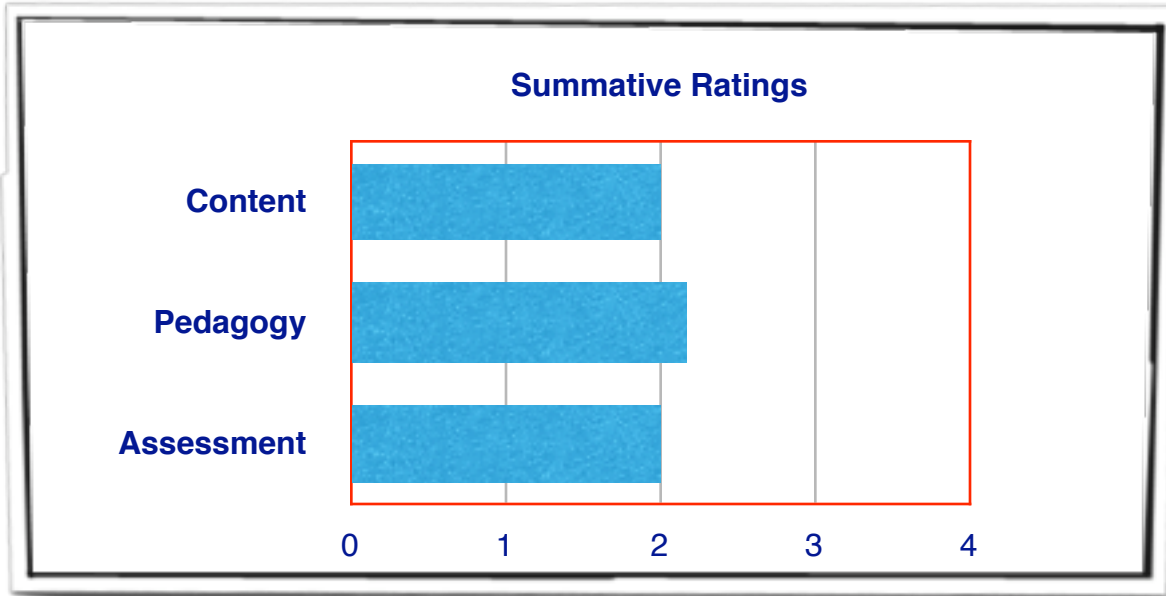


**Curriculum Materials Review  
Delaware Mathematics Coalition**

**Name:** *SpringBoard Algebra I*  
**Authors:** Team of teacher Practitioners  
**Publisher:** CollegeBoard  
**Copyright:** 2<sup>nd</sup> Edition, 2009



Not recommended  
 Recommended

	<b>Commentary</b>
<b>Rationale</b>	<p>Ever since the CollegeBoard decided to venture into curriculum development, there has been a good bit of interest in that endeavor which has now matured from a collection of teacher-made supplementary units into a “connected curriculum.” This does, of course, embody the challenge for these materials: To be seamlessly connected and to represent the same take on content and pedagogy across the eighteen units that now comprise <i>Springboard Algebra I</i>. Understandably, some of the seams are showing. Ultimately, this attempt to create a “mathematics with meaning” curriculum was not judged to be particularly successful by our committee. Perhaps the competing focus on “rigor and readiness” (“for AP and college success”) muddied the waters somewhat for the curriculum developers. Our panel decided that this attempt to “add context and meaning to mathematical concepts and facts” was only partially successful. Lessons seem to have an unfortunate tendency to squander good beginnings and retreat to a focus on procedural fluency at the expense of conceptual understanding. In any case, these materials did not rise, in our panel’s estimation, to the level of a curriculum likely to produce success for all high school students.</p>

