students continue to create scenes for their animated space adventure. This time they have their character blast off into space and fly the ship across the galaxy using motion tweens. The fun begins when students learn how to move an object across the stage and transform the image by changing the scale and orientation. Once these skills are mastered, students animate the ship flying across the sky. The session ends with students selecting an Animation Challenge and creating it using a Motion Tween.

- Session 4 A Strange Planet
  In this session, students animate the adventures that happen on a strange planet. Using shape tweens, they transform an oval into a rectangle to illustrate the unusual moon in the sky. Afterwards they apply shape tweening to show an alien life form talking. The session ends with students selecting an Animation Challenge and creating it using a Shape Tween.

- Session 5 Coming Home
  In this session, students create the final scenes in their space adventure. In these scenes, the alien returns home. Using the Asset Warp Tool (Animate 2022) or Bone Tool (Animate 2017-2019), students animate a going away party. In the remaining scenes, a motion path for the spaceship is made to look like it is blasting off from the surface, and then it does a loop in the sky before landing back on the home planet. The session ends with students selecting an Animation Challenge and creating it using a motion path and classic tween.

- Session 6 Add Sound, Export the Movie
  In this session, students complete their movie. To start, sound clips are imported into the library. These sounds are then added to the Timeline to make the hover craft hum, spaceship zoom, and alien talk. Afterwards, the document is reviewed using a checklist to ensure it is finished. Upon completion, the file is exported into a movie file and shared with others.

- Session 7 Make Your Own Movie
  In this session, students apply their knowledge to make their own movie. To start, they select an idea. The production can be an animated scene, short story, or electronic greeting card. Once complete it is exported as a movie file and shared with others.

Extension Activities:
Flip and Align Objects, Using Layers, Create a Movie Clip, Working with Scenes, Keyboard Shortcuts, Export as a Video

Technology Skills: Animation, Graphics
Technology Integration: Visual Arts, Media Arts
Software Applications: Adobe Animate

TechnoChatbot AI

In this project, students become chatbot developers. They use both coding and a free bot-builder to design chatbots. To start they explore the practical applications of AI technology. Once familiar with the possibilities of natural language processing, they design their own bots. First, they make a rule-based chatbot that answers event attendees' questions using keyword matching. Next, they code a transactional chatbot that takes fundraiser orders. Finally, they train a virtual agent to recruit new members.

The technology project has 20 assignments that are divided into 6 Sessions:

- Session 1 Introduction to Chatbots
  In this session, students explore the practical applications of chatbots. They chat with real business bots to critically examine strengths and limitations. Later, they prepare to create their own chatbots by registering for a Scratch account. This will be used in upcoming Sessions to build an event and order chatbot. To extend learning, an optional activity provides insight into key historical moments in chatbot development.

- Session 2 Design an Event Chatbot
  In this session, students build a chatbot for a school event using Scratch coding. It could be a prom, dance, spirit day, talent show, or retirement party. The chatbot will answer attendees' questions. To make the bot appear intelligent, it uses if-then logic and keyword matching. Upon completion, students evaluate their chatbots' limitations. An optional activity about AI expands students' knowledge of large language models.

- Session 3 Create an Order Chatbot
  In this session, students create an order chatbot using Scratch coding. It is a transactional chatbot, which can do one action. It will simplify the task of taking school fundraiser orders for items such as hats, cookies, or flowers. Just like a real salesperson, the bot will ask questions to help the customer make purchasing decisions. It will store their answers in a list. At the end of the conversation, the customer will be able to edit and then submit their order. This task expands students' knowledge of the practical applications of chatbots. In addition, it also introduces the use of lists, if-else logic, and broadcasting. An optional activity about support tickets develops a deeper understanding of how chatbots can automate tasks.

