McGraw-Hill Education
Publisher's Response to
EdReports.org Evaluation of
Everyday Mathematics 4, Grades 3-6

After a careful and thorough analysis of the EdReports review of *Everyday Mathematics 4*, McGraw-Hill Education and the author team from the University of Chicago found it to be incomplete, inaccurate, and misleading. It fails to provide an authentic representation of the curriculum and its alignment to the Common Core State Standard for Mathematics (CCSS-M) and the Publishers' Criteria.

While extensive and undeniable evidence of the strengths and successes of *Everyday Mathematics* exists—other independent review panels, efficacy research, success stories, decades-long iterative development, field testing, academic research —the EdReports review takes a shallow and incomplete look at the curriculum.

▶ Why is the EdReports review of *Everyday Mathematics 4* incomplete, inaccurate, and misleading?

- **The review often misinterprets the CCSS-M as well as the coverage of the CCSS-M in *Everyday Mathematics 4*.**
- **The EdReports process and tools were not well-suited to evaluating a spiral curriculum.**
- **The review persistently overlooks rigorous instruction and support for mathematical discourse in *Everyday Mathematics 4.***
- **The review applies arbitrary criteria that are not a part of the EdReports evidence guides.**
- **The review has numerous errors and inaccuracies.**

Fundamentally, the report failed because the process, tools, and reviewers were unable to accurately evaluate a research-based spiral curriculum like *Everyday Mathematics 4*. A spiral curriculum depends on distributed instruction and practice, with multiple exposures to concepts, skills, and applications carefully articulated in combination with other, concepts, skills, and applications. Research has repeatedly found that a spiraling approach is best for deep, enduring learning.

Creating a spiral curriculum requires the thoughtful weaving of learning trajectories within and across grades. In order to capture the depth and connectedness of learning that a spiraled approach enables, a successful review of a spiral curriculum must consider the entire progression, not just isolated moments of instruction, lessons, or activities. Unfortunately, it is clear that EdReports' tools, Evidence Guides, and process respond well to labeling, but are

challenged to accurately review a rich, intricate curriculum such as *Everyday Mathematics 4*. Clarity of labeling is not more important than meaningful curriculum engineering.

We respect the mission of EdReports and will continue to work with it to help improve the integrity of its processes by identifying issues in the review of *Everyday Mathematics 4*.

▶ How does *Everyday Mathematics 4* support the CCSS-M and the Publishers' Criteria?

Everyday Mathematics 4 was developed over six years, beginning in 2010. During this time, the author team conducted an extensive review of research in the learning sciences and an exhaustive study of both the CCSS-M and the Publishers' Criteria. Lessons were rigorously field tested with over 1,400 students across the country, a process that drove continuous and iterative improvements before publication.

It is our opinion that *Everyday Mathematics 4* is the best researched and most carefully developed Common Core curriculum available.

▶ Is there evidence of this report's weaknesses?

Due to space limitations, we can provide only a few examples of the numerous examples of flaws we found with the review. If you would like a more comprehensive list, go to:

http://cemse.uchicago.edu/edreports

▶ What are some examples of issues with this report?

Below are several examples where the report falls short.

Misinterpretations of CCSS-M and *Everyday Mathematics* Content

Across the grades, the review frequently misinterprets the standards for mathematical content, and how those standards are presented in the curriculum.

Issue: Misunderstanding Standard 5.NF.6

The EdReports reviewer interprets 5.NF.6 as requiring multiplication of a fraction by a mixed number and consequently claims that many problems are improperly tagged to 5.NF.6. However, the text of 5.NF.6 reads as follows:

5.NF.6. Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.

If the standard required what the reviewer claims, then it would have read, "... multiplication of fractions *by* mixed numbers, …" so the reviewer has failed to understand what the standard requires.

Issue: Misidentifying the Major Work of the Grade

The Grade 5 EdReports review fails to recognize that 5.G.A is identified as major work in the Publishers' Criteria and consequently mistakenly claims that work in EM4 aligned to 5.G.A is not major work.

EdReports Process and Tools Were Challenged to Review a Spiral Curriculum

A thorough review of a spiral curriculum cannot simply examine individual lessons in isolation. Instead, the review must track standards through multiple activities, lessons, and units.

