Oregon Math Criteria
Grades K-6

Everyday Mathematics
How Children Learn.

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I. Alignment to the CCSS Mathematical Content**
The instructional materials demonstrate evidence of key shifts that are reflected in the CCSS:

**Criterion 1: FOCUS**
Addresses all grade-level CCSS Mathematics standards by including a clear and explicit purpose for instruction and prioritizing critical concepts for each grade level.

Ia. In each K–8 grade level, both student and teacher materials, when used as designed, devote the majority of time to the **Major Work of the grade.**
For context, read criterion #1 in the *K–8 Publishers' Criteria for the Common Core State Standards for Mathematics* (Spring 2013).

For a detailed outline of the standards covered in each grade, please refer to the correlation to the Common Core State Standards on pages xiv-xvii of the front matter of each grade’s *Teacher’s Lesson Guide.*

You will find nearly every lesson has focus instruction or practice on a Major Cluster standard. In Grade K, 95% of lessons have focus instruction and practice on the Major Clusters, Grade 1-99%, Grade 2-96%, Grade 3-97%, Grade 4-99%, Grade 5-98%, Grade 6-91%. The development of Additional and Supporting Clusters are tied to the instruction of Major Work whenever possible. This includes instruction in daily lessons, assessments, and homework assignments.

Using the online Tracker, a domain, cluster, and standard from the CC, such as 1.NBT.2: Understanding Place Value can be selected. The Tracker details every exposure to this standard (in this case 104) through the Warm-Up, Focus, or Practice of a lesson or assessment. It also unpacks the standard into small manageable chunks and specifies the portion of the standard addressed.

Ib. Supporting Work, where present, enhances focus and coherence simultaneously by engaging students in the Major Work of the grade.
For context, read criterion #3 in the *K–8 Publishers' Criteria for the Common Core State Standards for Mathematics* (Spring 2013).

The Spiral Trace and end of unit Progress Checks can be used to visualize Everyday Mathematics progression of fluency expectations within a grade level.

Ic. Materials give all students extensive work with on-grade-level problems that are organized around major themes consistent with critical areas found in the standards. As needed, the materials include appropriate supports for both high and low performing students to engage in grade level content.
For context, read criterion #5b in the *K–8 Publishers' Criteria for the Common Core State Standards for Mathematics* (Spring 2013).

*Everyday Mathematics 4* uses a distributed instruction, distributed practice model. Rather than only addressing a standard within a single unit/section, *Everyday Mathematics 4* provides instruction and practice at grade-level throughout the school year to expose students to standards in multiple ways – in different contexts – over time. The digital *Spiral Tracker* or the
Correlation to the Common Core State Standards charts found on pages xiv-xvii of each *Teacher’s Lesson Guide* documents these instruction, practice, and assessment opportunities.

Each Regular Lesson in *Everyday Mathematics 4* includes activities for Readiness, Enrichment, and Extra Practice support that address the focus standards for that lesson. The Readiness activities are designed to prepare students who need more scaffolding for the mathematical thinking needed for the main tasks of the lesson, whereas the Enrichment activities extend the thinking of higher performing students, allowing them to explore the content of the main tasks in greater depth. Extra Practice provides additional meaningful practice of grade-level content from the lesson.

Examples:

**Grade 1, Lesson 5-1:** This lesson uses base-10 blocks to practice place-value concepts. The Readiness activity provides opportunities for writing and reading 1- and 2-digit numbers by having children represent and identify numbers to 99. The Enrichment activity provides opportunity to apply understanding of place value, by having partners play a game using a Tens and Ones chart. Students discuss their strategies as well. The Extra Practice activity uses literature as an opportunity to practice identifying digits in number representations and having children draw pictures to represent 2-digit numbers. All three activities engage children in developmentally appropriate problems that deepen their understanding of Standard 1.NBT.2 and SMP2.

**Grade 4, Lesson 4-6:** This lesson introduces the place value-based partial products strategy to practice multiplying with 1- and 2-digit multipliers. The Readiness activity support students’ understanding of partial products multiplication by practicing decomposing 3- and 4-digit numbers. The Enrichment activity explores an early Egyptian algorithm for multiplication and provides an opportunity for comparing and contrasting strategies. The Extra Practice activity provides an opportunity for students to create, solve, and check 3- and 4-digit by 1-digit multiplication problems as well as an opportunity to discuss strategy. All three activities engage children in developmentally appropriate problems that deepen their understanding of Standard 4.NBT.2, 4.NBT.4, 4.NBT.5, and various Mathematical Practices.
In many cases, student-friendly Activity Cards support small group and partner differentiation activities. *My Reference Book* (Grades 1-2) or *Student Reference Book* (Grades 3-6) icons appear on many student journal pages, Math Boxes, and Home Links to provide additional support to students if needed.

**1d.** Review of material from previous grades is clearly identified as such to the teacher, and the teacher and students can see what their specific responsibility is for the current year. *For context, read criterion #5a in the K–8 Publishers’ Criteria for the Common Core State Standards for Mathematics* (Spring 2013).

Review material is primarily used as differentiation support and is contained to Readiness activities. The Implementation Guide describes Readiness activities as providing “opportunities for students who need additional background in order to access the core lesson.” (p.27)

In addition, each grade includes a Beginning-of-Year Assessment that measures children’s knowledge and skills related to the content in the first two or three units based on grade-level expectations from the prior grade and is designed to be helpful for RTI screening.

**Criterion 2: COHERENCE**

Materials are consistent with the learning progressions in the Standards based on previous understandings.

**2a.** Materials include learning objectives that are evidently shaped by CCSSM cluster headings. *For context, read criterion #6a in the K–8 Publishers’ Criteria for the Common Core State Standards for Mathematics* (Spring 2013).

In each Unit/Section Organizer (within the *Teacher Lesson Guide*), the Spiral Trace outlines the key standards for the unit, outlining instructional trajectories for key standards in the unit, highlighting focus, practices, and assessment opportunities for each standard and describing the degree of mastery—as measured against the entire standard—that is expected at that point of the year. The Unit Organizer also provides extensive mathematical background of content and practice standards addressed in the unit.

Each lesson begins with a lesson opener which clearly outlines the CCSS cluster headings addressed in the lesson content. Objectives for the lesson are clearly tied to these clusters, as each activity lists the relevant content standards within the cluster. Within the Focus portion of the lesson, the Assessment Check-In is always linked to the relevant GMCs of the lesson to facilitate formative assessment.

