



Technology Curriculum Diocese of Harrisburg

Grades Pre K – Grade 2

Goal #1: Communication and Collaboration--Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others.

Topic	Developing and Delivering Presentations
Lessons	Format presentation using appropriate text and images (e.g., text consists of main idea, images enhance text, sounds and transitions support text)
	Align graphics, text, and sound with content

Goals #2: Research and Information Fluency--Students apply digital tools to gather, evaluate, and use information.

Topic	Navigating the Internet
Lessons	Access teacher identified web sites
	Maneuver within web-based resources (e.g., navigate, use links, forward, back)
	Enter address/URL

Topic	Selecting and Searching Digital Resources
Lessons	Use a variety of multimedia resources (e.g., interactive books, educational software, and multimedia encyclopedias)
	Complete online searches by keyword, subject, title, and author

Topic	Extracting and Documenting Research Results
Lessons	Identify relevant information within chosen resources
	Collate and summarize information from chosen resources (i.e., Inspiration, graphic organizers, paraphrasing, note cards, word processing, etc.)

Goal #3: Digital Citizenship--Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.

Lessons	Work cooperatively and collaboratively with peers, family members, and others when using technology in the classroom
	Make ethical and legal decisions when confronting with usage dilemmas while using technology, networks, and digital media. (e.g., logging in using own name and password, respecting other students' works)
	Understand and follow diocesan and school acceptable use policy and understand the personal and societal consequences of inappropriate use (e.g., access appropriate web sites, report improper use, protect personal information, honor privacy of others, utilize network resources for appropriate educational activities)

Goal #4: Technology Operations & Concepts--Students demonstrate a sound understanding of technology concepts, systems, and operations.

Topic	Understand and use Technology Systems
Lessons	Identify simple computer parts using correct terms (e.g., mouse, keyboard, monitor, printer, CD-ROM)
	Turn the computer on and off
	Log into and out of the network using username and password
	Launch new programs
	Open a new or saved document
	Use the window scroll bar to effectively move through the application screen
	Use point and click and drag techniques (eg. click, left click, right click, double click, triple click, drag) (mouse/touch pad/touch point)
	Use keyboard shortcuts (eg. print, save, new document, copy/paste, exit, document navigation)
	Use proper keyboard position (e.g., hand orientation, space bar, shift, return) to improve words per minute.
Topic	Select and use applications effectively and productively
Lessons	Save files to proper locations and appropriate format using "save" and "save as"
	Print files (eg. choose printer, printer settings, page layout)
	Organize and manage files (eg. viewing files, creating folders, file naming conventions, copying vs. moving, file types/extensions, finding/searching)
	Navigate between programs and windows (eg. maximize, minimize, restore, move, cascade windows)
Topic	Basic Application Skills—Web 2.0; Curriculum Software
Lessons	Enter, edit, and delete text (e.g., keyboard, touch pad, mouse)
	Navigate toolbars, menus, dialog boxes, status bar
Topic	Word Processing
Lessons	Apply editing techniques (e.g., spell check, thesaurus, find/change, copy/cut/paste)
	Apply formatting techniques (e.g., alignment, paragraph indentions tabs, fonts, styles, spacing, setting tabs, fonts, styles, spacing, columns, tables, section and page breaks, text boxes)
	Manipulate text layout and design for newsletter, magazine, flyer or presentation layouts
Topic	Graphics
Lessons	Use painting and drawing tools (e.g., text, line, shapes, eraser, brush, spray can, paint bucket, rotate, resize, gradients)
	Insert copyright free images from a variety of sources into documents/projects (e.g., CD, Internet, camera, scanner. software gallery)
	Insert clip art from a variety of sources into documents/projects (e.g., CD, Internet, camera, scanner)
	Edit and manipulate graphics (e.g., move, resize, cropping, rotating, changing file size, changing file type)
Topic	Database
Lessons	Define database fields
	Enter and sort information
	Use advanced database sorting techniques (e.g., <, , =, begins with, contains)
Topic	Spreadsheet
Lessons	Enter and sort information in a spreadsheet
	Create simple graphs (e.g., bar, pie, circle, line)

Grades 3-5

Goal #1: Creativity and Innovation--Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology.