- Session 4 Design a Virtual Agent
  In this session, students use the bot-builder app, Bot Libre, to design a virtual agent for a school or an organization. It will provide help to a new student or member. The chatbot will use natural language processing to answer common questions, provide directions, connect a user to information sources, and more. To start, they select a topic such as a local drama club, sports team, or art class. Next, they create a bot and then chat with it to discover what it does and does not know. Afterwards, they select an animated avatar and voice that will appeal to users. An extension activity emphasizes the need to be a responsible digital citizen by examining the Bot Libre terms of use and privacy policy.

- Session 5 Train the Virtual Agent
  In this session, students train their virtual agent to increase its intelligence. To start, they view pre-programmed responses to verify the chatbot's existing knowledge base. Next, they add a new greeting and modify default responses to make the bot friendly and helpful. The training continues by adding questions and answers for common requests such as directions and contact information. Students then share their chatbot with a friend to test the design. They analyze the conversation to improve responses. An extension activity explains how to import data into the chatbot to increase its ability to correctly reply to users.

- Session 6 Deploy the Virtual Agent
  In this session, students deploy their virtual agent. To prepare they use a checklist to verify that the chatbot can complete essential tasks. Once they are certain it is ready to use, they share their bot. This allows new members or students to get the information they need about an organization. An extension activity explores the importance of analytics in chatbot development.

Extension Activities:
History of Chatbots, AI Chatbots and You, Insert a Saved Image as a Sprite, Export and Print the Order List, Be a Responsible Digital Citizen, Import a Response List, Study Chatbot Analytics

Technology Skills: Artificial Intelligence, Coding, Data Analysis, Digital Citizenship, Graphics
Technology Integration: Business Studies, Computer Science
Software Applications: Scratch, Bot Libre

TechnoInvestor

In this project, students play the role of a stockbroker working at the investment firm TechnoInvest. They learn how the stock market functions by purchasing shares in companies listed on the TechnoStock Exchange (TSE). Students keep track of their investment portfolio using Excel. The spreadsheet program allows them to organize their purchases and calculate the current value. Students then manipulate this information to create graphs that summarize stock values, display trendlines, and report earnings. Upon completion, students produce an investor's report.

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

- Session 1 The Stock Exchange
  In this session, students become stockbrokers buying shares in companies listed on the TechnoStock Exchange (TSE). They begin by learning about how the stock market functions. Once familiar with this method of earning money, students study company profiles to determine those that look to be a good investment. They then buy shares in these companies receiving a stock certificate as proof of the purchase. Using Excel, students create a table that contains information about their stocks, the amount purchased, and their current market value. This electronic portfolio is updated each session, to help students manage their investments.

- Session 2 Calculate Value of Stock Holdings
  In this session, students continue to make their investment portfolio grow by trading stocks. To begin, they read the first issue of Money and Markets, a newspaper that reports on business. Applying this information students buy and sell shares. Once their financial transactions are complete, they enter the data into their electronic investment portfolio. To make tracking their stock holdings easier they enter mathematical formulas so that the total share values and total investment portfolio values are calculated automatically.

- Session 3 Are You Making or Losing Money?
  In this session, students continue to invest in stocks listed on the TSE. To begin, they read the second issue of Money and Markets. They team up with their investment group to determine which stocks to buy and sell, recording their purchases in the Investment Record Trade 3 worksheet. Investors return to Excel to apply conditional formatting to the Total Investment Portfolio Value cell, thus highlighting any value over the initial investment of 400 Technodollars. Afterwards, they apply their knowledge to copy and paste the table, clear the contents, and update the worksheet with the latest trading information.

- Session 4 The Rise and Fall of Stock Values
  In this session, students trade on the TSE. They return to their investment groups and read the third issue of Money and Markets. Investors discuss current events and how they affect stock values. The Investment Record Trade 4 worksheet is used to record financial decisions. Students apply their skills to update their portfolio in Excel. They then graph the rise and fall of one stock and forecast its future value using a trendline.

- Session 5 History of Earnings
  In this session, students make their final stock trade. They create a graph to summarize their earning history. They begin by joining their investment groups and reading the fourth issue of Money and Markets. Groups then discuss the current events that have occurred and the impact they have had on the companies listed on the TSE. Students decide on their final trade of this simulation and record their trades in the Investment Record Trade 5 assignment. Students ready their investment portfolio to include their latest transactions. They then create a graph that summarizes the earning history of their investment portfolio.

