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 Computer Science Fundamentals (3-5)	**Publisher**	Coder Kids, Inc. DBA Ellipsis Education
SE ISBN		**TE ISBN**	2253536453935
SW ISBN		**Grade Level/Content**	3-5 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)	☐	**Recommended with Reservations** (80-89%)	☑	**Not Recommended and Not Adopted** (below 80%)	☐

Total Score - *The final score for the materials is averaged between the team of reviewers.*

Average Score
88%

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 ☐

Average Score
59%

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:

Materials provide opportunities for students to share their cultural and linguistic backgrounds. For example, students respond to a journal prompt about the meaning of their first, middle, and last names. Class discussions offer many Social Emotional Learning opportunities for students to feel welcomed and accepted regardless of perspective, opinion, or background. The materials allow students to share ideas about their lives and society, but do not show any evidence for critical reflection about the past and present culture of New Mexico. The materials also allow students to give feedback to peers in creating projects, but do not show any evidence for representations of people and their contributions.

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

Average Score
91%

OVERALL ALIGNMENT
Materials align with the computer science standards overall.
Statements of appraisal and supporting evidence:

The materials align with the computer science standards overall. Materials offer plenty of opportunities for students to engage in productive struggle and work with small groups to accomplish complex tasks. Students are assigned personal projects that direct them to reflect on and share personal hobbies, backgrounds, and preferences. The materials also provide multiple formative and summative assessments that are based on learning objectives. Assessments are aligned with the learning objectives of the lesson, but there is no evidence found that standards are displayed in the lesson.

COMPUTING SYSTEMS
Materials align to the computing systems standards for computer science.
Statements of appraisal and supporting evidence:

Materials align to the computing systems standards for computer science. For example, students act out, in groups, how internal and external parts of computing devices function to form a system, as well as model how a computer works with hardware and software to form a system. Troubleshooting solutions take place through classroom discussions along with guiding questions, brainstorming, and worksheets to be completed as ideas are shared.

NETWORKS AND THE INTERNET
Materials align to the networks and internet standards for computer science.
Statements of appraisal and supporting evidence:

Materials align to the network and internet standards for computer science. For example, the materials provide an activity for students to model the process of breaking information into packets, transmitting the packets, and reassembling the information. Students participate in the activity "Secret Message Transmission" to visualize how the internet is broken down into packets before traveling to its destination, sometimes taking different routes to get there. Students also discuss real-world cybersecurity problems and how information can be protected, followed by a game to enhance their learning.

DATA AND ANALYSIS
Materials align to the data and analysis standards for computer science.
Statements of appraisal and supporting evidence:

Materials align to the data and analysis standards for computer science. For example, materials provide an activity that uses an infographic poster where students collect and organize data from a classroom survey. Students create a statement that is supported by the provided data and discuss potential claims to support their work. Students collect data and then highlight cause and effect relationships and predict outcomes of their classmates' participation in sports. They also use charts and graphs to highlight relationships between eligibility to ride a roller a coaster with height and age.

ALGORITHMS AND PROGRAMMING
Materials align to the algorithms and programming standards for computer science.
*Statements of appraisal and supporting evidence***:**

Materials generally align to the algorithms and programming standards for computer science. For example, students practice breaking down tasks into smaller tasks in an origami activity. Students also work in groups to look at four algorithms and find any bugs contained in them. They have to identify and fix errors and discuss their solutions with their partners. Additionally, students compare and refine multiple algorithms for a laundry task and determine which algorithm is the most appropriate. Materials provide opportunities for discussions on how to give appropriate attribution in the correct format, but there is no evidence found of practicing attribution in the program.

IMPACTS OF COMPUTING
Materials align to the impacts of computing standards for computer science.
Statements of appraisal and supporting evidence:

Materials align to the impacts of computing standards for computer science. For example, students discuss the evolution of technology and the effect that technology has on different fields such as sports, education, entertainment, and communication. Additionally, materials provide an opportunity for a discussion on UI (User Inference) and UX (User Experience), which allows students to seek diverse perspectives with UI and UX and explain why people choose to use certain devices, products, and services. Students brainstorm ways to improve ordinary objects or tasks by making items more accessible by utilizing technology products for the diverse needs and wants of others. They also collaborate to improve their product ideas. During these lessons, students practice giving credit to others for their work.

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
92%

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:

Materials provide opportunities for students to develop sequencing and looping skills; students use and explain loops and how loops and forever loops can be used within a program. Students create a program that stores data and allows them to add or delete items. Students work on creating a shopping cart app where students can list grocery items and the user can delete specific items and enable a loop to calculate the total cost of items in the shopping cart. Students create a coding project in Scratch where loop activities are included and the program will respond to the physical world by completing a "sport" program. Students also investigate and evaluate Boolean expressions.

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:

Instructional materials provide frequent guided opportunities (bugged program is projected in front of class students work) to overcome problems stemming from incomplete programs (the game does not work as intended). Students work to identify and correct each bug until the program is correct.

