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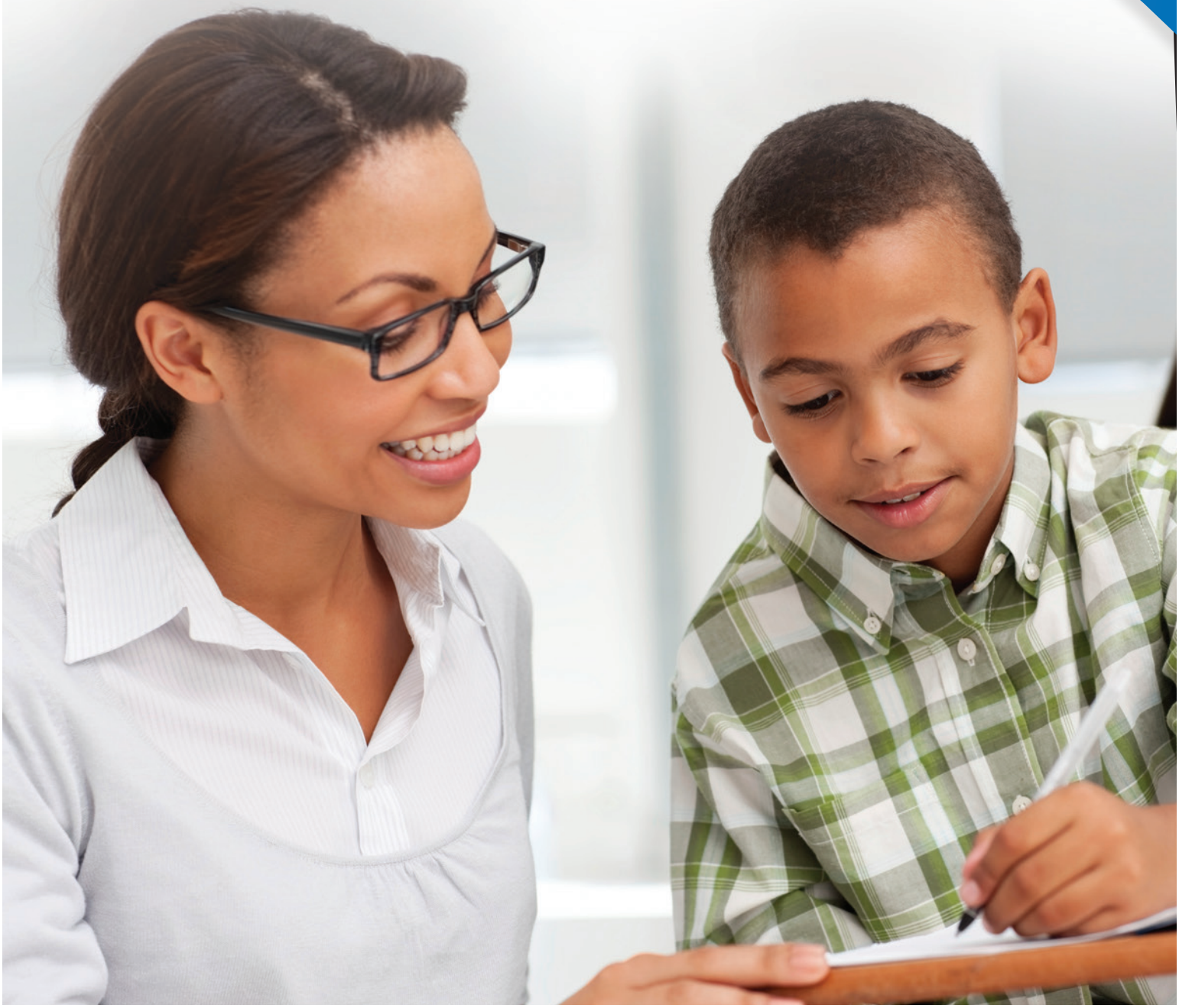
Assessing Alignment to the Common Core State Standards

