



Technology Projects

Digital Literacy & Coding Curriculum

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

Contents

| | |
|--|----|
| Overview | 1 |
| About TechnoKids | 1 |
| What Is a Technology Project? | 1 |
| How Can I Integrate Technology Projects into Curriculum? | 1 |
| What Technology Skills Do Students Learn? | 1 |
| What Is a TechnoKids Site License Agreement? | 1 |
| Tips for Getting Started | 2 |
| Start Teaching in 5 Easy Steps | 2 |
| How Do I Select a Project to Teach? | 2 |
| About TechnoKids PDF Files | 2 |
| About the Student Workbook | 2 |
| Where Can I Get More Support? | 2 |
| Technology Project Matrix Scope & Sequence | 3 |
| TechnoKids Projects and Software | 7 |
| Primary Technology Project Descriptions | 8 |
| TechnoBookmaking | 8 |
| TechnoFit | 9 |
| TechnoGallery | 10 |
| TechnoPainter | 11 |
| TechnoMe | 12 |
| TechnoStart | 13 |
| TechnoStories | 14 |
| TechnoTales | 15 |
| TechnoWhiz | 16 |
| Junior Technology Project Descriptions | 17 |
| TechnoArcade | 17 |
| TechnoCandy | 18 |
| TechnoEditor | 19 |
| TechnoInternet | 20 |
| TechnoJournal | 21 |
| TechnoPresenter | 22 |
| TechnoRace | 23 |
| TechnoResearch | 24 |
| TechnoSales | 25 |
| TechnoSite | 26 |
| TechnoTimeline | 27 |
| TechnoToon | 28 |
| TechnoTurtle | 29 |
| TechnoTrivia | 30 |
| Intermediate Technology Project Descriptions | 31 |
| TechnoBiography | 31 |
| TechnoBot AI | 32 |
| TechnoBudget | 33 |
| TechnoCode | 34 |
| TechnoDebate | 35 |
| TechnoEarth | 36 |

| | |
|--|----|
| TechnoEnvironment | 37 |
| TechnoHTML5 | 38 |
| TechnoMap | 39 |
| TechnoNewsletter..... | 40 |
| TechnoPython | 41 |
| TechnoQuestionnaire | 42 |
| TechnoRestaurateur | 43 |
| TechnoTravel..... | 44 |
| Senior Technology Project Descriptions | 45 |
| TechnoAd | 45 |
| TechnoAdvertise | 46 |
| TechnoAnimate | 47 |
| TechnoChatbot AI | 48 |
| TechnoInvestor | 49 |
| TechnoMission | 50 |
| TechnoPhotoshop | 51 |
| TechnoPlanner | 52 |
| TechnoSpecialist | 53 |
| TechnoWonderland | 54 |
| Helpful Resources | 55 |
| Contact Information..... | 56 |

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 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 digital literacy or computer science skill 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!

Technology Project Matrix | Scope & Sequence

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

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

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

Junior Technology Projects (Grades 3-6)

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

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

| | COMPUTER APPLICATIONS DIGITAL LITERACY | | | | COMPUTER SCIENCE |
|------------|---|--|--|---|---|
| Grades 3/4 | TechnoJournal Express ideas and describe experiences in a journal. Reflect upon an event, make a note of favorite things, and list personal wishes. <i>Word or Docs</i> 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. <i>web browser</i> digital citizenship, Internet | TechnoPresenter Present information effectively. Summarize facts using a slide show and organize speaker notes. Deliver a speech to an audience. <i>PowerPoint/Word or Slides/Docs</i> public speaking, research, presentation | | TechnoArcade Design arcade games. Build <i>Jumble Tumble</i> , <i>Let's Jam</i> , <i>Mystery Island</i> , and <i>Lost Treasure</i> . Invite friends to an online arcade. <i>Scratch</i> 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. <i>Word or Docs</i> 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. <i>Excel/PowerPoint/Word, or Sheets/Slides/Docs/ Forms</i> 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. <i>PowerPoint or Slides</i> 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 <i>Kid Stamp of Approval</i> ? <i>Google Sites</i> 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. <i>Scratch</i> 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. <i>Word or Docs/Drawings</i> language arts, word processing | TechnoSales Investigate dessert preferences. Graph and calculate data. Analyze the information to plan a bake sale. Report fundraiser details. <i>Excel/Word or Sheets/Docs</i> math, problem solving, spreadsheets, data management | TechnoTimeline Explain the significance of events by creating a unique graphic organizer that connects events along a timeline. <i>PowerPoint or Slides</i> social studies, history, presentation | TechnoTrivia Invent a game. Test knowledge about a topic. Set the answer key to calculate points. Analyze quiz results. <i>Google Forms or Microsoft Forms</i> math, social studies, data management | TechnoTurtle Develop and debug code to conquer mazes, paint pixel art, create a <i>Mad Lib Generator</i> and build a carnival game. <i>IDLE Python 3</i> math, language arts, programming |

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

Senior Technology Projects (Grades 8-12)

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

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

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

TechnoKids Projects and Software

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

| | Microsoft Office | | | | | | Office for the Web | | | | Google | | | | | | | Adobe | | Coding AI | | | | | | |
|-------------------------------------|------------------|------|------------|-------|--------|-----------|--------------------|-------------------|--------------|--------------|-------------|----------|------|---------|--------|--------|-------|-------|---------|-------------|---------|-------------|------------|---------|----------|-----------|
| | Paint | Word | PowerPoint | Excel | Access | Publisher | Word Online | PowerPoint Online | Excel Online | Forms Online | Web Browser | Drawings | Docs | My Maps | Slides | Sheets | Sites | Forms | Blender | Photoshop | Animate | Text Editor | Scratch Jr | Scratch | Python 3 | Bot Libre |
| Suggested grade levels: | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Primary Grades 1-3 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TechnoBookmaking | | | • | | | | | • | | | | | | | • | | | | | | | | | | | |
| TechnoFit | | | | | | • | | | | | | | | | | | | | | | | | | | | |
| TechnoGallery | | | | | | | | | | | | • | | | | | | | | | | | | | | |
| TechnoMe | | | • | | | | | • | | | | | | | • | | | | | | | | | | | |
| TechnoPainter | • | | | | | | | | | | | | | | | | | | | | | | | | | |
| TechnoStart | • | | | | | | | | | | | • | | | | | | | | | | | | | | |
| TechnoStories | | • | | | | | • | | | | | | • | | | | | | | | | | | | | |
| TechnoTales | | | | | | | | | | | | | | | | | | | | | | | • | | | |
| TechnoWhiz | | | | | | | | | | | | | | | | | | | | | | | • | | | |
| Junior Grades 3-6 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TechnoArcade | | | | | | | | | | | | | | | | | | | | | | | | • | | |
| TechnoCandy | | • | • | • | | | • | • | • | • | | | • | | • | • | | • | | | | | | | | |
| TechnoEditor | | • | | | | | | | | | | • | • | | | | | | | | | | | | | |
| TechnoInternet | | | | | | | | | | | • | | | | | | | | | | | | | | | |
| TechnoJournal | | • | | | | | • | | | | | | • | | | | | | | | | | | | | |
| TechnoPresenter | | • | • | | | | • | • | | | | | | | • | | | | | | | | | | | |
| TechnoRace | | | | | | | | | | | | | | | | | | | | | | | | • | | |
| TechnoResearch | | • | | | | | • | | | | | | • | | | | | | | | | | | | | |
| TechnoSales | | • | | • | | | | | | | | | • | | | • | | | | | | | | | | |
| TechnoSite | | | | | | | | | | | | | | | | | • | | | | | | | | | |
| TechnoTimeline | | • | • | | | | • | • | | | | | • | | • | | | | | | | | | | | |
| TechnoToon | | | • | | | | | • | | | | | | | • | | | | | | | | | | | |
| TechnoTurtle | | | | | | | | | | | | | | | | | | | | | | | | | • | |
| TechnoTrivia | | | | • | | | | | | • | | | | | | • | | • | | | | | | | | |
| Intermediate Grades 6-9 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TechnoBiography | | • | | | | | • | • | | | | • | • | | | | | | | | | | | | | |
| TechnoBot AI | | • | | | | | | | | | | | | | • | | | | | | | | | • | | |
| TechnoBudget | • | • | | • | | | • | | • | | | • | • | | | • | | | | | | | | | | |
| TechnoCode | | | | | | | | | | | | | | | | | | | | | | | | • | | |
| TechnoDebate | | | | | | | • | • | | | | | • | | • | | | | | | | | | | | |
| TechnoEarth | | | | | | | | | | | | • | • | • | • | • | • | | | | | | | | | |
| TechnoEnvironment | | • | | | | • | | | | | | | | | | | | | | | | | | | | |
| TechnoHTML 5 | | | | | | | | | | | | | | | | | | | | | | • | | | | |
| TechnoMap | | • | • | | | | • | • | | | | | • | | • | | | | | | | | | | | |
| TechnoNewsletter | | • | | | | | • | | | | | | • | | | | | | | | | | | | | |
| TechnoPython | | | | | | | | | | | | | | | | | | | | | | | | | • | |
| TechnoQuestionnaire | | | | | | | | | | | | | | | | • | | • | | | | | | | | |
| TechnoRestaurateur | | • | • | • | | | • | • | • | • | | • | • | | • | • | | • | | | | | | | | |
| TechnoTravel | | • | • | • | | | • | • | • | | | | • | | • | • | | | | | | | | | | |
| Senior Grades 8-12 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TechnoAd | | • | | • | | | | | | • | | | • | | | • | | • | • | | | | | | | |
| TechnoAdvertise | | • | | | | | | | | | | | | | | | | | | | | | | | | |
| TechnoAnimate | | | | | | | | | | | | | | | | | | | | | • | | | | | |
| TechnoChatbot AI | | | | | | | | | | | | | | | | | | | | | | | | • | | • |
| TechnoInvestor | | • | | • | | | | | | | | | | | | | | | | | | | | | | |
| TechnoMission | • | | | | • | | | | | | | | | | | | | | | | | | | | | |
| TechnoPhotoshop | | | | | | | | | | | | | | | | | | | | • | | | | | | |
| TechnoPlanner | | | | | | • | | | | | | | | | | | | | | | | | | | | |
| TechnoSpecialist | | | • | | | | | | | | | | | | | | | | | | | | | | | |
| TechnoWonderland | | • | • | • | • | • | | | | | | | | | | | | | | | | | | | | |

