Diocese of Pittsburgh K-12 Technology Curriculum

Kindergarten to Grade 2

Skills:

- **Basic Computer Skills:**
    - Introduction to hardware (keyboard, mouse, monitor)
    - Basic operations (turning on/off, opening/closing applications)
    - Basic typing skills
    - Recognizing and using basic software (drawing programs, simple games)

Digital Citizenship:

- Understanding online safety
- Recognizing appropriate and inappropriate content
- Basic internet usage (navigating websites with guidance)

Innovation:

- Using digital tools to create simple projects (digital drawings, storybooks)
- Introduction to basic coding concepts using visual programming languages (ScratchJr)

Standards Alignment:

- **PA Standards:**
    - 3.4.2.A3: Demonstrate how modeling and simulations can be used to solve problems
    - 3.4.2.B3: Explain how technology products and systems are made to meet a human need or want
- **ISTE Standards:**
    - 1.1.c: Use technology to seek feedback that informs and improves their practice and to demonstrate their learning in a variety of ways

Resources and Links:

- ScratchJr
- Common Sense Education Digital Citizenship Curriculum

Grades 3 to 5

Skills:

- **Intermediate Computer Skills:**
    - Enhancing typing skills (proper finger placement, speed, and accuracy)
    - Introduction to word processing (creating and saving documents)
    - Introduction to spreadsheets and presentations

Digital Citizenship:

- Understanding personal information and privacy
- Responsible use of technology (screen time, cyberbullying awareness)
- Introduction to digital footprints

Innovation:

- Using digital tools for class projects (Google Docs, Slides, Sheets)
- Introduction to coding (Scratch, basic robotics)
- Integrating technology into art and music projects

Standards Alignment:

- **PA Standards:**
    - 3.4.5.A3: Demonstrate how modeling, testing, evaluating, and modifying are used to transform ideas into practical solutions
    - 3.4.5.B3: Describe how the use of technology affects humans in various ways
- **ISTE Standards:**
    - 1.2.c: Demonstrate an understanding of and respect for the rights and obligations of using and sharing intellectual property

Resources and Links:

- [Google for Education](#)
- [Scratch](#)
- [Code.org](#)
- [Padlet with Resources created by DOP Teachers](#)

Grades 6 to 8

Skills:

- **Advanced Computer Skills:**

- Proficient use of word processing, spreadsheets, and presentation software
- Introduction to databases and data management
- Basic troubleshooting and understanding of operating systems

Digital Citizenship:

- Deepening understanding of digital footprints and online behavior
- Exploring ethical use of information and media
- Introduction to intellectual property and copyright laws

Innovation:

- Developing multimedia projects (videos, podcasts)
- Intermediate coding (Python, HTML/CSS)
- Exploring emerging technologies (3D printing, VR/AR)

Standards Alignment:

- **PA Standards:**
  - 3.4.7.A3: Apply the design process to solve problems and create solutions
  - 3.4.7.B3: Evaluate the effects of technology on the environment
- **ISTE Standards:**
  - 1.3.c: Curate information from digital resources using a variety of tools and methods to create collections of artifacts that demonstrate meaningful connections or conclusions

Resources and Links:

- Python.org
- MIT App Inventor
- Tinkercad
- Padlet with Resources created by DOP Teachers

Grades 9 to 12

Skills:

- **Advanced Computer Skills:**
  - Advanced use of productivity software (Microsoft Office, Google Workspace)
  - Introduction to computer science concepts (algorithms, data structures)
  - Networking basics and cybersecurity principles

Digital Citizenship:

- Responsible digital communication and collaboration

- Understanding and addressing digital divide issues
- Preparation for digital presence in higher education and professional settings

Innovation:

- Advanced coding (Java, C++)
- Developing and managing complex projects (software development, app creation)
- Exploring and utilizing advanced technologies (AI, machine learning)

Standards Alignment:

- **PA Standards:**
    - 3.4.12.A3: Apply the concept of systems, subsystems, feedback, and control to solve complex technological problems
    - 3.4.12.B3: Analyze ethical, social, economic, and cultural considerations in the development and use of technology
- **ISTE Standards:**
    - 1.7.c: Contribute constructively to project teams, assuming various roles and responsibilities to work effectively toward a common goal

Resources and Links:

- [Codecademy](#)
- [Khan Academy Computer Programming](#)
- [Coursera: AI for Everyone](#)
- [Padlet with Resources created by DOP Teachers](#)

Assessment and Evaluation

Formative Assessments:

- Regular quizzes and practical assignments
- Project-based assessments to evaluate creativity and application of skills

Summative Assessments:

- End-of-unit exams
- Capstone projects (especially in higher grades)
- Digital portfolios showcasing student work