Topic	Creating Multimedia
Lessons	Create developmentally appropriate media projects
	Incorporate 3 or more components into multimedia projects (e.g., text, graphics, sound, drawing, transitions, buttons, hyperlinks)

Topic	Moviemaking and Digital Storytelling
Lessons	Save to various media (e.g., CD, DVD, mobile devices, Internet)
	Storyboard video collaboratively with peers
	Use video filmed by others to develop productions
	Film quality video footage
	Edit video footage adding effects (e.g., sound, text, transitions)
	Create footage from images/still pictures
	Insert sound/music files into movie of still pictures

Goal #2: Communication and Collaboration--Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others.

Topic	Developing and Delivery Presentations
Lessons	Format presentation using appropriate text and images (e.g., text consists of main idea, images enhance text, sounds and transitions support text)
	Use effective oral communication skills (e.g., speak loudly, clearly; use gestures; maintain eye contact; use technology only as reference point)
	Align graphics, text, and sound with content
	Choose appropriate software for task (e.g., iMovie or presentation, multimedia, or web design software)
	Demonstrate advanced formatting skills using appropriate text and images (e.g., text consists of main idea, images enhance text, sounds and transitions support text) to develop a presentation

Topic	Communicating via email
Lessons	Access account, retrieve, compose, send, and reply to messages using class accounts
	Access account, retrieve, compose, send, and reply to messages using individual accounts
	Manage email messages (e.g., deleting, saving and organizing)
	Use advanced email features (e.g., postpone, edit, forward, carbon copy, multiple recipients, attachments)
	Create an address book/contact list

Goal #3: Research and Information Fluency--Students apply digital tools to gather, evaluate, and use information.

Topic	Navigating the Internet
Lessons	Access teacher identified web sites
	Maneuver within web-based resources (e.g., navigate, use links, forward, back)
	Enter address/URL
	Bookmark web sites

Topic	Selecting and Searching Digital Resources
Lessons	Use a variety of multimedia resources (e.g., interactive books, educational software, multimedia encyclopedias)
	Complete online searches by keyword, subject, title, and author
	Search using basic browser features and strategies
	Complete advanced online search strategies to access information (i.e., Google site search, Boolean logic, +, -, ?, "", *)
	Select information sources and digital research tools appropriate for selected task
Topic	Evaluating Digital Resources
Lessons	Differentiate between fact and opinion
	Recognize propaganda and the presence of bias and prejudice
	Analyze and evaluate resources in terms of date, author, source, and point of view
	Recognize the significance of the URL address (e.g., .org, .edu, .com, .net, .gov)
	Assess web sites for relevance and validity (e.g., purpose of research, validity of site)
	Determine and prioritize appropriate electronic resources
Topic	Extracting and Documenting Research Results
Lessons	Cite sources using an appropriate format for grade level and/or curriculum area
	Identify relevant information within chosen resources
	Collate and summarize information from chosen resources (i.e., Inspiration, graphic organizers, paraphrasing, note cards, word processing, etc.)
Topic	Collecting and Analyzing Data
Lessons	Use digital device for data collection individually or in small groups, or whole group (e.g., Proscopes, iSight cameras, iPods, science probes for temperature, light, sound collection)
	Interpret and summarize information and data gathered from digital resources
	Process data and report results of research (e.g., surveys, simulation, report, presentation, model, chart/graph)
Goal #4: Critical Thinking, Problem-Solving, and Decision-Making--Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.	
Lessons	Use appropriate digital tools to identify and define authentic problems and significant questions for investigation.
	Develop a graphic organizer (e.g., Inspiration, storyboard) to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.
	Use digital simulations (e.g. applets, games, demonstrations, etc.) for inquiry-based learning.
	Determine which technology is most suited to the specific task or problem (e.g., word processor, database, spreadsheet, multimedia tool, graphic organizer)
	Plan and manage activities to develop a solution or to complete a project.
	Collect and analyze data to identify solutions and/or make informed decisions.
Goal #5: Digital Citizenship--Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.	

