TECHNOKids®

INTERMEDIATE
Curriculum Collection

PROJECT-BASED LESSONS: DIGITAL LITERACY AND STEM ACTIVITIES

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

Contents

Intermediate Technology Courses and Software

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

Suggested grade levels:	Microsoft Office					Office for the Web				Google							Programming		
	Paint	Word	PowerPoint	Excel	Publisher	Word Online	PowerPoint Online	Excel Online	Forms for Excel	Drawings	Docs	My Maps	Slides	Sheets	Sites	Forms	Text Editor	Scratch	Python 3
Intermediate Grades 6-9																			
TechnoBiography		•				•	•			•	•								
TechnoBot AI			•										•					•	
TechnoBudget	•	•		•		•		•		•	•			•					
TechnoCode																			•
TechnoDebate						•	•				•		•						
TechnoEarth										•	•	•	•	•	•				
TechnoEnvironment		•			•														
TechnoHTML 5																	•		
TechnoMap		•	•			•	•				•		•						
TechnoNewsletter		•				•					•								
TechnoPython																			•
TechnoQuestionnaire														•		•			
TechnoRestaurateur		•	•	•		•	•	•	•	•	•		•	•		•			
TechnoTravel		•	•	•		•	•	•			•		•	•					

Intermediate Technology Courses | Scope & Sequence

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

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

	COMPUTER APPLICATIONS | DIGITAL LITERACY				COMPUTER SCIENCE
Grades 6/7	**TechnoNewsletter** Publish a fan club newsletter. Write an informative article, construct a word search, and express an opinion. Format pages to lay out content attractively. *Word or Docs* language arts; word processing	**TechnoRestaurateur** Launch a business venture. Plan a restaurant, create a logo, conduct a survey, generate funds, build a floor plan, manage finances, and more! *Excel/PowerPoint/Word or Sheets/Slides/Docs/ Drawings/Forms* 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. *Excel/PowerPoint/Word or Sheets/Slides/Docs* language arts, geography; presentation	**COMING SOON** TechnoFuture Imagine the future. Create an interactive science fiction story that explores AI in daily life using PowerPoint or Google Slides. *PowerPoint or Slides* artificial intelligence, presentation	**TechnoCode** Spark an interest in computer science. Design an Activity Studio for kids using Scratch. Build blocks of code to design animations, puzzles, stories, and games. *Scratch* 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. *Word or Docs/Drawings* language arts, history; word processing	**TechnoBudget** Justify a spending plan for a shopping trip. Calculate, and graph data to form a budget. Report financial choices and explain money management strategy. *Excel/Paint/Word or Sheets/Drawings/Docs* 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. *PowerPoint /Word or Slides/Docs* geography, history; presentation		**TechnoHTML5** Develop a web page using HTML and CSS. Write code to set the style of the background, text, lists, graphics, hyperlinks, and tables. Upload to the Internet. *Notepad or other text editor* web design; coding
Grades 8/9	**TechnoEarth** or **TechnoEnvironment** Raise awareness of an environmental issue. Design either an infographic with Google apps or a pamphlet with Publisher. Advocate for change. *Word/Publisher or Docs/Sites/Slides/ Sheets/My Maps/Drawings* geography, 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. *Google Forms* research; data management	**TechnoDebate** Collaborate with a partner to debate an issue. Create an animated conversation that presents a persuasive argument. Defend a position. *PowerPoint Online or Slides* language arts, 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. *IDLE Python 3* math, language arts; programming	**TechnoBot AI** Program a drone delivery system, robot pick-up service, and self-driving tour that solve real world problems using artificial intelligence. *Scratch, PowerPoint or Slides* programming, artificial intelligence

Intermediate Technology Course Descriptions

TechnoBiography

In this course, 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 course has 14 assignments that are divided into 6 Sessions:

- Session 1 Become a Biographer
  In Session 1, students become biographers. They prepare to write about the life story of a remarkable person. To start, they view a sample biography about a famous astronaut to understand how a person's history and achievements can be summarized. Next, they brainstorm a topic for their own publication. It could be about an inventor, explorer, athlete, or artist. There are so many possibilities!