- Session 6 Investor Report
  In this session, students write a report to summarize the value of their investment portfolio. This report includes an explanation of earnings, current stock holdings, and recommendations for financial growth.

Extension Activities:
Track the Stock Market on the Internet, Closing Market Summary, Data Bars and Icon Sets, Bearish or Bullish? Are the Risks Worth It? Gross Profit Margin

Technology Skills: Spreadsheet, Word Processing, Desktop Publishing
Technology Integration: Math, Business Studies, Financial Literacy
Software Applications: Excel, Word

TechnoMission

In this project, students learn database skills. To start, they work on an existing database to view and filter records. Next, students edit photographs of themselves to place their head into space suit. This image and their personal information are entered into a database form. Once students learn the basics, they begin construction of a database. They design a table, data entry form, and generate a report using Access.
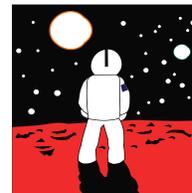
The technology project has 15 assignments that are divided into 6 Sessions:

- Session 1 Space Exploration
  In this session, students learn about the history of space exploration. To start, students examine a timeline of historic events. Afterwards, students open a database that contains information about space missions. They view records in the database to learn about important events such as when man landed on the moon, deployed the Hubble Space Telescope, or lived on the International Space Station. By filtering records, students can read about the space program from its early beginnings in the 1960's to today.

- Session 2 Join TechnoNASA
  In this session, students become astronauts. Using Microsoft Paint, students edit a photograph to place their head into a spacesuit. Upon completion, students join the prestigious team at TechnoNASA. The edited photograph, as well as other personal information is entered into the Space Exploration database.

- Session 3 Cyberspace Mission
  In this session, students blast into cyberspace. Their mission is to collect items from the World Wide Web and store the information in a database. To prepare for this mission, students complete a planning sheet. This organizer helps them pick a topic and the fields of information that will be in the database. Afterwards, students use the Internet to search for information. Facts are recorded in an organizer and pictures are collected of each item. This information will be added to a database that students will construct in upcoming sessions.

- Session 4 Build a Table
  In this session, students begin construction of a database to catalogue items discovered on their mission into cyberspace. To start, students create a table in the database that includes fields such as item name, description, date, and category. The properties on each field are adjusted to make data entry consistent.

- Session 5 Design a Form
  In this session, students design a simple data entry form. To start, they open their database and select the table. Using the Form Wizard students quickly make a form with a standard layout. With the commands in Design View students change the style of the form and resize the controls. Afterwards, data for each object collected on the cyberspace mission is entered into the database using the form.

- Session 6 Generate a Report
  In this session, students generate a simple report. To start, they open their database and select the table. Using the Report command, students quickly make a report with a standard layout. Using the commands in Layout View students change the style, orientation, and controls on the report. Once the report looks great, it is printed. Now students have an attractive printout that summarizes their cyberspace mission. MISSION COMPLETE!

Extension Activities:
Sort and Find Records, Make a Mission Patch, Alien Life, Format a Datasheet, Customize a Form, Customize a Report

Technology Skills: Database, Photo Editing, Graphics
Technology Integration: Language Arts, Math, Visual Arts, Science
Software Applications: Microsoft Access, Paint

TechnoPhotoshop

In this project, students create a digital scrapbook. To start, students learn how to use a camera to take high-quality photographs. Once a library of images has been established, the program Photoshop is used to transform the pictures into scrapbook pages. Ranging from whimsical to wacky, each page is a creative expression of the artist.
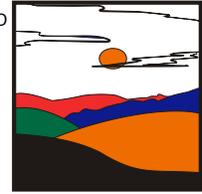
The technology project has 21 assignments that are divided into 7 Sessions:

- Session 1 Digital Photographs
  In this session, students learn about digital photography starting with the history of the camera and its connection to artists. Next, they study the parts of a digital camera and consider its benefits when taking photos. Once familiar with a digital camera, they learn how to use it to take high-quality photographs. Students are then introduced to the idea of making a digital scrapbook. They study sample scrapbooks to notice their content and layout. Afterwards, students gather photographs to use in their own scrapbook.

