Computer Science Evaluation Tool

2021 Curricular Materials Review

Grades 6-8 Computer Science[[1]](#footnote-1)

**Publisher information**

* Publisher Name:
* Title:
* Grade Level/Course:
* ISBN #:
* Author:
* Copyright:

**Instructions:**

Publishing Company:

* Complete the course evaluation form below. Please provide written justification as to how the material meets the standard along with location references. If a justification requires additional space, please submit response on an additional document.

Review Team Member:

* Please use information and attachments to complete the course evaluation form.
* Explain any discrepancies between your findings and those provided information. Explanations and comments should directly reflect the rubric.
* Further, explain any findings.

# Scoring:

* 0 = No Alignment – Not Evident: content as described in the Standards is not evident.
* .5 = Partial Alignment – Partially Evident: content as described in the Standards is partially evident and there are few gaps.
* 1 = High Alignment – Clearly Evident: content is fully aligned as described in the Standards and repeatedly included to guarantee extensive opportunities for students to work with the content. Alignment is clearly evident.
* N/A = Not applicable for standard.

# Standards alignment evaluation rubric:

## Standard 1: Computing Systems (CS)

| Performance Standards | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions, not just page numbers. | Rating (Reviewer Only): |
| --- | --- | --- |
| 6-8.CS.01: Exemplify how computational devices impact the quality of life (both positively and negatively) and enhance the ability of people to perform work, communicate, and interact with others. (Grades 6-8) |  |  |
| 6-8.CS.02: Compare and contrast the ways that humans and machines process instructions and sense the world. (Grades 6-8) |  |  |
| 6-8.CS.03: Differentiate features of everyday objects that contain computing components (i.e., computing systems that collect, store, analyze, and/or transmit data) (e.g. Kinect, GoPro, smartphone, car). (Grades 6-8) |  |  |
| 6-8.CS.04: Apply troubleshooting strategies for solving hardware and software problems (e.g. recognizing, describing, reproducing, isolating, fixing and retesting). (Grades 6-8) |  |  |
| 6-8.CS.05: Compare and contrast the capabilities of different hardware and software in computer systems (e.g. processors, display types, input devices, communication, and storage capabilities). (Grades 6-8) |  |  |

## Standard 2: Data Analysis (DA)

| Performance Standards | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions, not just page numbers. | Rating (Reviewer Only): |
| --- | --- | --- |
| 6-8.DA.01: Describe the trade-off between quality and file size of stored data (e.g. music, video, text, images). (Grades 6-8) or collaboratively. (Grades 3-5) |  |  |
| 6-8.DA.02: Defend the selection of the data, collection, and analysis needed to answer a question. (Grades 6-8) |  |  |
| 6-8.DA.03: Understand that data collection is used to make recommendations to influence decisions as well as predict behavior. List the positive and negative impacts. (Grades 6-8) |  |  |
| 6-8.DA.04: Encode and decode information using encryption/decryption schemes. (e.g. Morse code, Unicode, binary, symbols, student-created codes, simple ciphers). (Grades 6-8) |  |  |
| 6-8.DA.05: Identify layers of abstraction in different contexts (e.g. video and animation are made of audio and video frames, which are made of pixels, which are made of color codes). (Grades 6-8) |  |  |

## Standard 3: Impacts of Computing (IC)

| Performance Standards | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions, not just page numbers. | Rating (Reviewer Only): |
| --- | --- | --- |
| 6-8.IC.01: Explore security risks associated with using weak passwords, lack of encryption and/or insecure transactions. (Grades 6-8) |  |  |
| 6-8.IC.02: Explore how computer science fosters innovation and enhances other careers and disciplines. (Grades 6-8) |  |  |
| 6-8.IC.03: Describe ethical issues that relate to computers and networks (e.g. equity of access, security, privacy, ownership and information sharing, copyright, licensing). (Grades 6-8) |  |  |
| 6-8.IC.04: Explore how the Internet impacts global communication and collaboration. (Grades 6-8) |  |  |
| 6-8.IC.05: Design, develop, and present computational artifacts that have a positive social impact (e.g. web pages, mobile applications, animations). (Grades 6-8) |  |  |
| 6-8.IC.06: Redesign user interfaces to be more inclusive, accessible, and minimizing the impact of the designer's inherent bias. (e.g. web pages, mobile applications, animations). (Grades 6-8) |  |  |
| 6-8.IC.07: Understand and explain the elements of federal, state, and local regulations that relate to digital citizenship (e.g. COPPA, CIPA, state laws, district policies). (Grades 6-8) |  |  |
| 6-8.IC.08: Summarize current events and changes resulting from computing and their effects on education, the workplace, and society. (Grades 6-8) |  |  |
| 6-8.IC.09: Predict positive and negative social impacts of existing or student created content and computational artifacts (e.g. economic, entertainment, education, or political). (Grades 6-8) |  |  |

