Florida Computer Science

Grades 3, 4, 5

Adopted 2016

Personal, Community, Global, and Ethical Impact SC.CS-PC

1. **Responsible use of technology and information** SC.CS-PC.1
    1. Identify appropriate and inappropriate uses of technology when posting to social media, sending e-mail, and browsing the Internet. SC.35.CS-PC.1.1
    2. Describe responsible uses of modern communication media and devices. SC.35.CS-PC.1.2
    3. Explain the proper use and operation of security technologies (e.g., passwords, virus protection software, spam filters, pop-up blockers, and cookies). SC.35.CS-PC.1.3
    4. Define plagiarism and understand the impacts of plagiarized materials. SC.35.CS-PC.1.4

2. **The impact of computing resources on local and global society** SC.CS-PC.2
    1. Explain how computers and computing devices are used to communicate with others on a daily basis. SC.35.CS-PC.2.1
    2. Describe types of cyberbullying and explain what actions should be taken if students are either victims or witnesses of these behaviors. SC.35.CS-PC.2.2
    3. Identify the legal and social consequences of cyberbullying/harassment in social media. SC.35.CS-PC.2.3
    4. Explain how access to technology helps empower individuals and groups (e.g., gives them access to information, the ability to communicate with others around the world, and allows them to buy and sell things). SC.35.CS-PC.2.4
    5. Identify ways in which people with special needs access and use adaptive technology. SC.35.CS-PC.2.5
    6. Communicate about technology using appropriate terminology. SC.35.CS-PC.2.6
    7. Identify and describe how computing knowledge is essential to performing important tasks and functions. SC.35.CS-PC.2.7

3. **Evaluation of digital information resources** SC.CS-PC.3
    1. Identify digital information resources used to answer research questions (e.g., online library catalog, online encyclopedias, databases, and websites). SC.35.CS-PC.3.1
    2. Gather, organize, and analyze information from digital resources. SC.35.CS-PC.3.2
    3. Compare digital resources for accuracy, relevancy, and appropriateness. SC.35.CS-PC.3.3

4. **Security, privacy, information sharing, ownership, licensure and copyright** SC.CS-PC.4
    1. Describe the difference between digital artifacts that are open or free and those that are protected by copyright. SC.35.CS-PC.4.1
    2. Explain fair use for using copyrighted materials (e.g., images, music, video, and text). SC.35.CS-PC.4.2
    3. Describe the purpose of copyright and the possible consequences for inappropriate use of digital materials that are protected by copyright. SC.35.CS-PC.4.3
    4. Describe the threats to safe and efficient use of devices (e.g., SPAM, spyware, phishing, and viruses) associated with various forms of technology use (e.g., downloading and executing software programs, following hyperlinks, and opening files). SC.35.CS-PC.4.4

Communication and Collaboration SC.CS-CC

1. **Communication and collaboration** SC.CS-CC.1
    1. Identify technology tools for individual and collaborative data collection, writing, communication, and publishing activities. SC.35.CS-CC.1.1
    2. Describe key ideas and details while working individually or collaboratively using digital tools and media-rich resources in a way that informs, persuades, and/or entertains. SC.35.CS-CC.1.2
    3. Identify ways that technology can foster teamwork and collaboration can support problem solving and innovation. SC.35.CS-CC.1.3
    4. Describe how collaborating with others can be beneficial to a digital project. SC.35.CS-CC.1.4
    5. Explain that providing and receiving feedback from others can improve performance and outcomes for collaborative digital projects. SC.35.CS-CC.1.5

Communication Systems and Computing SC.CS-CS

1. **Modeling and Simulations** SC.CS-CS.1
    1. Identify the concepts illustrated by a simulation (e.g., ecosystem, predator/prey, and invasive species). SC.35.CS-CS.1.1
    2. Describe how models and simulations can be used to solve real world issues in science and engineering. SC.35.CS-CS.1.2
    3. Answer a question, individually and collaboratively using data from a simulation. SC.35.CS-CS.1.3
    4. Create a simple model of a system (e.g., flower or solar system) and explain what the model shows and does not show. SC.35.CS-CS.1.4