Each *Teacher’s Lesson Guide* contains a section called “Unpacking the Standards” found on pages EM1-EM9 of the back section of each book. These charts clearly articulate the progression of each standard in the grade through the clear and appropriate grade-level skills in the Goals for Mathematical Content. These goals are present in each lesson opener under the grade-level content standards listed. Coupled with the correlation chart (pages xiv – xvii), these resources demonstrate a clear grade-level progression as seen in the Standards, for every grade in *Everyday Mathematics 4.*

Please see Appendix B for a complete listing of each GMC with its related cluster. These charts can also be found on pages 3-6 of the end matter of each grade-level *Teacher’s Lesson Guide.*
2b. Material’s content progressions are appropriately aligned to the progressions in the Standards. As a student progresses through the materials, content from previous or future grade levels does not unduly interfere with or displace on-grade-level content.
For context, read criterion #5a in the K–8 Publishers’ Criteria for the Common Core State Standards for Mathematics (Spring 2013).

In accordance with this, lessons and activities in Everyday Mathematics 4 contain minimal amounts of material from earlier grades. The majority of the time, each grade in Everyday Mathematics 4 closely follows the grade-by-grade progression of the Standards. In a small number of cases, topics are strategically introduced before or after the grade level in which the topic is central in the Standards' progressions. Following are some notable examples:

Early in Grade 1 (Lesson 2-8) children are introduced to pennies in activities that support development of the Major Work of the grade representing and solving problems involving addition and subtraction. Later in the grade (Lesson 6-11), children work with pennies, dimes, and dollars to reinforce and deepen their conceptual understanding of base-10 place value. Non base-10 coins (nickels and quarters) are not used until Grade 2 when money is a topic in the Standards' progressions.

In Grade 2 Units 8 and 9, children are introduced to the equal groups concept of multiplication in order to better understand the connections between equal grouping stories and arrays that they can represent (2.OA.4). They develop strategies for multiplying by 2s, 10s, and 5s by relating to grade-level content such as addition doubles (2.OA.2), skip counting by 5s and 10s (2.NBT.2), and representing arrays with equations using equal addends (2.OA.4). This further serves children in preparing them for mastery of multiplication facts by the end of Grade 3.

In Grade 3, children apply their strategies for basic and extended multiplication facts (3.OA.7 and 3.NBT.3) to solve problems slightly beyond grade-level problems (such as 15 x 6 or 8 x 24) in order to deepen their understanding of those strategies and provide a meaningful context for additional practice in modeling the distributive property (3.OA.5, 3.o.7c).
In Grade 4, content from previous grades is occasionally revisited in order to form a bridge to Grade 4 content. In Lesson 3-1, students begin their work with fractions by exploring fraction equivalency (4.NF.1) through equal sharing. Content from future grades is also occasionally touched upon to deepen students’ conceptual understanding or to lay the foundation for work in later grades. For example, in lessons dealing with measurement conversions (4.MD.1), students are asked in a general way what happens when smaller units are converted to larger units, but are never asked to actually convert from smaller to larger units.

2c. Materials relate on-grade-level concepts explicitly to prior knowledge from earlier grade levels. The materials are designed so that prior knowledge becomes reorganized and extended to accommodate the new knowledge.
For context, read criterion #5c in the K–8 Publishers’ Criteria for the Common Core State Standards for Mathematics (Spring 2013).

Information regarding how grade-level concepts relate to prior knowledge from earlier grades can be found on page 2 of the end matter of each Teacher’s Lesson Guide. Further information about how specific content builds upon skills and concepts learned in previous grades can be found in the Unit/Section Organizer at the beginning of each unit.
Examples:
Grade 1, the Unit 5 Organizer explicitly states that, “In Kindergarten Everyday Mathematics, work on place value emphasized that the numbers 11 through 19 can be represented as ten ones and some additional ones, or “ten and some more” … These activities fostered an intuitive sense of base-ten patterns for a limited range of numbers but did not explicitly address numbers beyond 20. In First Grade Everyday Mathematics, children begin…”

In Grade 4, the Unit 3 Organizer states, “Fourth-grade work comparing fractions builds on foundations laid in third grade when students compared fractions with the same denominator or same numerator by reasoning about sharing and division… In fourth grades, students compare and order fractions with like and unlike denominators by representing them visually, using benchmarks…”

2d. Materials include problems and activities that serve to connect two or more clusters in a domain, or two or more domains in a grade, in cases where these connections are natural and important.
For context, read criterion #6b in the K–8 Publishers’ Criteria for the Common Core State Standards for Mathematics (Spring 2013).

All lessons in Everyday Mathematics 4 begin with identifying focus clusters. Most have more than one cluster in the instructional part of the lesson. All activities in each lesson list standards that are addressed in the activity and many of them connect multiple domains.

Grade K Lesson 2-13 Practice (Creating Number Stations for Ten) children use their counting and representational skills to decompose and create as many ways to show 10 as possible, connecting standards from two domains: K.CC.4a, K.CC.4b, K.CC.5, K.OA.3, and K.OA.4.

In Grade 1 Lesson 3-7 children add and subtract on a number line with unknowns and then transition into using the number line to solve equations, connecting standards from two domains: 1.NBT.1, 1.OA.5, 1.OA.6, and 1.OA.8.

In Grade 2 Lesson 6-2 children represent and solve comparison number stories in contexts such as comparing fish lengths or heights of children, connecting standards from three domains: 2.MD.5, 2.OA.1, 2.NBT.5, and 2.NBT.7.

In Grade 3 Lesson 9-2 children use area models and the distributive property to solve real life problems involving multiplication facts and fact extensions, connecting standards from three domains: 3.MD.7d, 3.OA.5, 3.OA.7, and 3.NBT.3.

In Grade 4, Lesson 6-8, students interpret remainders for multi-digit division problems in the context of number stories, connecting standards from two domains: 4.OA.3 and 4.NBT.6.

In Grade 5, Lesson 3-3, students explore situations where it makes sense to report remainders as fractions, connecting standards from two domains: 5.NBT.6 and 5.NF.3

Criterion 3: APPLICATION
Provides opportunities for students to independently apply mathematical concepts in real-world situations.

3a. Materials are designed so that teachers and students spend sufficient time working with engaging, culturally relevant applications, without losing focus on the Major Work of the grade.
In grades K-2, every lesson begins with Daily Routines. These include investigating the number of the day, keeping a class calendar, making an attendance chart, and observing weather and temperature patterns. These are all opportunities for real-world application of the content and mathematical practices featured in *Everyday Mathematics 4*. All grade levels apply their knowledge while creating number stories. In *Everyday Mathematics 4*, number stories help children bridge natural and symbolic language using situations familiar to children. Children solve number stories by representing them with drawings and manipulatives. Situation diagrams are often paired with number stories as a way to analyze and organize the information presented. Children also spend considerable time constructing their own number stories. A wide variety of number story types are solved across grade levels. In upper grades, students begin to use a more formal Guide to Solving Number Stories as well.

3b. Materials include single- and multi-step contextual problems, including non-routine problems that develop the mathematics of the grade, afford opportunities for practice, and engage students in authentic problem solving.

*Note: Problems should attend thoroughly to content standards where expectations for multi-step and real-world problems are explicit.*

By the end of Grade 2, children have had frequent practice solving number stories of all Situation Types as described by the CCSSM. They do so in Focus parts of lessons in every grade level.