- Session 2 Filtering Fun
  In this session, students are introduced to Photoshop. To start, they learn about the program environment. Afterwards, they open a photo and experiment with filter effects. Once familiar with this editing technique, they apply different filters to the same image, and save each version. These files are then arranged to produce a scrapbook page using Free Transform and Warp modes. Text is then added to describe the images.

- Session 3 Classic Touch-Ups
  In this session, students are introduced to retouching tools that can be used to make an imperfect photo, perfect! To start, they work with the image touchup to trim the edges, remove red eye, hide blemishes, and recolor the picture. Afterwards, they apply this knowledge to one of their own pictures using at least two retouching techniques to make the photo look better. When this is complete, students create another scrapbook page. This time they learn how to add styles to each layer to create an eye-catching design.

- Session 4 Recolor the World
  In this session, students learn how to use the Adjustment commands to recolor a photo of their choice. Although, these commands are commonly used to correct poor color quality in a picture, they can also be used to create fabulous artistic effects. Using the transformed photo, students make a third scrapbook page. This time, they learn how to use the Brush Tool to add flair.

- Session 5 I Cannot Believe My Eyes
  In this session, students combine pictures to create an unbelievable scene that looks real. To start, they combine two photos to make it appear that a person is walking through a door into a tropical paradise. This activity has students experiment with techniques to remove parts of the picture by using the Magic Wand Tool, Rectangular Marquee Tool, Polygonal Lasso Tool, and Magnetic Lasso Tool. Once familiar with each tool they apply their knowledge to create their own unbelievable scene. Using the transformed photo, students make a fourth scrapbook page. This time, they learn how to use Custom Shapes to make the page look super.

- Session 6 Be Creative
  In this session, students apply their photo editing skills. They now know how to warp a picture, format text, apply filter effects, retouch imperfections, enhance color, change the layer style, paint with the brush, draw shapes, and superimpose images. These techniques are combined to create a final scrapbook page.

- Session 7 Digital Scrapbook
  In this session, students transform their scrapbook pages into a Contact Sheet, PDF Presentation, or Web Photo Gallery. Their digital scrapbook can then be shared with family and friends.

Extension Activities:
Types of Photography, Blurring the Background, Advanced Cropping Techniques, Color Part of a Grayscale Picture, Discover the Lost City of Atlantis, Wrap Text into a Custom Shape

Technology Skills: Photo Editing, Graphics
Technology Integration: Visual Arts, Media Arts
Software Applications: Adobe Photoshop

TechnoPlanner

In this project, students become event planners. They own a company that plans special occasions such as weddings, birthday parties, reunions, or proms. They must create a database to help them organize client and event information. This database will ensure that they can offer top quality service as no detail will be forgotten.

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

- Session 1 About Databases
  In this session, students use Microsoft Access to study the TechnoPlanner database. It organizes customer and event information for an event planning company. Students study the stable, form, query, and report to gain an understanding of the purpose and structure of a database.

- Session 2 Build Tables
  In this session, students become event planners. To make business operations run smoothly they begin construction of a database to store customer and event details. Students complete a planning sheet to organize the content of their database. Afterwards, they create the Customers table by adding the fields and setting the field properties. Next, students use their skills to build the Events table. Upon completion, students create a relationship between the tables to allow the event planner to connect customers to their booked events.

- Session 3 Create Data Entry Forms
  In this session, students produce forms that allow for easy data entry. To begin, they create a Customers form using the Form Wizard. The layout of the form is modified to create a customized design. Afterwards an Events form is made in Design View. Upon completion, the forms are combined so that when a customer record is displayed, any events that are related to that client are also displayed. This is a great way to not only enter data but also easily look up client history.