Primary Technology Project Descriptions

TechnoBookmaking

In this project, students make, print, and share books. They use inspiring templates to publish a unique collection. Each assignment teaches a new word processing skill. Lessons explain how to make a tiny picture book, flip flap story, unfolding riddle book, layer book of facts, bookmarks, and greeting card. Place the publications on a bookshelf or put a fresh twist on a Young Authors Conference. Optional activities include additional templates that offer unlimited creativity. Rethink how PowerPoint or Slides can be used in language arts. Explore the possibilities with bookmaking.



The technology project contains the following assignments:

- **Assignment 1 Make a Tiny Picture Book**
Publish a mini wordless picture book using an accordion style template and images.
- **Assignment 2 Create a Flip Flap Book**
Write and illustrate a story using a template that reveals a hidden object behind a flap.
- **Assignment 3 Make a Folding Riddle Book**
Devise clues to create a riddle book using a template with tabs that unfold to display the answer.
- **Assignment 4 Design a Layer Book of Facts**
Summarize facts using a template that includes layered headings to classify information.
- **Assignment 5 Craft Bookmarks**
Express a love of reading by adjusting the object order of text and images to design bookmarks.
- **Assignment 6 Send an Invitation or Greeting Card**
Design an invitation to a book sharing event or a thank you card for an author.
- **Assignment 7 Share Books**
Celebrate authorship. Start a book club, lead a bookmaking workshop, or exchange stories.

Extension Activities:

Discover Accordion Style Books, Make Flip Flap Books, Write a Story That Unfolds, Build Fast Fact Books, Publish Story Books, Get Story Ideas, Plan a Story

Technology Skills: Word Processing

Technology Integration: Language Arts

Software Applications: PowerPoint | PowerPoint Online | Slides

TechnoFit

In this project, students become members of the TechnoFit Club and take the "Be Fit Challenge". This challenge dares participants to eat right, be fit, and live well! To prepare for the task they learn about healthy eating and exercise. Afterwards they design a food guide and fitness poster. They then prepare for the upcoming Be Fit Challenge Event, which is a celebration that includes fun fitness activities and great tasting food. To plan for the event, students design a menu and send invitations. With the event fast approaching, certificates are created for each participant of the Be Fit Challenge to recognize their efforts to be healthy. These are then handed out at the event.



The technology project has 12 assignments that are divided into 6 Sessions:

- **Session 1 Join the TechnoFit Club**
In session 1, students join the TechnoFit Club (TFC). The TFC's motto is "Eat Right, Be Fit, Live Well!" To become a member, students learn about being healthy by watching "The Be Fit Challenge" video. Once they are familiar with the importance of diet and exercise, they are awarded a membership card. This card includes their name, pictures, and other vital information that gains them admittance to this elite club.
- **Session 2 Eat Right!**
In session 2, students learn about a balanced diet. To help TechnoFit Club members make healthy food choices, students watch the video Eat Right. Afterwards, they create a Be Fit Food Guide, which contains pictures of food items organized under Food Group headings. This guide is a great way to help students make healthy food choices.
- **Session 3 Be Fit!**
In session 3, students learn about the importance of exercise. To help TechnoFit Club members "be fit" they make a poster showing all the things they do to stay active. This poster is a great way to show others how to live healthy.
- **Session 4 Be Fit Challenge Event Menu**
In session 4, students help to plan an upcoming event. The TechnoFit Club is hosting a Be Fit Challenge Event. All TFC members will be there! Students must plan the kind of food people will eat. They create a healthy menu, being sure to include food from all the Food Groups.
- **Session 5 You Are Invited!**
In session 5, students create an invitation to invite TechnoFit Club members to come to the Be Fit Challenge Event. To start, they view a sample file to get ideas. Afterwards, they plan the content of their own invitation. Microsoft Publisher is then used to create a side-fold card.
- **Session 6 Eat Right, Be Fit, Live Well!**
In session 6, take part in the *Be Fit Challenge Event*. All TechnoFit Club members who took part in the Be Fit Challenge are to be awarded a certificate in recognition of their efforts to eat right and be fit. To prepare, students make a certificate for themselves or another TechnoFit Club member using Publisher. These awards are then handed out by the teacher to acknowledge each student's healthy lifestyle choices.

Extension Activities: Word Search, Food Servings, Be Fit Calendar

Recipes: English Muffin Pizza, Fruity Parfait, Veggie Stir Fry, Fruit Kabobs

Technology Skills: Graphics, Desktop Publishing, Word Processing

Technology Integration: Health and Nutrition

Software Applications: Publisher

TechnoGallery

In this project, students produce an animated art gallery with artwork they create using Google Drawings. The fun begins with an exploration of line and shape tools. Once familiar with how to create and format objects, artists apply their creative talents to make cartoon faces and characters. Next, students transform text into a beautiful picture by formatting the style and color of letters. The final art project has students experiment with recoloring and cropping options to create stunning images. Upon completion, each piece of artwork is placed into picture frames using Google Slides. Students share their artwork and explain their artistic choices during a digital art show.



The technology project contains the following assignments:

- Assignment 1 Become an Art Critic
Examine a sample animated art gallery to spark creativity.
- Assignment 2 Discover Lines
Gain fine motor skills. Experiment with drawing straight, curvy, and jagged lines.
- Assignment 3 Design a Pattern using Lines
Study patterns in common objects. Repeat stylized lines to draw unique artwork.
- Assignment 4 Express Yourself as a Cartoon Face
Create an original character that reveals emotion using lines.
- Assignment 5 Explore Shapes
Experiment with drawing and formatting shapes. Customize color and object order.
- Assignment 6 Construct Animals using Shapes
Combine shapes to build cartoon animals such as a cat, tiger, or bear.
- Assignment 7 Tell a Story
Paint a picture that illustrates a story using shapes and lines.
- Assignment 8 Have Fun with Text
Experiment with text and word art. Format font, size, style, color, and alignment.
- Assignment 9 Make a Picture from Text
Communicate a message by transforming text into artwork using WordArt.
- Assignment 10 Try Recolor and Crop Options
Take risks. Explore recolor and cropping options to format an image.
- Assignment 11 Create Colorful Artwork from Pictures
Convey a personal interest by duplicating images to produce a repetitive design.
- Assignment 12 Save Pictures to use in Art Gallery
Convert artwork made in Google Drawings to picture files.
- Assignment 13 Exhibit Artwork in an Animated Gallery
Frame pictures to showcase artwork in an animated art gallery. Apply transitions between slides.
- Assignment 14 Host a Digital Art Show
Exhibit artwork displayed in a slideshow. Explain artistic choices to an audience.

