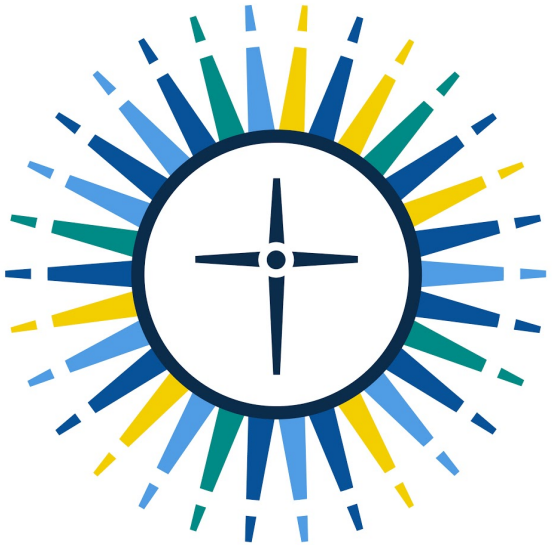
Consensus Curriculum for Technology



CATHOLIC SCHOOLS

DIOCESE of RICHMOND

Technology

July 1, 2022

Mission Statement

The mission of the Office of Catholic Schools is to assist the Bishop in his mandate as Teacher of the Catholic Faith, by establishing a climate and framework for fostering excellence in catechetical and academic education in the schools of the diocese in adherence to the Magisterium of the Church.

The mission of the schools in the Catholic Diocese of Richmond is to develop and nurture the spiritual, intellectual, social, and emotional growth of each student in the spirit of the Gospels and the teachings of the Catholic Church.

Framework

This curriculum is informed by the International Society for Technology in Education Standards and the Virginia Standards of Learning.

Acknowledgements

The Most Reverend Barry C. Knestout, D.D.
Bishop of the Diocese of Richmond

Kelly Lazzara
Superintendent, Office of Catholic Schools

Jennifer Bigelow
Associate Superintendent, Office of Catholic Schools

Committee Members

Kay Bisaillon, Catholic High School
Eric DeBoer, Saint Bridget Catholic School
Sarah Gauldin, Sacred Heart Catholic School
Jessica Healy, St. Mary Catholic School
Ashley King, Roanoke Catholic School
Nancy Mulholland, Catholic High School
Katherine Olivar, St. Matthew Catholic School
Ed Paraiso Our Lady of Lourdes Catholic School
Megan Potter, Roanoke Catholic School
Matias Seibert, Charlottesville Catholic School
Joanne Selig, Star of the Sea Catholic School
Akela Silkman, Saint Bridget Catholic School
Melanie Weser, Peninsula Catholic School

Catholic Diocese of Richmond

Technology Consensus Curriculum

Goals

- The Technology Curriculum is a K-12 guideline from which students within the Diocese of Richmond can obtain basic technology skills within the context of our Catholic faith. The purpose of the curriculum is to provide consistency of instruction throughout the Diocese.

- This curriculum can be used in a stand-alone technology class or integrated within other content areas. Each standard includes some example activities that may extend or enhance existing lessons. The intent is to provide structure across the curriculum and empower students to leverage technology in their learning.

- In order to ensure compliance with this curriculum, the Technology Master Curriculum Council recommends designating at least one person at each school as the technology coordinator. This individual will teach these concepts and coach teachers to help them integrate the concepts within their content areas.

- These standards were developed using the ISTE standards (International Society for Technology in Education) as a starting point. Council members broke down the standards for K-12 grade levels and provided suggestions for free resources or activities. https://www.iste.org/standards/for-students

- The curriculum focuses on students learning broad skills instead of skills focused or tailored to a specific program or platform. For example, learning word processing versus learning how to edit in Microsoft Word. Students should feel comfortable learning how to use new programs and platforms by drawing on a broad skill set and experiences since technology is always changing.

Changes

- This curriculum updates the Media Literacy & Technology sections previously located within the Language Arts curriculum. We recommend that all teachers (Math, Science, Language Arts, History, Religion, etc.) read over these new, stand-alone technology standards to see where some ideas can be applied to existing lessons, or see where benchmarks can already be measured in existing lessons.

- The next version of the Language Arts curriculum will not include the Media Literacy & Technology section.

- The council is developing a website where teachers can submit or find other examples of lessons, websites, or resources to teach these standards.

2016

ISTE STANDARDS
FOR STUDENTS

1. Empowered Learner

Students leverage technology to take an active role in choosing, achieving and demonstrating competency in their learning goals, informed by the learning sciences. Students:

a. articulate and set personal learning goals, develop strategies leveraging technology to achieve them and reflect on the learning process itself to improve learning outcomes.
b. build networks and customize their learning environments in ways that support the learning process.
c. use technology to seek feedback that informs and improves their practice and to demonstrate their learning in a variety of ways.
d. understand the fundamental concepts of technology operations, demonstrate the ability to choose, use and troubleshoot current technologies and are able to transfer their knowledge to explore emerging technologies.

2. Digital Citizen

Students recognize the rights, responsibilities and opportunities of living, learning and working in an interconnected digital world, and they act and model in ways that are safe, legal and ethical. Students:

a. cultivate and manage their digital identity and reputation and are aware of the permanence of their actions in the digital world.
b. engage in positive, safe, legal and ethical behavior when using technology, including social interactions online or when using networked devices.
c. demonstrate an understanding of and respect for the rights and obligations of using and sharing intellectual property.
d. manage their personal data to maintain digital privacy and security and are aware of data-collection technology used to track their navigation online.

3. Knowledge Constructor

Students critically curate a variety of resources using digital tools to construct knowledge, produce creative artifacts and make meaningful learning experiences for themselves and others. Students:

a. plan and employ effective research strategies to locate information and other resources for their intellectual or creative pursuits.
b. evaluate the accuracy, perspective, credibility and relevance of information, media, data or other resources.
c. curate information from digital resources using a variety of tools and methods to create collections of artifacts that demonstrate meaningful connections or conclusions.
d. build knowledge by actively exploring real-world issues and problems, developing ideas and theories and pursuing answers and solutions.

ISTE

iste.org/standards

4. Innovative Designer

Students use a variety of technologies within a design process to identify and solve problems by creating new, useful or imaginative solutions. Students:

a. know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts or solving authentic problems.
b. select and use digital tools to plan and manage a design process that considers design constraints and calculated risks.
c. develop, test and refine prototypes as part of a cyclical design process.
d. exhibit a tolerance for ambiguity, perseverance and the capacity to work with open-ended problems.

5. Computational Thinker

Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions. Students:

a. formulate problem definitions suited for technology-assisted methods such as data analysis, abstract models and algorithmic thinking in exploring and finding solutions.
b. collect data or identify relevant data sets, use digital tools to analyze them, and represent data in various ways to facilitate problem-solving and decision-making.
c. break problems into component parts, extract key information, and develop descriptive models to understand complex systems or facilitate problem-solving.
d. understand how automation works and use algorithmic thinking to develop a sequence of steps to create and test automated solutions.

6. Creative Communicator

Students communicate clearly and express themselves creatively for a variety of purposes using the platforms, tools, styles, formats and digital media appropriate to their goals. Students:

a. choose the appropriate platforms and tools for meeting the desired objectives of their creation or communication.
b. create original works or responsibly repurpose or remix digital resources into new creations.
c. communicate complex ideas clearly and effectively by creating or using a variety of digital objects such as visualizations, models or simulations.
d. publish or present content that customizes the message and medium for their intended audiences.

7. Global Collaborator

Students use digital tools to broaden their perspectives and enrich their learning by collaborating with others and working effectively in teams locally and globally. Students:

a. use digital tools to connect with learners from a variety of backgrounds and cultures, engaging with them in ways that broaden mutual understanding and learning.
b. use collaborative technologies to work with others, including peers, experts or community members, to examine issues and problems from multiple viewpoints.
c. contribute constructively to project teams, assuming various roles and responsibilities to work effectively toward a common goal.
d. explore local and global issues and use collaborative technologies to work with others to investigate solutions.

Catholic Diocese of Richmond

Technology Standard 1: The Empowered Learner

The student will leverage technology to take an active role in choosing, achieving and demonstrating competency in their learning goals, informed by the learning sciences and our Catholic faith.

