
Indicators of Digital Readiness

Indicator	Computer Science
Theme	Education and Classroom Practice
Priority Level	P2
Organizational Level	School

Description of the Indicator

All students should have equitable access to computer science coursework either integrated into curriculum and/or a separate course for K-8 and a separate course in high school.

Why is this indicator important?

As indicated in the Every Student Succeeds Act, in order to provide a “well-rounded education,” quality computer science instruction must be offered to all students nearly every year of school. Computer science education helps to ensure that students are college and career ready, and through understanding the principles of computer science, prepares them to function as citizens of the 21st century.

Indicator Rubric

Insufficient Evidence of Implementation (0 Points)	<ul style="list-style-type: none">● No evidence of computer science coursework/curriculum● No identifiable student exposure to computer science
Foundational Stage of Implementation (2 Points)	<ul style="list-style-type: none">● Students have limited exposure to computer science courses or experiences, but there is a demonstrable intention to incorporate more computer science
Achieving Success in Implementation (4 Points)	<ul style="list-style-type: none">● All high school students have access to computer science courses (High School submission only)● Students have exposure to computer science experiences that are integrated into curriculum
Exemplary Success in Implementation (6 Points)	<ul style="list-style-type: none">● Computer Science is a high school graduation requirement (High School submission only)● Students across grade levels and content areas have exposure to computer science experiences that are integrated into curriculum● Students are using computer science skills to design and create solutions to world/life problems

Who in the school/district should lead and be involved with this indicator?

- Administrators
- Teachers
- Students
- Technology Coaches/Specialists
- Curriculum Leaders
- IT/Assistive Professionals/Leaders
- Board of Education Members

How to execute the indicator

Schools wishing to execute this action should adopt a broad policy framework to provide all students with access to computer science coursework.

Recommended evidence to submit for successful execution of this action

Successful execution can be documented by:

- modifying or creating a district-wide framework for implementing computer science coursework for K-12.
- providing opportunities for such learning to take place during the school day on a regular basis
- sample course descriptions, curriculum documents, and lesson/unit plans
- Evidence of computer science integrated into curriculum
- Student project examples using computer science to solve world/life problems

Resources schools can use to complete this action successfully

- <https://www.iste.org/standards/for-computer-science-educators>
- <https://www.iste.org/explore/articleDetail?articleid=152&category=Solutions&article=Computational-thinking-for-all>
- <http://www.state.nj.us/education/cccs/2014/tech/>
- <http://www.state.nj.us/education/aps/cccs/tech/resources.htm>
- <http://www.exploringcs.org/>
- <https://csedweek.org/educate>
- <http://www.leadcs.org/title/>
- <https://code.org>
- <https://mit.scratch.edu>
- <http://innovateexchange.org/> A forum to collaborate and share computer science lessons/activities.
- Devices-desktops, laptops, tablets, Chromebooks

Certified Schools Exemplars: See links for school evidence

1. [New Monmouth Elementary School, Middletown Township Public Schools, 2018 Silver Certified](#)

New Monmouth Elementary School students explore Computer Science in many different ways. All students, in grades K-5, participate in coding activities in their classrooms through a variety of apps and sites, and 4-5 have the option to join an after-school coding club. Technology is infused into classroom learning, which allows students to learn digital skills in an authentic, meaningful way. The Educational Technology Specialist is often used to co-teach introductory lessons that the classroom teachers then continue. A highlight of New Monmouth School's computer science is the Pride Innovation Lab, where students explore robotics, coding, video production, and a variety of design challenges. Through activities such as these, New Monmouth Elementary School was able to achieve exemplary level for Digital Schools.

2. [Benway School, Benway School, 2018 Bronze Certified](#)

Computer Science is a class which is mandatory for all 1-8 students, which is reviewed every year to assure being up-to-date with current technology trends. This course introduces students to practical, advanced operations of the computer. Through a series of curriculum-based projects, students will become familiar with database management, spreadsheet design, keyboarding skills, and developing skills in preparing essays and personal documentation as well as learn to edit pictures and create a newsletter, yearbook and newscast, viewed school.

3. [All Saints Regional Catholic School, Diocese of Trenton, 2018 Bronze Certified](#)

Students in grades PreK-3 receive Technology once a week while Grades 4-8 receive it twice a week. Our Technology Curriculum has computer science fully integrated throughout. Students in grade 4-8 have 1-1 devices while Prek-3 have

carts available. All our students from Pre-K and up are introduced to algorithms, functions, variables and other CS terminology and methods throughout the year. We use a combination of Code.org, CSFirst and other online course work as well as in-house designed programs. Our programming courses are coupled with robotics, database design and drones where possible. We also offer Flex periods during school for Robotics, Computer Programming and Engineering Design. Outside of school we have developed an after school program focusing on Computer Science and Engineering for grades K-8.

4. **Woodrow Wilson Elementary School, New Brunswick Public Schools, 2018 Bronze Certified**

"We have reached exemplary status in the indicator Computer Science under the Gear "Curriculum, Instruction and Assessment" by providing a number of evidence. The artifacts included the usage of code.org or giving access to coding website to grades 1 through 8 and embedding it in lesson plans in grades 1 through 3.

Our school have been dedicated to ameliorating computer science education by ensuring our students have equal access to technology to become college and career ready. Our students are presented with social issues and phenomena in classes that require technology usage to solve the real life situations. The district has adopted the usage of technology by providing a district wide professional development to staff to use technology in the classroom."