- Session 2 Research a Hero
  In Session 2, students research a significant person's history and accomplishments. The biography should highlight early experiences that influence the person's future, the importance of their achievements, and events that demonstrate their personality. Using tertiary, secondary, and primary sources of information students prepare to write a life story.

- Session 3 Create Document Structure
  In Session 3, students begin to write the biography. They gain valuable word processing skills as they create a title page. Next, they build the document structure using heading styles. There will be sections for personal history, contributions, media gallery, and a bibliography. Once the framework for the publication is complete, they use the heading styles to make a table of contents, which will allow the reader to quickly find relevant information.

- Session 4 Explain Accomplishments
  In Session 4, students start to write the biography. They rephrase their researched information to summarize details about the person's early life, family, education, and career. Transition words are provided to help students connect ideas. Next, they create a graphic that highlights accomplishments. To engage readers, an optional activity explains how to design a "bumper sticker" with an inspirational message associated with the person.

- Session 5 Design a Media Gallery
  In Session 5, students design a Media Gallery. It will include artifacts of objects from a person's life, such as a video of a performance, link to a speech, or image of a birth certificate. This will help readers form a connection to the person. A table is used to organize the information. Upon completion, students make a bibliography that summarizes their list of sources. An optional activity explains how to bookmark a location to connect information in the Personal History section to an artifact in the Media Gallery.

- Session 6 Share Your Biography
  In Session 6, students share their biography with readers. They select an option for publishing. It could be printed or digital. Prior to publication, an extension activity explains how to customize page layout. Students can adjust the page margins, add headers and footers, and modify line spacing. If time permits, discuss the contributions of the significant person with others. Why are they a source of inspiration?

Extension Activities:
Create a School Award, Make a Bumper Sticker, Insert a Video*, Capture a Still From a Video*, Link Artifacts using Bookmarks, Customize Page Layout

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 course, 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 course 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 course, 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 course has 11 assignments that are divided into 6 Sessions:

- Session 1 You Are Rich!
  In Session 1, students participate in a financial literacy simulation. In it, they receive an imaginary windfall of money. They cannot spend it all in one place. Instead, they must form a spending plan that includes saving some of the funds. To start, they rate their money management style to determine if they are a spender or a saver. Next, they explore spreadsheets to discover how this tool can be used to organize information. An optional activity has students illustrate popular idioms such as "I am broke".

- Session 2 Create a Budget
  In Session 2, students use a spreadsheet to set a budget for their windfall. To start, they divide the money into spending categories, such as savings, clothing, entertainment, or electronics. No category can be less than 5% or more than 50%. To determine if the budget is reasonable, they graph the data to show the information as a pie chart. Based on the results, students can adjust their budget.

- Session 3 Develop a Spending Plan
  In Session 3, students create a spending plan that will track the things they would like to buy. Using a spreadsheet, students create a worksheet that lists items, calculates taxes, and shows a grand total. By applying conditional formatting to cells, it becomes easy to spot overspending. After testing the worksheet to make sure that it works, students delete the data to get the spreadsheet ready for the next session.

- Session 4 Stick to the Budget
  In Session 4, students plan a shopping spree. They visit online stores to find items they would like to purchase. The information is tracked using a worksheet. Extra money can be allocated to savings or charity. If their planned purchases go over by a few dollars in one category, they must reduce spending in another. Once the plan is complete, they analyze their data using functions. This will help them determine if they are 'on budget'. Optional activities have students become thoughtful shoppers. They can comparison shop to find the best deal or investigate corporate responsibility to determine if a company deserves their money.

