AR CS Standards 5th Grade

5th Grade	Strand: Computational Thinking and Problem Solving	Content Cluster 1: Students will analyze problem-solving strategies.	CT.1.5.1 Demonstrate basic steps of algorithmic problem solving with or without a computer
5th Grade	Strand: Computational Thinking and Problem Solving	Content Cluster 2: Students will analyze connections between elements of mathematics and computer science.	CT.2.5.1 Compare and contrast the relative positions of objects using ordered pairs within a program (e.g., battleships, block-based programming, treasure maps)
5th Grade	Strand: Computational Thinking and Problem Solving	Content Cluster 3: Students will solve problems cooperatively and collaboratively.	CT.3.5.1 Evaluate effective ways that collaboration can support problem solving and innovation
5th Grade	Strand: Data and Information	Content Cluster 4: Students will analyze various ways in which data is represented.	D.4.5.1 Illustrate how different kinds of data can be represented
5th Grade	Strand: Data and Information	Content Cluster 4: Students will analyze various ways in which data is represented.	D.4.5.2 Recognize that binary is a way of representing data using only two options (e.g., on/off)
5th Grade	Strand: Data and Information	Content Cluster 5: Students will collect, arrange, and represent data.	D.5.5.1 Evaluate, select, and use appropriate tools to collect data
5th Grade	Strand: Data and Information	Content Cluster 5: Students will collect, arrange, and represent data.	D.5.5.2 Identify the characteristics (e.g., collection environment, units of measure, input method) of the collected data
5th Grade	Strand: Data and Information	Content Cluster 5: Students will collect, arrange, and represent data.	D.5.5.3 Evaluate the most effective ways to collect, arrange, and visually represent data
5th Grade	Strand: Data and Information	Content Cluster 6: Students will interpret and analyze data and information.	D.6.5.1 Explore various models and simulations (e.g., ecosystems, epidemics, molecular dynamics) to support learning and research
5th Grade	Strand: Algorithms and Programs	Content Cluster 7: Students will create, evaluate, and modify algorithms	A.7.5.1 Create algorithms to solve a problem
5th Grade	Strand: Algorithms and Programs	Content Cluster 7: Students will create, evaluate, and modify algorithms	A.7.5.2 Compare and contrast algorithms of appropriate complexity

5th Grade	Strand: Algorithms and Programs	Content Cluster 7: Students will create, evaluate, and modify algorithms	A.7.5.3 Identify and correct multiple errors within an algorithm that solves a problem
5th Grade	Strand: Algorithms and Programs	Content Cluster 7: Students will create, evaluate, and modify algorithms	A.7.5.4 Design and test algorithms of appropriate complexity collaboratively
5th Grade	Strand: Algorithms and Programs	Content Cluster 8: Students will create programs to solve problems.	A.8.5.1 Use a visual block-based and/or text-based programming language programming language individually and collaboratively to solve problems of increasing complexity
5th Grade	Strand: Computers and Communications	Content Cluster 9: Students will analyze the utilization of computers.	CC.9.5.1 Examine the range and types of careers that require computing and technology
5th Grade	Strand: Computers and Communications	Content Cluster 9: Students will analyze the utilization of computers.	CC.9.5.2 Discuss ways that a human creates input for a desired output through a device (e.g., texting, changing device settings)
5th Grade	Strand: Computers and Communications	Content Cluster 10: Students will utilize appropriate digital tools for various applications.	CC.10.5.1 Demonstrate an appropriate level of proficiency with keyboards and other input/output devices (e.g., printer, student response systems, texting/instant messaging, voice assist)
5th Grade	Strand: Computers and Communications	Content Cluster 10: Students will utilize appropriate digital tools for various applications.	CC.10.5.2 Recognize the expense of the equipment, how care and protection of the computers can prolong use and save the cost of purchasing new equipment, therefore benefiting all students
5th Grade	Strand: Computers and Communications	Content Cluster 10: Students will utilize appropriate digital tools for various applications.	CC.10.5.3 Demonstrate touch typing techniques, not looking at keyboard, while increasing speed and maintaining accuracy
5th Grade	Strand: Computers and Communications	Content Cluster 10: Students will utilize appropriate digital tools for various applications.	CC.10.5.4 Practice proper keyboarding technique: ● posture ● elbows down body centered in front of keyboard
5th Grade	Strand: Computers and Communications	Content Cluster 11: Students will analyze various components and functions of computers	CC.11.5.1 Use and evaluate productivity technology tools (e.g., word processing, spreadsheet, presentation software) for effectiveness in writing, communication, and publishing activities

5th Grade	Strand: Computers and Communications	Content Cluster 11: Students will analyze various components and functions of computers	CC.11.5.2 Identify that information can be transmitted using many computing devices via a network
5th Grade	Strand: Computers and Communications	Content Cluster 11: Students will analyze various components and functions of computers	CC.11.5.3 Describe the unique features of a variety of computing devices that execute programs using processors (e.g., mobile devices, automobiles, airplanes)
5th Grade	Strand: Computers and Communications	Content Cluster 11: Students will analyze various components and functions of computers	CC.11.5.4 Apply strategies for solving simple hardware and software problems that may occur during use. (e.g., refresh the webpage, restart the device)
5th Grade	Strand: Community, Global, and Ethical Impacts	Content Cluster 12: Students will analyze appropriate uses of technology.	CGE.12.5.1 Explain positive and negative impact of technology (e.g., mobile computing and communication, web technologies, digital security, virtualization) on the daily life of individuals and society
5th Grade	Strand: Community, Global, and Ethical Impacts	Content Cluster 12: Students will analyze appropriate uses of technology.	CGE.12.5.2 Demonstrate an understanding of the appropriate use of technology and information and the consequences of inappropriate use
5th Grade	Strand: Community, Global, and Ethical Impacts	Content Cluster 12: Students will analyze appropriate uses of technology.	CGE.12.5.3 Compare the credibility, bias, accuracy, and relevance of electronic information sources
5th Grade	Strand: Community, Global, and Ethical Impacts	Content Cluster 12: Students will analyze appropriate uses of technology.	GCE.12.5.4 Demonstrate an understanding of ethical issues in copyright, fair use, and intellectual property in various media (e.g., music, graphics, video, etc.)
5th Grade	Strand: Community, Global, and Ethical Impacts	Content Cluster 12: Students will analyze appropriate uses of technology.	GCE.12.5.5 Discuss the impact of access to computing resources