For example, see Grade 1, Lesson 5-10 on comparison number stories (1.OA.2): modeling the stories through their own representations, situation diagrams, and number models. Such lessons are followed by frequent practice modeling and solving number stories through Math Boxes and Practice Journal Pages.

In Grades 2 and 3 children model and solve multi-step number stories, making use of familiar contexts such as purchasing snacks from a school vending machine (Grade 3, Lesson 2-4: 3.OA.3, 3.OA.8).

Non-routine problems are integrated into Projects, an effective way to reinforce and extend skills and concepts by challenging children to apply their understanding in new and engaging contexts. These projects are cross-curricular, drawing on and developing skills and concepts in reading and language arts, social studies, art, and especially science. Projects are available in the Everyday Mathematics 4 ConnectED Teacher Center and are connected to content and practice standards.

3c. Materials include application problems that particularly stress applying the Major Work of the grade.
Everyday Mathematics 4 includes three spiral transparency tools that clearly indicate where Major Work is being taught, practiced, and assessed. The Spiral Tracker is online only and allows teachers to dial in to a specific domain, cluster, and standard to visually see every exposure to that standard and where it appears in the lesson, whether it be the Warm Up, Focus, Practice, or assessment. Using the Spiral Tracker, it is easy to verify that nearly every lesson addresses Major Work.

The Spiral Trace appears in the Unit/Section Organizer. It only addresses the most vital standards within the unit/section, detailing occurrences within the Warm Up, Focus, Practice, or assessment as well as describing the degree of mastery—as measured against the entire standard—that is expected at that point in the year.

The Spiral Snapshot occurs at the lesson level. It dives deeper into the standards, tracking the GMCs, the small manageable chunks of unpacked standards. The Spiral Snapshot indicates the GMC of the current lesson and visually shows where in nearby lessons that GMC was addressed.

3d. The materials include language supports to assist students in explaining the process behind solving multi-step, contextual problems.

The Teacher’s Lesson Guide includes English Language Learner support on each differentiation page. Point-of-use language support is found throughout the lessons in notes labeled Academic Language Development. These provide suggestions for promoting language development for all students or highlight important aspects of the language in the lesson that can help foster better understanding of the mathematical ideas, such as multi-step contextual problems.
Differentiation Support pages for Regular Lessons and Exploration Lessons are found online. These two-page documents provide expanded, lesson-specific suggestions for meeting the language demands of the lesson.

Criterion 4: CONCEPTUAL UNDERSTANDING
Develops understanding through conceptual problems and questions, multiple representations and opportunities for students to write and speak mathematically.

4a. Materials support the development of students’ conceptual understanding of key mathematical concepts, especially where called for in specific content standards or cluster headings.

For context, read criterion #4a in the K–8 Publishers’ Criteria for the Common Core State Standards for Mathematics (Spring 2013).

Everyday Mathematics has four types of lessons in which students develop their understanding through conceptual problems and questions, multiple representations, and opportunities for students to write. Regular Lessons are the most common lesson type in all grade levels. These include Warm-Up, Focus, and Practice sections, differentiation, and assessment opportunities. Exploration Lessons occur once per unit in grades 1-3 and give children multiple unique opportunities to explore new concepts and tools in an informal small-group setting. Open Response and Reengagement Lessons extend over two days and occur once per unit/section in K-6. During these special lessons children solve a challenging problem that involves more than one possible strategy or solution and then reengage in the problem on a later day by examining and discussing their own and other students’ solutions. The final lesson in each unit in Grades 1–6 is a two-day Progress Check Lesson with opportunities to assess and track students’ performance on the content and practice standards.

4b. Materials attend to conceptual understanding thoroughly where the Standards set explicit expectations for understanding or interpreting.
Children whose early mathematical experiences are overly symbolic (as is often the case with paper-and-pencil activities) may come to believe that mathematics is highly procedural and not something that makes sense. When children view mathematics as a set of isolated procedures, it tends to inhibit their development of deep conceptual understanding. For that reason, *Everyday Mathematics 4* provides children with a variety of rich, engaging instructional activities that develop strong foundations for conceptual understanding, mathematical language, and positive dispositions toward mathematics. The Focus section of each lesson typically includes three to four activities with a balance of opportunities for developing conceptual understanding, procedural skill, and application.

**4c.** Materials feature high-quality conceptual problems and discussion questions written at a variety of cognitive rigor levels.

Depth of knowledge is not something that can be developed all at once. Developing deep knowledge requires repeated exposure to key ideas in different contexts and across multiple units, repeated exposures that a spiral curriculum such as *Everyday Mathematics* is ideally suited to provide.

*Everyday Mathematics 4* believes that children should be doing the thinking in mathematics class. Whole-class discussion, small-group explorations, individual and group practice, problem-solving activities, and guided instruction all have a place in an *Everyday Mathematics 4* lesson. The authors believe it is important for children to explain, compare, and discuss problems and solutions. A classroom with lots of “math talk” helps make children’s thinking visible. For this reason, the Focus section of each lesson begins with a Math Message, an introductory activity to the lesson in which students attempt to solve a problem that they may not yet know how to solve. This is followed by the Math Message Follow-Up, an opportunity to share their strategies and make sense of others’ strategies and solutions. Discussions often compare strategies in terms of ease of use, understandability, and efficiency.

Activity cards offer another valuable opportunity for high-quality conceptual problems and discussion questions. These are often used in Exploration Lessons and to support lesson differentiation. Most Activity Cards conclude with Talk About It prompts to encourage students to discuss and compare their strategies, draw inferences, and come to conclusions.

**4d.** Materials feature opportunities to identify correspondences across mathematical representations.

Quick Look cards, Math Messages, Open Response and Reengagement Lessons, alternative algorithms, and the use of manipulatives, graphs, drawings, tables, symbols, numbers, and
situation diagrams all lend themselves to identifying correspondences across mathematical representations.

Quick Looks are activities through which students develop the ability to subitize, to recognize a quantity without counting, and to decompose numbers in various ways. Showing numbers in different ways and asking students to describe how they see them elicits flexible thinking about numbers.

Situation diagrams are used to help children organize the information in a number story (or word problem) and make a plan for solving the problem. Teachers are flexible about which diagram is the most appropriate for a given situation, acknowledging that what one person might think of as a parts-and-total situation, another person might see as a change situation.

Criterion 5:
PROcedural Fluency
Expects, supports and provides guidelines for procedural skill and fluency with core calculations and mathematical procedures (when called for in the standards for the grade) to be performed quickly and accurately.

5a. Materials are designed so that students attain the fluencies and procedural skills required by the Standards.
For context, read criterion #4b in the K–8 Publishers’ Criteria for the Common Core State Standards for Mathematics (Spring 2013).