- Session 5 Graph the Spending Plan
  In Session 5, students graph the data in their spending plan to see where their money will go. A bar graph makes it easy to compare purchases from each category. They format the data and then analyze the information to determine if they need to make changes to their plan. Optional activities focus on studying small sets of data. Instructions explain how to filter and sort data. As well, students can produce a comparison chart by calculating data from another worksheet using a formula that includes SUMIF.

- Session 6 Summarize the Budget
  In Session 6, students write a report that justifies their financial decisions. This document will include an explanation for their windfall, an outline of the budget, and a summary of their planned purchases. Graphs from the spreadsheet will illustrate their plan. The publication will conclude with insights into what students learned about their money management style. An optional activity about credit and debt explains how to use a spreadsheet to calculate interest and monthly payments.

Extension Activities:

Have Fun with Money Idioms, Compare Purchasing Options, Build Consumer Awareness, Filter and Sort Data*, Comparison Table and Graph, Understand Credit and Debt

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

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

TechnoCode

In this course, 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 course 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 course, 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 course has 12 assignments that are divided into 6 Sessions:

- Session 1 What Is a Debate?
  In Session 1, students explore the practical applications of debates. They review a sample digital debate to understand how a slideshow can be structured to present both sides of a controversial issue. They then collaborate with a peer to choose a topic for their own debate. It could be a school policy, an environmental issue, or even a lighter topic such as the superiority of cats or dogs as pets. An optional activity is available to help students brainstorm debate ideas.

- Session 2 Research a Controversial Issue
  In Session 2, students conduct research on their chosen side of a controversial topic. They use an organizer to gather evidence that supports three key points of their argument. If needed, a supplementary activity offers tips for conducting research. Following this, students open presentation software and share the file with their partner. Together, they develop a title slide to practice collaborating online.

- Session 3 Argue Your Position
  In Session 3, students collaborate with a partner to design an animated debate. Each side, representing either the pros or cons of the topic, selects a character to present their arguments. They can refer to an optional activity for guidance on saving a suitable image from the Internet to represent the debater. Next, students create a slide stating their 'resolution', with a callout offering a brief statement summarizing their position. Following this, each side delivers a 'constructive speech' consisting of three slides that argue their viewpoint, using evidence to persuade the audience.

- Session 4 Rebut Your Opponent's Viewpoint
  In Session 4, students counter their opponent's position in the debate. To prepare, they review each of their partner's slides to identify any weaknesses in the arguments presented. Next, they conduct online research to find a fact that contradicts one of their opponent's key points. This information is used to construct a rebuttal slide. Sentence starters assist in framing their response. Following this, they create their final slide, which serves as a summary and a persuasive appeal to the audience. An optional activity involves students digitally cross-examining their opponent by posing a question that must be answered.

- Session 5 Animate the Debate
  In Session 5, students animate the dialogue to simulate a lifelike debate. They add an entrance effect to the speech bubbles to control when a character speaks. After both partners have finished, students reorganize the slide order to control the sequence. If time allows, they can also include transitions between slides to indicate which side is speaking. Once completed, students use a checklist to review the debate and make any needed revisions.

- Session 6 Host a Public Debate
  In Session 6, students deliver their arguments to an audience. They share the digital file with a small group of peers who watch the debate and engage in cross-examination afterward. Using the commenting feature, audience members can pose questions to which the debaters respond. An optional activity involves audience members acting as judges to determine the winner of the debate.

Extension Activities:
Debate Topics, Research and Cite the Source, 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 course, 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 course 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 course, 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 course 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 to the publication.

- 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 course, 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 course 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 course, 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 course has 8 assignments that are divided into 6 Sessions:

- In Session 1, students develop a concept for an interactive map. An interactive map contains markers that, when clicked, explain facts about the location. It allows people to explore and learn. The map could be of historical landmarks, current events, environmental hotspots, or tourism sites. To prepare for the task, students study three unique interactive maps to discover the possibilities. Afterwards, they select a research question that connects to a geographic region. For example, it could be 'What impact has an event or industry had on the environment?', ' 'What types of agriculture are done in a particular area?' or 'What places should a tourist visit?'. The question will become the topic of their interactive map, with the map markers providing the answers.

