

2023 Instructional Material Summer Review Institute

Review Team Appraisal of Title
Grades K-12 Computer Science

This appraisal form is provided for use by educators responsible for the selection of instructional materials for implementation with districts and charter schools across New Mexico to meet the need of their student populations.

[NMPED Adoption Information](#)

Text Title	New Mexico High School Computer Science (9-12)	Publisher	Coder Kids, Inc. DBA Ellipsis Education
SE ISBN		TE ISBN	2259336453993
SW ISBN		Grade Level/Content	9-12 Computer Science

Core Instructional Material Designation (Core instructional material (CIM) is the comprehensive print and/or digital educational material, including basal material, which constitutes the necessary instructional components of a full academic course of study in those subjects for which the department has adopted content standards and benchmarks.)

Recommended (90% and above)	<input checked="" type="checkbox"/>	Recommended with Reservations (80-89%)	<input type="checkbox"/>	Not Recommended and Not Adopted (below 80%)	<input type="checkbox"/>
Total Score - The final score for the materials is averaged between the team of reviewers.					Average Score
					96%

Cultural and Linguistic Relevance Recognition - Materials are reviewed for relevant criteria pertaining to the support for teachers and students in the material regarding cultural relevance and the inclusion of a culturally responsive lens. Those materials receiving a score of 85% or above on the CLR portion of the review are recognized as culturally and linguistically relevant.

CLR Recognized	<input type="checkbox"/>	Average Score
		81%

FOCUS AREA 3 CULTURAL AND LINGUISTIC PERSPECTIVES AND RESPONSIVENESS:
Instructional materials represent a variety of cultural and linguistic perspectives and highlight diversity in culture and language through multiple perspectives.
Statements of appraisal and supporting evidence:

Having students write games and think about issues, experiences, and usability in the online gaming space invites an empathetic and welcoming approach to multiple cultures and diversity. For example, in the Everybody Plays lesson, the experiences of several professional gamers with disabilities is used to learn about making video games playable with adaptive controllers, and students reflect on making their own programs more adaptable. However, there is no evidence found in the material regarding providing multiple perspectives on New Mexican populations.

Computer Science Standards Review - Materials are reviewed for alignment with the state adopted content standards, benchmarks and performance standards.

Average Score

98%

OVERALL ALIGNMENT

Materials align with the computer science standards overall.

Statements of appraisal and supporting evidence:

These materials use the perspective of various professionals, such as a network administrator, FBI Cyber Squad, or neuroscientist, to engage students' interest, accelerating their practical understanding of key concepts. Student activities are scaffolded on their way to developing robust programs and games. Students have the opportunity to experience the social and cross-cultural aspects of computing, such as digital citizenship and safe practices with their personal data.

COMPUTING SYSTEMS

Materials align to the computing systems standards for computer science.

Statements of appraisal and supporting evidence:

Materials enable students to explore a broad range of software, systems, and hardware, and provide useful tools to guide them in troubleshooting. The career of an embedded systems engineer is used as the context to explore technical details like memory management and driver development, but abstracted so students can get a taste of the complexity involved without getting lost in it.

NETWORKS AND THE INTERNET

Materials align to the networks and internet standards for computer science.

Statements of appraisal and supporting evidence:

Students learn about network functionality, ethics, and safety, in a 57:49 (almost one hour) long video panel with various persons: roles as sys admin and FBI agent, for example. One of their activities includes making IP (internet protocol) correlations between disparate data sources and trying to identify some of the infrastructure.

DATA AND ANALYSIS

Materials align to the data and analysis standards for computer science.

Statements of appraisal and supporting evidence:

Students learn about data and analysis through a wide variety of tasks, from making a beaded bracelet to understanding binary numbers, to using APIs & Python's NumPy module to gather, model, and visualize weather data.

ALGORITHMS AND PROGRAMMING

Materials align to the algorithms and programming standards for computer science.

Statements of appraisal and supporting evidence:

Students are introduced to fundamental algorithmic and programming concepts, drawing on their own and experts' experiences, which they incorporate into scaffolded development of robust programs.

IMPACTS OF COMPUTING

Materials align to the impacts of computing standards for computer science.

Statements of appraisal and supporting evidence:

Students learn about and discuss competing perspectives on topics such as privacy, security, and intellectual property. Students explore expected and unexpected impacts of computing innovations, including big data, visualization, crowdsourcing, and weak and strong artificial intelligence.

Computer Science Content Review- Materials are reviewed against relevant criteria pertaining to the support for teachers and students in the specific content area reviewed.

Average Score

95%

FOCUS AREA 1 COMPUTATIONAL CONCEPTS

Instructional materials provide strategies to develop students' skills that are crucial to understanding computational concepts, including sequencing, looping, parallelism, events, conditionals, operators, and data.