Extension Activities:

Edit Points, Trace Photo to Make a Cartoon, Print as a Handout

Technology Skills: Graphics, Computer Fundamentals, Presentation, Word Processing

Technology Integration: Visual Arts

Software Applications: Drawings, Slides

TechnoPainter

In this project, students become "techno" painters. They paint beautiful artwork using digital art tools. By applying their artistic talents, students earn an Awesome Artist certificate. Each assignment blends technology with visual arts. Students develop fine motor skills while learning essential computer knowledge such as how to open and close a program, set tool options, use the keyboard, print a document, save a file, and open a saved document.



The technology project has 16 assignments that are divided into 6 Sessions:

- Session 1 Draw It!
In session 1, students become "techno" painters. They use a digital pencil, eraser, and paint bucket to create artwork.
- Session 2 Type It!
In session 2, students develop basic keyboarding skills. Using the keyboard students type letters into a text box and get creative by formatting text.
- Session 3 Paint It!
In session 3, students gain confidence using digital art tools. They explore paint brushes, calligraphy pens, crayons, and markers to create a rainbow of colors.
- Session 4 Shape It!
In session 4, students explore the Shapes gallery. Draw colorful shapes of different sizes using different fills and outlines.
- Session 5 Frame It!
In session 5, students produce an original picture frame. Digital paint tools and shapes are used to create a custom picture frame.
- Session 6 Create It!
In session 6, students are creative artists adding a masterpiece to their unique picture frames. They celebrate their success as "techno" painters with a custom award.

Extension Activities:

Color It, Check It, Finish It, Copy, Paste, and Flip It, Edit It, Celebrate It

Technology Skills: Graphics, Computer Fundamentals, Word Processing

Technology Integration: Visual Arts

Software Applications: Paint

TechnoMe

In this project, students celebrate their own unique characteristics. They use a template to create an All About Me slideshow. The mini biography outlines personal details, accomplishments, goals, and interests. Upon completion, students share their slideshow with a friend to compare how they are similar and different. This is an excellent way to enhance self-esteem, foster relationships, and develop fundamental technology skills.



The technology project contains the following assignments:

- Assignment 1 Create a Title Slide
Produce a slideshow using a template. Format font, size, style, and color of text.
- Assignment 2 What Makes You Special?
Construct an informative slide that includes details such as name, age, hometown, and a talent.
- Assignment 3 What are Your Goals?
Set a goal. Illustrate a future career choice using a picture.
- Assignment 4 What do You Like?
Express personal interests. Decorate a flower template with images of likes. Crop a photo.
- Assignment 5 Finish the Slideshow
Apply transitions to divide the action between slides. Complete additional slides if time permits.
- Assignment 6 We are the Same! We are Different!
Present the All About Me slideshow. Pose questions to learn about similarities and differences.
- Assignment 7 Make an Animated Class Album (optional)
Build a sense of community. Assemble an album to display at an Open House or in the classroom.

Extension Activities:

Set Goals, Share Fun Facts, Build a Family Tree, Make a Puzzle from a Picture, Compare Similarities and Differences

Technology Skills: Presentation

Technology Integration: Language Arts, Social Studies

Software Applications: PowerPoint | PowerPoint Online | Slides

TechnoStart

In this project, students have fun learning computer fundamentals. This introduction provides beginners with basic knowledge such as the function of hardware, mouse or touch terminology, and computer rules. By making simple drawings, they develop essential skills. Upon completion, students receive a Computer Operator License.

Note: Assignment titles and sequence vary slightly between the Microsoft and Google versions.



The technology project contains the following assignments:

- Assignment 1 What is a Computer?
Identify devices and describe computer use in daily life.
- Assignment 2 About Parts of the Computer
Distinguish computer parts. Solve computer riddles.
- Assignment 3 Get to Know the Mouse
Define mouse terminology related to common actions.
- Assignment 4 Get to Know Touch Actions
Form a connection between finger movements and computer commands.
- Assignment 5 Practice Using the Mouse or Touch Actions
Play the role of a detective. Find computer parts.
- Assignment 6 About Computer Care
Classify a behavior as a do or don't.
- Assignment 7 Show Good Behavior
Explore the paint program. Follow computer rules and exhibit appropriate conduct.
- Assignment 8 Follow Rules for Printing
Paint a simple picture. Practice printing procedures.
- Assignment 9 About the Keyboard
Locate keys on the keyboard such as the shift key, enter key, and spacebar.
- Assignment 10 Be the Fastest Typist in the World
Draw a text box and type letters. Format the font, font size, font style, and font color.
- Assignment 11 Learn to Left and Right Click
Label left click and right click actions with a mouse or touch device.
- Assignment 12 Left and Right Click to Make a Design (or Edit a Picture)
Create artwork using left click and right click actions.
- Assignment 13 About Saving Your Work
Learn about saving options, naming a file, and avoiding lost work.
- Assignment 14 Follow Rules for Saving
Manipulate digital art tools to produce a picture. Save the file.
- Assignment 15 Open a Saved File and Make Changes
Edit an existing picture to include additional details.
- Assignment 16 Earn a Computer Operator License
Rate ability to identify hardware, perform computer-related tasks, and show responsible behavior.

Extension Activities:

Pick the Computer to Do the Job, Play Computer Spy Game, Label It Input or Output, Sign In and Sign Out of a Device, Keep Your School Safe, Keep Your Files Safe, Make a Copy to Save Time, Pick Print Settings, Zoom In and Zoom Out, Use Save As to Save Time, Clean Up Your Files, Edit Colors

Technical Skills: Graphics, Computer Fundamentals, Word Processing

Technology Integration: Visual Arts

Software Applications: Paint | Drawings

TechnoStories

In this project, students create storybooks. They develop basic word processing skills to plan, write, illustrate, edit, and publish stories. Upon completion, authors share their work during story time. Optional activities challenge students with keyboarding tasks, advanced word processing techniques, and the creation of a flipbook.



The technology project contains the following assignments:

- Assignment 1 Edit My Puppy Story
Transform text in a story to make the words look like their meaning.
- Assignment 2 Illustrate My Day at School
Insert images onto story pages and format the appearance to compose an interesting book.
- Assignment 3 Finish the About Me Story
Apply word processing skills to author a personal story by completing sentence starters.
- Assignment 4 Plan your Story
Organize ideas for an original story using a planning sheet. Use book titles as a source of inspiration.
- Assignment 5 Make a Storybook
Write the beginning, middle, and end of a story using a book template. Illustrate each story page.
- Assignment 6 Complete your Storybook
Proofread the storybook using a checklist. Revise spelling, content, and design.
- Assignment 7 Share your Book at Story Time
Publish the storybook and share it with a teacher, friend, or parent.

Extension Activities:

About the Keyboard, Be a Keyboard Detective, Insert a Saved Photo or Take a Web Cam Photo, Story Writing Ideas, Make a Flip Book

Technology Skills: Word Processing

Technology Integration: Language Arts

Software Applications: Word | Word Online | Docs

TechnoTales

In this project, students make a modern fairy tale. Using Scratch Jr, they will combine coding blocks to form scripts that animate the story action. The tale will be about a character that overcomes a problem by going on a quest. To live happily ever after, they must find a hidden item and locate someone that can help. What will happen in the "Once Upon a Time" adventure?



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

- **Session 1 Get to Know Scratch Jr**
In session 1, students are introduced to programming with Scratch Jr. To start, they explore the program window to learn about commonly used tools. Afterwards, they investigate the Triggering, Motion, Looks, Sound, Control, and End blocks to discover their function. Once familiar with the coding blocks they build simple scripts to create an animated scene.
- **Session 2 Once Upon a Time**
In session 2, students begin to create their Techno Tale. Their modern fairy tale will be told by building scripts using coding blocks in Scratch Jr. To gain inspiration they watch an example story and answer questions about the setting, characters, and plot. Next, they complete a planning sheet to organize their ideas. Students then design their first story page. It introduces the problem and shows the hero embarking on a quest to find a solution. Motion and Looks blocks are used to animate the action.
- **Session 3 Embark on a Quest**
In session 3, students design another page in their Techno Tale. In this part of the story, the hero embarks on a quest. They travel in search of a special item. The reader will join in the hunt by tapping objects on the page. When the correct location is found, the item will reveal itself. Wait and Repeat blocks are used to control the timing of each action.
- **Session 4 Seek Help**
In session 4, students create the third page in their Techno Tale. In this part of the story, the hero seeks help. If-then logic is used to control the animation. Scripts start only when characters bump into one another. This produces a fun sequence of events. First the hero asks for help. Then the helper goes after the villain. Finally, the bad guy does an action to show the problem is solved. To prepare to create this story page, students learn how to display the grid and count steps to direct movement.
- **Session 5 Happily Ever After**
In session 5, students animate their final page in their Techno Tale. At the ending of the tale the characters live happily ever after. Broadcasting is used to organize the timing of events. This form of conditional logic directs scripts to start only when a message is received. It is used to trigger characters to do an action to celebrate the problem being solved.
- **Session 6 Story Time**
In session 6, students share their Techno Tale. To prepare the project for viewers, a checklist is used to guide revisions. The story is then shown to friends and family. At the end of TechnoTale, the young coders reflect upon the learning experience.

