Curriki Algebra 1

Developer/Publisher: Curriki

View Resource

Review Year: 2013
Note that this resource may have been updated since the review. Check the developer website to see if there is a more recent version available.

Format:
☐ online
☒ PDF
☒ editable document

Professional Development:
None

Standards Correlation:
Correlations are embedded in the resource.

Publisher's Criteria:
learn more

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<th>Focus</th>
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<td>Consistent Content</td>
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Amount of work required to bring into CCSS alignment:
Moderate

2013 OER Review Full Report
This resource was reviewed by Washington educators with subject matter expertise and deep familiarity with the state learning standards. Learn more about the review instruments and process by reading the full report.

Subject:
Algebra

Grade:
High School

Scope:
Full course

Duration:
School year

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OER Project
Learning and Teaching Department
Office of Superintendent of Public Instruction

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Educators Evaluating Quality Instructional Products (EQuIP) Overall Rating:
Needs Revision (5.8)

Background from OER Project Team
Curriki is a non-profit corporation providing a platform for the sharing and creation of free learning resources. This OER Algebra course was sponsored by AT&T and created by Curriki. The curriculum has both teacher and student materials with a combination of printable PDF and word files and online activities.

Reviewer Comments

Review 1

The unit is broken down into 9 sections with a culminating activity at the end of the unit. Each section starts with CCSS by standards, resources with link provided for teacher and students, and the amount of time for the lesson (typically 50 mins), followed by lesson objectives and lesson content. The content includes background-building activities, focusing question, whole class discussion, assessment activity, extension activity and homework assignment. As I review the material, I feel a bit rushed to go through all the activities in 50 minutes.

- Standard assigned to lessons are not always accurate. i.e. 2.2 Exponential Relationships with Equations and Inequalities A. REI.3 (Solve linear equations and inequalities in one variable…. ) the lesson is about properties of exponents.
- Extension activity is offered at the end of each lesson for extra practices some are optional.
- Technology is limited to video clip tutorials; calculator usage is not explicit throughout the unit.
- Differentiation for structure of activities (whole class, small group and individual), content differentiation will be upon the teacher to facilitate.
- No direct reference to Mathematic practices.
- The lessons in this unit are not connected very well. The unit starts with solving systems of equation by substitution followed by properties of exponents, graph of exponential functions, scientific notations, exponential growth and decay and building new functions.

I would use this material in my classroom: Agree
On a 4 point scale: Strongly Disagree, Disagree, Agree, or Strongly Agree
The Curriki materials are clearly developed with both the standards and practices in mind. The lessons are well structured and seem easy to implement. The structure of the website is a little clunky: you have to navigate through numerous links to get to a lesson and then follow numerous links within a lesson. However, I do not feel the navigation issues would contribute to any more up-front planning time than a teacher is accustomed to already.

The only downside to the Curriki materials is the lack of procedural fluency practice in the homework tasks. The homework tasks are generally very brief – sometimes just one question. Having said that, it is much easier to find procedural tasks for extra practice than it is to develop a quality lesson that elicits the mathematical practices. Thus, I do not feel the lack of procedural tasks is a major concern.

A typical structure from an example lesson follows (2.4: Graphs of Exponential Functions):

- Brief overview for the teachers
- CCSS alignment table
- Preparation resources for teachers
- Materials list
- Lesson objective
- Lesson content
  - Vocabulary (if applicable)
  - Warm-up problem
  - Hook problem
  - Focus question
  - Whole class discussion
  - Small group activity
  - Individual activity
  - Assessment (usually an exit question)
  - Optional extension activity
  - Homework assignment

While the lesson sequence listed above may seem overwhelming, it is very well organized. The structure allows a teacher of any level of experience to integrate new practices into their classroom. In this lesson there is a PowerPoint, a think-pair-share question, concept driven whole-class questions, cognitively demanding group problems, and a multiple representation assessment task.

I would use this material in my classroom: Strongly Agree

On a 4 point scale: Strongly Disagree, Disagree, Agree, or Strongly Agree

Review 3

There are parts of the Curriki curriculum that I really liked – the opening paragraph that illuminates mathematical progressions involved in the unit, the daily vocabulary review, listing the Common Core State Standards included the focus question, and the background material gathered for the teacher. The culminating project that integrates the work of the unit serves as a nice assessment, especially when a rubric is included. That said, there are some issues I observed that need to be addressed.
According to the timeline listed in the materials, each lesson is based on a 50-minute session. I believe this is totally unrealistic for a variety of reasons. First, for a year-long course in Algebra, using the curriculum as laid out would take only 30 days plus 10 more for the five projects. Each day is jam-packed with activities, with little opportunity for answering student questions, differentiating instruction to meet individual needs, and checking student understanding, especially on a conceptual level. Occasionally, it is recommended to show students one of the videos included in the teacher preparation materials; this would totally through off the strict 50-minute plan. The timeline needs to be adjusted. Including an introduction that explains the philosophy of the curriculum would also help bring the overall picture into perspective.