- Session 4 Enter, Sort, and Find Data
  In this session, students add records to their database. They then learn how to organize data by sorting it alphabetically, numerically, and chronologically. Next students retrieve information from their database using the Search Box, Selection, and Find features. Afterwards, they consider how an event planner would use each search method to find information FAST!

- Session 5 Confirmation of the Event
  In this session, students follow up on potential leads. They have several clients who have contacted them to plan an event but have not yet confirmed. Event planners design a query by combining data from the Customers and Events tables. This allows them to locate only customers who have not yet confirmed the event. Students produce a report that displays a printout of clients and their telephone numbers. Now event planners can call potential customers to confirm the possibility of working together.

- Session 6 View Upcoming Events
  In this session, students create a report that summarizes upcoming events. To start, they produce a query in Design View that filters the records to list only those that are scheduled for the upcoming month. This information is summarized in a report created in Design View. This professional document can be used at a staff meeting to discuss job duties, as a guide when booking other events, or as a reference document for scheduling services.

Extension Activities:
Database Designer, Format a Datasheet, Create a Form Using AutoForm, Spell Check, Mailing Labels, Mail Merge

Technology Skills: Database, Word Processing
Technology Integration: Business Studies
Software Applications: Word, Access

TechnoSpecialist

In this project, students become IT specialists who work for a company that manufactures and sells computers. The business has launched an initiative called "Your Computer, Your Way". To help the customer pick the hardware to suit their needs, students create an information package using PowerPoint. The package explains the aspects to consider when selecting components using bulleted lists, tables, graphic organizers, clip art, picture files, video, and sound clips. The information package is transformed into a presentation, interactive tutorial, video, and handout.

The technology project has 25 assignments that are divided into 6 Sessions:

- Session 1 Introduction to the Computer
  In this session, students become Information Technology Specialists. Their job is to help customers purchase computer hardware by creating an information package that explains computer parts in simple terms. To prepare for this task, students learn about different types of computers, input devices, and output devices. Afterwards, they use Microsoft PowerPoint to customize the slide master to make a unique design for their information package. Upon completion, students use the slide master to create a title and introduction slide.

- Session 2 Storage Devices
  In this session, students learn about the importance of data storage. To start, they consider the reasons a computer needs to store data and are introduced to terminology used to measure storage capacity. Next, they learn about storage devices including a flash drive, hard drive, and cloud storage. They apply their knowledge to create slides about each device to educate consumers. Next, students compare the storage capacity of each device and create a slide that contains a comparison chart.

- Session 3 Types of Memory
  In this session, students learn about the two types of memory, RAM and ROM. They read information to discover why the computer needs memory and how it affects performance. Afterwards, students summarize the facts about RAM and ROM using a graphic organizer. This new slide in the information package will help customers gain an understanding of what to consider when purchasing a computer.

- Session 4 The Microprocessor
  In this session, students become familiar with the microprocessor. To understand why this computer part is the main factor in computer speed and efficiency, the history, function, and operation are studied. Afterwards a slide is constructed that explains to customers, in a simple way, the importance of the microprocessor and what should be considered when making a purchasing decision.

- Session 5 Sight and Sound
  In this session, students learn about the monitor, graphics card, and sound card. To start they study the attributes that affect picture quality, such as contrast ratio, pixel pitch, and resolution. They summarize this information in a table. Next, students gain an understanding about how the computer produces sound. Afterwards, they write a simple explanation about the sound card and place a recorded sound clip about this component onto the slide.

- Session 6 Your Computer, Your Way!
  In this session, students prepare to launch the company initiative, "Your Computer, Your Way". To start, they edit the spelling and add speaker notes to each slide. Students then practice sharing the information package with customers by presenting the slide show to an audience, using the recently created speaker notes and pen to illustrate important points. Next, they save the information package with a new filename to create an interactive tutorial that uses hyperlinks and action buttons to allow customers to access the information at a kiosk. Afterwards, they save the presentation as a video so that it can be viewed on any computer, emailed, or posted to the Internet. Finally, students print the information package as a handout. Customers will now be able to select computer components competently thanks to the versatile information package.