Extension Activities:

Record a Sound, How to Design a Character, Set the Speed, Explore the Kingdom, Design Your Own Quest, Animate with Coded Messages, Connect the Pages

Technology Skills: Programming

Technology Integration: Computer Science, Language Arts, Mathematics, Social Studies, Visual Arts

Software Applications: Scratch Jr

TechnoWhiz

In this project, students jump into the world of coding. They learn how to sequence blocks in Scratch Jr to build simple scripts and loops. The coders design silly scenes, feed a pet monster, explore a magical land, race to the finish line, and more! This fun-filled introduction to programming will spark students' imaginations. Invite curious young minds to become whiz kids!



The technology project has 16 assignments that are divided into 6 Sessions:

- **Session 1 Become a Whiz Kid**
In session 1, students become programming whiz kids. Their first assignment is to sequence a series of tasks to learn about the job of a programmer. Next, they open Scratch Jr to investigate the function of many of the tools. By adding Motion blocks to the programming area, they learn how to code a character's movement. Next, they connect blocks together to form a script that sequences actions. Finally, students cause the script to loop. At the end of the session, they combine their coding skills to create a silly scene. It comes to life by combining a colorful background with moving characters.
- **Session 2 Count and Code**
In session 2, the programming whiz kids take the Counting Challenge. They learn to direct how many steps a character moves to reach a goal. To start, they solve puzzles to help the cat eat the cake, the dog catch the ball, and the horse reach the barn. Next, they explore how to edit the Motion coding blocks to set the number of steps. Once they have mastered this skill, students build scripts to help characters get home. Can they do it?
- **Session 3 Create a Pet Monster Game**
In session 3, the programming whiz kids design a game. They build code that has a player feed a pet monster. To start, they create an opening sequence to attract attention. It has the character talk, grow, shrink, and blink. The action is controlled using the Wait and Repeat blocks. Afterwards, students apply their knowledge to add food to the stage that when clicked moves to the pet monster and then disappears. What does the pet monster like to eat?
- **Session 4 Design a Magical Land**
In session 4, the programming whiz kids design an interactive magical land. The game invites players to explore the place to discover surprises. By clicking on objects, they can cause flowers to grow, a sun to spin, or dragons to hop. The speed of the action is controlled to make it happen slow or fast. What amazing things are hidden in the scene?
- **Session 5 Race to the Finish**
In session 5, the programming whiz kids build a racing game. Players watch the action and then must select the winner. If they pick correctly, the racer will do a celebration dance. Who will reach the finish line first?
- **Session 6 Game Time**
In session 6, the programming whiz kids invite others to play their racing game. Players rate what they liked the most about the activity. Afterwards, the young game designers answer questions about coding the Scratch Jr project.

Extension Activities:

Move a Character Diagonally, Move Around Town Game, Be a Gamer, Edit a Character, Paint a Background, I am a Programmer

Technology Skills: programming

Technology Integration: Computer Science, Mathematics, Language Arts, Social Studies, Visual Arts

Software Applications: Scratch Jr

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 entitled "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

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

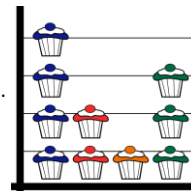
Technology Skills: Digital Citizenship, Word Processing

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

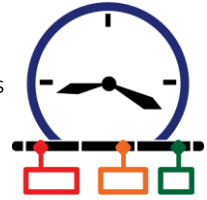
Technology Skills: Web Design

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

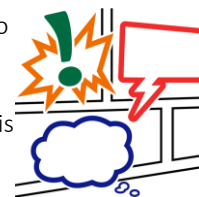
Technology Integration: Geography, History, Social Studies

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

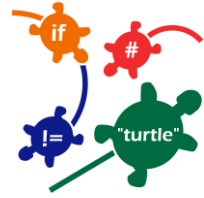
Technology Integration: Language Arts

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

Intermediate Technology Project Descriptions

TechnoBiography

In this project, students become biographers writing about a person's life story. To start, they research a notable figure who has made a difference in the world. Once familiar with events and achievements, students summarize a personal history using heading styles to organize events logically. Contributions are highlighted using a graphic organizer. To help readers connect with the person, artifacts with links to additional information are arranged in a table. Sources of information are cited using a bibliography. Upon completion, the biography is shared with readers.



The technology project contains the following assignments:

- Assignment 1 What is a Biography?
Examine sample biographies to acquire insight into the role of a biographer.
- Assignment 2 Brainstorm a Topic
Generate names of notable people. Select a topic. List inquiry questions.
- Assignment 3 Research using Tertiary Sources
Consult an encyclopedia to locate basic facts. Classify information using an organizer.
- Assignment 4 Research using Secondary Sources
Gain in-depth knowledge of the person's life from quality websites. Track information sources.
- Assignment 5 Research using Primary Sources
Identify significant artifacts associated with the person such as a speech, diary, or medal.
- Assignment 6 Research Checklist
Confirm readiness to write biography by completing a checklist.
- Assignment 7 Create a Title Page
Apply word processing skills to design a title page for the biography.
- Assignment 8 Set the Document Structure Using Styles
Set document structure with heading styles. Customize styles and insert a table of contents.
- Assignment 9 Write a Personal History
Synthesize research to summarize the person's early life, family, education, and career.
- Assignment 10 Make a Graphic Organizer of Contributions
Showcase the importance of the person's accomplishments using an eye-catching diagram.
- Assignment 11 Design a Media Gallery using a Table
Highlight the contributions of a person using artifacts. Link readers to additional information.
- Assignment 12 Cite Sources in a Bibliography
Document sources of information in a bibliography. Practical tips help to format the list.
- Assignment 13 Biography Checklist
Self-evaluate the biography using a checklist. Revise the content based on the examination.
- Assignment 14 Share Your Biography with Readers
Reflect on the learning experience. Respond to questions about the person's life or legacy.

Extension Activities:

Insert a Video, Customize Page Layout, Connect to Artifacts using a Bookmark*, Make a Bumper Sticker, Create a School Award

Technology Skills: Word Processing, Graphics

Technology Integration: History, Language Arts, Social Studies

Software Applications: Word | Word Online | Docs, Drawings

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

TechnoBot AI

In this project, students become artificial intelligence specialists. They apply a design thinking model to imagine creative solutions to real-world problems. Using Scratch, they build prototypes of their inventions. These include a drone delivery system, robot pickup service, and self-driving tour. Afterwards, they present one of their AI prototypes as an investment opportunity. Throughout the project, they reflect upon the possibilities and limitations of AI technologies.



The technology project has 24 assignments that are divided into 6 Sessions:

- **Session 1 Introduction to AI**
In this session, students become artificial intelligence specialists. This role requires them to solve problems using AI and Scratch. The fun begins with an exploration of AI in daily lives. Next, they register for a Scratch account and discover how to use coding blocks to create a simple animation. They will apply this knowledge in upcoming sessions to program a drone delivery system, robot pickup service, and self-driving tour.
- **Session 2 Flying Machines at School**
In this session, students develop a prototype of a drone delivery system that uses AI. It must solve a common problem at school. Using Scratch, students build a simple program that flies a sprite-drone to collect items and then return to its original start point. They will refine the code to adjust to new delivery locations and object movement. How can students improve the lives of teachers?
- **Session 3 Robot Pickup Service**
In this session, students invent a robot pickup service that kids can use to quickly get items from a smart locker. The locker could store food, books, or gym equipment. The process will be contactless. A user will receive a secret code to unlock a specific box. If the wrong code is entered, an error message will display. Students will use Scratch to build a model of their AI prototype. How can they improve the lives of kids?
- **Session 4 Self-Driving Tour**
In this session, students become computer vision specialists. They design a self-driving tour. It must meet the needs of both business owners and tourists. Using Scratch, students will build a program that drives an autonomous vehicle along a route from one exhibit to another. At each stop, a robot will share interesting facts. The tour could take place at a zoo, theme park, or city center.
- **Session 5 Obstacle Detection**
In this session, students improve the safety of their self-driving tour. They program their autonomous vehicle to avoid obstacles along the route. Afterwards, both business owners and tourists test the design to provide feedback. Once it is ready, students invite others to take a robot guided tour and provide a customer review. How does the invention enhance the lives of others?
- **Session 6 Investment Opportunity**
In this session, students create a presentation for potential investors. They are seeking funding for one of their AI prototypes. It could be their drone delivery system, robot pickup service, or self-driving tour. Getting straight to the point they will explain their product. Using very few words and lots of visuals they will summarize how the technology works and why it improves the lives of users. Who will invest in their invention?