- In Session 2, students research the topic for their interactive map. Using an organizer, they collect facts for three locations. They record the position of the location for future placement of a map marker. In the following session, students will insert a map onto a presentation slide using an online picture. An optional activity explains how to collect an image of a city or street map.

- In Session 3, students begin to create their interactive map. To start, they apply computing skills to build a simple slide. It will include a title, image of a map, and viewer instructions. To produce a unique design, students explore WordArt, picture, and shape style options. They also learn how to customize the color, transparency, or image on a slide background. This is an excellent way to attract attention.

- In Session 4, students create an information slide for each map marker. Each one describes the significance of a location on the map. To make the information easy to read, students apply a custom bulleted list. An optional activity explains how to save an image from the Internet. This task includes keyword suggestions to make sure the image is ideal for a background.

- In Session 5, students make the map interactive. They create a connection from the map to each information slide using map markers. Controls are added to allow the viewer to return to the map. Slide advancement is adjusted to manage the transitions. Multiple tests are conducted to make certain it is easy to explore and learn. An optional activity shows how to organize information using a table. This is a great way to summarize facts and figures about a topic. An additional activity explains how to insert a link to an interesting article on the Internet to prompt the viewer to discover even more about the topic.

- In Session 6, students share their interactive map with viewers. To start, they complete a checklist to verify the navigation, content, and design. Editing tips help resolve common issues related to map markers or connections. An optional extension activity explains how to add a video to a slide. Upon completion, students select how to publish their map. One choice has a person sit at their device and take a virtual trip. Another choice is a map exhibit that courses a file onto a screen for a larger audience. Alternatively, or in addition to the other ideas, a third choice is to print the slides and connect them together using string to produce a unique bulletin board. All three options make it fun and easy to explore the world!

Extension Activities:
Snip/Screen Capture a Map*, Working with Pictures*, Image Workshop*, Organize Facts using a Table, Insert a Link*, Add Hotspots*, Add a Video

*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.

TechnoNewsletter

In this course, 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.
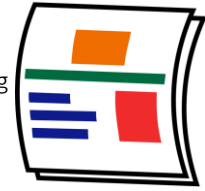
The technology course has 11 assignments that are divided into 6 Sessions:

- Session 1 Create a Fan Club
  In Session 1, students organize a Fan Club. It might be for a sport team, musician, video game, or actor. They will design a newsletter that connects with fans. For inspiration, they study a sample newsletter. Next, they use a planning sheet to organize their ideas for each article. Afterwards, they gather resources such as links and images. What do fans want to know?

- Session 2 Design a Newsletter Cover
  In Session 2, students begin to create their Fan Club newsletter. To start, they apply word processing skills to design a front cover. It should include eye-catching text, a large image, and hyperlink to an official site. When complete, students use a checklist to examine the content and layout.

- Session 3 Top Reasons to be a Fan
  In Session 3, students write the first article for their Fan Club newsletter. It will include a numbered list of interesting facts or insights fans want to know. It should have an attention-grabbing headline such as Top 3 Reasons, 8 Secrets, or 4 Fun Facts. By adjusting the line and paragraph spacing students will format the text to make it easy to read. A task checklist guides revisions.

- Session 4 Build a Word Search
  In Session 4, students design a word search. It will use terminology that is familiar to fans. Using a table, words are hidden into the cells either horizontally, vertically, or diagonally. The newsletter will include an answer key to the puzzle. If time permits, refer to the extension activity for additional article or content ideas. For example, students could use their word processing skills to create an ad, write a product review, or promote a contest that fans will love.