Lessons	Work cooperatively and collaboratively with peers, family members, and others when using technology in the classroom
	Make ethical and legal decisions when confronting with usage dilemmas while using technology, networks, and digital media. (e.g., logging in using own name and password, respecting other students' works)
	Understand and follow diocesan and school acceptable use policy and understand the personal and societal consequences of inappropriate use (e.g., access appropriate web sites, report improper use, protect personal information, honor privacy of others, utilize network resources for appropriate educational activities)
	Observe copyright laws, intellectual property rights, and responsibilities (e.g., cite sources, obtain permission to use others' works to refrain from plagiarism)
	Demonstrate appropriate care of all equipment (e.g., computers, camera, scanners, printers, iPads, headsets, etc.)
	Creating your digital footprint - creating your digital dossier by contributing to online communities, personal learning networks, social media, etc.
	Managing your digital footprint - Recognize online risks, make informed decisions, and take appropriate actions to protect yourself when using and contributing to social and digital media (eg., website navigation, consumer site visits, social networking, YouTube, Facebook, Twitter, texting, sexting)
	Developing a personal learning network for lifelong learning.
	Cyber bullying—understand what constitutes cyber bullying and know how to avoid and deal with cyber bullying situations
	Demonstrate and advocate for ethical and legal behaviors among peers, family and community.
Goal #6: Technology Operations & Concepts--Students demonstrate a sound understanding of technology concepts, systems, and operations.	
Topic	Understand and use technology Systems
Lessons	Use keyboard shortcuts (eg. print, save, new document, copy/paste, exit, document navigation)
	Use proper keyboard position (e.g., hand orientation, space bar, shift, return) to improve words per minute.
	Keyboard at 15 words per minute (wpm) with 93% accuracy
Topic	Select and use applications effectively and productively
Lessons	Save files to proper locations and appropriate format using "save" and "save as"
	Print files (eg. choose printer, printer settings, page layout)
	Organize and manage files (eg. viewing files, creating folders, file naming conventions, copying vs. moving, file types/extensions, finding/searching)
	Navigate between programs and windows (eg. maximize, minimize, restore, move, cascade windows)
Topic	Basic Application Skills—Web 2.0; Curriculum Software
Lessons	Enter, edit, and delete text (e.g., keyboard, touch pad, mouse)
	Navigate toolbars, menus, dialog boxes, status bar
Topic	Word Processing
Lessons	Apply editing techniques (e.g., spell check, thesaurus, find/change, copy/cut/paste)
	Apply formatting techniques (e.g., alignment, paragraph indentions tabs, fonts, styles, spacing, setting tabs, fonts, styles, spacing, columns, tables, section and page breaks, text boxes)
	Manipulate text layout and design for newsletter, magazine, flyer or presentation layouts

Topic	Graphics
Lessons	Use painting and drawing tools (e.g., text, line, shapes, eraser, brush, spray can, paint bucket, rotate, resize, gradients)
	Insert copyright free images from a variety of sources into documents/projects (e.g., CD, Internet, camera, scanner, software gallery)
	Insert clip art from a variety of sources into documents/projects (e.g., CD, Internet, camera, scanner)
	Edit and manipulate graphics (e.g., move, resize, cropping, rotating, changing file size, changing file type)
	Capture digital images and insert into document (e.g., pictures, scanned images, video footage)
	Superimpose images (e.g., matching size, colors, shading)
Topic	Database
Lessons	Define database fields
	Enter and sort information
	Use advanced database sorting techniques (e.g., <, =, begins with, contains)
	Create database report
	Create and format advanced database layouts (e.g., labels, customized reports)
	Merge database information into other application documents (e.g., word processing, web page)
Topic	Spreadsheet
Lessons	Enter and sort information in a spreadsheet
	Merge spreadsheet information into other application documents (e.g., word processing, web page)
	Create simple graphs (e.g., bar, pie, circle, line)
	Use advanced graph formatting techniques (e.g., step size, 3-dimensional, color, shading, labeling)
	Demonstrate basic spreadsheet functions and formulas (e.g., +, -, *, /, AVERAGE, and SUM)
	Use advanced spreadsheet formatting (e.g., font, alignment, line, shade, color, dimension)
Topic	Capstone Projects
Lessons	Be able to utilize all of these individual skills to complete projects that require students to gather information, synthesize it into data, prepare reports with graphs and graphics and references, then prepare and present results while communicating with instructors and team members.