Extension Activities:

Be a Responsible Digital Citizen, Learn About Drones and AI, Upload a Sprite, The Road to Driverless Vehicles, Organize Code Area, Print Handouts

Technology Skills: artificial intelligence, programming, presentation

Technology Integration: Computer Science, Science

Software Applications: Scratch | PowerPoint or Slides

TechnoBudget

In this project, students develop financial literacy using a problem-solving model. The fun begins with a windfall and shopping spree. Students create a budget and spending plan. They use a spreadsheet to organize, calculate, and graph data. A report is written to justify financial choices and share insights about money management. Challenging enrichment activities extend learning. Students can comparison shop, use functions to analyze data, filter and sort, calculate with if-then formulas, manipulate debt repayment, build consumer awareness, and draw money idioms.



The technology project contains the following assignments:

- Assignment 1 Money Management and You
Realize the importance of budgeting. Rate money management style.
- Assignment 2 An Unexpected Windfall
Invent a practical reason for a financial windfall. Establish budget categories.
- Assignment 3 Discover Spreadsheets
Work with columns, rows, and cells to arrange data in a worksheet.
- Assignment 4 Calculate Your Budget
Divide a budget into categories. Compute totals using AutoSum.
- Assignment 5 Create a Pie Graph and Edit the Budget
Analyze the budget using a chart. Allocate funds to meet criteria set for each category.
- Assignment 6 Create a Spending Plan Worksheet
Build a spending plan table that calculates taxes, track totals, and uses conditional formatting.
- Assignment 7 Plan a Shopping Spree
Determine items to purchase by visiting online stores. Record information in the spending plan.
- Assignment 8 Use a Bar Graph to Summarize Plan
Create a graph. Modify the labels, layout, style, and legend. Scrutinize the distribution of funds.
- Assignment 9 Spreadsheet Checklist
Verify the content of the budget, spending plan, and chart sheets. Print the workbook.
- Assignment 10 Justify Financial Choices in a Report
Prepare a report that explains the budget and spending plan. Support reasoning with graphs.

Extension Activities:

Compare Purchasing Options, Use Functions to Analyze Spending Plan, Filter and Sort Data, Category Comparison Table and Graph, Understand Credit and Debt, Build Consumer Awareness, Have Fun with Money Idioms

Technology Skills: Spreadsheets, Word Processing, Graphics

Technology Integration: Mathematics, Language Arts, Business Studies

Software Applications: Excel, Paint, Word | or Excel Online, Word Online | Sheets, Drawings, Docs

TechnoCode

In this project, students become coders that design a fun Activity Studio for kids using Scratch. Through discovery and exploration, they learn how to create a series of hands-on activities that children will enjoy playing. The young programmers apply computational thinking to build algorithms that sequence commands, events, loops, and conditions. They learn how to construct scripts to develop animated scenes, mazes, interactive stories, and games. Additional challenges extend coding skills to create artwork, compose music, produce a diorama, and more!



The technology project has 32 assignments that are divided into 6 Sessions:

- **Session 1 Become a Programmer**
In this session, students are introduced to programming. They design animated scenes using Scratch. To start, they consider the importance of technology in daily life. Afterwards, students study the Scratch interface to label the parts. Once familiar with the environment, they discover how to stack blocks of code together to form a script that makes a character talk. Once they have mastered some of the basics, they explore the Scratch libraries to make a scene of two friends having fun.
- **Session 2 Build an Aquarium**
In this session, students create their first project for the Activity Studio. It is an animated aquarium. To start, they explore Scratch Motion blocks to discover how they can be used to make sprites move across the stage. Next, students use forever and if then blocks to control the fish swimming. Afterwards, they learn how to use the Paint Editor to design a fish tank that has a custom backdrop. To practice coding skills, a list of challenges provides a creative spark. Upon completion, the project is prepared for viewers. Students are then given the option to share the file with the Scratch community and classmates.
- **Session 3 Design a Maze**
In this session, students create their second project for the Activity Studio. It is a maze game. This activity provides an opportunity for students to practice coding skills from Session 2 to solidify their learning. To start, they complete a planning sheet to organize their ideas. Next, they use Scratch to create a puzzle that has players help a character find a way to the end of a path using arrow keys. To make the project unique, a list of challenges helps to make a one-of-a-kind maze. Upon completion, the game is prepared for players.
- **Session 4 Broadcast a Story**
In this session, students create their third project for the Activity Studio. It is an animated story about a magical place. To start, they explore the Looks blocks to discover how they change the appearance of the main character and setting. Next, they enhance storytelling by triggering actions to occur when there is a switch in the backdrop. Afterwards, they direct the timing of events by sending messages to sprites using the Broadcast blocks. To practice coding skills, a list of challenges provides a creative spark.
- **Session 5 Engineer a Game**
In this session, students create their final project for the Activity Studio. They apply their coding skills to develop a game. To start, they use planning sheets to determine the objective, scoring system, timing, and coding structure. Next, they discuss their design with a partner to assess if it is suitable for young children. Afterwards, students follow instructions to build and test the code. Challenges are included to foster originality. Upon completion, the project is prepared for players.
- **Session 6 Curate an Activity Studio**
In this session, students build an Activity Studio for kids. It will have a collection of Scratch projects including an animated scene, maze, story, and game. To gain player feedback a link to the studio will be shared. Based on observation and questioning, students make recommendations for improving their Activity Studio.

Extension Activities:

Edit Your Scratch Public Profile, Draw Artwork with the Pen, Invent an Instrument, Record a Sound Clip, Organize Scripts with Broadcast, Chat with a Sprite, Remix a Scratch Project

Technology Skills: programming

Technology Integration: Computer Science, Mathematics, Language Arts, Science, Social Studies

Software Applications: Scratch

TechnoDebate

In this project, students collaborate with a partner to create an animated debate. Using clip art characters and callout bubbles, each side states their resolution, presents a constructive speech, delivers a counter argument in a rebuttal, and summarizes their position. Cross-examination is done at the end of the debate by audience members using the commenting feature. Extension activities are included for participants to cross-examine opponents and for a judge to select a winner.



The technology project contains the following assignments:

- **Assignment 1 What is a Debate?**
Rate your ability to persuade others. Evaluate the effectiveness of arguments in sample debates.
- **Assignment 2 Brainstorm a Topic for your Debate**
Partner up. Refer to a list of controversial issues. Negotiate to select a topic and position.
- **Assignment 3 Plan Arguments**
Apply research skills to compile compelling evidence that supports a viewpoint.
- **Assignment 4 Invite a Partner to Debate**
Share a file. Collaborate to create a title slide together.
- **Assignment 5 Take a Stand**
State resolution. Clearly outline a position using a clip art character and callout on a slide.
- **Assignment 6 Present a Persuasive Argument**
Prepare a constructive speech. Design slides that present three reasons an opinion is correct.
- **Assignment 7 Prepare a Rebuttal**
Review opponent's argument. Refute their weakest claim in a counterargument.
- **Assignment 8 Summarize Ideas**
Restate your arguments to convince an audience to agree with a viewpoint.
- **Assignment 9 Design an Animated Conversation**
Animate callout bubbles to produce a dynamic conversation. Apply transitions to divide debate.
- **Assignment 10 Debate Checklist**
Inspect the debate to confirm it is complete. Revise the structure, content, or design.
- **Assignment 11 Invite Audience Participation**
Host a public debate. Allow viewers to ask questions about each viewpoint using Comments.
- **Assignment 12 Respond to Audience Questions**
Defend a position by replying to viewer questions in a cross-examination.