Grades K-2

Benchmarks Key knowledge and skills we want students to know and be able to do	
a. **Set** and **share** personal learning goals b. **Reflect** and **gather** feedback throughout the learning process to improve learning outcomes c. **Decide** how technology will help achieve those goals d. **Collaborate** to achieve learning goals using technology e. **Understand** basic concepts of operating technology f. **Demonstrate** the ability to choose, use, and problem-solve current technologies g. **Transfer** their knowledge to explore other technologies	
Essential Knowledge Key facts, concepts, and ideas needed to successfully meet benchmarks	**Essential Questions** Questions to guide student inquiry and focus instruction to uncover big ideas
• Keyboard function keys: Capitalize, Space Bar, Letters, @ symbol • Document (includes image and video) creation, editing, formatting skills • Computer / application menu and control functions (includes camera and microphone) • Computer mouse skills (select, drag, right-click, left-click, scroll) • Mobile device (iPad/Tablet/Chromebook) navigation - app log in, home button, wake/sleep function	• What is my goal? • How does my Catholic faith influence my goal setting? • How can I accomplish my goal? • What resources (hardware/ software) do I need to achieve my goal? • What can I do to help reach my goal? • Where is technology present in my life? • How can we use technology to work together on a shared project? • How can I use technology to show my learning?

Suggested Resources/ Experiences

Information to help support instruction

- Use websites to develop keyboarding skills: ABCYa.com, TypeTastic, TypingClub,
- Use websites to develop computer mouse skills: thisissand, tvokids, ABCYa/Make a Cake, ABCMouse
- Use programs or apps to enable classroom learning: iPad or Web apps such as iXL, Dr. Seuss books, etc.
- Use digital tools that allow students to choose and create personal end products - Google Slides, Docs, ABCYa creation tools
- Use devices to Log on (using a keyboard, mouse, touchscreen, touchpad, etc),
- Create, edit, or format a document (name/date, alphabet, numbers, capitalization, format font text/size/color, spelling words…)
- Practice toolbar menu and control functions (open window/tab, minimize, maximize, close)
- Capture, edit, or create images/videos (iMovie, Clips, SeeSaw, FlipGrid, Animoto, doInk, Powtoon, Book Creator…)

Catholic Diocese of Richmond

Technology Standard 1: The Empowered Learner

The student will leverage technology to take an active role in choosing, achieving and demonstrating competency in their learning goals, informed by the learning sciences and our Catholic faith.

Grades 3-5

Benchmarks

Key knowledge and skills we want students to know and be able to do

a. **Set & share** personal learning goals.
b. **Reflect & gather** feedback throughout the learning process to improve outcomes.
c. **Decide** how technology will help achieve those goals.
d. **Collaborate** to achieve learning goals using technology.
e. **Understand** basic concepts of operating technology.
f. **Demonstrate** the ability to choose, use, and problem solve current technologies.
g. **Transfer** their knowledge to explore emerging technologies.

Essential Knowledge

Key facts, concepts, and ideas needed to successfully meet benchmarks

- Document creation, editing, saving, opening, sharing, and formatting with text.
- Spreadsheet creation and population with data.
- Presentation of information using slideshow, video, audio, or coding.
- Website creation, navigation, media embedding, formatting, publishing.
- Use the proper digital tools or resources to support a defined task (planning, implementing and reflecting).
- Proper typing fingers
- Keyboard function keys: tab, shift, delete, ctrl

Essential Questions

Questions to guide student inquiry and focus instruction to uncover big ideas

- What is my goal?
- How does my Catholic faith influence my goal setting?
- How can I accomplish my goal?
- What resources (hardware/ software) do I need to achieve my goal?
- How can different forms of technology be used to solve the same problem?
- What can my teacher do to help me reach my goal?

Suggested Resources/ Experiences

Information to help support instruction

a. Use websites to develop keyboarding skills: Typing.com, TypingClub.com
b. Use a blog or any text program to write learning goals for the school year and reflect on them regularly with progress; then print the document.
c. Connect and learn with PC a classmate to problem solve when appropriate face to face or via technology
d. Use a spreadsheet to track progress on Performance Series or other grade level assessments.
e. Create online reviews / videos to share in class on specific topics. (programs such as SeeSaw, FlipGrid, Loom, Screencastify, Scratch)
f. Maintain an online /digital reflection of projects or portfolios to document their process. (programs such as Google Slides, Canva)
g. Create a website (Google Sites, Weebly, Wix, Adobe Spark)

Catholic Diocese of Richmond

Technology Standard 1: The Empowered Learner

The student will leverage technology to take an active role in choosing, achieving and demonstrating competency in their learning goals, informed by the learning sciences and our Catholic faith.

Grades 6-8

Benchmarks

Key knowledge and skills we want students to know and be able to do

a. **Set & share** personal learning goals.
b. **Reflect & gather** feedback throughout the learning process to improve outcomes.
c. **Decide** how technology will help achieve those goals.
d. **Collaborate** to achieve learning goals using technology.
e. **Understand** basic concepts of operating technology.
f. **Demonstrate** the ability to choose, use, and problem solve current technologies.
g. **Transfer** their knowledge to explore emerging technologies.

Essential Knowledge

Key facts, concepts, and ideas needed to successfully meet benchmarks

- Document formatting
- Video, audio, and graphic editing
- Files & folder structure
- Email management, filters, rules
- Cloud vs. local storage
- Presentation tools
- File formats/extensions
- Spreadsheet creation & formula usage
- Website creation
- Digital personal organizer

Essential Questions

Questions to guide student inquiry and focus instruction to uncover big ideas

- How does my Catholic faith influence my goal setting?
- What do I hope to accomplish for the end product?
- Which tool (hardware/software) should I use to complete a task or solve a problem?
- How do I learn a new tool?
- Why is it important to use problem solving in my daily life?
- How can I use email as an effective communication tool?
- How can I use technology to help me organize information?

Suggested Resources/ Experiences

Information to help support instruction

- Use a blog, text program, or note taking tool to write learning goals for the school year (Google Docs, Word, Keep, Blogger, etc.).
- Reflect on learning goals regularly.
- Choose a tool to present information to class that best fits the material being shared.
- Use a tool that allows students to work together on a project (Google Drive, Office 365, etc.)
- Practice basic computer use such as file management--cloud and local (Applied Digital Skills lesson on Organizing Drive), keyboarding (Typing.com, Typing Club, etc.), device operation.
- Select and use local, network, and Internet resources and tools; capture and edit video/audio/graphics; use keyboard shortcuts.
- Identify a problem and discover a new tool to solve it (code a program on Scratch, make a how-to video, design a 3D model for Thingiverse, make a study sheet/guide/presentation/gameshow).
- Create a study aid for an upcoming assessment using Google Forms, QR codes, Quizlet, Kahoot, GimKit, etc.
- Create & maintain a website (Google Sites, Weebly, Wix, Adobe Spark) as a middle school portfolio for high school admissions.
- Create a spreadsheet and use formulas to calculate/track budgets, Performance Series, or grade data.
- Manage school email account and create rules/filters/labels to organize emails.
- Use Notion.so, Google Keep, Google Calendar, EverNote, or another method to keep track of research, due dates, etc.

Catholic Diocese of Richmond

Technology Standard 1: The Empowered Learner

The student will leverage technology to take an active role in choosing, achieving and demonstrating competency in their learning goals, informed by the learning sciences and our Catholic faith.

Grades 9-12

Benchmarks
Key knowledge and skills we want students to know and be able to do

a. **Set** and **share** personal learning goals
b. **Reflect** and **gather** feedback throughout the learning process to improve learning outcomes
c. **Decide** how technology will help achieve those goals
d. **Collaborate** to achieve learning goals using technology
e. **Understand** basic concepts of operating technology
f. **Demonstrate** the ability to choose, use, and problem-solve current technologies
g. **Transfer** their knowledge to explore other technologies

Essential Knowledge Key facts, concepts, and ideas needed to successfully meet benchmarks	**Essential Questions** Questions to guide student inquiry and focus instruction to uncover big ideas
• Create personal learning goals regarding technological literacy with visibility and connection with teachers • Develop a network of other learners to help facilitate their learning that includes but not limited to teachers • Use and reflect on teacher feedback to effectively move forward • Reflect and analyze on assessments and where strengths, weaknesses were with suggestions on improvement • Evaluate and select technology tools appropriate for goals • Demonstrate troubleshooting when necessary • Organize learning using digital tools	• How does my Catholic faith influence my goal setting? • How can I use technological tools/programs that demonstrate and show progress in my learning goals? • How can I select appropriate presentation methods and programs to demonstrate learning objectives? • How can I use technology to foster collaboration with others? • How can I use technology to organize my assignments, learning goals, and personal goals?