A Curriculum Review Tool for Mathematics



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Introduction

The American Federation of Teachers strongly supports the Common Core State Standards (CCSS), believing they are the best path to a more focused, coherent curriculum that will allow teachers to address content in greater depth, and students to retain what they've learned. With the widespread adoption of the CCSS and a new wave of curriculum writing and textbook adoptions—every publisher is making claims that its materials support these standards. The AFT historically has avoided endorsing specific textbooks and programs, but many of our members serve on state or local curriculum framework committees and on local textbook adoption committees. This tool, developed with strong input from teachers, is intended to assist them in that work by providing guidance to drive the development of curricula and instructional resources that facilitate real and significant improvements in teaching and learning. To keep the intended goals of fewer, more rigorous and more coherent standards in mind, it is important that the people who use this tool be familiar with the Common Core standards before they begin to examine materials, or to develop curriculum or curriculum frameworks. Reviewers should note that these standards:

- place a premium on focused, coherent, and rigorous instruction;
- stress conceptual understanding of key ideas along with fluency of skills and problem solving;
- use carefully constructed progressions that attend to what is known about how particular mathematical ideas develop in children;
- consistently highlight basic principles of the discipline; and
- increase expectations for depth of teaching and learning.

This tool is intended to be used to evaluate a curriculum as defined in the AFT publication, "Making Standards Matter, 2001":
A curriculum does what standards can't do. It provides teachers with a detailed road map—which is neither overly broad nor prescriptive—for helping students reach the standards. It is the "how to" guide for teachers. It conveys the "what" of the standards, and it clarifies how much of the "what" is good enough. The curriculum provides information to teachers about the content, instructional strategies, and complexity of student performance levels necessary to meet standards.

- ***Learning Continuum**, which shows the progression and development of knowledge and skill from grade to grade;*
- ***Instructional Resources**, which include suggested print, digital texts and tools;*
- ***Instructional Strategies**, which are research-based techniques teachers can use to help teach the standards and to help students meet the standards;*
- ***Performance Indicators**, which demonstrate the level of mastery and show how much is good enough; and*
- ***Instructional Plans (examples)**, which can provide teachers with guidance and common understanding of essential instructional components, content and learning experiences to facilitate students' mastery of the standards and content.*

In addition, for purposes of this evaluation/review tool, curricula must align with the CCSS in mathematics.

Scoring

The questions that follow are intended to guide your consideration of a curriculum by assessing the extent to which the curriculum meets certain criteria. Criteria deemed essential and non-negotiable are highlighted in bold; they

should carry more weight than the others.

For each criterion, indicate which symbol best describes the extent to which the curriculum meets it.

 Not at all

 Minimally

 Partially

 Mostly

 Completely

Measuring Key Components of a Curriculum or of an Instructional Program

Alignment with the CCSS

Indicate the extent to which the curriculum or instructional program:

Addresses all the Common Core State Standards at the appropriate grade level.

Reflects the CCSS learning progressions in the sequences in the material.

Is connected among various domains.

Has appropriate, ample educational opportunities for students' application, practice and mastery of each standard.

Format and Structure

Indicate the extent to which the curriculum or instructional program:

Is coherent and reflects:

A sequence of skill development and/or concept development that is logical and consistent with the hierarchical nature of the discipline; and

Instruction on both critical content and on how knowledge is organized and generated within the content areas.

Guides students from concrete and specific problems to generalizations that define the structures of mathematics.

Integrates problem-solving throughout the curriculum rather than considering it an add-on if there is time.

Is in a teacher-friendly format.

The format, sequences, flow and language are accessible to teachers of diverse background, knowledge and skill.

The Learning Continuum

Indicate the extent to which the curriculum or instructional program:

Outlines a grade-by-grade progression of learning for K-8 that accurately reflects the standards.

Includes all the Common Core high school standards in a logical progression that can be used in the district's chosen high school pathway(s).

Follows a logical progression:

Delineates prerequisite skills and concepts that students need in order to access new skills and concepts; and

○◔◓◕● **Has a visual to show the learning progressions within domains as they develop (and conclude) over the years.**

○◔◓◕● **Includes explicit connections to previously taught concepts, not just a review of procedures.**

○◔◓◕● Offers suggestions for differentiating instruction as part of the curriculum.

○◔◓◕● **Includes instructional experiences to facilitate students' application of skills and concepts in new situations.**

○◔◓◕● **Provides sufficient learning experiences and discussion opportunities for students to develop deep understanding of content; expects students to be able to master a topic and move on (in contrast to constant repetition at the same level).**

○◔◓◕● **Emphasizes topics/concepts appropriately with more time devoted to CCSSM major emphases for the grade.**

○◔◓◕● **Allows flexibility in consideration of differentiated backgrounds and rates of learning.**

○◔◓◕● Provides explicit opportunities or suggestions for remediation and acceleration.

