Florida Computer Science

Grade 6

Communication and Collaboration Strand

1 **Apply effective communication digitally.** SC.5.CC.1

1 Demonstrate an ability to communicate through various online tools. SC.5.CC.1.1

2 **Apply information collected using digital resources.** SC.5.CC.2

1 Create a digital product individually and collaboratively. SC.5.CC.2.1

Personal Health and Safety Strand

1 **Explore safe Internet practices.** SC.5.HS.1

1 Identify the connection between strong passwords and Internet safety. SC.5.HS.1.1

2 Discuss the need for downloads to come from trusted sources. SC.5.HS.1.2

3 Describe safe practices when participating in digital communication. SC.5.HS.1.3

4 Evaluate a given website to determine if it is safe for users. SC.5.HS.1.4

2 **Investigate the mental and physiological effects of digital device use.** SC.5.HS.2

1 Define the online disinhibition effect. SC.5.HS.2.1

2 List negative impacts of excessive device usage. SC.5.HS.2.2

3 Implement the 20-20-20 rule for technology. SC.5.HS.2.3

3 **Explore the impact of digital footprints.** SC.5.HS.3

1 Explore the impact that digital media and communication has on our behavior. SC.5.HS.3.1

Computing Components Strand

1 **Implement foundational computer literacy fluency.** SC.5.CO.1

1 Identify multiple file format types. SC.5.CO.1.1

2 Identify applications that have different desktop and online versions. SC.5.CO.1.2

3 Identify the differences between wired and wireless computer networks. SC.5.CO.1.3

4 Describe how information is translated and communicated between computers and devices over a network. SC.5.CO.1.4

5 Explain that a database is a collection of digital data that can be organized, stored and retrieved in a designated order. SC.5.CO.1.5

6 Research questions using digital information resources. SC.5.CO.1.6

2 **Evaluate hardware components.** SC.5.CO.2

1 Identify and describe the major hardware components and functions of computer systems. SC.5.CO.2.1

3 **Evaluate software components.** SC.5.CO.3

1 Describe the essential characteristics of a software artifact. SC.5.CO.3.1

2 Describe the main functions of an operating system. SC.5.CO.3.2

3 Explain how an operating system provides user and system services. SC.5.CO.3.3

4 Describe the major software components and functions of computer systems. SC.5.CO.3.4

5 Evaluate various forms of input and output (IO) and peripheral devices. SC.5.CO.3.5

Programming and Software Engineering Strand

1 **Develop code segments to solve a problem.** SC.5.PE.1

1 Identify the types of operations that can be performed on different data types. SC.5.PE.1.1

2 Develop a program using a string data type. SC.5.PE.1.2

3 Develop a program using a numeric data type. SC.5.PE.1.3

4 Index selected items within a list. SC.5.PE.1.4

5 Compare data types and their uses. SC.5.PE.1.5

6 Develop a program using a Boolean data type. SC.5.PE.1.6

7 Write code segments that use standard mathematical operators. SC.5.PE.1.7

8 Use a function for a specified purpose. SC.5.PE.1.8

9 Use looping techniques for a specified purpose. SC.5.PE.1.9

10 Use conditional statements for a specified purpose. SC.5.PE.1.10

11 Design solutions that use repetition and two-way selection. SC.5.PE.1.11

2 **Create visual representations of data.** SC.5.PE.2

1 Create designated graph types using data. SC.5.PE.2.1

2 Analyze a database and propose solutions based on a task or problem. SC.5.PE.2.2

3 Create a simple database. SC.5.PE.2.3

3 **Relate problem-solving strategies to computational thinking.** SC.5.PE.3

1 Identify what kinds of real-world problems can be solved using modeling and simulation. SC.5.PE.3.1

2 Interact with content-specific models and simulations to support learning, research and problem-solving. SC.5.PE.3.2

3 Design a digital model. SC.5.PE.3.3

4 Identify the benefits and the limitations of the use of models. SC.5.PE.3.4

5 Create a visual representation of a solution to a problem. SC.5.PE.3.5

6 Evaluate the logical flow of a step-by-step program by acting it out through computer-free activities. SC.5.PE.3.6

7 Select tools and technology resources to accomplish a variety of tasks and solve problems. SC.5.PE.3.7

4 **Define the software development life cycle.** SC.5.PE.4

1 Recognize the phases of the software development life cycle. SC.5.PE.4.1

Technological Impact Strand

1 **Research technology innovations.** SC.5.TI.1

1 Recognize the data content sources that make your digital footprint. SC.5.TI.1.1

2 Explore the history of computer and other devices. SC.5.TI.1.2

3 Create a timeline for the innovation of an electronic device. SC.5.TI.1.3

4 Describe various technology-related career paths. SC.5.TI.1.4

2 **Introduce the regulations surrounding the use of information.** SC.5.TI.2

1 Recognize the consequences of plagiarism on the development of creative works. SC.5.TI.2.1

2 Demonstrate compliance with the school's Acceptable Use Policy. SC.5.TI.2.2

3 Explain fair use for using copyrighted materials. SC.5.TI.2.3

4 Generate citations for text and non-text sources using a digital tool. SC.5.TI.2.4

Emerging Technology Strand

1 **Identify emerging technologies.** SC.6.ET.1

1 Identify technology used to support specialized forms of humancomputer interaction (HCI). SC.6.ET.1.1

2 Identify technology skills needed in the workplace. SC.6.ET.1.2

2 **Identify Artificial Intelligence (AI) and its applications.** SC.6.ET.2

1 Identify the characteristics of Artificial Intelligence (AI). SC.6.ET.2.1

2 Discuss the benefits associated with Artificial Intelligence (AI). SC.6.ET.2.2

3 **Identify characteristics of robotics.** SC.6.ET.3

1 Explain why some tasks can be accomplished faster by computers. SC.6.ET.3.1

2 Describe how humans and machines interact to accomplish tasks that neither can accomplish alone. SC.6.ET.3.2

Cyber Security Strand

1 **Explore the physical security of devices.** SC.6.CS.1

1 Define the states of data. SC.6.CS.1.1

2 Illustrate the concept of access control and how to limit access to authorized users. SC.6.CS.1.2

3 Discuss the importance of cybersecurity. SC.6.CS.1.3

4 Determine information that should remain confidential. SC.6.CS.1.4

5 Identify the need for encryption. SC.6.CS.1.5

6 Recognize the importance of digital identity. SC.6.CS.1.6

2 **Explore network security concepts.** SC.6.CS.2

1 Identify the need for security safeguards on personal devices. SC.6.CS.2.1