Suggested Resources/ Experiences
Information to help support instruction

- Use a blog, Flipgrid or any appropriate program to write learning goals for the school year and reflect on them regularly with progress. For instance, share audio files with foreign language conversations and reflect on personal pronunciation skills at beginning, middle and end of the year and observe.
- Emphasize that learning is about partnership and working together by providing students a forum for constructive feedback (Google doc, Twitter hashtag, Edmodo, blog, etc.), to improve teaching
- In foreign language classes, record pronunciation to practice and show growth over time and have classmates respond and/or critique
- Use of learning management system (Canvas, Google Classroom)
- Allow students to select appropriate program/medium to share their information
- Create post-assessment evaluation with test questions grouped by objectives allowing students to view where their learning strengths and weaknesses were
- Using post assessment evaluations, students develop a list of suggestions on what to do to increase their learning on previously misunderstood topics
- Troubleshoot programs as needed
- After giving students feedback, ask them to describe how they will make changes to implement that feedback
- After giving students feedback, ask students to summarize the feedback and how they will use it on future assessments
- Student Help Desk option for students to assist teachers and students occasionally
- Create blog/website run by students with tips and tricks to help school community
- Request student feedback to request additional sites/apps with explanation and purpose of request
- Use Notion.so, Google Keep, Google Calendar, EverNote, or another method to keep track of research, due dates, etc.

Catholic Diocese of Richmond

Technology Standard 2: Digital Citizen

The student will recognize the rights, responsibilities and opportunities of living, learning and working in an interconnected digital world, and they act and model in ways that are safe, legal, and Christ-like.

Grades K-2

Benchmarks Key knowledge and skills we want students to know and be able to do	
a. **Cultivate** and **manage** their digital identity and reputation b. **Engage** in positive, safe, legal, and Christ-like behavior when using technology c. **Demonstrate** an understanding of and respect for the rights and responsibilities of using and sharing intellectual property d. **Manage** their personal data to maintain digital privacy and security e. **Become Aware** of data-collection technology used to track their navigation online	
Essential Knowledge Key facts, concepts, and ideas needed to successfully meet benchmarks	**Essential Questions** Questions to guide student inquiry and focus instruction to uncover big ideas
• Digital citizenship, etiquette, cyberbullying, and safety • School technology rules - acceptable use policy • Password and digital security • Media authorship • Video conferencing etiquette	• How do our Catholic values apply to the internet? • How does the use of technology affect self and others? • Who is my audience? Are they trustworthy? • What is digital safety and how is it the same/different as physical safety? • How do I give credit to the creator of this item?
Suggested Resources/ Experiences Information to help support instruction	
• Utilize websites promoting digital citizenship concepts: ABCYa Cyber-Five, Kids iKeepSafe, ThinkUKnow Lee & Kim, and Common Sense Media , https://beinternetawesome.withgoogle.com/en_us/educators • Utilize programs promoting digital collaboration (e.g. a prepared "anyone with link" Google doc, HyperDocs, popplet, Edmodo…) • Define and discuss personal data, digital privacy, security, and data collection/tracking technology (ABCYa Cyber-Five, Kids iKeepSafe, ThinkUKnow Lee & Kim, and Common Sense Media) • Have students create presentations of positive digital behavior • Bookmark sites promoting copyright free images: Smithsonian Flickr, Photos4Class, Pics4learning, …	

Catholic Diocese of Richmond

Technology Standard 2: Digital Citizen

The student will recognize the rights, responsibilities and opportunities of living, learning and working in an interconnected digital world, and they act and model in ways that are safe, legal, and Christ-like.

Grades 3-5

Benchmarks Key knowledge and skills we want students to know and be able to do	
a. **Cultivate** and **manage** their digital identity and reputation and are aware of the permanence of their actions in the digital world. b. **Engage** in positive, safe, legal and Christ-like behavior when using technology, including social interactions online or when using networked devices. c. **Demonstrate** an understanding of and respect for the rights and obligations of using and sharing intellectual property d. **Manage** their personal data to maintain digital privacy and security and are aware of data-collection technology used to track their navigation online.	
Essential Knowledge Key facts, concepts, and ideas needed to successfully meet benchmarks	**Essential Questions** Questions to guide student inquiry and focus instruction to uncover big ideas
• Digital citizenship, etiquette, cyberbullying, and safety • School technology rules - acceptable use policy • Password and digital security • Media authorship • Video conferencing etiquette	• How do our Catholic values apply to the internet? • What are the laws and rules that apply to digital content and information? • What are the components of your digital identity and your digital footprint? • How does digital identity and footprint affect you and others? • How does the way I act online communicate my values? • How do I respond when I see and feel behavior that is not Christ-like? • How do I give credit to the creator of the items used?
Suggested Resources/ Experiences Information to help support instruction	
a. Use a variety of effective and age appropriate websites to enforce digital citizenship; iKeepsafe, Common Sense Media, Google Be Internet Awesome b. Use a secure, age appropriate program using first names only to create a positive comment/feedback board. c. Common Sense Education *Digital Literacy and Citizenship Curriculum* units; interactive assessments to measure student knowledge of a safe, respectful and responsible online experience. d. Explain and demonstrate different types of Boolean searches with and without copyrighted material. e. Define, discuss and summarize personal data, digital privacy, security, data-collection technology, and tracking in a variety of ways. Use blogs to post and comment in a safe and positive manner and discuss when the guidelines are broken in any way. f. Utilize Google Image search to find creative commons-licensed images for projects.	

Catholic Diocese of Richmond

Technology Standard 2: Digital Citizen

The student will recognize the rights, responsibilities and opportunities of living, learning and working in an interconnected digital world, and they act and model in ways that are safe, legal, and Christ-like.

Grades 6-8

Benchmarks Key knowledge and skills we want students to know and be able to do	
a. **Cultivate** & **manage** their digital identity and reputation. b. **Realize** the permanence of their actions in the digital world. c. **Engage** in positive, safe, legal and Christ-like behavior when using technology. d. **Respect** the originality of other people's work and credit your sources. e. **Manage** their personal data to maintain digital privacy and security. f. **Realize** data-collection technology is used to track their navigation online.	
Essential Knowledge Key facts, concepts, and ideas needed to successfully meet benchmarks	**Essential Questions** Questions to guide student inquiry and focus instruction to uncover big ideas
• Account creation • Password security • Email etiquette • Citation • Royalty-free media • Licensing • Digital footprints • Video conferencing etiquette	• How do our Catholic values apply to the internet? • What is the impact of creating this account? • How does data collection affect your life? • What is the relationship between privacy and security? • How should I secure my account? • How do my online actions impact my reputation? • Who is my audience? • Is the identity of source trustworthy? • How do I give credit to the creator? • How do I respond when I see and feel behavior that is not Christ-like?
Suggested Resources/ Experiences Information to help support instruction	
a. Google yourself and assess if the results represent you well. b. Give examples of others being affected by their online choices. c. Communicate digitally using appropriate etiquette. d. Use a citation tool to cite a source, including text, images, websites, and videos (Citation Machine, MyBib, etc.). e. Complete Google's Applied Digital Skills lesson on passwords. f. Watch Wall Street Journal's video on how apps track you. g. Use of the CRAAP method to determine "good" digital resources. h. Common Sense Media's Digital Citizenship Curriculum and Google's Applied Digital Skills contain a variety of excellent resources and activities for this topic.	

Catholic Diocese of Richmond

Technology Standard 2: Digital Citizen

The student will recognize the rights, responsibilities and opportunities of living, learning and working in an interconnected digital world, and they act and model in ways that are safe, legal, and Christ-like.