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:

Materials provide opportunities for students to work with peers to gather feedback. For example, materials provide students with a starter code to create and construct their own Dino Jump game with a given debugging checklist. Students also design a game with instructional materials that provide frequent guided opportunities for students to create and construct their game, which will allow users to enjoy its programmed abilities by extending their Dino Jump game. When they develop a meditation app, the students receive peer feedback but do not co-create these apps.

FOCUS AREA 4 ACCESSIBILITY AND EQUITY
Statements of appraisal and supporting evidence:

Instructional materials help students develop an understanding and appreciation for ethical behaviors and digital citizenship through videos and discussions. The materials allow students to understand the importance of digital footprint, to manage their online reputation, to be honest and fair online, and to consider what they do or don't know about someone when encountering an online account. Materials provide lesson instruction for ELs and offer challenges for gifted students. However, no evidence is found for support for students with special needs or who are below grade level.

FOCUS AREA 5 TEACHER SUPPORT
*Statements of appraisal and supporting evidence***:**

Instructional materials provide a list of required items for each lesson. The materials are listed in the lesson plan under "Materials and Resources" with a thorough list of printable worksheets, videos, teacher printables, and exit tickets.

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
59%	68%

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:

Instructional materials provide a list of modules with clearly defined activities under each module. Each activity lists the title, description, learning objectives, whether the activity is plugged or unplugged, materials, vocabulary, and activity procedures. Lessons do not clearly define the standard. However, the syllabus, pacing guide, and corresponding standards to the lessons are in its own module on the home page of all the listed modules. There are several opportunities for students to learn digitally and unplugged. Students use Scratch in most lessons and coding projects are used as formative assessments. There are lessons in the material that provide activities for students with different levels of understanding, but there is no evidence for accommodations and modifications for IEP students.

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:

Instructional materials provide a variety of assessments that measure student progress in all strands of the standards by the way of exit tickets, informal observations, and rubrics for projects used for summative assessments. Objectives are clearly defined in the lesson plan, but standards are not. The materials provide activities for independent learning and a challenge to advance learners, but they do not provide any specific task for other levels of learners.

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:

Materials provide opportunities for students to share their cultural and linguistic backgrounds. For example, students respond to a journal prompt about the meaning of their first, middle, and last names. Class discussions offer many Social Emotional Learning opportunities for students to feel welcomed and accepted regardless of perspective, opinion, or background. The materials allow students to share ideas about their lives and society, but do not show any evidence for critical reflection about the past and present culture of New Mexico. The materials also allow students to give feedback to peers in creating projects, but do not show any evidence for representations of people and their contributions.

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 #: 76
Background and experience:
I am a Level II teacher with four years of teaching middle school math, STEAM, and computer science. I was a member of the Community of Practice cohort for Computer Science Integration and of the Computer Science Steering team at my school.
Professional summary of material:
I recommend with reservations the Coder Kids Computer Science curriculum by Ellipsis Education for New Mexico teachers and students. Students are provided opportunities to engage in plugged and unplugged activities that develop skills around building algorithms and sequences. Students also learn about the differences between engineering the User Interface and the User Experience for products and devices and then collaborate and brainstorm with classmates on how to improve the UX of a device. There are also opportunities for students to practice debugging programs and to provide peer feedback. While materials provide lesson instruction for ELs and offer challenges for gifted students, no evidence is found of support for students with special needs or who are below grade level. Additionally, while objectives are clearly defined in each lesson plan, standards are not clearly defined in the lesson plans.
Reviewer #: 77
Background and experience:
I have twenty-three years of teaching experience, twenty-one of them in NM. I hold a Master's Degree in Educational Technology and have been teaching computer science for the past three years in a K-8 school. I am a Level III teacher.
Professional summary of material:
I recommend with reservations CoderKids for a Computer Science curriculum. Computer Science standards are taught with engaging lessons through visual demonstrations, examples, explicit debugging activities, and creative thinking projects that require critical thought processing. The lessons are also relevant to student lives and age groups. The "name" lesson that is included in this curriculum encourages acceptance of diversity in the classroom. Also, SEL indicators are displayed throughout various lessons, alerting the teacher to be encouraging of inclusion and acceptance. The layout of the materials is very organized: separated by grade level, modules, and then lessons. However, standards are not specifically written on the lesson plans themselves. They are included in the curriculum, but not each lesson plan. I didn't find alternate assignments for various special needs students included in every lesson. However, most of the lessons had extension activities for advanced learners.
Reviewer #: 78
Background and experience:
The reviewer is a Level II teacher with six years of experience in teaching, two years in 7th-grade computer science and four years teaching science.
Professional summary of material:
The Coder Kids materials support strong activities that help students learn. It provides a list of lessons, materials, and resources with attached links for online and offline activities. The lessons also provide activity descriptions, learning objectives, and expected completion time that helps teacher preparation be easy and accessible. It offers students lessons with various activities, such as brainstorming, creating, and constructing projects independently and with groups. It allows students to develop skills academically and socially.