## Standard 4: Networks and the Internet (NI)

| Performance Standards | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions, not just page numbers. | Rating (Reviewer Only): |
| --- | --- | --- |
| 6-8.NI.01: Simulate the flow of information as packets on the Internet and networks (e.g. model using strings and paper, note passing). (Grades 6-8) |  |  |
| 6-8.NI.02: Compare and contrast the trade-offs between physical (wired), wireless, and mobile networks (e.g. speed, security, and cost). (Grades 6-8) |  |  |

## Standard 5: Algorithms and Programming (AP)

| Performance Standards | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions, not just page numbers. | Rating (Reviewer Only): |
| --- | --- | --- |
| 6-8.AP.01: Solicit, evaluate, and integrate peer feedback as appropriate to develop or refine a product. (Grades 6-8) |  |  |
| 6-8.AP.02: Compare different algorithms that may be used to solve the same problem by time and space efficiency. (Grades 6-8) |  |  |
| 6-8.AP.03: Interpret, modify, and analyze content-specific models used to run simulations (e.g. ecosystems, epidemics, spread of ideas) . (Grades 6-8) |  |  |
| 6-8.AP.04: Apply an iterative design process (define the problem, generate ideas, build, test, and improve solutions) in problem solving, both individually and collaboratively. (Grades 6-8) |  |  |
| 6-8.AP.05: Create, analyze, and modify control structures to create programming solutions. (Grades 6-8) |  |  |
| 6-8.AP.06: Predict the outcome of an algorithm and then step through it to verify your predictions. (Grades 6-8) |  |  |
| 6-8.AP.07: Decompose a problem into sub-problems and demonstrate how the parts can be synthesized to create a solution. (Grades 6-8) |  |  |
| 6-8.AP.08: Evaluate the correctness of a program by collecting and analyzing data generated from multiple runs of the program. (Grades 6-8) |  |  |
| 6-8.AP.09: Use debugging and testing to improve program quality. (Grades 6-8) |  |  |

# Indicators of quality Rubric:

Supporting Criteria

Access and Equity:

| Standards | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions, not just page numbers. | Rating (Reviewer Only): |
| --- | --- | --- |
| 1. Materials are provided in a way that ensures all students have the opportunity to achieve success in the program of study, including by meeting Title IX, Americans with Disabilities Act and other accessibility requirements. |  |  |
| 1. Materials and assessments are free from bias, inclusive and non-discriminatory, and offered in a way that ensures all students have the opportunity to achieve success in the program of study. |  |  |
| 1. Contains guidance to support differentiated and culturally responsive (i.e., purposefully represents diverse cultures, linguistic backgrounds, learning styles and interests) instruction in the classroom so that every student’s need are addressed by including:    1. Suggestions for how to promote equitable instruction by making connections to culture, home, neighborhood, and community as appropriate.    2. Appropriate scaffolding, interventions, and supports, including integrated and appropriate reading, writing, listening, and speaking alternatives (e.g., translations, picture support, graphic organizers) that neither sacrifice content nor avoid language development for English language learners, special needs, or below grade level readers.    3. Digital and print resources that provide various levels of readability.    4. Modifications and extensions for all students, including those performing above their grade level, to deepen understanding of the content.    5. Materials in multiple language formats. |  |  |