2. **Problem solving and Algorithms** SC.CS-CS.2
    1. Solve age-appropriate problems using information organized using digital graphic organizers (e.g., concept maps and Venn-diagrams). SC.35.CS-CS.2.1
    2. Describe how computational thinking can be used to solve real life issues in science and engineering. SC.35.CS-CS.2.2
    3. Explain the process of arranging or sorting information into useful order as well as the purpose for doing so. SC.35.CS-CS.2.3
    4. Solve real world problems in science and engineering using computational thinking skills. SC.35.CS-CS.2.4
    5. Explain that there are several possible algorithms for searching within a dataset (such as finding a specific word in a word list or card in a deck of cards). SC.35.CS-CS.2.5
    6. Write an algorithm to solve a grade-level appropriate problem (e.g., move a character through a maze, instruct a character to draw a specific shape, have a character start, repeat or end activity as required or upon a specific event), individually or collaboratively. SC.35.CS-CS.2.6
    7. Identify and correct logical errors in algorithms; written, mapped, live action, or digital. SC.35.CS-CS.2.7
    8. Systematically test and identify logical errors in algorithms. SC.35.CS-CS.2.8
    9. Explain how to correct logical errors in algorithms; written, mapped, live action, or digital. SC.35.CS-CS.2.9

3. **Digital tools** SC.CS-CS.3
    1. Manipulate and publish multimedia artifacts using digital tools (local and online. SC.35.CS-CS.3.1
    2. Create an artifact (independently and collaboratively) that answers a research question clearly communicating thoughts and ideas. SC.35.CS-CS.3.2

4. **Hardware and software** SC.CS-CS.4

    1. Identify the basic components of a computer (e.g., monitor, keyboard, mouse, controller, speakers). SC.35.CS-CS.4.1
    2. Describe the function and purpose of various input/output devices and peripherals (e.g., monitor, screen, keyboard, controller, speakers). SC.35.CS-CS.4.2
    3. Compare and contrast hardware and software. SC.35.CS-CS.4.3
    4. Identify and solve simple hardware and software problems that may occur during everyday use (e.g., power, connections, application window or toolbar). SC.35.CS-CS.4.4

6. **Human–Computer interactions and Artificial Intelligence** SC.CS-CS.6

    1. Describe how hardware applications (e.g., Global Positioning System (GPS) navigation for driving directions, text-to-speech translation, and language translation) can enable everyone to do things they could not do otherwise. SC.35.CS-CS.6.1
    2. Compare and contrast human and computer performance on similar tasks (e.g., sorting alphabetically or finding a path across a cluttered room) to understand which is best suited to the task. SC.35.CS-CS.6.2
    3. Explain that computers model intelligent behavior (as found in robotics, speech and language recognition, and computer animation). SC.35.CS-CS.6.3

Computer Practices and Programming SC.CS-CP

1. **Data Analysis** SC.CS-CP.1

    1. Explain that searches may be enhanced by using Boolean logic (e.g., using "not", "or", "and"). SC.35.CS-CP.1.1
    2. Identify and describe examples of databases from everyday life (e.g., library catalogs, school records, telephone directories, and contact lists). SC.35.CS-CP.1.2
    3. Identify, research, and collect a data set on a topic, issue, problem, or question using age-appropriate technologies. SC.35.CS-CP.1.3
    4. Collect, organize, graph, and analyze data to answer a question using a database or spreadsheet. SC.35.CS-CP.1.4

2. **Computer Programming Basics** SC.CS-CP.2

    1. Perform keyboarding skills for communication and the input of data and information. SC.35.CS-CP.2.1
    2. Create, test, and modify a program in a graphical environment (e.g., block-based visual programming language), individually and collaboratively. SC.35.CS-CP.2.2
    3. Create a program using arithmetic operators, conditionals, and repetition in programs. SC.35.CS-CP.2.3
    4. Explain that programs need known initial conditions (e.g., set initial score to zero in a game, initialize variables, or initial values set by hardware input. SC.35.CS-CP.2.4
    5. Detect and correct program errors, including those involving arithmetic operators, conditionals, and repetition using interactive debugging. SC.35.CS-CP.2.5

3. **Programming Applications** SC.CS-CP.3

    1. Write, communicate and publish activities using technology tools. SC.35.CS-CP.3.1
    2. Present digitally created products either individually and collaboratively where a topic, concept, or skill is carefully analyzed or thoughtfully explored. SC.35.CS-CP.3.2