Each lesson begins with a Mental Math and Fluency exercise to build and maintain fluency with previously learned mathematics and skills. Practice sections at the end of each lesson include either a game to help students practice and master skills or a Math Journal practice page with a select number of exercises that reviews previously-learned mathematics. Daily Math Boxes (found in Math Journals) provide five to six mixed-review exercises that have been carefully sequenced to build fluency throughout the year. Home Links (included with Math Masters in all grades K–6) consist of a few routine problems to practice learning from that day’s lesson and most include Practice, which help build fluency with previously learned skills.

Program Routines are used in every grade level as one way to develop students’ procedural skills and fluency as well as develop problem solving skills. Examples include Frames-and-arrows diagrams, situation diagrams, function machines, Quick Looks, Fact Families, and Name-Collection Boxes.

Games are an enjoyable way for students to practice number skills, build fluency, as well as develop strategic thinking. Games are a more effective learning experience than tedious drills and worksheets for the exploration and practice of mathematical skills. Some games are designed to allow for playful, repetitive practice that will develop fluency and confidence with a particular skill. Students learn games during the Focus portion of lessons and use them to revisit and grow skills during the Practice portion of lessons.

5b. Materials support progress toward fluency and procedural skill by interweaving students’ developing conceptual understanding of the operations in question.
Distributed instruction and practice lend themselves easily to interweaving students’ developing conceptual understanding with fluency and procedural skill. Guidelines are given for procedural skill and fluency with an expectation that core calculations and mathematical procedures are
performed quickly and accurately. The Spiral Trace and end of unit Progress Checks can be used to understand *Everyday Mathematics 4* progression of fluency expectations within a grade level. For example, in standard 1.OA.6, children are expected to add and subtract within 20, demonstrating fluency for addition and subtraction using a variety of strategies. The Unit 1 Spiral Tracker shows that by the end of Unit 1, children are expected to use addition and subtraction within 10 to solve simple number stories. In Unit 4, expectations increase to finding and recording facts within 10, including combinations of 10 and doubles facts. By Unit 7, children are expected to use strategies to solve subtraction facts. Practice and assessment continues until mastery of the full standard is attained by the end of the year.

5c. Materials include more than purely procedural problems and exercises. This would include cases in which opportunistic strategies are valuable and generic cases that require efficient algorithms.

The daily Math Message asks students to solve a problem they have not already been shown how to solve. Math Messages thus provide daily opportunities to engage in problem solving and the mathematical practices. Teachers should allow students to solve the Math Message problems without first being shown how. The Math Message Follow-Up is an opportunity for students to share and discuss how they used what they know to solve the Math Message problem. Connecting students’ own thinking with more formal mathematics is a key objective of the Math Message Follow-Up. The Math Message and Math Message Follow-up serve as an entry point to the focus activities of the lesson.

Program Routines such as Frames-and-arrows diagrams, situation diagrams, function machines, Quick Looks, Fact Families, and Name-Collection Boxes also provide students the opportunity for strategic problem solving. Although they look simplistic, students must use a problem solving process to determine what information is given, what information is missing, what the goal is, and what strategy is best, for example.

Open Response and Reengagement lessons are two-day lessons that include a day for students to solve a challenging problem, followed by a day for students to analyze and learn from the solutions of others and then revise their own work from the first day. The lessons promote explicit attention to the mathematical practices and differentiate instruction through challenging mathematical tasks.

5d. Materials in grades K–6 provide repeated practice toward attainment of fluency standards. Each lesson begins with a Mental Math and Fluency exercise to build and maintain fluency with previously learned mathematics and skills. Practice sections at the end of each lesson include either a game to help students practice and master skills or a Math Journal practice page with a select number of exercises that reviews previously-learned mathematics. Daily Math Boxes (found in Math Journals) provide five to six mixed-review exercises that have been carefully sequenced to build fluency throughout the year. Home Links (included with Math Masters in all grades K-6) consist of a few routine problems to practice learning from that day’s lesson and most include Practice, which help build fluency with previously learned skills.

**Criterion 6:**
**MATHEMATICAL PRACTICES**
The mathematical practices are explicit and central to the lessons, handled in a grade-appropriate way and well connected to the content being addressed.
6a. Materials address the practice standards in such a way as to enrich the Major Work of the grade; practices strengthen the focus on Major Work instead of detracting from it, in both teacher and student materials.

*For context, read criterion #8 in the K–8 Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).*

To help teachers build the Standards for Mathematical Practice into their everyday instruction and recognize the practices when they emerge in *Everyday Mathematics* lessons, the authors have developed Goals for Mathematical Practice (GMP). These goals unpack each SMP, operationalizing each standard in ways that are appropriate for elementary students. Each regular lesson targets one to three GMPs. GMP icons highlight activities and questions that engage students in the targeted practice. These are listed in every *Teacher’s Lesson Guide* on page EM1. The classroom environment is further enhanced by the Standards for Mathematical Practice Posters, which list the SMPs and GMPs, providing a daily reminder of these expectations.

6b. Over the course of any given year of instruction, materials provide multiple points of access to each mathematical practice standard for diverse types of learners.

Students and teachers can also explore the beginning pages of the *My Reference Book* and *Student Reference Book* pages which describe the use of each of the practices for students. The pages show students what the SMPs are and what is expected when they solve problems and explain their thinking.

Open and Response and Reengagement Lessons are special two-day lessons included in each unit and Kindergarten section to provide opportunities for students to engage in targeted mathematical practices as they solve a problem.

Many Math Boxes have writing/reasoning prompts that encourage students to communicate their understanding of concepts and skills and their strategies for solving problems. Writing/reasoning prompts provide valuable opportunities for engaging in the mathematical practices.

6c. Materials support the development of the practice standards across grades or grade bands. Practice standards in early grades are appropriately simple and display an arc of growing sophistication across the grades.
When comparing reference books and posters from a variety of grade levels, the visuals and supporting text make it clear that the Standards for Mathematical Practice are approached with increasing complexity.

6d. Teacher-directed materials explain the role of the practice standards in the classroom and in students’ mathematical development. Materials include accurate alignments to practice standards.

The Teacher’s Lesson Guide and online Implementation Guide thoroughly address the role of the Standards for Mathematical Practice in Everyday Mathematics 4. Each Unit/Section Organizer includes a section dedicated to the mathematical background of the Practices incorporated into the unit/section. This information makes clear how the SMPs are embedded in children’s everyday work, including hands-on activities, problem-solving tasks, discussions, and written work. Section 1 of the Implementation Guide describes how each SMP is addressed and connected to problem solving in Everyday Mathematics 4.

Both materials discuss opportunities for assessing students’ use of the Standards for Mathematical Practice. Tracking and evaluating progress on the mathematical practices requires a more qualitative approach. Assessment opportunities for the practices include writing/reasoning prompts, open response problems, and observations of students in the course of daily work. Tools for assessing and tracking progress on the practices include checklists and task-specific rubrics for open response problems.

Criterion 7:
OVERARCHING HABITS OF MIND OF A PRODUCTIVE MATHEMATICAL THINKER

Materials are designed to build their perseverance in grade-level-appropriate ways by occasionally solving problems that require them to persevere to a solution beyond the point when students would likely give up.