Grades 9-12

Benchmarks
Key knowledge and skills we want students to know and be able to do

- Students **cultivate** and **manage** their digital identity and reputation and are aware of the permanence of their actions in the digital world.
- Students **engage** in positive, safe, legal and Christ-like behavior when using technology, including social interactions online or when using networked devices.
- Students **demonstrate** an understanding of and respect for the rights and obligations of using and sharing intellectual property.
- Students **manage** their personal data to maintain digital privacy and security and are aware of data-collection technology used to track their navigation online.

Essential Knowledge Key facts, concepts, and ideas needed to successfully meet benchmarks	**Essential Questions** Questions to guide student inquiry and focus instruction to uncover big ideas
• Digital footprint permanence • Digital citizenship vs digital literacy • Digital privacy • Cyber security • Digital cookies, data collection • Proper digital citation • Royalty-free media • Licensing • Video conferencing etiquette	• How do our Catholic values apply to the internet? • How do digital footprints and their permanence affect our lives? • Explain the difference between digital literacy and digital citizenship. • Why is it important to list and credit sources properly? • Is honesty important in social media? • In what ways do privacy settings apply to everyday digital programs and technological tools? • How and why do we behave differently on and offline? • Why is it important to keep your information safe? • What precautions should be taken to keep people (and their private information) safe? • What is the individual's responsibility to the community and what is the community's responsibility to the individual? • How do I respond when I see and feel behavior that is not Christ-like?

Suggested Resources/ Experiences
Information to help support instruction

- Have students review a friend's digital footprint
- Have student review their own digital footprint
- Review content and privacy settings and adjust accordingly
- Common Sense Education's interactive assessments measure student knowledge of what a safe, respectful and responsible online experience is. Measures knowledge gain, attitude change, and behavioral shift after completing age level *Digital Literacy and Citizenship Curriculum* units.
- Discuss positive, safe, legal and ethical behavior in general and online - in particular through different subjects
- Revisit citation methods and require correct implementation of citations and quotations.
- Demonstrate citation tools in word processing programs such as Microsoft Word or Google Docs or research tools such as NoodleTools
- Review content and privacy settings and adjust accordingly
- Share student created lists/media of privacy and security settings tips and tricks or tutorials with your school community on a regular basis
- Use Common Sense Media lesson "Protecting Reputations Online."
- Use Common Sense Media lesson "Chatting and Red Flags."
- Google's Applied Digital Skills and Code.org contain a variety of excellent resources and activities for this topic.

Catholic Diocese of Richmond

Technology Standard 3: Knowledge Constructor

Students will critically curate a variety of resources using digital tools to construct knowledge, produce creative artifacts, and make meaningful learning experiences for themselves and others through the lens of our Catholic faith.

Grades K-2

Benchmarks Key knowledge and skills we want students to know and be able to do	
• **Develop** effective research strategies to locate relevant information. • **Evaluate** the accuracy, perspective, credibility, and relevance of information. • **Curate** information from digital resources using a variety of tools and methods. • **Create** an original product that develops ideas and/or pursues real world solutions.	
Essential Knowledge Key facts, concepts, and ideas needed to successfully meet benchmarks	**Essential Questions** Questions to guide student inquiry and focus instruction to uncover big ideas
• Search engines • Keywords • Gather and organize information • Explain basic ideas of plagiarism and copyright • How to add digital media to a portfolio • Securely share work or artifacts	• What information/search results am I looking for? • What search terms/keywords best describe the topic? • What are all the different ways in which you learn and receive information? • How can information be different from each other? • How can technology help me find information and use it in projects? • How does my Catholic faith help me make sense of new information?
Suggested Resources/ Experiences Information to help support instruction	
• Explore Safe search engines (Kiddle, KidRex, Wonderopolis, Google Safe Search) • Explore Augmented Reality (AR) /Virtual Reality (VR) process - (Google Cardboard, 360Cities, Curioscope, Nearpod VR ...) • Build research skills: Scholastic Building Research Skills, KShrock, • With guidance, help students choose a topic, use effective and deliberate keyword search terms • Students help analyze and create online bookmark project (Sqworl, Google Sites, Diigo ...) • Collect videos, images, articles that illustrate a specific concept in the real world (Diigo, Symbaloo, Sqworl, DoInk, iMovie, Draw & Tell, Shadow Puppet EDU, Moovly, Animotica, Toontastic, ...) • Create portfolios using apps like Class Dojo, SeeSaw, etc.	

Catholic Diocese of Richmond

Technology Standard 3: Knowledge Constructor

Students will critically curate a variety of resources using digital tools to construct knowledge, produce creative artifacts, and make meaningful learning experiences for themselves and others through the lens of our Catholic faith.

Grades 3-5

Benchmarks
Key knowledge and skills we want students to know and be able to do

- **Plan** effective research strategies to locate relevant information.
- **Evaluate** the accuracy, perspective, credibility, and relevance of information.
- **Curate** information from digital resources using a variety of tools and methods.
- **Create** an original product that develops ideas and/or pursues real world solutions.

Essential Knowledge Key facts, concepts, and ideas needed to successfully meet benchmarks	**Essential Questions** Questions to guide student inquiry and focus instruction to uncover big ideas

• Research -
  ○ How to recognize a reputable site.
  ○ Specific search terms
  ○ Evaluating information, images, graphics, and media for accuracy
  ○ Curate information from multiple sources
• Explain basic ideas of plagiarism and copyright using digital citation tools
• Organize observations and create artifacts using digital learning tools and resources to demonstrate knowledge and learning.
	• How are digital learning tools and resources identified and used appropriately to accomplish a defined task?
	• How are digital learning tools and resources used to effectively locate, evaluate and use information?
	• What are the most effective key search terms I could use to direct my search?
	• How are digital learning tools and resources used to construct knowledge?
	• How can I organize the information I find?
	• How does citation (or recognizing others' work) align with our Catholic values?
	• How does my Catholic faith help me make sense of new information?

Suggested Resources/ Experiences
Information to help support instruction

a. Use effective deliberate search terms to ensure appropriate outcomes.
b. Students learn from a variety of lessons evaluating website and news validity from sites such as Read, Write, Think Hoax or No Hoax, Common Sense Media- Reading News Online
c. Use different programs to save bookmarks to class-related websites on a browser and share them with other classmates Diigo. Use web based programs/extensions to create citations
d. Analyze a topic and create a project using technological resources. (i.e. create a website using Google Sites, a presentation using Google Slides, write a program using Scratch, make a review using Kahoot or Gimkit, use an interactive whiteboard like Jamboard, or a 3D model using Tinkercad)
e. Use a Genius Hour approach to some lessons to allow students to solve a real world problem that is relevant to them

Catholic Diocese of Richmond

Technology Standard 3: Knowledge Constructor

Students will critically curate a variety of resources using digital tools to construct knowledge, produce creative artifacts, and make meaningful learning experiences for themselves and others through the lens of our Catholic faith.

Grades 6-8

Benchmarks Key knowledge and skills we want students to know and be able to do	
a. **Plan** effective research strategies to locate relevant information. b. **Evaluate** the accuracy, perspective, credibility, and relevance of information. c. **Curate** information from digital resources using a variety of tools and methods. d. **Create** an original product that develops ideas and/or pursues real world solutions.	
Essential Knowledge Key facts, concepts, and ideas needed to successfully meet benchmarks	**Essential Questions** Questions to guide student inquiry and focus instruction to uncover big ideas
• Search engine strategies/shortcuts • Keywords • Fake news • Multiple source validation • Organizational & delivery strategies	• How can you find the information you are looking for? • How do you know your source is reliable? • How can you organize your information? • What tools or strategies can you use to present or publish your findings? • How does citation (or recognizing others' work) align with our Catholic values? • How does my Catholic faith help me make sense of new information?
Suggested Resources/ Experiences Information to help support instruction	
a. Google Search Education for lesson plans, "Google A Day" challenge, and other power searching tips. b. PBS Learning Media Fake News lessons & video collection; complete the Critical Evaluation of a Web Page lesson by Kathy Schrock. Scholastic lesson on identifying reliable resources & citing them. University of Illinois Evaluating Internet Sources flyer. c. Curation tools (Google Keep, Wakelet, bookmarking tools, etc). Ditch That Textbook's 30 ideas for getting started with curation in the classroom. d. Presentation tools (Google Slides, Prezi, Powerpoint, Scratch, Google Sites, Canva, etc.).	