- Session 5 Write an Opinion Piece
  In Session 5, students persuade others to become fans. They write a newsletter article that explains the strong connection fans have with the team, group, or topic. It must include evidence about why they are so great, such as quotes from a song, book, interview, or testimonial. Using footnotes, students learn how to cite the source. To make the article stand out, an optional extension activity explains how to make a collage.

- Session 6 Publish the Newsletter
  In Session 6, students share their newsletter with fans. Before they publish, they make final revisions to the document. This includes customizing the header and footer to include the name and issue number. Next, they determine how they will connect with readers. The file can either be printed or exported as a PDF. An optional activity explains how to share the file digitally to have fans add comments to the articles.

Extension Activities:
How to Save Pictures, Guest Writer*, Keep Writing, Create a Collage, Digital Citizenship and Comments

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 course, 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 course 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 course, 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 course has 11 assignments that are divided into 6 Sessions:

- Session 1 What Is a Survey Questionnaire?
  In Session 1, students learn how survey questionnaires are used to help people solve problems. They examine how this tool is used by professionals to make informed decisions. To deepen their understanding, the students participate in a "Reading Habits" questionnaire. Afterwards, they analyze the results to interpret respondents' book preferences. An optional activity examines sample bias.

- Session 2 Research School Spirit
  In Session 2, students create a "School Spirit" survey to familiarize themselves with Google Forms. They practice designing various question types and setting answer options to control data entry and minimize errors. After completing the survey, students test it and review the results. This experience will be valuable as they transition into researchers in future sessions, where they will develop their own survey questionnaires. An optional activity examines question bias.

- Session 3 Design a Survey Questionnaire
  In Session 3, students take on the role of researchers. They choose a research question, select a sample group, and decide on a method for collecting data. An optional brainstorming activity is available to inspire and support learners in this process. Next, students outline the survey's content, ensuring it includes five to ten questions of various types such as multiple choice, rating scale, and short answer. They then utilize their skills to construct a survey questionnaire using Google Forms. Finally, they conduct a pre-test to refine the design.

- Session 4 Collect Survey Data
  In Session 4, students administer their survey. They begin by clearing the pre-test data from the questionnaire. Next, they choose a method for data collection, such as using a mobile device, sending via email, or posting a link. After respondents have filled out the form, students review the survey responses. They organize the raw data in Google Sheets to adjust how the results are presented in the automatically generated report.

- Session 5 Interpret Survey Results
  In Session 5, students interpret the data gathered from the survey. They answer questions about the research design and then proceed to analyze the results to draw conclusions. They reflect on the practical implications of the findings and identify areas where the questionnaire could be improved. Optional extension activities are available to demonstrate how to compare subgroups by creating a pivot table and pivot chart.

- Session 6 Present Research Findings
  In Session 6, students present their research to a panel of peers in an oral presentation. To prepare, they develop a script to practice their speech. They then break into small groups, with each member taking turns to discuss the survey's objectives and present the results. They use the Google Forms report as a visual aid to reinforce their 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 course, 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 course has 13 assignments that are divided into 6 Sessions:

- Session 1 Become a Restaurateur
  In Session 1, students become restaurateurs. They will launch an imaginary restaurant venture. To start, they explore spreadsheets to learn basic skills including terminology, data entry, and simple cell formatting.

- Session 2 Conduct a Business Survey
  In Session 2, students formulate a plan for their business venture. They survey their classmates to determine the type of cuisine to serve. With this data, students chart the results using a spreadsheet. By interpreting the survey results, students select the type of restaurant they would like to operate. They form a business plan that outlines the cuisine, company name, main menu items, and the target customer.

- Session 3 Request Investment Money
  In Session 3, students generate start-up funds from investors for their business venture. To start, they design a company logo using drawing tools in presentation software. This is exported as a picture file. If your students require an extra challenge, teach the optional extension activity first, as it contains advanced graphics techniques that can be used to produce a unique design. Afterwards, students use a word processor to create a letterhead that includes the company logo. They write a professional letter explaining their business concept. It will include the graph from the survey to demonstrate their rationale for targeting a particular cuisine. Investors are sure to want to fund such an exciting venture!