Grades 6-8

Goal #1: Creativity and Innovation--Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology

Topic Creating Multimedia

Lessons Create developmentally appropriate media projects

Incorporate 3 or more components into multimedia projects (e.g., text, graphics, sound, drawing, transitions, buttons, hyperlinks)

Use advanced multimedia techniques (e.g., animations, new button actions, web links, embedding)

Topic Publishing to the Web

Lessons Create a web page (e.g. Wiki, Moodle, Google, etc.) including text, graphics, links, media, etc.

Use advanced web design tools and techniques (e.g., animations, anchors, tables, frames, viewing source/document/information files)

Create a dynamic webpage (e.g. flash, HTML 5, Javascripting, CSS, HTML)

Topic Moviemaking and Digital Storytelling

Lessons Save to various media (e.g., CD, DVD, mobile devices, Internet)

Convert video/audio file to appropriate file format (e.g., mpg to avi; MP4 to MP3)

Identify the parts/features of various video production equipment (e.g., cameras, connections, audio equipment, tripods, lights)

Storyboard video collaboratively with peers

Use video filmed by others to develop productions

Film quality video footage

Film quality video footage using advanced techniques (e.g., video mixing, mobile video, aligning video to genre, chroma keying)

Import video into computer

Import video into computer using advanced techniques (e.g., time code/batch capturing)

Edit video footage adding effects (e.g., sound, text, transitions)

Edit video footage adding effects using advanced techniques (e.g., multiple video sources, overlaying video using chroma key, adding animations)

Save as various file types (e.g., mpg, avi, mov)

Create footage from images/still pictures

Insert sound/music files into movie of still pictures

Goal #2: Communication and Collaboration--Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others.

Topic Developing and Delivering Presentation

Lessons Format presentation using appropriate text and images (e.g., text consists of main idea, images enhance text, sounds and transitions support text)

Use effective oral communication skills (e.g., speak loudly, clearly; use gestures; maintain eye contact; use technology only as reference point)

Align graphics, text, and sound with content

Choose appropriate software for task (e.g., iMovie or presentation, multimedia, or web design software)

Demonstrate advanced formatting skills using appropriate text and images (e.g., text consists of main

	idea, images enhance text, sounds and transitions support text) to develop a presentation
Topic	Communicating via Email
Lessons	Access account, retrieves, composes, sends, and replies to messages using class accounts
	Access account, retrieves, composes, sends, and replies to messages using individual accounts
	Manage email messages (e.g., deleting, saving and organizing)
	Use advanced email features (e.g., postpone, edit, forward, carbon copy, multiple recipients, attachments)
	Create an address book/contact list
Topic	Collaborating via Online Media
Lessons	Participate in online discussions (e.g., real-time chats, bulletin boards, webcams)
	Participate in video conferencing (e.g., Skype, Polycom, Elluminate)
	Exhibit appropriate telecommunication etiquette (e.g., muting, raising their hand, sitting quietly, keep backchanneling chat on topic)
	Exhibit appropriate etiquette while collaborating with others (e.g., through the use of blogs, google docs, wikis,. etc.
Goal #3: Research and Information Fluency--Students apply digital tools to gather, evaluate, and use information.	
Topic	Navigating the Internet
Lessons	Access teacher identified web sites
	Maneuver within web-based resources (e.g., navigate, use links, forward, back)
	Enter address/URL
	Bookmark web sites
Topic	Selecting and Searching Digital Resources
Lessons	Use a variety of multimedia resources (e.g., interactive books, educational software, multimedia encyclopedias)
	Complete online searches by keyword, subject, title, and author
	Search using basic browser features and strategies
	Complete advanced online search strategies to access information (i.e., Google site search, Boolean logic, +, -, ?, "", *)
	Select information sources and digital research tools appropriate for selected task
Topic	Evaluating Digital Resources
Lessons	Differentiate between fact and opinion
	Recognize propaganda and the presence of bias and prejudice
	Analyze and evaluate resources in terms of date, author, source, and point of view
	Recognize the significance of the URL address (e.g., .org, .edu, .com, .net, .gov)
	Assess web sites for relevance and validity (e.g., purpose of research, validity of site)
	Determine and prioritize appropriate electronic resources
Topic	Extracting and Documenting Research Results
Lessons	Cite sources using an appropriate format for grade level and/or curriculum area
	Identify relevant information within chosen resources
	Collate and summarize information from chosen resources (i.e., Inspiration, graphic organizers, paraphrasing, note cards, word processing, etc.)