Catholic Diocese of Richmond

Technology Standard 3: Knowledge Constructor

Students will critically curate a variety of resources using digital tools to construct knowledge, produce creative artifacts, and make meaningful learning experiences for themselves and others through the lens of our Catholic faith.

Grades 9-12

Benchmarks Key knowledge and skills we want students to know and be able to do	
• **Plan** effective research strategies to locate relevant information. • **Evaluate** the accuracy, perspective, credibility, and relevance of information. • **Curate** information from digital resources using a variety of tools and methods. • **Create** an original product that develops ideas and/or pursues real world solutions.	
Essential Knowledge Key facts, concepts, and ideas needed to successfully meet benchmarks	**Essential Questions** Questions to guide student inquiry and focus instruction to uncover big ideas
• Fake news • Various research strategies • Validity and credibility of sites, sources, and social media posts • Multiple source validation • Information organization & delivery for a targeted audience	• How can you determine if information found online is valid and credible? • Define "misinformation" and explore the consequences of spreading misinformation online. • Why is it important to be digitally honest? • Why is it necessary to be digitally organized? • How do you create professional presentations that share your information concisely? • How does citation (or recognizing others' work) align with our Catholic values? • How does my Catholic faith help me make sense of new information?
Suggested Resources/ Experiences Information to help support instruction	
• Employ efficient internet searching techniques • Use websites such as Mike Caufield's to determine validity of facts found on the internet. • Organize files & bookmarks for classwork using a variety of Cloud-Based programs and tools to include Google Drive, Chrome Browser sign-in, syncing bookmarks, Delicious, Pocket, etc... • Create a digital presentation using Google Slides, Prezi, Canva, etc. to accompany a finished report on an authentic and meaningful topic of research • Awareness of bias, deepfakes and other things that could taint intellectual pursuits online. • Publish documents or multimedia files to allow authentic audience access • Publish public projects on YouTube • Use Common Sense Media lesson "Fakes and Hoaxes"	

Catholic Diocese of Richmond

Technology Standard 4: Innovative Designer

Students use a variety of technologies within a design process to identify and solve problems by creating new, useful, imaginative, and God-honoring solutions.

Grades K-2

Benchmarks Key knowledge and skills we want students to know and be able to do	
a. **Utilize** the design process to identify and solve problems. b. **Select** and **use** digital tools to plan and manage the design process. c. **Develop**, **test** and **revise** rough drafts/prototypes. d. **Engage** with ambiguous, open-ended problems that require perseverance and do not contain clear solutions.	
Essential Knowledge Key facts, concepts, and ideas needed to successfully meet benchmarks	**Essential Questions** Questions to guide student inquiry and focus instruction to uncover big ideas
• Problems • Processes • Step by step instructions • Prototyping & redesign • Solutions	• What is a problem? • What is a process? • How do processes help solve problems? • What other ways can this problem be solved? • What is innovation? • How is failure part of the innovation process? • How can the design process be applied to other subjects (i.e. writing process)? • What does success look like? • How does my solution honor God?
Suggested Resources/ Experiences Information to help support instruction	
• Use Scratch Jr to code a process (a program) • Use KidBlog or Google Forms to reflect after lessons with specific questions about how the lesson could be improved and/or to explain their biggest learning moment of the lesson • Use Code.org to troubleshoot and navigate through a variety of steps to empower students and their sharpen their attention to detail • Use a drawing program like Google Drawings to design a product that has a real world application • Capture draft versions of student's products until final solution is submitted - shows design and redesign process at work	

Catholic Diocese of Richmond

Technology Standard 4: Innovative Designer

Students use a variety of technologies within a design process to identify and solve problems by creating new, useful, imaginative, and God-honoring solutions.

Grades 3-5

Benchmarks

Key knowledge and skills we want students to know and be able to do

a. **Utilize** the design process to identify and solve problems.
b. **Select** and **use** digital tools to plan and manage the design process.
c. **Develop**, **test** and **revise** rough drafts/prototypes.
d. **Engage** with ambiguous, open-ended problems that require perseverance and do not contain clear solutions.

Essential Knowledge Key facts, concepts, and ideas needed to successfully meet benchmarks	**Essential Questions** Questions to guide student inquiry and focus instruction to uncover big ideas
• Product requirements • Design possibilities • Graphic representations & models • Prototype and redesign • Test prototype to product requirements	• What is a problem? • What is a process? • How do processes help solve problems? • What other ways can this problem be solved? • What is innovation? • Why should prototypes be tested? • How is failure part of the innovation process? • How can the design process be applied to other subjects (i.e. writing process)? • What would success look like? • How does my solution honor God?

Suggested Resources/ Experiences

Information to help support instruction

a. Explore the design process and problem solving process.
b. Use Google Drawing and/or a browser-based 3D design modeling tool (i.e. Tinkercad) to design and create a 3D product with a real life application.
c. Experiment and test a hypothesis in science and record the process using digital tools (photos, blogging, spreadsheets, etc…)
d. Use Code.org to troubleshoot and navigate through a variety of steps to empower students and sharpen their attention to detail
e. Capture draft versions of student's products until a final solution is submitted - shows design and redesign process at work (use Google Docs, Slides, or Keep to take pictures and reflect on progress).

Catholic Diocese of Richmond

Technology Standard 4: Innovative Designer

Students use a variety of technologies within a design process to identify and solve problems by creating new, useful, imaginative, and God-honoring solutions.

Grades 6-8

Benchmarks Key knowledge and skills we want students to know and be able to do	
a. **Utilize** the design process to identify and solve problems. b. **Select** and **use** digital tools to plan and manage the design process. c. **Develop**, **test** and **revise** rough drafts/prototypes. d. **Engage** with ambiguous, open-ended problems that require perseverance and do not contain clear solutions.	
Essential Knowledge Key facts, concepts, and ideas needed to successfully meet benchmarks	**Essential Questions** Questions to guide student inquiry and focus instruction to uncover big ideas
• Problem solving & design process • Prototyping & redesign • Product requirements • Digital tools and their functions • Open-ended questions • Collaboration tools • Constructive criticism	• What is the problem? • What is the design process? • How will the design process help solve the problem? • What other ways can this problem be solved? • What is innovation? • Why should prototypes be tested? • How is failure part of the innovation process? • What would success look like? • How does my solution honor God?
Suggested Resources/ Experiences Information to help support instruction	
a. Explore the design process and problem solving process b. Use Google Keep, Google Classroom, or other tools to plan/manage the design process. c. Create a solution. Google Drawing for image, Google Docs for paper, Tinkercad for 3D model, Scratch for coding, WeVideo for video, etc. d. United Nations' list of global issues. e. Capture draft versions of student's products until a final solution is submitted - shows design and redesign process at work (use Google Docs, Slides, or Keep to take pictures and reflect on progress).	

Catholic Diocese of Richmond

Technology Standard 4: Innovative Designer

Students use a variety of technologies within a design process to identify and solve problems by creating new, useful, imaginative, and God-honoring solutions.

Grades 9-12

Benchmarks Key knowledge and skills we want students to know and be able to do	
• **Utilize** the design process to identify and solve problems. • **Select** and **use** digital tools to plan and manage the design process. • **Develop**, **test** and **revise** rough drafts/prototypes. • **Engage** with ambiguous, open-ended problems that require perseverance and do not contain clear solutions.	
Essential Knowledge Key facts, concepts, and ideas needed to successfully meet benchmarks	**Essential Questions** Questions to guide student inquiry and focus instruction to uncover big ideas
• Problem solving & design process • Prototyping & redesign • Product requirements • Digital tools and their functions • Open-ended questions • Collaboration tools • Constructive criticism	• What is the problem? • What is innovation? • How do innovative ideas develop? • How is failure part of the innovation process? • How can different people create vastly different designs with the same instructions and why is that good? • Why should prototypes be tested and how should it be done? • How/why are your tests and requirements related? • How does my solution honor God?
Suggested Resources/ Experiences Information to help support instruction	
• Use Google Drawing to design a lesson related product and use newer technologies if available to bring it to reality. • Experiment and test a hypothesis in science and record the process using digital tools (photos, blogging, spreadsheets, etc…). • Using the appropriate digital tool (word processing, spreadsheet, drawing, data analyzer) design a template for use with your design program. • Using a drone and the software enabled with it, navigate around your campus to capture an aerial view. • Create a 3D model or drawing of your school campus or another location relevant to the specific curriculum. • Capture draft versions of student's products until a final solution is submitted - shows design and redesign process at work (use Google Docs, Slides, or Keep to take pictures and reflect on progress). • Use a variety of coding programs to empower students to learn in a detailed engineering method (Code.org AP Computer Science curriculum), Android app inventor, Scratch programing, Tynker)	

Catholic Diocese of Richmond

Technology Standard 5: Computational Thinker

The student will develop and employ strategies for understanding and solving problems in ways that leverage technological methods with our Catholic worldview to develop and test solutions.