Extension Activities:

Debate Topics, Cite the Source or Research in Google Docs, Insert a Character Workshop, Cross Examine your Opponent, Judge Debate

Technology Skills: Presentation, Word Processing

Technology Integration: History, Language Arts, Science, Social Studies

Software Applications: PowerPoint Online, Word Online | Slides, Docs

TechnoEarth

In this project, students become environmental stewards. They design an interactive infographic that informs the public about an important issue. The web-based publication will outline the cause, harmful effects, and solutions. It will also include a rotating slide deck that summarizes the stakeholders and highlights interesting facts. To engage viewers, a thematic map will pinpoint where the problem is happening. Upon completion, students will inspire others to get involved by sharing their findings at an Earth Keeper's Conference.



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

- **Session 1 Become an Earth Keeper**
In this session, students become environmental stewards. They prepare to create an infographic that informs the public about an important issue. To start, they study example publications to gain an understanding of the content and design elements. Next, they research a topic including cause, effects, interesting facts, location, stakeholders, and solutions. A reference list tracks sources of information. By the end of the session, students complete a checklist to verify they are ready to design their infographic.
- **Session 2 Warn Others of the Issue**
In this session, students begin to build their infographic using Google Sites. They introduce the environmental issue, describe the cause, and illustrate harmful effects. An emphasis is placed upon conveying information concisely using catchy headings and simple clip art. Instructions direct students to chunk their data into sections using color and dividers.
- **Session 3 Highlight the Facts**
In this session, students create a rotating slide deck using Google Slides. It will emphasize interesting facts and outline stakeholders. To start, students use a big number to highlight the scale of the problem. Next, they point out an important detail using colorful word art. Afterwards, they construct a diagram that summarizes who has a stake. Upon completion, the slide deck is inserted into the infographic and set to automatically play. Instantly the viewer should be able to grasp the scope of the environmental issue.
- **Session 4 Pinpoint the Problem**
In this session, students produce a thematic map using Google My Maps. It will pinpoint locations where the environmental issue is happening. The places could be worst offenders, best stewards, disaster sites, at-risk regions, successful conservation projects, or legally protected areas. Each marker will display an interesting fact and a photo. The map will be inserted into the infographic allowing viewers to explore and learn about the topic.
- **Session 5 Tackle the Challenge**
In this session, students illustrate solutions to the environmental issues by designing their own icons using Google Drawings. Each image will be a simple representation made by combining shapes, word art, and cropped images. The original artwork will be inserted into the infographic with an explanation. A link to an advocacy group will invite viewers to get involved.
- **Session 6 Let's Get Involved!**
In this session, students raise awareness about an environmental issue. They publish their infographic using Google Sites. Afterwards, they share their infographic at an Earth Keeper's Conference.

Extension Activities:

Recognize Bias, Assess Trustworthiness of a Site, Photo Gallery of Harmful Effects, Inform with a Pictograph, Keep Score, Make a Collapsible Source List

Technology Skills: Publishing, Digital Citizenship, Graphics, Internet, Presentation, Web Design, Word Processing

Technology Integration: Geography, Language Arts, Science, Social Studies

Software Applications: Docs, Sites, Slides, My Maps, Drawings, Sheets

TechnoEnvironment

In this project, students become Earth Keepers. They raise environmental awareness about a current issue. To start, they use the Internet to research facts and organize the information under headings in a Microsoft Word document. Next, they learn how to use the tools in Microsoft Publisher to create a postcard and a poster as a call to action. To inform people further about the importance of this issue, students use Microsoft Publisher to produce a pamphlet that describes the harmful effects and offers solutions. Optional activities have students prepare for an Environmental Conference by creating a calendar, banners, and invitation to the event.



The technology project has 14 assignments that are divided into 6 Sessions:

- **Session 1 Research the Topic**
In this session, students research an environmental issue. To start, they learn about the importance of stewardship. Next, they select a topic and then design an outline in Microsoft Word with headings to organize facts. The Internet is used to locate information about the issue, including effects on the environment and solutions to the problem. Students record the source and gather pictures related to the topic. This research will provide the content for the publications they create in the following sessions.
- **Session 2 Postcards from the Edge**
In this session, send a postcard asking a friend to become involved in protecting Earth. To prepare for this task, they are introduced to MS Publisher. Once familiar with the parts of the window, a template is opened in the program. Students learn how to format a shape to create a background for the front of the postcard. Next, they include a catchy title using a text box. To attract attention to the issue, a picture illustrating damage to the environment is inserted with a caption. A message is then written on the back of the postcard.
- **Session 3 Help Wanted!**
In this session, students create a Help Wanted poster to explain what people can do to protect Earth. To start, students insert a saved picture that illustrates the harmful effects of an environmental issue and apply their formatting skills. Next, they add an image from an online source and arrange it by adjusting the object order, alignment, grouping, and orientation. Afterwards, they use a Page Part to describe the problem and a solution that is achievable by students. A border is then inserted and an advertisement building block used to request help. To complete the poster, a WordArt title is used to attract attention.
- **Session 4 Educate the Public**
In this session, students begin to create a pamphlet to educate the public about an environmental issue. Using a template, students apply design elements including frames to accent each panel, a Page Part to create an attractive front cover, and text boxes to hold information. Once the layout of the pamphlet has been established, students apply their knowledge to produce the first panel in the publication.
- **Session 5 Solve the Problem**
In this session, students continue working on the pamphlet by proposing solutions to the environmental issue. The three panels of the second page of the pamphlet are completed using bulleted text, pictures, captions, and predesigned attention getters. On the third panel, students learn to add and format a table to compare the advantages and disadvantages of a solution to the environmental problem.
- **Session 6 Take an Environmental Quiz**
In this session, students complete the pamphlet. To inspire active involvement, the back of the pamphlet has a quiz. As viewers read the questions and answer them, they will remember information about the environmental issue and possibly even read the facts over again. The pamphlet will have achieved its aim of informing others and gathering support to face a very important challenge for Earth.

Extension Activities:

Environmental Map, Save the Earth Calendar, Create a Banner, Invite Guests to a "TED" Talk, Plan an Environmental Conference or "TED" Talk

Technology Skills: Publishing, Graphics, Internet, Word Processing

Technology Integration: Geography, Language Arts, Science, Social Studies, Visual Arts

Software Applications: Publisher

TechnoHTML5

In this project, students become web designers using HTML and CSS. Students are introduced to the history of the Internet and HTML language. Next, they manipulate source code to discover the function of common tags and CSS attributes. This knowledge is applied to construct a web page. Throughout the design process instructions explain how to style text, graphics, and hyperlinks to produce an informative web page. For those in need of a challenge, extension activities encourage students to create a list, apply a picture background, customize hyperlinks, employ CSS classes, insert animations, and build tables. Upon completion, the files are uploaded to the Internet.



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

- Session 1 Seeking the Source**
 In this session, students gain an understanding of the Internet and HTML. To begin they learn some basic terminology and consider the importance of the Internet in their lives. Afterwards, they read about key events in the development of this amazing technology. Once familiar with the history, students learn about the WWW and use a web browser to view web pages. They are introduced to HTML and its importance in the world today. Afterwards, they view the source code for web pages and decode the meaning. Upon completion of this session, students should have a basic understanding of Internet terminology and HTML.
- Session 2 Cracking the Code**
 In this session, students learn about the function of HTML tags and CSS attributes. To start, they open a web page and edit coding for the title, headings, paragraph, line break, horizontal rule, image, and hyperlink. Once familiar with basic elements, they explore how to format a web page. They edit CSS to alter color, width, font, font size, line height, alignment, and padding. Once students understand the structure of an HTML document, they plan the design of their web page. They search the Internet for information, pictures, and hyperlinks. This provides them with the material they need to start building their web page in the next session.
- Session 3 Begin Web Page Building**
 In this session, students begin to construct their web page. To start, they form the structure of the HTML document. They then add the title, heading, several paragraphs, and a horizontal rule. Upon completion the web page is saved as index.html. Next, students format each element using CSS. They set the color, width, position, font family, font size, text alignment, padding, and line height. Tips are offered to help students improve the appearance of their web page.
- Session 4 Add Images and Hyperlinks**
 In this session, students continue to design their web page. To start, they study their saved pictures to make sure they are appropriately named and resized. Once their images are prepared, students use HTML to insert the pictures and format the style using CSS. Next, students create hyperlinks to three websites. Additional styling challenges are included in the extension activities.
- Session 5 Meta Tags**
 Students are introduced to meta tags. They explore how search engines and social media services use this information. Description and keyword meta tags are inserted into their HTML document. Next, students examine their web page using a checklist to highlight areas that require improvement. If time permits, additional challenges are in the extension activities including how to insert animations and tables.
- Session 6 Upload the Web Page**
 In this session, students register for a free website account with a web hosting service. Then they upload the web page that they created and the associated image files. Finally, the class has an HTML Developers Conference in which they view each other's web pages and write compliments about the sites.