Topic	Collecting and Analyzing Data
Lessons	Use digital device for data collection individually or in small groups, or whole group (e.g., Proscopes, iSight cameras, iPods, science probes for temperature, light, sound collection) Interpret and summarize information and data gathered from digital resources
	Process data and report results of research (e.g., surveys, simulation, report, presentation, model, chart/graph)
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	Plan and manage activities to develop a solution or to complete a project.
	Collect and analyze data to identify solutions and/or make informed decisions.
Goal #5: Digital Citizenship--Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior	
Lessons	Work cooperatively and collaboratively with peers, family members, and others when using technology in the classroom
	Make ethical and legal decisions when confronting with usage dilemmas while using technology, networks, and digital media. (e.g., logging in using own name and password, respecting other students' works)
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	Observe copyright laws, intellectual property rights, and responsibilities (e.g., cite sources, obtain permission to use others' works to refrain from plagiarism)
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	Managing your digital footprint - Recognize online risks, make informed decisions, and take appropriate actions to protect yourself when using and contributing to social and digital media (eg., website navigation, consumer site visits, social networking, YouTube, Facebook, Twitter, texting, sexting)
	Developing a personal learning network for lifelong learning.
	Cyber bullying—understand what constitutes cyber bullying and know how to avoid and deal with cyber bullying situations
	Demonstrate and advocate for ethical and legal behaviors among peers, family and community.

Goal #6: Technology Operations & Concepts--Students demonstrate a sound understanding of technology concepts, systems, and operations.	
Topic	Understand and use technology systems
Lessons	Use keyboard shortcuts (eg. print, save, new document, copy/paste, exit, document navigation)
	Keyboard at 25 wpm with 93% accuracy
Topic	Select and use applications effectively and productively
Lessons	Save files to proper locations and appropriate format using "save" and "save as"
	Print files (eg. choose printer, printer settings, page layout)
	Organize and manage files (eg. viewing files, creating folders, file naming conventions, copying vs. moving, file types/extensions, finding/searching)
	Navigate between programs and windows (eg. maximize, minimize, restore, move, cascade windows)
Topic	Basic Application Skills—Web 2.0; Curriculum Software
Lessons	Enter, edit, and delete text (e.g., keyboard, touch pad, mouse)
	Navigate toolbars, menus, dialog boxes, status bar
Topic	Word Processing
Lessons	Apply editing techniques (e.g., spell check, thesaurus, find/change, copy/cut/paste)
	Apply formatting techniques (e.g., alignment, paragraph indentions tabs, fonts, styles, spacing, setting tabs, fonts, styles, spacing, columns, tables, section and page breaks, text boxes)
	Manipulate text layout and design for newsletter, magazine, flyer or presentation layouts
Topic	Graphics
Lessons	Use painting and drawing tools (e.g., text, line, shapes, eraser, brush, spray can, paint bucket, rotate, resize, gradients)
	Insert copyright free images from a variety of sources into documents/projects (e.g., CD, Internet, camera, scanner. software gallery)
	Insert clip art from a variety of sources into documents/projects (e.g., CD, Internet, camera, scanner)
	Edit and manipulate graphics (e.g., move, resize, cropping, rotating, changing file size, changing file type)
	Capture digital images and insert into document (e.g., pictures, scanned images, video footage)
	Superimpose images (e.g., matching size, colors, shading)
Topic	Database
Lessons	Define database fields
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	Use advanced database sorting techniques (e.g., <, =, begins with, contains)
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Topic	Spreadsheet
Lessons	Enter and sort information in a spreadsheet
	Create simple graphs (e.g., bar, pie, circle, line)