Grades K-2

Benchmarks Key knowledge and skills we want students to know and be able to do	
1. **Formulate** a step by step process to find solutions to a problem. 2. **Collect**, **analyze**, and **display** data collected through various digital tools. 3. **Break down** problems into parts, **identify** key information, and **create** models of solutions. 4. **Understand** processes and use a sequence of steps to solve problems.	
Essential Knowledge Key facts, concepts, and ideas needed to successfully meet benchmarks	**Essential Questions** Questions to guide student inquiry and focus instruction to uncover big ideas
• Problem solving • Data analysis • Data collection • Automation • Algorithmic thinking	• How do we use data analysis, abstract models, and algorithmic thinking to solve problems? • How can algorithms help me? • How do I create and follow steps to solve a problem? • What problems can technology solve? • How and why do we collect, analyze, and show data? • Why is it important to be honest when gathering and showing data? • How can data be presented (used) honestly or dishonestly?

Suggested Resources/ Experiences

Information to help support instruction

- Use algorithmic thinking to create a series of steps that are coded and automated (Code.org, Scratch Jr, Tynker, bitsbox, graphing).
- Create an algorithm and flow chart of one of your daily tasks, i.e tying your shoes, following classroom entrance protocols, making a PBJ, morning routine.
- Hour of Code Computer Science Fundamentals units.
- Students can collect data and use a spreadsheet to discuss or form opinions: OREO Cookie Stacking, collect weather data from different classrooms from all over the world, M&M colors.
- Use Code.org to troubleshoot and navigate through a variety of steps to empower students and sharpen their attention to detail.
- https://www.codemonkey.com/blog/how-to-explain-algorithms-to-kids/

Catholic Diocese of Richmond

Technology Standard 5: Computational Thinker

The student will develop and employ strategies for understanding and solving problems in ways that leverage technological methods with our Catholic worldview to develop and test solutions.

Grades 3-5

Benchmarks Key knowledge and skills we want students to know and be able to do	
a. **Formulate** a step by step process to find solutions to a problem. b. **Collect**, **analyze**, and **display** data collected through various digital tools. c. **Break down** problems into parts, **identify** key information, and **create** models of solutions. d. **Understand** processes and use a sequence of steps to solve problems.	
Essential Knowledge Key facts, concepts, and ideas needed to successfully meet benchmarks	**Essential Questions** Questions to guide student inquiry and focus instruction to uncover big ideas
• Problem solving • Data analysis • Data collection • Automation • Algorithmic thinking	• How do we use data analysis, abstract models, and algorithmic thinking to solve problems? • How do I distinguish critical information from non-critical information? • How can algorithms help me? • How and why do we collect, analyze, and show data? • Why is it important to be honest when gathering and showing data? • How can data be presented (used) honestly or dishonestly?

Suggested Resources/ Experiences

Information to help support instruction

- Students can collect data and use a spreadsheet to discuss or form opinions OREO Cookie Stacking, collect weather data from different classrooms from all over the world, M&M colors.
- Students can use spreadsheets and other technology to maintain a progress journal (grades, testing data) to be used in goal making and reflection.
- Use data analysis tools within Google Workspace products (i.e. response data in Forms, graphs in Sheets)
- Use Code.org to troubleshoot and navigate through a variety of steps to empower students and sharpen their attention to detail.
- Create audio files or Google slides with a step by step process for another student to follow.
- Demonstrate an understanding of how technology can be used across the content areas.
- Abstract modeling - create a flowchart of your morning routine. How can I make flowcharts for other routines?
- Algorithm lesson

Catholic Diocese of Richmond

Technology Standard 5: Computational Thinker

The student will develop and employ strategies for understanding and solving problems in ways that leverage technological methods with our Catholic worldview to develop and test solutions.

Grades 6-8

Benchmarks Key knowledge and skills we want students to know and be able to do	
a. **Define** problems technology can solve. b. **Collect**, **analyze**, and **display** data collected through various digital tools. c. **Break down** problems or systems into parts, **identify** key information, and **create** models of solutions. d. **Use** algorithmic thinking to develop a sequence of steps to create and test automated solutions.	
Essential Knowledge Key facts, concepts, and ideas needed to successfully meet benchmarks	**Essential Questions** Questions to guide student inquiry and focus instruction to uncover big ideas
• Problem solving • Data analysis • Data collection • Automation • Algorithmic thinking	• How do we use data analysis, abstract models, and algorithmic thinking to solve problems? • How and why do we collect & analyze data? • How do I distinguish critical information from non-critical information? • What are the limits of automation? • What are ethical considerations when collecting data and reporting the results?
Suggested Resources/ Experiences Information to help support instruction	
a. Utilize scientific instruments to collect and analyze data. Use Google Sheets to display and chart. Use Google Forms to survey people. b. Practice coding in Code.org, Scratch, Tynker. c. Create a screencast using Loom or other screencast tools showing how to solve a problem. d. Write music on Flat. e. Limits of automation topics: self driving cars, app tracking (geo, page, etc), personalized advertising, YouTube suggestions. f. Take current event data (COVID) and have students create a headline to twist its meaning.	

Catholic Diocese of Richmond

Technology Standard 5: Computational Thinker

The student will develop and employ strategies for understanding and solving problems in ways that leverage technological methods with our Catholic worldview to develop and test solutions.

Grades 9-12

Benchmarks Key knowledge and skills we want students to know and be able to do	
• **Define** problems technology can solve. • **Collect**, **analyze**, and **display** data collected through various digital tools. • **Break down** problems or systems into parts, **identify** key information, and **create** models of solutions. • **Use** algorithmic thinking to develop a sequence of steps to create and test automated solutions.	
Essential Knowledge Key facts, concepts, and ideas needed to successfully meet benchmarks	**Essential Questions** Questions to guide student inquiry and focus instruction to uncover big ideas
• Problem Solving • Data collection • Algorithmic thinking • Descriptive models • Complex systems	• How does automation work? • How and why do we collect and analyze data? • Why do we facilitate problem solving in our data analysis? • How can abstract models predict future events? • How does data collection affect your life? • How do you determine data validity? • What is the difference between data and information? • What are ethical considerations when collecting data and reporting the results?
Suggested Resources/ Experiences Information to help support instruction	
• Plan problem investigation techniques and platforms including data collection, analysis and conclusions. • Utilize scientific tools such as probes and apps to gather data. • Analyze data using spreadsheets or other digital tools. • Prepare report conclusions on appropriate platform. • An advanced Foreign Language class shares a how to project with a beginning Foreign Language Class and each class digitally documents or shares via video conferencing software the process from both perspectives with final results (draw a picture, make a sandwich). • Reflect on the data collection process and provide feedback on results and techniques (political polls vs election results). • Use Common Sense Media lesson "The Big Data Dilemma". • Use Common Sense Media lesson "Clicks for Cash." • AP Computer Science Principles class. • Use Google Trends to see changes in data over time. • Students analyze current events data (e.g. COVID from CDC) and create a report interpreting the results. Compare subjectivity of reports with class.	

Catholic Diocese of Richmond

Technology Standard 6: Creative Communicator

Rooted in their Catholic faith, students communicate clearly and express themselves creatively for a variety of purposes using the platforms, tools, styles, formats and digital media appropriate to their goals.