- Session 4 Design a Floor Plan
  In Session 4, students apply the drawing tools of Microsoft PowerPoint or Google Slides to design the floor plan of their restaurant. Students consider their clientele and the type of dining experience they are expecting. Shortcuts to complete the project are introduced as students design seating arrangements that can be easily grouped and duplicated to place elsewhere in the layout. They create a well-designed restaurant with a focus on functionality. If time permits, an optional extension activity can be used to create an electronic bulletin board that displays special offers or upcoming events to customers.

- Session 5 Calculate Business Earnings
  In Session 5, students learn advanced spreadsheet skills by designing a worksheet to calculate their monthly, quarterly, and yearly earnings. Students use the Fill Series option to easily create a table that holds financial information. Calculations such as Sum and Average give students a clear overview of their earnings. This information is then displayed in chart format with a trendline that predicts future growth.

- Session 6 Promote a Business Opportunity
  In Session 6, students create a newsletter for aspiring restaurateurs interested in joining a restaurant chain. The publication's aims are to persuade them to become part of the team and open their own restaurant. It will include the same company logo, offer identical menu items, and showcase a similar floor plan. Additionally, the newsletter will highlight potential earnings and outline the benefits of participating in the business venture. Can you convince others to join the team?

Extension Activities:
Advanced Drawing Techniques*, Review a Business Proposal*, Advertise a Deal, Analyze Earnings with Functions, Share Files with Investors*, Create an Opinion Survey/Rate Opinions in Forms

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 course, 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 course has 21 assignments that are divided into 6 Sessions:

- Session 1 Select a Travel Destination
  In Session 1, students become travel agents. They plan a weekend getaway. To start, students consider how travel has changed the way people live and work. Next, they study a sample travel advertisement to get ideas for their trip. Afterwards, students use the Internet to research facts about the location. This information is organized under headings in a word processing document. Finally, students use the Internet to save pictures and a map of the travel destination. At the end of the session, students should have the information they need to create a travel advertisement for the weekend getaway.

- Session 2 Create a Travel Advertisement
  In Session 2, students begin to create their travel advertisement for a weekend getaway. To start, they are introduced to the presentation software environment. Once familiar with the location of commonly used commands, students learn how to customize the slide master to make a unique design for their advertisement. Upon completion, students use the slide master to create a title and introduction slide.

- Session 3 Build a Travel Itinerary
  In Session 3, students create a travel itinerary that outlines the activities, site seeing trips, and events planned for the weekend getaway. Using a table, students organize the activities for each day. The table is formatted to look great.

- Session 4 Promote Places to Visit
  In Session 4, students create slides to describe each event or site that tourists will see on the weekend getaway. At the end of the session, each activity in the travel itinerary should have a slide in the travel advertisement.

- Session 5 Highlight Points of Interest
  In Session 5, students complete the content of the travel advertisement. To start, they insert a map of the destination on a slide and use shapes to highlight the city. Afterwards, students create a slide that contains hyperlinks to websites on the Internet that tourists will find helpful.

- Session 6 Advertise the Weekend Getaway
  In Session 6, students promote the weekend getaway to tourists. To begin they edit the content and layout of each slide. Using spelling tools, students identify and correct spelling errors. Afterwards, they adjust the order of the slides. Next, students release the travel advertisement in various formats that are suitable for advertising purposes. The slideshow is prepared for a kiosk and a handout is printed. The travel advertisement is shared with viewers to entice tourists to go on a weekend getaway.

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

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.

Helpful Resources

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

FAQ

https://www.technokids.com/our-curriculum/

Support Request

Complete the support form request:

https://www.technokids.com/ask-us/

Contact Us

https://www.technokids.com/contact-us/

Subscribe to our YouTube channel to receive alerts of new activity.

Contact Information

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