Virginia Computer Science

Grade 2

Adopted 2017

Algorithms and Programming

1. **The student will construct sets of step-by-step instructions (algorithms) both independently and collaboratively** 2.1
   a. using sequencing; 2.1.A
   b. using loops (a wide variety of patterns such as repeating patterns or growing patterns); and 2.1.B
   c. identifying events. 2.1.C
2. **The student will construct programs to accomplish tasks as a means of creative expression using a block based programming language or unplugged activities, both independently and collaboratively** 2.2
   a. using sequencing; 2.2.A
   b. using loops (a wide variety of patterns, such as repeating patterns or growing patterns); and 2.2.B
   c. identifying events. 2.2.C
3. **The student will analyze, correct, and improve (debug) an algorithm that includes sequencing and simple loops, with or without a computing device.** 2.3
4. **The student will plan and create a design document to illustrate thoughts, ideas, and stories in a sequential (step-by-step) manner (e.g., story map, storyboard, sequential graphic organizer).** 2.4
5. **The student will compare and contrast a group of items based on the attributes or actions of each item, with or without a computing device.** 2.5
6. **The student will acknowledge that materials are created by others (e.g., author, illustrator, and website).** 2.6

Computing Systems

7. **The student will describe the characteristics of computing systems to include hardware, software, input, and output.** 2.7
8. **The student will identify, using accurate terminology, simple hardware and software problems that may occur during use (e.g., app or program not working as expected, no sound, device won't turn on).** 2.8

Cybersecurity	**9.** **The student will explain what is allowed and what is not allowed at school associated with the use of technology (e.g., class rules).** 2.9
	10. **The student will identify and create strong passwords, explain why strong passwords should be used. (e.g., protect name, address, and telephone number).** 2.10
Data and Analysis	**11.** **The student will construct and analyze data and organize it in a chart or graph in order to make a prediction, with or without a computing device.** 2.11
	12. **The student will create a model of a physical object or process in order to show relationships with or without a computing device (e.g., water cycle, butterfly life cycle, seasonal weather patterns).** 2.12
Impacts of Computing	**13.** **The student will compare and contrast examples of how computing technology has changed and improved the way people live, work, and interact.** 2.13
	14. **The student will identify and model responsible behaviors when using information and technology.** 2.14
Networking and the Internet	**15.** **The students will discuss in partners and as a class how information can be communicated electronically (e.g., email, social media, video conferencing, blogging).** 2.15