	Use advanced graph formatting techniques (e.g., step size, 3-dimensional, color, shading, labeling)
	Demonstrate basic spreadsheet functions and formulas (e.g., +, -, *, /, AVERAGE, and SUM)
	Use advanced spreadsheet formatting (e.g., font, alignment, line, shade, color, dimension)
	Merge spreadsheet information into other application documents (e.g., word processing, web page)
Topic	Capstone Projects
Lessons	Be able to utilize all of these individual skills to complete projects that require students to gather information, synthesize it into data, prepare reports with graphs and graphics and references, then prepare and present results while communicating with instructors and team members.

Grades 9-12

Goal #1 -- Creativity and Innovation--Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology.

Topic	Creating Multimedia
Lessons	Use advanced multimedia techniques (e.g., animations, new button actions, web links, embedding)
Topic	Publishing to the Web
Lessons	Create a web page (e.g. Wiki, Moodle, Google, etc.) including text, graphics, links, media, etc.
	Use advanced web design tools and techniques (e.g., animations, anchors, tables, frames, viewing source/document/information files)
	Create a dynamic webpage (e.g. flash, HTML 5, Javascripting, CSS, HTML)
Topic	Moviemaking and Digital Storytelling
Lessons	Convert video/audio file to appropriate file format (e.g., mpg to avi; MP4 to MP3)
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	Film quality video footage using advanced techniques (e.g., video mixing, mobile video, aligning video to genre, chroma keying)
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Lessons	Format presentation using appropriate text and images (e.g., text consists of main idea, images enhance text, sounds and transitions support text)
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Lessons	Use digital device for data collection individually or in small groups, or whole group (e.g., Proscopes, iSight cameras, iPods, science probes for temperature, light, sound collection)
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	Developing a personal learning network for lifelong learning.
	Cyber bullying—understand what constitutes cyber bullying and know how to avoid and deal with cyber bullying situations
	Demonstrate and advocate for ethical and legal behaviors among peers, family and community.

Goal #5: Technology Operations & Concepts--Students demonstrate a sound understanding of technology concepts, systems, and operations.

Topic	Understand and use technology systems
Lessons	Launch new programs
	Keyboard at 30-40 wpm with 93% accuracy or 40+ wpm with 90% accuracy
Topic	Graphics
Lessons	Superimpose images (e.g., matching size, colors, shading)

Topic	Database
Lessons	Enter and sort information
	Use advanced database sorting techniques (e.g., < , =, begins with, contains)
	Create database report Create and format advanced database layouts (e.g., labels, customized reports)
	Merge database information into other application documents (e.g., word processing, web page)
Topic	Spreadsheet
Lessons	Demonstrate basic spreadsheet functions and formulas (e.g., +, -, *, /, AVERAGE, and SUM)
	Demonstrate advanced spreadsheet functions and formulas (e.g., COUNT, IF, LOOKUP, NOW, NPER, NPMT)
	Use advanced spreadsheet formatting (e.g., font, alignment, line, shade, color, dimension)
	Merge spreadsheet information into other application documents (e.g., word processing, web page)
Topic	Capstone Projects
Lessons	Be able to utilize all of these individual skills to complete projects that require students to gather information, synthesize it into data, prepare reports with graphs and graphics and references, then prepare and present results while communicating with instructors and team members.