Issue: Failure to Recognize Full Breadth of Instruction in the Program

At Grades 3-6 in Indicator 1b, the EdReports Review states: *To determine the amount of time on major work, the standards covered in the focus lessons were considered since that is where direct instruction takes place and the majority of the lesson takes place during this time.*

This statement reflects a lack of understanding of a spiral curriculum by discounting the importance of the instruction and learning that takes place during the Warm Up and Practice portions of the lesson.

Issue: Failure to Identify Content that Addresses Standards

In Grade 3, Indicator 1e, the EdReports Review states: *The content does not always meet the full depth of standards. This mainly occurs because of a lack of lessons addressing the full depth. For example, there are fifteen lessons which address 3.OA.1; however, they only ever specifically address multiplication of 0,1, 2, 5, and 10.*

There are actually 102 exposures to 3.OA.1 in Grade 3 EM4, 31 of which occur in the Focus portion of lessons. To claim that the full depth of 3.OA.1 is not met with this coverage is incorrect.

Failure to Recognize Rigor and Mathematical Discourse

The review consistently overlooks or discounts instruction that supports conceptual development, procedural fluency, and application.

Issue: Failure to Recognize Rigor in Grade 4 Fraction Lessons

The EdReports review of Grade 4, Indicator 2a, states the following: *In lesson 3-4, students are required to develop a rule for finding equivalent fractions. Instead of working with number lines and models, they are introduced to standard multiplication to find the equivalent fraction. With the way this lesson is set-up, students are simply employing a rule to find the answer.*

The review fails to note that in Lessons 3-1, 3-2, and 3-3, students work with fraction circle pieces and number lines to find equivalent fractions using a conceptual, representation-based approach. Standard 4.NF.1 calls for students to "Use this principle [a fraction a/b is equivalent to a fraction (n x a)/(n x b)] to recognize and generate equivalent fractions." Since the standard calls for students to understand and apply this rule, students need to know the rule. Lesson 3-4 requires students to generalize the very conceptual work they did in Lessons 3-1 through 3-3. The reviewer has taken Lesson 3-4 out of context and has drawn an incorrect conclusion.

Arbitrary and Obtuse Criteria and Metrics

Conflicts between the criteria in the EdReports Evidence Guides and reviewers' comments abound in all grades.

Issue: Faulty Interpretation of Support for Standards for Mathematical Practice Development

EdReports claims that all grades of *Everyday Mathematics 4* fail to teach the full meaning of the mathematical practices (Indicator 2f) because various opportunities fall short of that full meaning.

But the Evidence Guide for Gateway 2 states, "Every instance of an MP being marked does not necessarily have to encompass the full meaning of an MP, but taken together there should be evidence that the materials carefully attend to the full meaning of each practice standard." So citing individual cases that supposedly fail to teach the full meaning of a practice is not enough. The reviewers have failed to follow the Evidence Guide.

The *Everyday Mathematics 4* approach to the MPs is in line with what the Common Core and the Publishers' Criteria require. The curriculum breaks down the complex skills required by the SMPs down into constituent parts -- the Goals for Mathematical Practice -- and carefully builds understanding of the full standard throughout the year. In fact, *Everyday Mathematics 4* as a whole attends very well to the full meaning of the practice standards.

General Errors and Inaccuracies

In the two weeks we were given to review the report prior to its publication, we reported many errors to EdReports, some of which were fixed. The number of errors, however, is so large as to call into question the overall integrity of the process and the report and the scores that EdReports gave. And many errors remain.

Incorrect Citations of Mathematical Practices in Grade 5 Review

In Grade 5, Indicator 2f, the review states: *Lesson 2-3 cites MP6; the teacher telling the students to always think about if their answer makes sense is not the students attending to precision.* There is no such prompt tagged to MP6 in that lesson.

In Grade 5, Indicator 2g.i, the review states: *MP3 is not explicitly called out in the student materials*.

This is false. There is a section on MP3 in the Student Reference Book. There is a class poster that is referenced in Lesson 1-3 that includes MP3.