Student Focus:

| Standards | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions, not just page numbers. | Rating (Reviewer Only): |
| --- | --- | --- |
| 1. The material supports the sequential and cumulative development of foundational skills and progresses in specificity to build students’ depth of knowledge and skills. Those skills are necessary for a student’s independent comprehension of grade-level complex texts and mastery of tasks called for by the standards. |  |  |
| 1. Content and standards within the program of study are non-duplicative and vertically aligned to prepare students to transition seamlessly to the next level of education. |  |  |
| 1. The material provides many and varied opportunities for students to work with each standard within the grade level. |  |  |
| 1. The material cross-refers and integrates other content areas. |  |  |
| 1. The material has a balance of text types and lengths that encourage close, in-depth reading and rereading, analysis, comparison, and synthesis of texts. |  |  |
| 1. The material includes sufficient supplementary activities or assignments that are appropriately integrated into the text. |  |  |
| 1. The material has activities and assignments that develop problem-solving skills and foster synthesis and inquiry at both an individual and group level. |  |  |
| 1. The material has activities and assignments that reflect varied learning styles of students. |  |  |
| 1. The material includes appropriate instructional strategies. |  |  |
| 1. Project-based learning and related instructional approaches, such as problem-based, inquiry-based and challenge-based learning, are fully integrated into the material. |  |  |

Pedagogical Approach:

| Standards | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions, not just page numbers. | Rating (Reviewer Only): |
| --- | --- | --- |
| 1. Provides guidance for teachers throughout for how learning experiences build on each other to support students in developing a deep understanding of the content. |  |  |
| 1. Provides scaffolded supports for teachers to facilitate learning of the content so that students are increasingly responsible for making sense of the content. |  |  |
| 1. The material provides opportunities for supporting English language learners to regularly and actively participate with grade-level text. |  |  |
| 1. The material gives clear and concise instruction to teachers and students. It is easy to navigate and understand. |  |  |
| 1. Includes appropriate academic and content-specific vocabulary in the context of the learning experience that is accessible, introduced, reinforced, reviewed, and augmented with visual representations when appropriate. |  |  |
| 1. Allows teachers to access, revise, and print form digital resources (e.g., readings, labs, assessments, rubrics). |  |  |
| 1. Uses varied modes (selected, constructed, project-based, extended response, and performance tasks) of instruction-embedded pre-, formative, summative, peer, and, self-assessment measures of learning. |  |  |
| 1. Includes editable and aligned rubrics, scoring guidelines, and exemplars that provide guidance for assessing student performance and to support teachers in planning instruction and providing ongoing feedback to students. |  |  |
| 1. Provides multiple opportunities for students to demonstrate and receive feedback on performance of practices connected with their understanding of concepts. |  |  |

Presentation and Design:

| Standards | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions, not just page numbers. | Rating (Reviewer Only): |
| --- | --- | --- |
| 1. The material has an aesthetically appealing appearance. |  |  |
| 1. Digital and print materials are consistently formatted, visually focused, and uncluttered for efficient use. |  |  |
| 1. The material has a reasonable and appropriate balance between text and illustration. The material has grade-appropriate font size. |  |  |
| 1. The illustrations clearly cross-reference the text, are directly relevant to the content (not simply decorative), and promote thinking, discussion, and problem solving. |  |  |
| 1. Non-text content (performance clips, images, maps, globes, graphs, pictures, charts, databases, and models) are accurate and well integrated into the text. |  |  |

Technology:

| Standards | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions, not just page numbers. | Rating (Reviewer Only): |
| --- | --- | --- |
| 1. Technology and digital media support, extend, and enhance learning experiences. |  |  |
| 1. The material has “platform neutral” technology (i.e., cloud based) and availability for networking. |  |  |
| 1. The material has a user-friendly and interactive interface allowing the user to control (shift among activities). |  |  |

For Questions Contact

Content & Curriculum

Idaho State Department of Education

650 W State Street, Boise, ID 83702

208 332 6800 | www.sde.idaho.gov

1. [Idaho Computer Science Standards](http://www.sde.idaho.gov/academic/shared/computer-science/ICS-Computer-Science-Standards.pdf) [↑](#footnote-ref-1)