Extension Activities:

Analyzing Websites, Format Lists, Add a Background Image, Format the Hyperlink Style, Create a Class, Add Animated Text and Images, Create a Table, Submit Your Site to a Search Engine

Technology Skills: Programming, Web Design

Technology Integration: Computer Science

Software Applications: Text Editor

TechnoMap

In this project, students create an interactive map that demonstrates how human and physical geography intersect. The topic can be global, national, provincial, state, regional, or local. The map will have markers that, when clicked, provide facts about a location. This is a great way to explore and learn about an area or issue. To start, students study maps. Next, using an inquiry-based approach they select a question to investigate. Students are guided through creating slides and adjusting the flow of information to make a clickable map. Upon completion, their interactive map is shared with others.



The technology project contains the following assignments:

- **Assignment 1 What is an Interactive Map?**
Examine interactive maps. Contemplate how they connect geography to human activity.
- **Assignment 2 Brainstorm a Topic for Your Interactive Map**
Study research suggestions. Specify a question for investigation using an inquiry-based approach.
- **Assignment 3 Organize Research Findings**
Investigate the topic. Document the information and location of facts using an organizer.
- **Assignment 4 Create the Map Slide**
Design a map slide with a WordArt title and a suitable map of the area.
- **Assignment 5 Create Information Slides**
Produce information slides that contain interesting facts about a location.
- **Assignment 6 Connect Slides in Interactive Map***
Connect markers on the map to information slides. Control slide advancement.
- **Assignment 7 Interactive Map Checklist**
Assess the navigation, content, and design of the interactive map using a checklist. Solve any issues.
- **Assignment 8 Share the Map with Others**
Display the interactive map as a digital trip, map exhibit, or string map.

Extension Activities:

Research Using Google Docs*, Screen Capture a Road Map, Working with Pictures, Organize Facts using a Table, Add Hotspots, Add a Video*, Insert a Link*

Technology Skills: Presentation, Word Processing

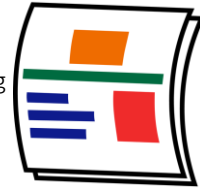
Technology Integration: Geography, History, Social Studies

Software Applications: PowerPoint, Word | PowerPoint Online, Word Online | Slides, Docs

**Note:* Select extension activities are not available for all product versions. Assignment 6 differs between versions. To connect slides, hyperlinks are used by Google users and the Zoom feature is used by Microsoft PowerPoint users.

TechnoNewsletter

In this project, students create a fan club newsletter. They design a professional-looking publication. Students learn valuable word processing skills such as formatting text, arranging objects, adjusting page layout, working with tables, referencing information sources, and inserting headers or footers. Challenging enrichment activities support learning with optional assignments that include how to how to create a collage, co-author an article, or engage in an online discussion.



The technology project contains the following assignments:

- Assignment 1 FANTastic Newsletter
Study sample newsletters to learn about the content. Brainstorm topics for a fan club.
- Assignment 2 Start a Fan Club
Propose ideas for a fan club newsletter. Formulate a plan using guiding questions.
- Assignment 3 Create the Front Cover Phase 1
Begin a newsletter cover. Format the title and arrange article names in a bulleted list.
- Assignment 4 Create the Front Cover Phase 2
Enhance the cover by inserting a picture and hyperlink. Lay out the content to fit on one page.
- Assignment 5 Top 5 List
Share insights in an article that will grab fan's attention. Arrange text using a numbered list.
- Assignment 6 Design a Word Search
Construct a word search of topic-related terminology using a table to position content.
- Assignment 7 Make a Word Search Answer Key
Reconstruct content by copying a table and filling cells to form a word search answer key.
- Assignment 8 Organize Ideas for Opinion Article
Defend a viewpoint. Establish arguments with evidence for an article that will sway opinion.
- Assignment 9 Share Your Opinion
Express a point of view using supporting quotes. Reference quotes using footnotes.
- Assignment 10 Complete the Newsletter
Prepare the newsletter for publication by inserting page numbers, headers, and footers.
- Assignment 11 Share Newsletter with Readers
Publish the newsletter in print or digital form. Distribute to fans.

Extension Activities:

How to Save Pictures*, Explore to Insert Quotes*, Create a Collage, Keep Writing, Guest Writer*, Digital Citizenship and Commenting

Technology Skills: Word Processing

Technology Integration: Language Arts, History, Social Studies, Science

Software Applications: Word | Word Online | Docs

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

TechnoPython

In this project, students are introduced to Python. They complete coding missions to develop the characteristics most valued in a programmer. To start, they ignite their curiosity by exploring scripts to discover how they are put together. Next, they create games including Pet Monster Rescue, Guess It, and Adventure Quest. These foster logical thinking, persistence, and creativity, and are ideal for beginners. Upon completion, students share their favorite program in a coding presentation. Have your students develop original code using loops, functions, and conditionals.



The technology project has 24 assignments that are divided into 6 Sessions:

- Session 1 Into the Coding Jungle**
 In this session, students explore the Coding Jungle. The goal of this mission is to learn about Python. To start, the explorers are introduced to terminology by experimenting with code. Once familiar with the role of a programmer, they play a Python Hunt game and then edit the program to discover how it works. Afterwards, they break code in the Catch the Bugs game to develop essential debugging skills. Successful completion of the four-part mission requires curiosity, which is a highly valued trait in a programmer.
- Session 2 Pet Monster Rescue**
 In this session, students create a program for the Pet Monster Rescue, which is a group that finds loving homes for monsters. To prepare for the programming mission, students learn about strings, integers, and variables. They apply this knowledge to personalize the adoption process. To pair a pet owner to their monster, the programmers write code that ask questions. The answers are used to match people to their ideal pet. This is done by combining logical operators, if and else statements, and a variable that changes from True to False. Throughout the four-part mission, an emphasis is placed upon thinking logically.
- Session 3 Guess It Game**
 In this session, design a guessing game in which the player must correctly pick a number before they run out of chances. Clues tell them if their answer is too high or low. This programming mission has six parts. To prepare, students first explore how to code while and for loops. Once familiar with how to repeat a set of instructions, they start to build Guess It. To guide development, the Python programmers sequence steps into algorithms. These flowcharts provide a framework for constructing each part of the program. Fun challenges encourage students to build a unique game. Interwoven throughout all tasks is a focus upon being methodical. This skill helps programmers test different cases to solve problems within the code.
- Session 4 Adventure Quest Part 1**
 In this session, students develop a text-based adventure game. It is a quest that has players overcome challenges to earn rewards. To prepare for this programming mission, students learn techniques to standardize data entry. Next, they apply these skills to build the first part of their game. It will allow players to pick a direction to explore. It will also include a challenge whereby the player can win coins when they travel North. To complete the task, students must be persistent. What will happen in this strange land?
- Session 5 Adventure Quest Part 2**
 In this session, students complete their text-based adventure game. They develop a treasure hunt that has players travel East to collect objects. They must avoid danger, or risk losing it all! To prepare for this part of the programming mission, students learn about lists. They add, remove, sort, and count items. Once this skill is mastered, they apply it to their quest. Throughout the activities, an emphasis is placed upon creativity. This trait is essential as it allows programmers to design original programs.
- Session 6 Coding Presentation**
 In this session, students share their favorite Python program in a coding presentation. They demonstrate how the game works and explain the code. This provides an opportunity to develop strong communication skills, which help programmers do their job.

Extension Activities:

Coding Reflections, Find and Fix the Bugs, Open a Pet Monster Picture, Keep Score, Toss a Rare Coins, Game Test the User Experience, Earn a Reward, Create a Map

Technology Skills: programming

Technology Integration: Computer Science, Mathematics, Language Arts, Social Studies

Software Applications: IDLE Python 3

TechnoQuestionnaire

In this project, students become researchers. They conduct a questionnaire to research an important issue. To begin, students gain an understanding about the purpose of surveys by completing a Reading Habits questionnaire. Next, they design their own School Spirit survey to learn how to use Google Forms. Once familiar with this method of data collection, they develop their own research question, select a sample, and design a questionnaire. A pre-test is used to improve the design. The questionnaire is then administered to the sample group. Once the data is collected it is analyzed. Research findings are shared with a jury of peers in an oral presentation.