Extension Activities:
More About Computers, More About Data Storage, More About Memory, More About the CPU, Move, Hide, and Delete Slides, Apply Animations and Transitions

Technology Skills: Presentation
Technology Integration: Business Studies, Computer Studies
Software Applications: PowerPoint

TechnoWonderland

In this project, students become marketing executives for an amusement park. This challenging job has them use Office to complete a wide range of job duties. To start, they create a poster in Microsoft Word advertising the thrilling rides and spectacular shows guests can experience. The fun continues when Internet research is conducted for an animal exhibit to develop placards for the enclosure. Their next task has students become involved in selecting a new attraction by graphing survey data using Microsoft Excel. This exciting new addition is promoted by creating a video using Microsoft PowerPoint. To generate a buzz about the attraction, season ticket holders are rewarded for their loyalty with an invitation created using Microsoft Publisher to an exclusive event. With the year ending, amusement park data is analyzed using a Microsoft Access database with the goal to improve customer satisfaction in the future.
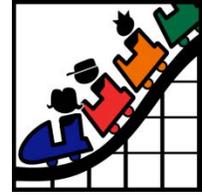
The technology project has 24 assignments that are divided into 6 Sessions:

- Session 1 Create an Amusement Park
  In this session, students create an amusement park. To start, they select the thrill rides, exhibits, shows, and other services available to guests. Once a plan has been developed, they use Microsoft Word to promote this exciting tourist attraction. Using text, clip art, pictures, and more, students develop the word processing skills necessary to create an attention-grabbing poster.

- Session 2 Research an Animal Exhibit
  In this session, students conduct Internet research to prepare placards for an animal exhibit. To start, they are introduced to basic search strategies. They apply these skills to locate facts about the animal that visitors will find interesting. Afterwards, students expand their word processing skills to create information signs using Microsoft Word that are posted around the attraction. They learn how to adjust page orientation, set the margin, apply a page border, and more!

- Session 3 Survey a New Attraction
  In this session, students must develop a solution to increase visitor traffic. Conduct a survey to learn about the types of attractions that appeal to a particular age group. Organize the data in a worksheet and chart the results using Microsoft Excel. Afterwards, analyze the information to determine what needs to be added to the amusement park to attract a particular visitor.

- Session 4 Advertise a New Attraction
  In this session, students create a video advertisement to publicize an attraction. This marketing promotion will run on electronic billboards throughout the park. Using Microsoft PowerPoint, students create a series of eye-catching slides using text boxes, pictures, and WordArt. Transitions and simple animation are applied to the presentation. Upon completion, the advertisement is saved as a video.

- Session 5 Invite Guests to an Event
  In this session, students invite guests to the opening of an exciting new attraction. Only amusement park season ticket holders can attend this exclusive event. Using Microsoft Publisher, students create an invitation that encourages people to visit the park and join in the celebration.

- Session 6 Analyze Amusement Park Data
  In this session, students examine amusement park data. To start, they are introduced to Microsoft Access and database terminology. Afterwards, they view a summary of the attractions available to guests. By filtering the records, students learn about the popularity of rides, aging exhibits, and location of essential services. Once familiar with how to use a database, they enter a record of the latest addition to the park.

Extension Activities:
Amusement Park Map, View the Animal Exhibit, Calculate Monthly Food Vendor Earnings, Park Attractions Photo Album, Generate a Calendar, Use a Query to Report Height Restrictions

Technology Skills: Word Processing, Spreadsheet, Presentation, Desktop Publishing, Graphics, Databases
Technology Integration: Business Studies, Language Arts, Science, Math
Software Applications: Word, Excel, PowerPoint, Publisher, Access

Helpful Resources

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

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

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https://www.technokids.com/support/getting-started.aspx

Google Classroom
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Complete the support form request:
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Contact Information

TechnoKids Inc. offers free curriculum support.

Contact our support staff by email at support@technokids.com or by telephone 1-800-221-7921.

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