Grades K-2

Benchmarks Key knowledge and skills we want students to know and be able to do	
a. **Choose** the best tool to meet the intended objective. b. **Create** original works or responsibly repurpose or remix digital resources into new creations. c. **Communicate** complex ideas clearly by creating or using media (documents, audio, video, visualizations, models or simulations). d. **Publish** or **present** content that customizes the message and medium for the intended audiences.	
Essential Knowledge Key facts, concepts, and ideas needed to successfully meet benchmarks	**Essential Questions** Questions to guide student inquiry and focus instruction to uncover big ideas
• Digital media: images, documents, videos, audio, presentation • Creating and Editing • Saving and Publishing • Video conferencing	• What is my goal? • How do I know which tool to use? • Who is my audience? • How can I show love and care for my audience while communicating? • What are all the ways in which I can communicate? Which is best for my goal? • How can technology be used to help people communicate?
Suggested Resources/ Experiences Information to help support instruction	
• Research, download and edit copyright-free images (Paint, PicCollage, Google Drawing, Photopea, Adobe apps). • Search for creative commons images on Google. • Create models and simulations (Scratch, Code.org, Tynker, bitsbox, etc.) to communicate complex ideas. • Student-created videos (iMovie, DoInk, Clips, Flipgrid, Loom, Screencastify, WeVideo, smoovie, etc.). • Student presentations (Google Slides, Screencastify, Haiku Deck). • Student audio (voice recorder, Seesaw, FlipGrid, Audacity). • Create and share collaborative works (Google docs, Drawings, etc.). • Create a student portfolio (ClassDojo, Seesaw, Google Sites, Google Drive). • Video conference presentation/ collaboration with others.	

Catholic Diocese of Richmond

Technology Standard 6: Creative Communicator

Rooted in their Catholic faith, students communicate clearly and express themselves creatively for a variety of purposes using the platforms, tools, styles, formats and digital media appropriate to their goals.

Grades 3-5

Benchmarks Key knowledge and skills we want students to know and be able to do	
a. **Choose** the best tool to meet the intended objective. b. **Create** original works or responsibly repurpose or remix digital resources into new creations. c. **Communicate** complex ideas clearly by creating or using media (documents, audio, video, visualizations, models or simulations). d. **Publish** or **present** content that customizes the message and medium for the intended audiences.	
Essential Knowledge Key facts, concepts, and ideas needed to successfully meet benchmarks	**Essential Questions** Questions to guide student inquiry and focus instruction to uncover big ideas
• Publishing platforms • Creative or aesthetic design principles • Constructive Criticism/Peer Editing • Digital media: images, documents, videos, audio, presentation • Video conferencing	• What are my goals? • What am I trying to communicate? • Who is my audience? • How can I show love and care for my audience while communicating? • How could I best communicate my goals? • What is the best way to determine I have been understood? • What are ways I can use video conferencing to communicate effectively?

Suggested Resources/ Experiences
Information to help support instruction

- Video conference presentation/collaboration with others.
- Discuss uses of various kinds of software: graphics, spreadsheets, presentation and text programs.
- Discuss online vs offline formats and effective audiences of both.
- Find a copyright free image, download and edit using a digital program (Paint, PicCollage, Google Drawing, Photopea, Adobe apps).
- Use the Google platform to create a collaborative story or project.
- Create a how-to presentation or re-tell a book or story using programs such as Powtoons, Loom, or Screencastify.
- Use blogging sites to share with authentic audiences on a variety of topics (example - Kidblog.org, Google Sites).
- Create multi-media audio, visual, and audio-visual presentation (Canva).
- Use a program, such as Flipgrid to express ideas, opinions and information.
- Create a review game (board game, Kahoot, Quizizz, Gimkit, Blooket).

Catholic Diocese of Richmond

Technology Standard 6: Creative Communicator

Rooted in their Catholic faith, students communicate clearly and express themselves creatively for a variety of purposes using the platforms, tools, styles, formats and digital media appropriate to their goals.

Grades 6-8

Benchmarks Key knowledge and skills we want students to know and be able to do	
a. **Choose** the best tool to meet the intended objective. b. **Create** original works or responsibly repurpose or remix digital resources into new creations. c. **Communicate** complex ideas clearly by creating or using media (documents, audio, video, visualizations, models or simulations). d. **Publish** or **present** content that customizes the message and medium for the intended audiences.	
Essential Knowledge Key facts, concepts, and ideas needed to successfully meet benchmarks	**Essential Questions** Questions to guide student inquiry and focus instruction to uncover big ideas
• Infographics • Creative or aesthetic design principles • Publishing platforms (Google Drive, YouTube, website, etc.) • Constructive criticism/peer editing • Video conferencing	• What is the best tool for my goal? • Who is my audience? • How can I show love and care for my audience while communicating? • What are the best practices for this presentation format? • How do I assess that my idea was communicated? • What are ways I can use video conferencing to communicate effectively? • How can I use social media effectively and ethically?
Suggested Resources/ Experiences Information to help support instruction	
a. Choose a tool from Kathy Schrock's Guide to Everything. Select a tool from the Pedagogy Wheel for iPad apps. b. Use Adobe Color to discover & use complimentary colors. Use ColorPicker extension to match colors from another image. c. Effective use of email and LMS communication tools d. Know when 'text-speak' is appropriate and inappropriate e. Have students share preliminary presentations to gather feedback on topics being shared (e.g.: is this format understandable, is the information clearly presented, etc.). f. Create multi-media audio, visual, and audio-visual presentation (Flipgrid, Canva, YouTube videos, Podcast channel). g. Based on the tool, polish and publish content to specific medium & audience. h. Discussion of "tone" in digital publishing. What type of writing and content is appropriate for your message and audience? (Is using memes ok in this presentation? Text-speech?) i. Create a social media campaign (Canva). j. Video conference presentation/collaboration with others. k. Create a review game (board game, Kahoot, Quizizz, Gimkit, Blooket).	

Catholic Diocese of Richmond

Technology Standard 6: Creative Communicator

Rooted in their Catholic faith, students communicate clearly and express themselves creatively for a variety of purposes using the platforms, tools, styles, formats and digital media appropriate to their goals.

Grades 9-12

Benchmarks Key knowledge and skills we want students to know and be able to do
• **Choose** the best tool to meet the intended objective. • **Create** original works or responsibly repurpose or remix digital resources into new creations. • **Communicate** complex ideas clearly by creating or using media (documents, audio, video, visualizations, models or simulations). • **Publish** or **present** content that customizes the message and medium for the intended audiences.

Essential Knowledge Key facts, concepts, and ideas needed to successfully meet benchmarks	**Essential Questions** Questions to guide student inquiry and focus instruction to uncover big ideas
• Digital communications • Remixing and repurposing • Crafting your message • Modeling • Constructive Criticism/Peer Editing • Video Conferencing	• How can you communicate your message to your intended audience? • When would you use one type of communication over another? • How do I tailor my message to my platform of presentation? • Why would someone remix existing resources into new creations? • How does a message change when communicated in different methods? • What makes a message powerful to its audience? • How can I show love and care for my audience while communicating?

Suggested Resources/ Experiences Information to help support instruction
• Discuss why students chose specific tool for various projects • Effective use of email and LMS communication tools • Know when 'text-speak' is appropriate and inappropriate • An artwork digitally designed and then shared, and revised by many students to result in a variety of presentation methods • Video projects/slideshows, etc. • Using a variety of technological tools take an aerial view photograph of a landmark or local building and recreate a model • Use 3-D modeling software to solve real-world problems or to create models of learning (math/science) • Use a digital tool to journal/reflect and connect to find a target audience for the writing (other students, younger students, parents, etc…) • Use a variety of student guest writers to share their perspective/day on the school social media presence for your school for the day or week • Explore the use of hashtags in targeting and communicating with an intended audience. • Video conference presentation/collaboration with others. • Create a review game (board game, Kahoot, Quizizz, Gimkit, Blooket).

Catholic Diocese of Richmond

Technology Standard 7: Global/Local Collaborator

Students use digital tools in union with the Catholic Church's teaching and traditions to broaden their perspectives, enrich their learning, and collaborate effectively with others locally and globally.