The technology project contains the following assignments:

- Assignment 1 What is a Survey Questionnaire?
Understand the purpose of a survey. Introduce terminology (e.g. population, sample, bias).
- Assignment 2 Compare a Poll and a Survey
Participate in a Reading Habits poll and survey. Compare these two methods of gathering data.
- Assignment 3 Study Survey Results
Analyze data from Reading Habits survey.
- Assignment 4 Create a School Spirit Survey
Build a survey to learn how to create questions, specify properties, and invite responses.
- Assignment 5 Organize Ideas for a Survey Questionnaire
Determine the purpose, sample, data collection method, and questions for questionnaire.
- Assignment 6 Build a Survey
Construct a questionnaire that effectively sequences the questions and controls data entry.
- Assignment 7 Conduct a Pre-Test
Consult a peer about the design and content of the questionnaire. Implement recommendations.
- Assignment 8 Collect Survey Results
Administer the questionnaire to a sample group of respondents.
- Assignment 9 View Survey Results
Summarize the results in a report. Manipulate the data using a spreadsheet.
- Assignment 10 Analyze Survey Results
Interpret the findings. Draw conclusions about the application of results. Critique research design.
- Assignment 11 Present Findings to a Jury of your Peers
Convey results and their importance to an audience. Provide evidence of conclusions.

Extension Activities:

What is Sample Bias? What is Question Bias? Brainstorm Survey Ideas, Compare Results with a Pivot Table or Chart

Technology Skills: Spreadsheet, Data Management

Technology Integration: Math

Software Applications: Google Forms, Sheets

TechnoRestaurateur

In this project, students launch a successful restaurant venture. They apply critical and creative thinking to develop a unique business concept. To start, students conduct a survey and interpret the results to make decisions about their restaurant. Next, they create a company logo and write a professional letter to raise seed money. With the funding secured, students design a floor plan. Once the restaurant had operated for a year, financial earnings are analyzed. The business is then advertised using a newsletter to potential investors as a franchise opportunity.



The technology project contains the following assignments:

- Assignment 1 Become a Restaurateur
Consider how technology can help launch a restaurant venture.
- Assignment 2 Learn Basic Spreadsheet Skills
Explore spreadsheets to understand terminology and acquire basic skills.
- Assignment 3 Conduct a Survey of Food Preferences
Investigate cuisine favorites by administering a survey to respondents.
- Assignment 4 Record Survey Results in a Spreadsheet
Arrange survey results in a worksheet. Format the data to make it easy to read.
- Assignment 5 Graph Survey Results as a Pie Chart
Convert survey results into a pie chart. Customize the legend, labels, and chart style.
- Assignment 6 Develop Restaurant Idea from Survey Results
Interpret the meaning of the survey findings to develop a business concept based on evidence.
- Assignment 7 Create a Company Logo
Draw a logo that symbolizes the company. Combine shapes and text to illustrate an original image.
- Assignment 8 Write a Professional Letter
Request seed money for the restaurant. Convince investors that the concept will succeed.
- Assignment 9 Draft a Floor Plan
Sketch a floor plan for the restaurant that meets the needs of staff and patrons.
- Assignment 10 Calculate Monthly Restaurant Earnings
Total monthly profits. Analyze earnings to devise a business strategy.
- Assignment 11 Calculate Quarterly Restaurant Earnings
Measure the financial health of the business. Calculate quarterly and average earnings.
- Assignment 12 Graph Quarterly Earnings as a Line Chart
Plot quarterly earnings using a line graph. Predict future profits using a trend line.
- Assignment 13 Design a Business Opportunity Newsletter
Advertise the restaurant as an investment opportunity. Inform entrepreneurs about the benefits.

Extension Activities:

Apply Advanced Drawing Techniques, Use Functions to Analyze Earnings, Share your Files with Investors*, Advertise a Deal, Create an Opinion Survey

Technology Skills: Spreadsheet, Word Processing, Graphics, Presentation, Data Management

Technology Integration: Math, Language Arts, Visual Arts

Software Applications: Excel, PowerPoint, Word, | Excel Online, Forms for Excel, PowerPoint Online, Word Online | Sheets, Slides, Docs, Drawings, Forms

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

TechnoTravel

In this project, students become travel agents. They create a travel advertisement for a weekend getaway. To start, students use the Internet to research the destination. Afterwards, they personalize a slide master to create a unique marketing tool that persuades visitors to take the trip. The vacation is then promoted to customers in the form of a slideshow and brochure.



The technology project contains the following assignments:

- Assignment 1 About Travel and Tourism – Consider the reasons people travel and the role of tourism.
- Assignment 2 Become a Travel Agent – Invent a travel agency. Spark ideas for a weekend getaway.
- Assignment 3 Pick a Travel Destination – Decide upon a location for a trip using suggestions as a guide.
- Assignment 4 Research a Travel Destination – Investigate and organize information on a fact sheet.
- Assignment 5 Gather Images for the Travel Advertisement – *Respect copyright when saving files.*
- Assignment 6 Learn About Microsoft PowerPoint – *Explore the window, ribbon, and commands.*
- Assignment 7 Customize the Slide Master – Design a unique theme for slides in a presentation.
- Assignment 8 Test the Layout and Design of the Slide Master – *Troubleshoot and resolve design issues.*
- Assignment 9 Complete the Introduction Slide – Entice visitors with interesting facts on a slide.
- Assignment 10 Plan a Travel Itinerary – Schedule activities to form a realistic timetable.
- Assignment 11 Design a Travel Itinerary – Outline the activities using a table. Format the style.
- Assignment 12 Create an Activity Slide in Normal View – *Crop an image to decorate the slide.*
- Assignment 13 Create an Activity Slide in Outline View – *Enrich phrasing using the thesaurus.*
- Assignment 14 Complete the Itinerary Slides – Capture tourist interest by showcasing activities.
- Assignment 15 Mark a Map to Show Travel Destination – *Pinpoint a location with symbols.*
- Assignment 16 Link to Travel Guides using Hyperlinks – *Connect objects to online information.*
- Assignment 17 Edit the Travel Advertisement – *Spell check the text. Rearrange slide order.*
- Assignment 18 PowerPoint - Set Up the Advertisement in Kiosk Mode – *Add transitions. Adjust to loop.*
- Assignment 18 Slides - Host an Information Session – *Lead a Q&A session. Answer viewers' questions.*
- Assignment 19 Print the Advertisement – Advertise the trip using a flyer or a multi-page brochure.
- Assignment 20 PowerPoint - Export the Advertisement as a Video – *Promote the trip using a video clip.*
- Assignment 20 Slides - Promote the Advertisement Using a Link – *Advance slides automatically. Share.*
- Assignment 21 PowerPoint - Advertise the Weekend Getaway – *Share advertisement. Invite comments.*
- Assignment 21 Slides - Comment on Weekend Getaways – *Invite peers to view ad. Reply to comments.*

Extension Activities:

Create a Fancy WordArt Style*, Import a Theme to Make a Poster*, Make a Video Clip, Design an Interactive Street Map, Animate the Travel Advertisement, Calculate Travel Costs, Book Flight or Accommodations

Technology Skills: Presentation, Word Processing

Technology Integration: Social Studies, Geography, Language Arts, Travel and Tourism

Software Applications: PowerPoint, Word, Excel | Slides, Docs, Sheets

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

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 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.
- **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 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 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 a 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

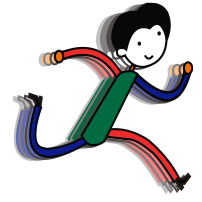
Technology Skills: Word Processing, Desktop Publishing, Graphics

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 CC

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

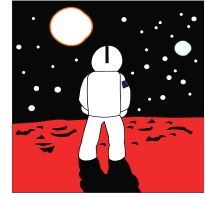
Technology Skills: Spreadsheet, Word Processing, Desktop Publishing

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 table, 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 clip 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.

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>

Getting Started

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

Google Classroom

<https://www.technokids.com/support/google-classroom.aspx>

Support Request

Complete the support form request:

<https://www.technokids.com/support/support-form.aspx>



Subscribe to our [YouTube channel](#) to receive alerts of new activity.

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.

We want to be your partner in computer education. If you have any comments or questions regarding our instructional materials, please contact our Head Office.

TechnoKids Inc.
55 King Street East
PO Box 451
Thornbury, ON
N0H 2P0

information@technokids.com | support@technokids.com

Toll Free: 1-800-221-7921 (North America only)

Phone: 905-631-9112

Fax: 905-631-9113