○◔◓◕● Has a visual representation/chart of which standards are targeted for which lessons/units.

○◔◓◕● Makes meaningful cross-curricular connections where appropriate to help students understand how mathematics is used in the world.

○◔◓◕● Provides opportunities for students to use their prior knowledge and creativity to acquire and demonstrate knowledge, concepts and skills.

Instructional Resources

Indicate the extent to which the instructional resources:

○◔◓◕● Are available in a variety of media (video, audio, visual, print, digital, etc.).

○◔◓◕● Meet the needs of diverse learners, including but not limited to English language learners (ELLs), struggling students, gifted students, students with special needs.

○◔◓◕● Are consistent with the principles of Universal Design for Learning (UDL).

○◔◓◕● Are accessible by all students.

○◔◓◕● **Are written with clear and grade-appropriate explanations, visuals and examples.**

○◔◓◕● Are available to support home-school collaboration.

KEY: ○ Not at all ◔ Minimally ◓ Partially ◕ Mostly ● Completely

○◔◓◕● **Feature sufficient learning opportunities to promote students' mastery of the mathematical practice standards, the understanding of concepts and the mastery of skills related to the major work of each grade.**

○◔◓◕● Reference mathematical vocabulary in lessons, assessments, glossary and index.

○◔◓◕● Have appropriate materials targeted to diverse subgroups of learners.

○◔◓◕● **Contain language in student resources that is appropriate for the grade levels or targeted remediation or extension.**

○◔◓◕● Provide guidance to develop concepts, moving from the concrete to semi-abstract and finally to the abstract.

○◔◓◕● Provide consistent language across content areas and grade levels.

○◔◓◕● **Contain exemplars, grade-appropriate language and annotated student responses.**

○◔◓◕● Have Web-based materials specific to CCSS:

○◔◓◕● Maintained in a way to ensure their currency; and

○◔◓◕● Are interactive.

○◔◓◕● **Delineate essential resources for all students.**

○◔◓◕● **Have the ability to deepen the content knowledge of teachers.**

○◔◓◕● **Identify and explicitly anticipate common errors or misconceptions to facilitate teacher scaffolding of student learning.**

○◔◓◕● Include formative assessments (skills and knowledge) in the program.

○◔◓◕● Include explicit and appropriate intervention suggestions consistent with Response to Intervention models.

○◔◓◕● Clearly specify the purpose of all material.

○◔◓◕● Include samples of student work.

○◔◓◕● Clearly and explicitly explain to teachers both how and why they should use the material.

○◔◓◕● **Are free from bias against and stereotypes of all populations.**

○◔◓◕● Contain strategies for differentiated instruction as part of the curriculum.

KEY: ○ Not at all ◔ Minimally ◓ Partially ◕ Mostly ● Completely

Research-Based Instructional Strategies

Indicate the extent to which the curriculum includes instructional strategies that:

○◔◓◕● **Reflect current knowledge about effective teaching and learning practices in the field and provide explanations and rationale.**

○◔◓◕● **Include a variety of instructional practices across concepts, topics and units.**

○◔◓◕● Include a variety of strategies to assist students who aren't able to demonstrate evidence of progress, as well as students who meet and exceed expectations based on the student data analyzed.

○◔◓◕● Include research-based, alternative strategies specific to specialized student populations (e.g. ELLs, special education students, those with complex communication needs, gifted and talented students, or those with other learning profiles).

○◔◓◕● Include strategies to meet the needs of all learners (UDL).

○◔◓◕● **Foster understanding and sense-making before promoting shortcut strategies.**

○◔◓◕● **Infuse or facilitate infusion of the CCSS mathematical practice standards into lessons:**

○◔◓◕● **Make sense of problems and persevere in solving them;**

○◔◓◕● **Reason abstractly and quantitatively;**

○◔◓◕● **Construct viable arguments and critique the reasoning of others;**

○◔◓◕● **Model with mathematics;**

○◔◓◕● **Use appropriate tools strategically;**

○◔◓◕● **Attend to precision;**

○◔◓◕● **Look for and make use of structure; and**

○◔◓◕● **Look for and express regularity in repeated reasoning.**

○◔◓◕● Have clear and explicit guidelines to support teaching all aspects of the units/concepts/lessons.

