2017-2018 WCSD Algebra 2 Program Evaluation Rubric

Evaluator Number

11

Program Number

2

Name of Text

Glencoe Algebra 2

Publisher

McGraw Hill Education

Rate This Text Overall

☐ **High** ☑ **Mid** ☑ **Low**

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?

Missing: linear/nonlinear systems; S.ID.3 - treatment of outliers and what they do to the statistics. Modeling part seems to be limited...

- ○ 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?

Applications seem to be fairly generic, each lesson begins with an example of how the topic might be used in the real world, but then in some instances it is not addressed again. Most of the applications seem to be found in the exercises or in supplemental material.

- ○ 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?

Seems to be a lot of review, with little to extend it beyond the text.

- ○ 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?

Unable to access the assessment piece of the program. Hard to navigate the program, which has to be paid for outside of the text.

- ○ 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?

Many of the problems are the straight forward skill and drill, in the lessons. Not much in the way of discussion questions found. Although they do have a few problems in each section they call "H.O.T" higher order thinking questions.

- ○ 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?

Unable to access the assessments.

- ○ 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?

Little focus is given to the applications, it seems as if they were just dropped in without much thought.

- ○ 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?

They seem to, however, unable to access the assessment piece of the curriculum so difficult to see how they build.

- ○ 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 mathematical practices are addressed in each unit, and it does seem to be utilized in a useful manner

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

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

The standards are referenced

- ○ 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?

I do not believe this would be a book that could stretch for both classes. Any extensions for the honors level course would most certainly need to be supplemented.

- ○ 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 are on the same level as the textbook...

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