7a. Materials include opportunities for students to engage in productive struggle through relevant, thought-provoking questions, problems and tasks that stimulate interest and elicit mathematical thinking. (Make sense of problems and persevere in solving them - MP.1)

The authors unpacked SMP1 into six manageable chunks called Goals for Mathematical Practice (GMP): Make sense of your problem, reflect on your thinking as you solve your problem, keep trying when your problem is hard, check whether your answer makes sense, solve problems in more than one way, and compare the strategies you and others use.

Everyday Mathematics views learning mathematics as a problem-solving activity, so that problem solving cuts across all the content and practice standards. The daily Math Message asks students to solve a problem they have not already been shown how to solve. Math Messages thus provide daily opportunities to engage in problem solving, the mathematical practices, and productive struggle. Teachers should allow students to solve the Math Message problems without first being shown how. During the Math Message Follow-up, teachers glean information about students’ natural strategies, strengths, and misconceptions. They can adapt the remainder of the lesson or plan for Differentiation Options based on this information.

The Open Response and Reengagement Lesson is another opportunity for productive struggle. In 4th Grade Lesson 4-6, Walking Away with a Million Dollars, students work through a variety of problems to determine if $1 million dollars would fit in a specific box. In the Focus of the
lesson, students begin by applying MP1, make sense of problems and persevere in solving them. They work in pairs to solve the problem—how many dollar bills will fit on a math journal? They have to sketch out their work, make an estimate and then apply that information to a second problem. Next they pretend the pages in their Journal are made of $5 bills - How much money would they have? They have to show or tell how they know. Then students break into small groups to engage in productive struggle as they apply the strategies they have gained to determine if they can carry $1 million in a copy paper box that holds ten reams of paper.

7b. There is evidence of activities that use and encourage precise and accurate mathematics, academic language, terminology and concrete or abstract representations. (Attend to precision - MP.6)

The authors unpacked SMP6 into four manageable chunks called Goals for Mathematical Practice (GMP): Explain your mathematical thinking clearly and precisely, use an appropriate level of precision for your problem, use clear labels, units, and mathematical language, think about accuracy and efficiency when you count, measure, and calculate.

In 4th Grade Open Response and Reengagement Lesson 4-6, students attend to precision as they discuss their strategies and conclusions as a whole class, with conversation building around accuracy since the bills do not fit precisely on their Journals.

Criterion 8:
REASONING AND EXPLAINING
Provides sufficient opportunities for students to reason mathematically and express reasoning through classroom discussion, written work and independent thinking.

8a. Lesson structure frequently calls for students, in a grade-appropriate way, to find solutions, explain their reasoning, and ask and answer questions about their reasoning as it concerns problems, diagrams, and mathematical models. (Reason abstractly and quantitatively - MP.2)

The authors unpacked SMP2 into three manageable chunks called Goals for Mathematical Practice (GMP): Create mathematical representations using numbers, words, pictures, symbols, gestures, tables, graphs, and concrete objects, make sense of the representations you and others use, and make connections between representations.

In 1st Grade Unit 5 Organizer, the Mathematical Background section describes that “One way that children make sense of quantities is by, ‘creating mathematical representations.’ For example, in Lesson 5-7, children create and label a drawing to represent a long, jagged path. In other lessons in Unit 5, children use base-10 blocks (concrete representation) ad base-10 shorthand (pictorial representation) to represent place value…In Lesson 5-2, they consider different ways to represent the same number with base-10 blocks. And, in lesson 5-3, children represent numbers with pennies and dimes and then compare these representations to base-10 block representations.”

8b. Materials prompt students to construct viable arguments and critique the arguments of others concerning key grade-level mathematics that are detailed in the content standards. (Construct viable arguments and critique the reasoning of others – MP.3)

The authors unpacked SMP3 into two manageable chunks called Goals for Mathematical Practice (GMP): Make mathematical conjectures and arguments and make sense of others’ mathematical thinking.
The Math Message Follow-Up actively engages students in a discussion of the Math Message. This discussion provides an opportunity for students to recall their understanding of the content or practices that they used to solve the Math Message and allows teachers to address any misconceptions or weaknesses they observe. This discussion also helps students practice talking about problem-solving strategies and solutions, which they will do again throughout additional Focus activities.

Another opportunity for employing SMP3 are Writing/Reasoning prompts that are included in Math Boxes in about half the lessons. These short-answer questions ask students to illustrate their understanding of the content and mathematical practices in one of the problems on the Math Boxes page. They offer opportunities for students to write about mathematics and engage in the mathematical practices.

Additionally, on day 2 of any Open Response and Reengagement Lesson students construct viable arguments and critique the reasoning of others as they use a rubric to evaluate the work of other groups or provided student work samples.

**Criterion 9:**
**MODELING AND USING TOOLS**

Materials encourage the strategic use of concrete or abstract representations (e.g. pictures, symbols, expressions, equations, graphics, models, technology based tools) in the discipline.

*9a. Modeling expectations build slowly across grades K–8, with applications that are relatively simple in earlier grades and when students are encountering new content. (Model with mathematics – MP.4)*

The authors unpacked SMP4 into two manageable chunks called Goals for Mathematical Practice (GMP): Model real-world situations using graphs, drawings, tables, symbols, numbers, diagrams, and other representations and use mathematical models to solve problems and answer questions.

In K-2 students have frequent opportunities to model with mathematics during Daily Routines. The attendance, weather, and survey routines incorporate T-charts, grids, part-and-total diagrams, number models, tally charts, bar graphs, etc. as they discuss the data and look for trends.

In *Everyday Mathematics 4*, students in every grade are encouraged to use situation diagrams to help them organize the information in a number story (or word problem) and make a plan for solving the problem. The three basic categories for addition and subtraction situations are called change, parts-and-total, and comparison. Multiplication and division situations are harder to sort out, but several basic situations can be distinguished: equal groups, arrays, and area. Situation diagrams might be used as students problem solve during Math Messages, Focus activities, differentiation activities, game play, Math Boxes, Open Response and Reengagement Lessons, and Progress Checks.

*9b. Materials include problems that allow students’ to make strategic decisions about how to use tools, or about whether to use them at all. (Use appropriate tools strategically - MP.5)*
The authors unpacked SMP5 into two manageable chunks called Goals for Mathematical Practice (GMP): Choose appropriate tools and use tools effectively, and make sense of your results.

Tools are used in *Everyday Mathematics* to facilitate mathematical thinking and problem solving. *Everyday Mathematics* helps students learn why tools are used in mathematics, how to choose appropriate tools for a task, and how to use tools effectively to help solve problems. Hands-on materials are a regular part of instructions and many teachers find the use of “toolkits” more convenient than traditional manipulative centers. Students are taught to use materials as tools rather than toys. The Materials portion of each Unit/Section Organizer contains a list of tools that would be useful during instruction.