Several other issues caught my eye – a few spelling errors (e.g., rove instead of prove on page 30); misleading or incorrect information (e.g., sample answer following the last graph on page 54); and contradictory information (e.g. Individual Activity (Teacher checks for understanding by observing students while they work in groups.)

The other big disappointment was the dearth of different types of activities to promote learning and understanding. The majority of the videos were from Khan Academy and there are many other worthwhile instructional videos available. Very few activities included technology and using appropriate tools is an important theme in the Common Core. In fact, the Mathematical Practices, so integral to the spirit of the Common Core State Standards, are not even mentioned. This is the most glaring hole in the entire curriculum.

In summary, this is a good first effort at creating a curriculum for Algebra I. There are portions that could be used in today’s classroom as long as the teacher supplements the program by including the Mathematical Practices, and makes the recommended timing more realistic (especially as we transition into the Common Core over the next several years). I believe there is a moderate amount of work to be accomplished to bring the Curriki curriculum into CCSS alignment.

I would use this material in my classroom: Agree

On a 4 point scale: Strongly Disagree, Disagree, Agree, or Strongly Agree

Review 4

The Curriki curriculum consists of lesson plans that include links to a variety of online videos and resources. The plans usually include a student centered activity or group work. Often these activities allow for students to explore the math topics and include real world information or examples. There are specific recommendations to extend the lessons for advanced students or for further exploration. The activities within the lessons are rigorous enough to require students to persevere in solving problems. In addition, each unit has a culminating project that requires applied mathematics. The curriculum does a good job of meeting the Standards of Mathematical Practice though they are not specifically identified in the text.

While the activities within the lessons are thoughtful, the mathematics is not always clearly explained. A student would struggle to work through this book without assistance. The concepts are not clearly summarized or reviewed in most lessons and there are not enough opportunities for individual practice. The formative assessments within the lessons and those labeled homework do not require enough practice for fluency and often don’t meet the standards for rigor.

Teachers may find it difficult to navigate the lesson plans, as there are many links and choices within the lessons. In several cases the supplemental worksheets or assignments didn’t seem to focus on the same topic as the lesson. The pacing seems rushed and at times there are too many major concepts being introduced in one lesson. The coverage of polynomials and functions wasn’t thorough.

Curriki does provide answer keys and rubrics.

I would use this material in my classroom: Disagree

On a 4 point scale: Strongly Disagree, Disagree, Agree, or Strongly Agree
The course is divided into 5 units, with a total of 30 lessons and 5 projects (1 per unit). Each lesson has a 50 minute time period assigned to it, however, most of the lessons have so many different activities that there is no way to do them all with any possibility of classroom discourse that leads to conceptual understanding. I believe there is promising material included in each 1 day lesson that could be developed into 2 or 3 days. Each lesson follows a pattern:

- **Background building activities for students.** Many lessons assign only 10 minutes to the following 2 activities:
  - **Vocabulary Building:** A variety of vocabulary-building activities start each lesson.
  - **A “Warm-Up” question/task.** Sometimes related to the focus question, often not. In many lessons, the warm-up task could take a whole class period, if adequate time is given.

- **The “Focus Question.”** The clarity, focus and purpose of these questions vary widely. Examples of focus questions for a single lesson include:
  - *How can an equation be used to express the value of each variable?*
  - *How many miles can Lisa ride?*
  - *How do we find balance in a linear system? What is the weight ratio of soccer balls to volleyballs? How long does it take for light to get from the sun to the earth?*
  - *If we wanted to describe how the scores on a specific test are for the whole class as well as give certain mathematical measures, or indicators, for the class, how would we do it?*

- **The “Algorithm”**. The teacher generally tells the students the algorithm they should use to solve the problems in the lesson. Occasionally the warm-up and/or focus question allow for students to explore and discuss related problems.

- **A formative assessment** of the types of problems taught through the algorithm. Students work alone, in pairs, or in groups. Generally, the assessment is slated to take 5 minutes, but often the task(s) would require much more time. Generally, students turn in the assessment and the teacher corrects it. There is little support for the teacher using the assessment to modify instruction.

- **Homework is assigned, but there is not time built into the next lesson to discuss or use to build on understanding.**

Multiple extension tasks are offered, which provide a variety of options for enrichment. There is no support for differentiation.

Students have opportunities to work alone, in pairs, small group, whole group. However, there is little support for the teacher for facilitating whole class discourse that requires students to engage in SMP #3, 7, or 8. In fact, there is no direct reference to the Standards for Mathematical Practice...

Standards assigned to lessons are not always accurate. Example: Lesson 5.2 Real Life Parabolas. The standards listed are F.IF.4&5 Interpret functions that arise in context.... However, the “focus question” for the lesson is “How do we graph transformations of the parent function y=x^2?”

I would use this material in my classroom: Disagree

*On a 4 point scale: Strongly Disagree, Disagree, Agree, or Strongly Agree*