

Criteria for Resources Aligned to Common Core State Standards in Mathematics

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INTRODUCTION

Developed by one of the authors of the Common Core State Standards, the seven criteria for Resources outlined in this document should guide development of curriculum modules and accompanying materials.

1. Promote Effectiveness

Materials must help students learn mathematics so they can meet the indicated Standards for Mathematical Content. Materials must also equip teachers and students to develop the varieties of expertise described in the Standards for Mathematical Practice.

2. Quality Materials

Materials must be mathematically correct. The beauty and applied power of the subject should occasionally be evident to those who are following the thread.

3. Develop Mathematical Practices

Materials must be designed to foster a classroom environment in which students can engage in, and develop, the varieties of expertise described in the Standards for Mathematical Practice. Developers of mathematics resources, curriculum and assessments should briefly explain how their materials aim to do this.

4. Balance of Approach

Materials must reflect the Standards' balanced approach to mathematics, stressing both conceptual understanding as well as procedural skill and fluency. Specific aspects of achieving this balance include:

- a. **Balance of Activities and Tasks.** The activities that students do and the problems they work on must exhibit balance along various dimensions. For example, some activities and tasks should call for procedural skill and fluency alone; others should call for conceptual understanding; still others should require skill and understanding in equal measure. Some should be brief practice exercises; others should require longer chains of reasoning. Some should be abstract; others should be contextual.
- b. **Balance in how time is spent.** There should be time for group discussion and debate; time for solitary reflection and thoughtful practice; and time for unreflective skill building.
- c. **Common sense in achieving balance.** Not every task, activity, or workweek has to be balanced in these ways. It is reasonable to have "spiky" phases, during which tasks, activities, and time are concentrated in a single mode.

5. Capacity-building

Teacher-directed components of the curriculum materials should draw the teacher's attention explicitly to nuances in the content being addressed as well as to specific opportunities to foster mathematical practices in the study of that content.

6. Content Alignment

Content standards are statements—not topics. Coverage of topics is therefore not a guarantee of alignment, and it may even affect alignment negatively when the coverage is wide or shallow. Content alignment consists in the degree of focus on high priority material and depth of treatment of it, and in mathematical coherence and elegant development of ideas.

Cluster headings often unify the standards in the cluster by communicating their joint intent. Aligning to the Standards requires taking into account the guidance to be gained from cluster headings, grade-level introductions, the star symbols that indicate opportunities for Modeling or an applied approach, and so forth. In the context of a multi-grade progression, alignment also means treating the content in ways that take into account the previous stage of the progression and prefigure the next.

7. Comprehensiveness

Materials must give teachers workable strategies for helping students meet the Standards who have special needs, such as students with disabilities, English language learners, and gifted students.