Explorations are opportunities to participate in open-ended activities in small-groups. These lessons occur once per unit in Grades 1–3. These provide critical initial exposure to tools and content that will be developed more fully in later lessons.

While not an exhaustive list, *Everyday Mathematics 4* employs the use of a wide variety of tools: number and counting tools include calculators, dice, the *Everything Math Deck*, spinners, egg cartons, base-10 blocks, number lines, number grids, and number scrolls; geometry tools such as attribute blocks, pattern blocks, geometric solids, Pattern-Block Templates, geoboards, as well as straws and twist-ties; measurement tools such as rulers, tape measures, and pan balances. Student *Journals*, reference books, and the Student Learning Center are also tools in the *Everyday Mathematics 4* classroom.

The eToolkit within the Student Learning Center has extensive digital versions of often used manipulatives.

![EToolkit Image]

**Criterion 10:**
**SEEING STRUCTURE AND GENERALIZING**
Materials connect prior knowledge in order to retell and reflect on patterns and evaluate reasoning.

**10a.** Materials include organizational themes emphasized in the standards such as properties of operations, place value decompositions of numbers, numerators and denominators of fractions, numerical and algebraic expressions, etc. *(Look for and make use of structure –MP.7)*

The authors unpacked SMP7 into two manageable chunks called Goals for Mathematical Practice (GMP): Look for mathematical structures such as categories, patterns, and properties and use structures to solve problems and answer questions.
Finding and using structure is embedded in the problem-solving process. When students reflect on their thinking as they solve a problem, their abilities to apply their knowledge of mathematical structure are enhanced. Further, as students improve their understanding and proficiency in the use of structure, they have the tools to keep trying when solving hard problems.

The opportunity to look for and make use of structure is found throughout all grade levels of *Everyday Mathematics 4*. Quick Looks activities are a prime example. They help students develop the ability to subitize, to recognize a quantity without counting, and to decompose numbers in various ways. Showing numbers in different ways and asking students to describe how they see them elicits flexible thinking about numbers. In Kindergarten through Grade 3, numerous activities use several types of Quick Look images, including dot patterns, five frames, ten frames, double ten frames, and fractions that have been selected and sequenced to encourage concepts of number and strategy development. Students view images for 2–3 seconds and then share both what they saw and how they saw it.

10b. Materials include content to assist the development of student insight into repeated reasoning beyond simply extending patterns and/or perform repeated calculations. *(Look for and express regularity in repeated reasoning - MP.8)*

The authors unpacked SMP8 into the following Goal for Mathematical Practice (GMP): Create and justify rules, shortcuts, and generalizations.

*Everyday Mathematics 4* encourages the use of multiple strategies and invented algorithms while students are developing conceptual understanding. For example, as children develop strategies for multiplication facts such as Adding a Group, Subtracting a Group, or Break Apart (Grade 3, Lessons 3-11, 3-12, 3-11, respectively), they are using repeated reasoning to develop rules, shortcuts, and generalizations. Another example is in Grade 5 lesson 6-8, students make generalizations about the relative size of decimal products and quotients. They are asked to reason about the size of factors and make predictions about decimal products based on repeated reasoning.

III. Instructional Supports
The teacher materials are responsive to varied teacher needs:

11. Includes clear, sufficient and easy to use guidance to support teaching, learning of the targeted standards and vocabulary, including, when appropriate, the use of supported technology, web and media.

The core teacher resource is the two-volume Teacher Lesson Guide. The TLG begins with information for Getting Ready to Teach, Getting to know Classroom Resources, and Routine Overview (K-2). Unit/Section Organizers includes a wealth of information to assist teachers in planning. In all grades you can expect to find an overview of the following components: Standards, Content, Materials, Problem Solving, Assessment and Differentiation, Ongoing Practice, Spiral Trace, and Mathematical Background: Content and Practices.
The Virtual Learning Community is the perfect use of technology, web, and media to provide guidance and support to teachers. Accessed through ConnectED, the VLC provides a space for educators to view and share resources that support mathematics teaching with users of Everyday Math 4 across the country, discuss pedagogy, and reflect on their practices. The VLC also includes model lessons of Everyday Math 4 in action in actual classrooms. The University of Chicago authors also host monthly unit/section planning webinars.

Each Teacher’s Lesson Guide contains a section called “Unpacking the Standards” found on pages EM1-EM9 of the back section of each book. These charts clearly articulate the progression of each standard in the grade through the clear and appropriate grade-level skills in the Goals for Mathematical Content. These goals are present in each lesson opener under the grade-level content standards listed. Coupled with the correlation chart (pages xiv – xvii), these resources demonstrate a clear grade-level progression as seen in the Standards, for every grade in Everyday Mathematics 4.

Regular lessons begin with two planning pages. The Lesson Opener gives an outline of the 3-part lesson with information about standards as well as vocabulary, pacing and materials, and digital resources to assist in planning. The Differentiation Options section offers daily opportunities to support children needing Readiness, Enrichment, Extra Practice, and Language differentiation. Activity Cards often support implementation of small-group instruction or centers that provide appropriate extensions, scaffolding, and extra support for the broad range of learners in a classroom. Suggestions for English Language Learners are specifically tied to the focus standard of the lesson and may include strategies such as conversation starters, total physical response, and the use of diagrams.

Teachers addressing the needs of “Students Who Need More Scaffolding” will find extensive resources digitally. Differentiation Support pages for all lessons provide expanded, lesson-specific suggestions for working with diverse learners, including intermediate and advanced English language learners. All parts of the lesson are differentiated here, including the Warm-Up, Focus, Practice, game play, and homework. Section 10 of the online Implementation Guide also looks deeply at strategies for differentiation instruction with Everyday Mathematics.

___12. Provides a discussion of the mathematics of the units and the mathematical point of each lesson as it relates to the organizing concepts of the unit.

Everyday Mathematics 4 offers built-in professional development within the program to help teachers gain a deeper understanding of the lesson concepts and strategies. These supports include videos for classroom management and lesson modeling. Look for the Professional Development option in the chapter drop-down menu in the Teacher Center on www.connected.mcgraw-hill.com
Username: em4review
Password: em4password

Digitally or in print, each Unit/Section Organizer concludes with a section on mathematical background, including content and practice standards. In this space, the authors give background on each lesson, including how included standards were addressed in previous grades and lessons, explaining the use/role of manipulatives and tools, and connecting concepts to future lessons.
The authors also revisit the development of mathematical concepts in this section as professional development for teachers. Professional Development Notes also occur at point-of-use throughout the Teacher’s Edition.

___13. Recommend and facilitate a mix of instructional approaches, such as using multiple representations (e.g., including models, using a range of questions, checking for understanding, flexible grouping, pair-share, etc.).