	<b>Commentary</b>
<b>Content</b>	<p><i>SpringBoard Algebra I</i> seems to struggle somewhat to find its identity. As one reviewer noted, “There were bits and pieces of what makes a good lesson throughout Springboard. They build off prior knowledge and have some real world applications. There is not, however, a need by the student to connect the lesson with these, as the contexts are quickly dropped and the lesson is spent mostly on procedural fluency.” In the words of a second reviewer, “The real world contexts do exist but they are the standard choices and get lost among the heavy emphasis on symbolic manipulations.” There is some exploration of new concepts but, too often, “the exploration was thin and superficial.” Noted a third reviewer, “the content was devoid of a unifying theme. There was no single connection to aid recall.” Concluded another committee member, “an attempt was made to make it relative to the world, but it seemed that this was more of an afterthought,” with the final judgment that, “overall, the content was sufficient only and very procedural.” Technology is supported but “the student text is not clear about when and when not to use the calculator” and “the use of the calculator was rarely, if ever, made imperative.”</p>
<b>Pedagogy</b>	<p>Again, the review panel felt that the authors of this curriculum were of mixed mind and never really resolved their dilemma about whether or not to ground the pedagogy for <i>SpringBoard</i> in a problem-solving approach. This was exemplified by a fairly rich set of teacher resources that “offer many suggestions for the implementation of this curriculum” but then a student text that apparently takes none of those suggestions seriously! Complained another, “while patterns were utilized to ‘discover’ the content, the few repetitions would not provide sufficient experience to generate meaningful generalizations.” According to one reviewer, “most work could be done alone with little active engagement” and this was echoed by a second panel member who concluded that, “there is not much to be gained from working together and sharing ideas.” This was because “the lessons did not go into depth . . . which is precisely where there could have been some significant struggle and problem solving. There were many missed opportunities for dialogue and deep analysis due to the way questions were phrased and the [number] of times that students were just told the answers or how to solve a problem.” The veneer of problem-based learning seems thin indeed and would not, judged our panel, provide any significant “spring” into understanding for most students.</p>

	<b>Commentary</b>
<b>Assessment</b>	<p>The <i>Springboard</i> program includes an online end of unit standardized assessment as well as several embedded formative assessments in each unit. The formative assessments include contextualized situations that require students to connect different representations including rules, contexts, graphs, etc. These formative assessments are accompanied by rubrics that reference problem solving, communication, and representations, among other qualities of a strong response. They are generally short (3-8 questions). The end-of-unit assessments contains nothing but multiple choice questions and depict a very different picture of what is valued in the unit. Of the 20 questions that are included on a typical summative assessment, 18 are limited to strictly symbol manipulation and cover a very wide range of skills.</p> <p>In general, chapter assessments fail to emphasize important ideas related to how rules, contexts, and graphical representations for functions are interrelated and connected. Panelists saw no evidence of any work with recursive patterns or assessing whether if the context is changed, students could predict or determine how the associated rule or graph changes. “It seems to be narrowly focused on how this rule matches’ this graph or context, but not even much of this to speak of.” One panelist speculated that the end-of-unit assessments were not written by the same folks as the embedded assessments and lamented, “that’s too bad!”</p>
<b>Support</b>	<p>Given the history of these materials as supplemental units which have only very recently been organized into a single text, there is currently no longitudinal data related to the effectiveness of the program although pilot programs in two school districts yielded initially positive results. Teachers primarily generate ideas from their own classroom experiences. The teacher notes relate primarily to the nature of the instruction. For example, teachers are prompted to use think-pair-share or group presentations. There are also notes related to differentiation of instruction and how students should be prompted to “represent” their ideas. While the text is set up in a very traditional “here’s an example, now try some more of this type” manner, the teacher notes imply that the teacher is guiding and facilitating the instruction. There are also technology tips, connections to other subjects, and notes related to how to “chunk” the lesson. Unfortunately, the lessons themselves don’t feel investigative in nature.</p> <p>The formative assessments (18 in total in the book) include rubrics that connect to the process standards (communication and problem solving). The online site includes a community for teachers that are using the program. The publishers provide several days of PD at the beginning of the first year and train lead teachers to support the work in year two. The program costs \$18 per student.</p>
<b>Organization</b>	<p>The <i>Springboard</i> program is an online program that was written by teachers for teachers. In fact, a team of twenty teachers were responsible for writing the current <i>Algebra One</i> text. The materials were previously sold as “supplemental” units and are now marketed as a complete text. Eighteen (18) “Model Instructional Units” cover Algebra I topics including the real number system; writing and solving simple equations; solving inequalities; solving systems of equations; solving quadratic equations and inequalities; linear, quadratic, and absolute-value functions; slope as a rate of change; and sampling and surveys. We note that most of these topics represent a traditional approach to organizing Algebra I.</p>

