# 2017-2018 WCSD Algebra 2 Program Evaluation Rubric

**Evaluator Number**

11

**Program Number**

4

**Name of Text**

Algebra 2

**Publisher**

Houghton Mifflin Harcourt

**Rate This Text Overall**

☐ **High** ☑ **Mid** ☐ **Low**

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**Focus: Evaluate the table of contents and any pacing guides. Do not stop there; also evaluate units, chapters, and lessons. (Both student and teacher materials)**

**Functions - Graphing Transformations**

Translating, stretching, shrinking and reflecting the graphs
Absolute Value, Quadratics, Exponential, Rational, Radical, Piecewise and Step Functions

**Quadratic Functions with Complex Solutions**

Graph Vertex, Standard and Intercept Forms
Solve in Vertex, Standard (quadratic formula, complete square) and Intercept Form
Write equations in 3 unknowns to write a quadratic given three points

**Polynomials and Polynomial Functions**

Add, subtract, multiply and divide – include property of closure
Graph polynomial functions
Solve polynomial equations
Model using polynomial functions

**Rational Functions**

Add, subtract, multiply and divide – include property of closure
Graph rational functions
Solve rational equations (extraneous solutions)
Model using rational functions

**Radical Functions (Rational Exponents)**

Add, subtract, multiply and divide – include property of closure
Graph radical functions
Solve equations with radicals (extraneous solutions)
Model using radical functions

**Inverse Functions**

Explore inverse functions
Use composition to show two functions are inverses
Use function notation, graphs and solving to find inverses

**Exponential Functions**

Add, subtract, multiply and divide exponential expressions – use properties of exponents
Graph exponential functions
Solve equations with exponential expressions (extraneous solutions)
Model using exponential functions

**Logarithmic Functions**

Add, subtract, multiply and divide logarithmic expressions – use properties of logs
Graph logarithmic functions
Solve equations with logarithmic expressions (extraneous solutions)
Model using logarithms functions

**Statistics**

S.ID.A (1-4)

**Systems of Equations**

A.RET.C.5

3 variable linear
Quad/linear
Poly/linear
Rational/linear

**Graphing Form of Functions**

Transformations

**At least 90% of the topics are in the textbook with reference to topics.**
**Comments?**

In S.ID.A.3 - Missing effects of outliers,
missing systems of linear and other non-linear functions (has quadratic).
composition only covered very briefly - only in context to inverses
Missing piecewise and step functions

- ○ Less than 25%
- ○ Less than 50% but greater than 25%
- ● Less than 90% but greater than 50%
- ○ At least 90%

**Student work involves significant work with applications/modeling and problems that use algebra skills.**
**Comments?**

Each section includes a "Lesson Performance Task" including other applications.

- ○ Does not occur
- ○ Sometimes occurs
- ● Frequently occurs
- ○ Consistently occurs

**There are problems at a level of sophistication appropriate to Algebra 2 (beyond the mere review of Algebra 1 course topics) that involve the application of knowledge and skills needed.**
**Comments?**

As this program comes with a complete response to intervention supplement, the problems in the text are on a level appropriate to Algebra 2

- ○ Does not occur
- ○ Sometimes occurs
- ○ Frequently occurs
- ● Consistently occurs

**Do the chapter/units provide for the opportunity to graph the functions, solve for the zeros of the functions and model using applications of the functions?**
**Comments?**

Yes

- ○ Does not occur
- ○ Sometimes occurs
- ○ Frequently occurs
- ● Consistently occurs

**Rigor: Examine the instructional materials, student practice and assessments. Look for evidence of where the topics explicitly require students to understand concepts, do the assignments that students work on build that understanding, and do assessment tasks reveal whether students understand the mathematics in question?**
**Comments?**

Students are led through a explore part in each section - supported with an interactive online text book. So through the discovery part, they see examples with chances to try on their own.
Each part of the book does require students to understand the concepts, with practice in the assignments and then moving into the assessments.

- ○ Does not occur
- ○ Sometimes occurs
- ● Frequently occurs
- ○ Consistently occurs

**Rigor: Do the materials feature high-quality conceptual problems and conceptual discussion questions? Do they provide opportunities for multiple representations?**
**Comments?**

Each lesson includes a lesson performance task allowing students to conceptualize the topic at hand. These tasks allow for students to represent their solutions in different ways, however, the answer key only includes the most common way.

- ○ Does not occur
- ○ Sometimes occurs
- ● Frequently occurs
- ○ Consistently occurs

**Rigor: Are the materials designed so that students attain the fluency and procedural skills required? Evaluate the lessons, chapter/unit assessments, daily routines, and homework assignments for evidence in the development of fluency and procedural skill supported by conceptual understanding.**
**Comments?**

Students should be attaining the fluency and procedural skills required, if not there is a full set of response to intervention skills worksheets that can help pinpoint where the student is struggling. Includes all three tiers (tier 3 online).

- ○ Does not occur
- ○ Sometimes occurs
- ● Frequently occurs
- ○ Consistently occurs

**Rigor: Are the materials designed so that teachers and students spend sufficient time working with applications, without losing focus on the topics defined for the course? Are there single- and multi-step contextual problems that develop the mathematics of the course, afford opportunities for practice, and engage students in problem solving?**
**Comments?**

Each module comes with a real world video, that helps students to see where this topic can be applied in the real world. Each section does include contextual problems in the problem set and in the lesson itself. It is not a distracting amount of application, but provided in a good balance.

- ○ Does not occur
- ○ Sometimes occurs
- ● Frequently occurs
- ○ Consistently occurs

**Coherence: Are the materials coherent in their content, do the topics build on each other in a way that is beneficial to the instruction, student practice and assessments?**
**Comments?**

The topics do build on each other allowing for a smooth progression through the very choppy Algebra 2 curriculum.

- ○ Does not occur
- ○ Sometimes occurs
- ● Frequently occurs
- ○ Consistently occurs

**Mathematical Practices: Are the mathematical practices addressed in such a way to benefit instruction and expectation of students?**
**Comments?**

The MPs are addressed in each section.

- ○ Does not occur
- ○ Sometimes occurs
- ○ Frequently occurs
- ● Consistently occurs

**Standards: Does the instructors text reference the standards in the chapters/units?**
**Comments?**

The text does reference the standards in each of the modules/ units in a way that allows for the teacher to engage in those standards throughout the lessons.

- ○ Does not occur
- ○ Sometimes occurs
- ○ Frequently occurs
- ● Consistently occurs

**Does the textbook meet requirements/rigor for algebra 2 Honors, yet remain appropriate for Algebra 2?**
Comments?

There are challenges included in the supplemental materials that would allow for the content to be stretched to reach the honors class without abandoning the lower level course.

- ○ Does not occur
- ○ Sometimes occurs
- ● Frequently occurs
- ○ Consistently occurs

**How do the supplemental materials reflect/extend the material in the textbook?**
Comments?

The supplemental materials reflect the material covered in the textbook.

- ○ Does not occur
- ○ Sometimes occurs
- ● Frequently occurs
- ○ Consistently occurs