CURRICULUM ANALYSIS CRITERIA

Category I: Providing a Sense of Purpose for Students

A. Conveying Unit\(^1\) Purpose. Does the material\(^2\) convey an overall sense of purpose and direction that is motivating to students and aimed at the learning goals?\(^3\)

B. Conveying Lesson or Activity Purpose. Does the material convey to the students a purpose for each lesson or activity (aimed at the learning goals) and relate it to other lessons or activities?

C. Sequencing Activities. Does the material involve students in a sequence of activities that takes the students’ perspectives into account and systematically builds toward understanding of the learning goals?

Category II: Building on Student Ideas

A. Attending to Prerequisite Knowledge and Skills. Does the material specify and address the prerequisite knowledge and/or skills that are necessary for understanding the learning goals?

B. Alerting Teachers to Commonly Held Student Ideas. Does the teacher’s guide alert teachers to commonly held student ideas (both troublesome and helpful) that are relevant to the learning goals and described in the learning research literature?

C. Assisting Teachers in Identifying Their Students’ Ideas. Does the material include questions and/or tasks to help teachers identify what their students think about familiar situations and/or phenomena related to the learning goals before these goals are introduced?

D. Addressing Students’ Ideas. Does the material assist teachers in explicitly addressing students’ ideas relevant to the learning goals?

Category III: Engaging Students with Phenomena

A. Providing a Variety of Relevant Phenomena. Does the material provide multiple and varied phenomena to support the learning goals?

B. Providing Firsthand and Vicarious Experiences. Does the material provide an appropriate balance of firsthand and vicarious experiences with phenomena that are explicitly linked to the learning goals?

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1 “Unit” is used here to denote an extended sequence of lessons that might be labeled differently in various materials, e.g., unit, chapter, module, etc.

2 “Material” refers to any relevant information found in either the teacher’s guide or student book.

3 A “learning goal” (sometimes just “goal”) is a recommendation for what all students should end up knowing and understanding.
Category IV: Developing and Using Mathematical or Scientific Ideas

A. Providing Evidence for Learning Goals. Does the material suggest ways to use evidence to help students develop a sense of the validity of the learning goals?

B. Introducing Terms and Procedures Meaningfully. Does the material introduce terms and procedures in the context of experiences with real world examples/phenomena and use them to effectively communicate about the learning goals?

C. Representing Ideas Effectively. Does the material include accurate and comprehensible representations\(^4\) of the learning goals?

D. Connecting and Synthesizing Ideas. Does the material explicitly make appropriate connections among individual instances of a single learning goal and between specific learning goals?

E. Demonstrating Skills and Use of Knowledge. Does the material demonstrate skills and the use of knowledge related to the learning goals?

F. Providing Practice. Does the material provide questions and/or tasks in a variety of situations for students to practice knowledge or skills related to the learning goals?

Category V: Promoting Student Thinking about Experiences and Knowledge

A. Encouraging Students to Explain Their Ideas. Does the material routinely include suggestions for having each student express, clarify, justify, interpret, and represent his/her ideas about the learning goals and for having students get feedback?

B. Guiding Interpretation and Reasoning. Does the material include questions and/or tasks that guide student interpretation and reasoning about experiences with real world examples/phenomena, representations, and/or readings related to the learning goals?

C. Encouraging Students to Think about What They Have Learned. Does the material suggest ways to have students check and reflect on their own progress following instruction related to the learning goals?

Category VI: Assessing Student Progress

A. Aligning Assessment to Goals. Assuming a content match between the curriculum material and the learning goals, are questions and/or tasks included that assess student achievement of the learning goals?

B. Probing Student Understanding. Does the material include assessment

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\(^4\) By representations we mean drawings, diagrams, graphs, images, analogies and metaphors (or other verbal statements), models and simulations, role-playing, etc.
C. Assessing Effectively. Are the questions and/or tasks likely to be effective in assessing the knowledge and/or skills specified in the learning goals?

D. Informing Instruction. Is guidance consistently provided to teachers for using assessment results to choose among or modify activities to address the learning goals?

Category VII: Enhancing the Learning Environment for Students

A. Providing Teacher Content Support. Does the material help teachers improve their understanding of the science, mathematics, and technology concepts needed for teaching the material?

B. Encouraging Curiosity and Questioning. Does the material help to create a classroom environment that welcomes student curiosity, rewards creativity, encourages a spirit of healthy questioning, and avoids dogmatism?

C. Welcoming All Students. Does the material help to create a classroom community that encourages high expectations for all students, enables all students to experience success, and provides all different kinds of students with a feeling of belonging in the classroom?