Statements of appraisal and supporting evidence:

Concepts are regularly introduced by eliciting the students' own experiences (example - looping in music), and then formalized for a computational context. Later assignments combine these concepts to expand the functionality of programs and develop student skills along the way.

FOCUS AREA 2 COMPUTATIONAL PRACTICES

Instructional materials provide strategies to develop students' skills that are crucial to understanding computational practices, including experimenting and iterating; testing and debugging; and reusing and remixing.

Statements of appraisal and supporting evidence:

Students start from code fragments, using code reviews and peer feedback to tune program performance. Modules, functions, and prior work are used to appropriately reuse code and enable more complex yet readable and accessible programs.

FOCUS AREA 3 COMPUTATIONAL PERSPECTIVES

Instructional materials provide strategies to develop students' skills that are crucial to understanding computational perspectives, including expressing, connecting, and questioning.

Statements of appraisal and supporting evidence:

Key concepts are introduced to students, often from the perspective of industry professionals. Students are encouraged to ask each other questions on the usability of examples or their code so that they can improve the resulting product.

FOCUS AREA 4 ACCESSIBILITY AND EQUITY

Statements of appraisal and supporting evidence:

Students are led through accessibility and equity considerations and then they have the opportunity to adapt their programs based on usability and accessibility feedback from their peers. For example, students learn about different disabilities and how these affect the accessibility of apps, and use a library to enable color palette options for colorblind users of their own project.

FOCUS AREA 5 TEACHER SUPPORT

Statements of appraisal and supporting evidence:

Documents with standards showing related lessons and lessons showing related standards are provided. System requirements are available for the game development curriculum but not for the Python or Java curriculum. Lessons link to the various required Youtube videos and other files.

All Content Review - Materials are reviewed against relevant criteria pertaining to the support for teachers and students in the material regarding the progression of the standards, pacing, assessment, individual learners, and cultural and linguistic relevance and responsiveness.

CLR Recognition Average Score	Average Score
81%	83%

FOCUS AREA 1 RESOURCES AND SUPPORTS FOR TEACHERS AND STUDENTS

Instructional materials provide teacher resources to support planning and supports for all students.

Statements of appraisal and supporting evidence:

Lesson plans link necessary documents, files, or websites, and often provide EL-specific support material. Challenge activities are available for most lessons. Students are provided guided notes, and starter code is available for some tasks.

FOCUS AREA 2 ASSESSMENT

Instructional materials offer teachers a variety of assessment resources and tools to collect ongoing data about student progress related to the standards.

Statements of appraisal and supporting evidence:

The materials use exit tickets, interpreting code, and writing code to assess student understanding. Project requirements and grading rubrics are part of the assessment panorama as well as peer reviews and feedback. Formal tests or quizzes are not provided.

FOCUS AREA 3 CULTURAL AND LINGUISTIC PERSPECTIVES AND RESPONSIVENESS

Instructional materials represent a variety of cultural and linguistic perspectives and highlight diversity in culture and language through multiple perspectives.

Statements of appraisal and supporting evidence:

Having students write games and think about issues, experiences, and usability in the online gaming space invites an empathetic and welcoming approach to multiple cultures and diversity. For example, in the Everybody Plays lesson, the experiences of several professional gamers with disabilities is used to learn about making video games playable with adaptive controllers, and students reflect on making their own programs more adaptable. However, there is no evidence found in the material regarding providing multiple perspectives on New Mexican populations.

Reviewers' Professional Summary - These materials are reviewed by Level II and Level III educators from across New Mexico. The reviewers have brought their knowledge, experience and expertise into the review of these materials. They offer here their individual summary of the material as a whole.

Reviewer #: 80

Background and experience:

I have a master's in mathematics from the University of South Florida, a math and physics B.A. from Goshen College, and computer science and English Language studies from Eastern Kentucky University. I have taught high school math for 13 years and during 3 of those years, I also taught regular and AP computer science. During the 10 years I worked as a university website administrator, I also taught JavaScript and undergraduate math classes part time.

Professional summary of material:

This curriculum does an excellent job of inspiring students and tying student learning to the experiences and perspectives of professionals in computer science and related fields. Assessment feels natural because it matches the stepwise refinement, debugging, and usability testing that professional programmers actually do. The linked videos use visuals and are precisely about the topics being learned in the lessons. I would definitely consider using this curriculum and my sense is that more students will opt for computer science, resulting in stronger programming skills.

Reviewer #: 81

Background and experience:

I have a bachelor's in Computer Science from the University of New Mexico. I've been teaching for 15 years. I have taught computer science at the high school and college level since 2015. I worked as a sys admin, web developer and programmer prior to teaching.

Professional summary of material:

This curriculum engages students with the diverse perspectives from professionals, news stories, international practices, and the students' own experiences. Program development starts simple, but is scaffolded in an accessible way, incorporating industry practices to develop robust programs like games or an app to model weather from data pulled from an API.