Every activity in *Everyday Mathematics 4*, including suggested differentiation options, provides one or more suggestions for possible instructional approaches. This includes grouping suggestions (independent, partner, small group, or whole class) for activities and fluid use of grouping variations during class discussions (for example, solving the Math Message individually, followed by a pair-share with a partner in the Math Message Follow-Up, followed by a whole-class discussion of strategies). Lessons also consistently feature appropriate visual representations and specific guiding questions to incorporate into instruction and discussion, including prompts for checking for understanding of the main concepts and skills of the lesson (the Assessment Check-In feature of each lesson). For example, in Grade 1 Lesson 2-2, the Readiness activity provides children who need more scaffolding with the opportunity to decompose numbers using Quick Look Cards. It is suggested that teachers facilitate the activity in a small-group setting and provide more time to look at the images than may be provided with the whole class. This prepares children for the main lesson, where they are engaging with 1.OA.6. The Assessment Check-In for this lesson includes an expectation statement for this Standard: “Expect many children to implicitly use addition to determine the quantities; for example, they may recognize 8 as 4 and 4.” Additional support is suggested for children who do not meet this expectation: “Children who exclusively count dots on the ten-frame cards may benefit from additional practice with Ten-Frame Top-It to become familiar with different representations of numbers.”

Game-play is a central component of *Everyday Mathematics 4*, and within the games are ample opportunities to incorporate different instructional approaches. Whenever a game appears in the lesson, teachers are provided with specific observation prompts and discussion questions to assess children’s thinking as they play. These prompts and questions are designed to help direct students’ focus and encourage them to explain mathematical structures in their own words, while allowing students flexibility with how they understand and interpret representations of place value. Games Correlations Charts can be found in the back of the Teacher’s Lesson Guide with clear labeling of the CCSS Domain: pages EM12-13.

___14. Gradually remove supports, requiring students to demonstrate their mathematical understanding independently.

Mastery in a spiral curriculum develops progressively, providing repeated instruction, practice, and assessment opportunities. This allows teachers to address a broad range of learners and provide each with appropriate scaffolding and independence.

Using information gained from formative assessment opportunities such as Preview Math Boxes, Assessment Check-Ins, Progress Checks, Math Messages, and daily observation, teachers can plan for appropriate use of the Readiness, Enrichment, Extra Practice, and English Language differentiation options or make use of the Differentiating Lesson Supports found on ConnectED. Point-of-use scaffolds include clearly labeled, specific notes with headings such as Adjusting the Activity, Common Misconception, and Academic Language Development). Each of these
supports is introduced at the time they will be most useful to teachers and students, with an emphasis on guiding students toward independence with on-level materials.

Formative assessment opportunities often include appropriate supports and extensions. For example, daily Assessment Check-Ins, provide an expectation statement along with scaffolds or next steps. Progress Check Lessons provide supports and extensions for many of the assessment items; these are outlined in a table in the lesson opener pages of these lessons. Progress Checks also include Challenge Assessments.

In addition, within every grade level’s Math Masters book, there are Teaching Aid Masters designed specifically to be differentiated based on student need: fill-in-the-blank Math Boxes pages, which may be customized for individual students based on specific skills they need to practice, and 4-Square Graphic Organizers to help English Language Learners and students who need more scaffolding construct meaning for unfamiliar terms are just two examples. As students develop better understanding of a particular concept or skill supports are gradually removed.

__15. Teacher materials are organized and easy to use.

Everyday Mathematics 4 provides digital access to an Implementation Guide. This K-6 resource includes ideas for organizing the curriculum, students, and materials; strategies for differentiation and assessment; and overviews of digital and print resources. The beginning of each Teacher Lesson Guide also includes a Getting Ready to Teach section with overviews of the lesson types, parts of a lesson, and teacher/student resources.

In K-6th grade, Everyday Mathematics 4 includes up to four types of lessons. They are easily differentiated by color in the table of contents and on the lesson page.

- **Regular Lessons** are indicated with blue and are the most common lessons type K-6. See lesson structure details in the following paragraphs.
- **Exploration Lessons** are indicated with purple and occur once per unit in 1st-3rd grades. These give children three unique opportunities to explore new concepts and tools in an informal small-group setting. Activity Cards provide directions for children to complete most Explorations.
- **Open Response and Reengagement Lessons** are indicated by green and occur once per unit/section in all grades. These extend over two days and involve solving a challenging, non-routine problem and then reengaging in the problem to defend reasoning and critique the reasoning of others.
- **Progress Check Lessons** are indicated by red and occur once per unit in 1st-6th grades. These are two-day lessons that provide the opportunity for self, unit, challenge, cumulative, and Open Response assessment.
Each Regular Lesson is built around an easy-to-use 3 part design providing ample instructional guidance as well as differentiation and practice support. The Teacher’s Lesson Guide p. xxxviii-xxxix (Kindergarten: xliii-xlvi) provides an introduction to the purpose and structure of each lesson part and feature.

1. Lessons begin with the Lesson Opener followed by Differentiation Options (In Kindergarten, Differentiation Options are included at the conclusion of the lesson).

2. In K-2nd, lesson Warm-Up begins with Daily Routines, five-six daily activities that reinforce mathematical concepts and help children connect concepts to their everyday lives. Routines are described on Kindergarten TLG pages 2-29 and 1st-2nd TLG pages 2-37. Routines include a combination of Number of the Day, Attendance, Daily Schedule and Monthly Calendar, Weather and Temperature Observation, Survey and Math Any Time.

3. The Warm-Up Section of 1st-6th grade includes Mental Math and Fluency: quick, leveled exercises answered orally, with gestures, on dry erase boards or tablets that provide practice towards fluency.

4. The Focus of 1st-6th grade lessons begins with the Math Message and Follow-Up conversations. All grade levels include two-four main instructional activities, including games, in which children explore and engage in new content. Goals for Mathematical Practice icons are integrated into this space to facilitate Practice discussions. Assessment Check-Ins are included in every grade level, and serve as a daily formative assessment opportunity.

5. The Practice portion of a lesson provides opportunities to revisit previously learned skills, allowing for maintenance and growth. The activities include practice pages, games, Math Boxes (grades 1-6), and Home Links.

Most lessons include Differentiation Options. Readiness, Enrichment, Extra Practice, and English Language Learner support is addressed here. In Kindergarten, Connections provides additional ways to explore the content of the Focus activity. Connections often provide cross-curricular connections such as Science or Literature or reference areas of the classroom such as the Block or Dramatic Play Center.

Each lesson at all grade levels, comes with a lesson ePresentation, designed to guide even the most novice teacher in delivering strong, clear instruction with digital support. This ePresentation is built for either interactive white board or projection device capability. It provides a warm-up to the lesson. An inquiry-based introduction of the concept being addressed models the concept with virtual manipulatives and then provides opportunity for small groups and partnership interaction. Teachers can easily customize these presentations. The presentation comes with its own tools, making it a stand-alone feature, whether the classroom is equipped with an IWB or not.