○◔◓◕● Provide opportunities for students to use their creativity to acquire and demonstrate knowledge, concepts and skills.

KEY: ○ Not at all ◔ Minimally ◓ Partially ◕ Mostly ● Completely

Indicators of Student Mastery

Indicate the extent to which the curriculum includes various types of indicators of student mastery that:

○◔◓◕● Provide opportunities for students from a wide variety of circumstances to demonstrate mastery.

○◔◓◕● Provide opportunities for choice on how students demonstrate mastery.

○◔◓◕● Have options for student demonstration of mastery that adhere to UDL principles.

PERFORMANCE INDICATORS

Indicate the extent to which the curriculum or instructional program contains performance indicators that:

○◔◓◕● Include clear performance descriptors that provide criteria necessary to demonstrate mastery of the standards.

○◔◓◕● Include rubrics or scoring guides that define the features of student work that meet, exceed or fail to meet the standards.

○◔◓◕● Include examples of student work demonstrating mastery of standards (or combinations of standards) at every grade level.

○◔◓◕● Include examples of student work demonstrating various performance levels relating to mastery of standards (or combinations of standards) within each grade.

○◔◓◕● **Include samples of student work with commentary that explains to teachers why the work does or does not meet the expectations described in the rubric.**

ASSESSMENT

Indicate the extent to which the curriculum fosters or the core program provides assessment that:

○◔◓◕● **Is clearly aligned with the CCSS.**

○◔◓◕● **Is clearly aligned with the curriculum.**

○◔◓◕● Is clearly aligned with the resources.

○◔◓◕● Provides a variety of assessment tools, including but not limited to:

○◔◓◕● Diagnostic assessments;

○◔◓◕● Teacher-administered assessments;

○◔◓◕● Student self-assessments;

○◔◓◕● Formative assessments;

○◔◓◕● Formative assessments embedded in instruction (formal and informal assessments);

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○◔◓◕● Summative assessments; and

○◔◓◕● Assessments in a variety of media (e.g., oral, written, digital, visual).

○◔◓◕● Has multiple items available to assess each concept so that reassessment is not compromised by having to repeat previously used items.

○◔◓◕● Targets the range of cognitive levels (those delineated in Stein, Smith et al., *Implementing Standards-Based Mathematics Instruction*, Bloom's Taxonomy or other scales).

○◔◓◕● Has multiple items available to measure the range of expectations for student mastery.

○◔◓◕● Data from diagnostic assessments clearly inform remedial instruction and intervention.

○◔◓◕● Data from diagnostic assessments clearly inform instruction to extend beyond mastery of the standard(s).

○◔◓◕● **Language (e.g., vocabulary, syntax) used to define each task on the assessment is understandable and not a barrier to students' demonstration of content knowledge.**

○◔◓◕● **Assessment items are accurately linked to the intended standards.**

○◔◓◕● Assessments help promote teachers' understanding of the level of performance required for mastery.

Instructional Plans (Examples)

Indicate the extent to which the curriculum or the instructional program includes sample instructional plans that:

○◔◓◕● Provide examples of instruction of concepts/skills/units for every grade.

Include:

○◔◓◕● Specification of the standard(s) being addressed;

○◔◓◕● Goals and objectives for each concept/unit/topic;

○◔◓◕● Description of the prior knowledge students need;

○◔◓◕● Incorporation of instruction on the necessary background knowledge to be built;

○◔◓◕● Integration of two or more standards, as appropriate;

○◔◓◕● A listing of all materials and resources needed to complete the lesson;

○◔◓◕● Classroom assessments and/or performance tasks;

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○◔◓◕● Rubrics and sample student work; and

○◔◓◕● Specification of the estimated time needed to complete the lesson and/or unit.

○◔◓◕● **Learning experiences explicitly and tightly connect to the lesson's goals and objectives.**

○◔◓◕● **Instructional plans are user-friendly.**

○◔◓◕● **Instructional plans are coherent. There is a logical flow within lessons and progressions.**

○◔◓◕● **Plans use diverse instructional strategies, including inquiry, problem solving and direct instruction, to enhance student learning and engagement.**

○◔◓◕● There are sample lessons for a variety of time frames (e.g., block schedule, units, lessons, 40-minute classes).

○◔◓◕● There are sample lessons demonstrative of various stages (introduction, practice, mastery, etc.) within a unit.

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