

Livonia Public Schools

Ben Hillard

Academic Services Department

Mathematics and Science Curriculum

Coordinator

DATE: Thursday, March 30, 2017

TO: Jim Gibbons, Principal, Churchill
Dan Willenborg, Principal, Franklin
Gary Harper, Principal, Stevenson
Ann Owen, Emerson
Tony Abbate, Frost
Eric Stromberg, Holmes

FROM: Ben Hillard
Math and Science Curriculum Coordinator

SUBJECT: **Textbook Recommendation for Algebra 1**

Committee Members

Smita Joshi, Churchill
Martha Ptashnik, Churchill
Kim Ross, Emerson
Dave Bjorklund, Franklin
Danielle McDonagh, Franklin
Jen Abler, Stevenson
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Stephanie Ammar, Franklin
Julie Cosgrove, Franklin
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Recommended Textbook:

enVision Algebra 1, 2018, Pearson Education, Inc.

Lakisha Flowers, Account General Manager

Pearson Education, Inc.

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Cost proposal is attached.

Distribution of textbooks

Churchill: 235

Franklin: 270

Stevenson: 285

Emerson: 100

Frost: 170

Holmes: 170

Summary of Course

This course provides for the study of the real number system and families of functions including linear, exponential, and quadratic. Students will also develop their knowledge of power (including roots, cubics, and quadratics) and polynomial patterns of change. Students will develop an understanding that algebraic thinking is a powerful tool which can be used to model and solve real-world problems.

Overview

Due to our current Algebra 1 textbook being outdated and not fully addressing the Michigan Math Standards, we are recommending the adoption of a new textbook for Algebra 1. Our committee has come to the consensus that best possible choice would be enVision Algebra 1 (2018). This book best met the evaluation criteria and coherently developed the mathematical concepts we deemed as priorities during our analysis. The enVision series provided engaging tasks to deepen conceptual understanding as well as opportunities to strengthen and apply procedural skills.

In addition, the enVision series provides additional resources for teachers and students to view tutorials, gather data, and work through questions. After reviewing several choices, we felt that the enVision textbook was the strongest option and would provide a valuable resource for our teachers and students of Algebra 1.

Evaluation Process

Both Geometry and Algebra 1 teachers met together to review materials. It was agreed upon that the best situation would be one in which we adopted a series, thereby the concepts would flow coherently and we would anticipate fewer gaps in content coverage. Geometry teachers rated and discussed their materials while Algebra 1 teachers did the same. We then had whole group discussions about the entire series.

Needs Assessment Summary

We concluded that our ideal materials would meet the following criteria

- Well aligned to Michigan Math Standards/Common Core State Standards.
- Engage students in meaningful problem solving.
- Lead to a deeper understanding of important math concepts.
- Include authentic applications of mathematical concepts and procedures.
- Challenge students and support teachers in providing these challenges.
- Must provide online textbook access.
- Organized in a coherent manner (logically sequenced).
- Provide opportunities to develop procedural competency and fluency.

Evaluation Criteria

We evaluated the textbooks on three main categories: Focus and Coherence, Rigor and Balance, and Instructional Support. Within each of these categories, were several indicators related to that domain. This rubric was developed using our needs assessment, IMET evaluation tool, edReports rubric, and principles of Five Dimensions of Teaching and Learning. The full evaluation rubric is attached.

Topics Evaluated

Large Slice

- Quadratic Equations

Small Slice

- Solving Systems of Equations by Substitution

Textbooks Evaluated

- Big Ideas Math Algebra 1, 2015
- Carnegie Learning Algebra 1, 2016
- Core Plus Mathematics (Integrated), 2015
- CPM Core Connections Algebra, 2013
- Discovery Math Techbook Algebra 1, 2018
- enVision Algebra 1, 2018
- Eureka Math Algebra 1, 2015
- Glencoe-McGraw Hill Algebra 1, 2018
- Houghton Mifflin Harcourt Algebra 1, 2015

Evaluation Rubric Outcome

Using our evaluation criteria, we rated our top six of the above listed series. Of the 21 indicators, enVision ranked first in 13. There were no indicators where enVision ranked worse than third. Carnegie Learning was the next highest rated on our rubric finishing first in five categories.

In the overall recommendation rating, enVision has the highest score as well with a rating of 2.43. Carnegie is the next highest at 2.0.

Student Rating

173 Algebra 1 students throughout the district participated in the evaluation process. These students read and discussed a section on solving systems of equations by substitution.

They then answered eight questions relating to the texts and had an opportunity to write a comment. When asked which book they preferred, 66.5% of the students selected enVision. enVision was the top choice for all questions except “Which book has more of a variety of practice problems?” For this question, students selected HMH Algebra 1. Teachers rated enVision higher for this indicator on their rubric.

Student Comment Samples

- “The blue book (enVision) was easier to understand and went step by step.”
- “The blue (enVision) was more clear with its explanations. It showed you what to do instead of having you fill in what could be a wrong answer.”
- “I chose blue (enVision) for being my favorite book because it seems to clarify substitution better than the yellow book.”
- “Blue (enVision) has a more clean, simple, and descriptive layout.”

Professional Development Needs

- Training of all online components
- Overview of print resources
- Time for collaboration and planning

Additional Materials

- New TI-84+C graphing calculators should be considered to replace the inadequate calculators in classrooms.

C: Theresa O'Brien
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Math Department Chairs