Grades K-2

Benchmarks Key knowledge and skills we want students to know and be able to do	
a. **Connect** with learners from a variety of backgrounds and cultures, **engaging** with them in ways that broaden mutual understanding and learning. b. **Collaborate** with others, including peers, experts or community members, to examine issues and problems from multiple viewpoints. c. **Contribute** constructively to project teams, assuming various roles and responsibilities to work effectively toward a common goal d. **Explore** local and global issues and use collaborative technologies to work with others to investigate solutions	
Essential Knowledge Key facts, concepts, and ideas needed to successfully meet benchmarks	**Essential Questions** Questions to guide student inquiry and focus instruction to uncover big ideas
• Online safety • Digital collaboration • Video conferencing • Online chat • Social media	• How do I behave online? • Who interacts with me online? • What are the differences with online versus face-to-face communication? • How can technology help overcome collaboration issues? • How can we use technology to work together on a shared project? • How can I use technology to share my faith?
Suggested Resources/ Experiences Information to help support instruction	
• Invite community and global experts into the classroom in meaningful ways (video conferencing program, Skype, Chatzy, Google Meet, Zoom). • Use an online collaborative program (wiki) to reflect, summarize tasks and responsibilities. • Discuss how technology has helped connect with family members who live elsewhere. • Create and share collaborative works (Google docs, Google Drawings). • Take a virtual field trip to explore zoos, museums, art galleries, other cultures and locations (using VR or not). • Google Arts and Culture • Google Earth Timelapse • Custom Google Maps	

Catholic Diocese of Richmond

Technology Standard 7: Global/Local Collaborator

Students use digital tools in union with the Catholic Church's teaching and traditions to broaden their perspectives, enrich their learning, and collaborate effectively with others locally and globally.

Grades 3-5

Benchmarks Key knowledge and skills we want students to know and be able to do	
a. **Connect** with learners from a variety of backgrounds and cultures, engaging with them in ways that broaden mutual understanding and learning using a variety of digital tools. b. **Collaborate** with others, including peers, experts or community members, to examine issues and problems from multiple viewpoints. c. **Contribute** constructively to project teams, assuming various roles and responsibilities to work effectively toward a common goal d. **Explore** local and global issues and use collaborative technologies to work with others to investigate solutions.	
Essential Knowledge Key facts, concepts, and ideas needed to successfully meet benchmarks	**Essential Questions** Questions to guide student inquiry and focus instruction to uncover big ideas
• Local awareness • Global awareness • Digital collaboration • Cultural awareness and understanding • Effective global communication	• Who is collaborating with me? • Where are they? • What are some potential issues that could impact us? • What tools would be best to use? • How could these tools help or hurt our goals? • What can I learn and apply from other cultures' strengths? • How can I use technology to share my faith?

Suggested Resources/ Experiences

Information to help support instruction

- Complete assignments in programs such as Global Speedchat. This is a worldwide site of Padlets that require students to submit pictures & videos on a given topic.
- Invite experts from the community into the classroom via video conferencing software (Skype, Zoom, Google Meet).
- Effective group virtual collaboration to successfully produce a variety of job roles for students and use a technological program to reflect and summarize tasks and responsibilities.
- Use an online collaborative program (GoogleDoc, Video Conferencing software) to solve an open-ended problem.
- Take a virtual field trip to explore zoos, museums, art galleries, other cultures and locations (using VR or not).
- Compare and contrast social norms between different cultures
- Google Arts and Culture
- Google Earth Timelapse
- Custom Google Maps
- Connect with a penpal class (different school, state, country).
- Empatico is a free tool that connects classrooms around the world
- 9 Educational apps to set up an international classroom

Catholic Diocese of Richmond

Technology Standard 7: Global/Local Collaborator

Students use digital tools in union with the Catholic Church's teaching and traditions to broaden their perspectives, enrich their learning, and collaborate effectively with others locally and globally.

Grades 6-8

Benchmarks Key knowledge and skills we want students to know and be able to do	
a. **Connect** with learners from a variety of backgrounds and cultures, engaging with them in ways that broaden mutual understanding and learning. b. **Collaborate** with others, including peers, experts or community members, to examine issues and problems from multiple viewpoints. c. **Contribute** constructively to project teams, assuming various roles responsibilities to work effectively toward a common goal. d. **Explore** local and global issues and use collaborative technologies to work with others to investigate solutions.	
Essential Knowledge Key facts, concepts, and ideas needed to successfully meet benchmarks	**Essential Questions** Questions to guide student inquiry and focus instruction to uncover big ideas
• Global issues • Collaborative platforms and challenges • Respect for other cultures • Appreciation of differences • Cultures vs. stereotypes • Social media trends & influences	• Who is my audience? • Where is my audience? • What are problems in the world today? • How can technology help overcome issues in connecting with others? • What can I learn and apply from other cultures' strengths? • How are current social media trends impacting you? Others? • How can I use technology to share my faith?
Suggested Resources/ Experiences Information to help support instruction	
a. "Stay" trips where you can experience a virtual tour of a place Google Maps. Digital pen-pals from foreign countries. Skype resources for guest speakers, Mystery Skype, or virtual field trips. b. Coordinate a PBL unit with a different classroom. Skype with an expert. c. Connect with a penpal class (different school, state, country) to build a stronger awareness of self and others. Kialo Edu for discussion/debate. d. Explore TakingITGlobal or United Nations list of Global Issues for issues to solve. e. Take a virtual field trip to explore zoos, museums, art galleries, other cultures and locations (using VR or not). f. Evaluate a YouTuber. What makes him/her an effective influencer? How do they use that influence to positively impact society? g. Google Arts and Culture h. Google Earth Timelapse i. Custom Google Maps	

Catholic Diocese of Richmond

Technology Standard 7: Global/Local Collaborator

Students use digital tools in union with the Catholic Church's teaching and traditions to broaden their perspectives, enrich their learning, and collaborate effectively with others locally and globally.

Grades 9-12

Benchmarks

Key knowledge and skills we want students to know and be able to do

- **Connect** with learners from a variety of backgrounds and cultures, engaging with them in ways that broaden mutual understanding and learning.
- **Collaborate** with others, including peers, experts or community members, to examine issues and problems from multiple viewpoints.
- **Contribute** constructively to project teams, assuming various roles responsibilities to work effectively toward a common goal.
- **Explore** local and global issues and use collaborative technologies to work with others to investigate solutions.

Essential Knowledge Key facts, concepts, and ideas needed to successfully meet benchmarks	**Essential Questions** Questions to guide student inquiry and focus instruction to uncover big ideas
• Collaboration sources and learning networks • Opposing viewpoints • Collaborative platforms and challenges • Combine research and knowledge of a particular subject with collaborators near and far. • Global issues • Respect for other cultures • Appreciation of differences • Cultures vs. stereotypes • Social media trends & influences	• Why is a global viewpoint important? • What are the pros and cons of different types of collaborative platforms? Video, audio, text? • What benefits might I discover from connecting with others who hold differing beliefs and have different backgrounds? How do I discover those individuals? • Why would I want others to respect my opinions? • Why is it important to gather research and knowledge from a variety of viewpoints? • How has social media changed our world regarding connecting and collaborating? • How can I use technology to share my faith?

Suggested Resources/ Experiences

Information to help support instruction

- Using audio/video conferencing, connect with students, teachers, or experts across town, across the country or across the world
- Collaborate with other students, experts or teachers using platform/programs like Google Apps for Education (GAFE).
- Create final outcomes with students at other Diocesean schools (ex. Spanish classes could build dialogue together, business students could complete an ethics case study together, Theology students could create their evangelization projects together - or could give peer-to-peer feedback on papers).
- Build a website presenting a researched solution to real-life problem/issue.
- Create a video in a short Public Service Announcement or informative documentary about the power of connecting and sharing with others from around the world.
- Create a podcast interviewing an expert on a specific topic.
- Create a video, infographic or any type of final product with a group or individually explaining a topic using collaboration from beyond the classroom.
- Create a Flipgrid with questions and ask others from around the world for their feedback and input.
- In Foreign Language class, students create audio directions on creating a drawing, for example. Other students from near or far recreate the drawing using those directions. Students reflect on the final product.
- Use Common Sense Media lesson "We Are Civil Collaborators."