16. Differentiation for ELD, SPED, students below or above and other special populations is evident.

Section 10 of the Implementation Guide is dedicated to differentiating instruction with Everyday Mathematics. It addresses children who need more scaffolding, advanced learners, and English Language Learners. This section details general differentiation, differentiation features of Everyday Mathematics 4 lessons, and digital differentiation support.
Within the *Teacher’s Lesson Guide*, every lesson in *Everyday Mathematics 4* contains specific suggestions for working with special populations of students, including English Language Learners, students who need more scaffolding, students who require extensions to be appropriately challenged, and students who would benefit from additional practice. *Every* lesson in Grades K-6 provides specific additional activities for Readiness, Enrichment, and Extra Practice to address the differentiation needs of every student. In addition, all lessons in Grades 1-6 provide a specific English Language Learner Support activity suggestion to help prepare beginning ELL students for unfamiliar language they may encounter in the lesson. There are also Academic Language Development notes embedded within Grade K-6 lessons that will point teachers to potential areas of language concern and provide suggestions for helping ELL and general population students successfully navigate academic language. For example, in Grade 5 Lesson 6-3, the ELL Support section suggests the use of sentence frames to help students make sense of the term convert: “I am going on a trip to ______. I need to convert ______ US dollars to the money used in ______. I want to change ______ US dollars to ______.”

Additionally, *Common Misconception* notes draw teachers’ attention to potential misunderstandings that may occur when learning new concepts. Adjusting the Activity notes provide suggestions to help teachers accommodate a variety of student needs for specific exercises within the lesson. Game Modification suggestions to scaffold or extend thinking during game play helps the teacher ensure an appropriate challenge level for each student whenever the game is played. Every lesson in Grades 1-6 also includes online Differentiation Support pages: online-only resources with leveled ELL suggestions for every activity in the lesson. In addition to this, *My Reference Book* for Grades 1 and 2 and the *Student Reference Books* for Grades 3-6 provide support for students on key concepts, strategies, and procedures that is described in brief, student-friendly, yet mathematically precise language, and also contain additional suggestions for variations within many game directions.

Examples include:
- Grade K: Lesson 4-2
- Grade 2: Lesson 2-9
- Grade 4: Lesson 2-2
- Grade 1: Lesson 3-2
- Grade 3: Lesson 1-4
- Grade 5: Lesson 2-1

The ConnectED Student Center offers multiple opportunities to support a broad range of learners. EM Games Online provide children access to the most commonly played Early Childhood through 6th grade practice games. Each grade level includes tabs for Skillbuilder, grade level, and Challenge games. Children are provided access to all grade levels rather than just their current grade. Geometer’s Sketchpad activities are highly interactive activities accessible through the Reference eBook and the Student Center landing page. These give students opportunities to interact with and manipulate shapes, number grids, number lines, ten frames, and more. Students complete interactive practice problems, modeled after worked examples, with the ability to check their work and receive immediate feedback. Video Tutorials are also accessible through the Reference eBook and the Student Center landing page. These videos explain concepts and worked-out examples.

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17. Uses technology and media to deepen learning.

Digital tools available through McGraw-Hill’s ConnectED platform centralize evaluation, reporting, and targeted differentiation. From the activity pages in each lesson, teachers can evaluate students’ work, whether completed digitally or in print, and generate reports on students’ progress based on standards covered in lessons and units/sections. The system can track students’ performance and provide teachers information and access to materials at point of use to
support differentiation decisions. Teacher tools and resources also include the Assignment module, eBooks, Spiral Tracker, planner, ePresentations, and eTools.

Interactive learning through the Student Learning Center allows students to interact with digital versions of nearly every lesson activity. A toolbox of support includes digital manipulatives, Geometers Sketchpad, Video Tutorials, EM Games Online, and EM at Home with easy-to-use features.

_Everyday Mathematics 4_ interfaces with iPads, Android Tablets, Interactive Whiteboards, as well as any PC or Mac laptop/desktop. Access is available from any computer at any time. Examples: All references made in item #17 can be found in _Everyday Mathematics 4_ on ConnectED.

[www.connected.mcgraw-hill.com](http://www.connected.mcgraw-hill.com)
Login: em4review
Password: em4password

___18. Cultivates student interest and engagement in math___

_Everyday Mathematics 4_ includes a variety of instructional strategies that promote engagement in math, including facilitating rich mathematical discussions, employing a variety of grouping strategies, promoting productive collaboration, integrating hands-on activities and games in meaningful ways, and capitalizing on mathematics opportunities throughout the day. To learn more about how _Everyday Mathematics_ builds and maintains an effective classroom, please view the Implementation Guide eBook (Section 5, page 69) on the ConnectED Teacher Center.

Students are at the center of learning with _Everyday Mathematics_ that fosters a positive instructional culture and climate for students. Students play active roles in discussions and are often encouraged to share their strategies to learn from one another. Positive learning opportunities are generated from both correct and incorrect strategies as students develop a better understanding of mathematical processes when asked to think and strategize, rather than when they are merely asked to repeat the steps of a particular procedure or solution strategy. When sharing takes place in a receptive and respectful environment, students learn that inventing innovative ways to solve problems is an important part of mathematics. Students have opportunities to practice sharing their own strategies and critiquing each other’s ideas throughout _Everyday Mathematics._

Real life connections are strongly made through the routines embedded at Grades K-2, inquiry in _Exploration Lessons_, and the interactivity in game play. _Everyday Mathematics 4_ includes single and multi-step contextual problems, including non-routine _Open Response_ problems that develop the mathematics of the grade, afford opportunities for practice, and engage students in problem solving. Students are challenged and engaged by the daily Mental Math and Fluency routine, productive struggle in Math Messages, and revisits to previously learned skills through game play and Math Boxes.

Students who have access to the ConnectED platform, whether daily in a 1:1 digital environment or periodically through center, lab, cart, or home use, benefit from digital Journal completion, Geometer’s Sketchpad activities, Video Tutorials, EM Games Online, EM at Home options, eToolkit, and Reference eBook.

___19. Provides extensions and extra support for students above and below grade level.___
Instruction and practice are distributed in a research-based design to help students develop enduring mastery and depth of knowledge. Learning progressions develop concepts, skills, and applications over time, in new ways, increasing in sophistication, and in a variety of contexts. Each Regular Lesson in Everyday Mathematics 4 includes differentiation activities for Readiness, Enrichment, and Extra Practice support that address the focus standards for that lesson. The Readiness activities are designed to prepare students who need more scaffolding and/or extra support for the mathematical thinking needed for the main tasks of the lesson, whereas the Enrichment activities extend the thinking of higher performing students, allowing them to explore the content of the main tasks in greater depth. Extra Practice provides all students with meaningful practice of grade-level content from the lesson. Extended, lesson-specific differentiation tools and strategies are available in online Differentiation Support pages.

In Everyday Mathematics 4, students work with a multiplicity of models, diagrams, procedures, and inventions to successfully solve problems in a manner that makes sense to them. An important part of problem solving is trying out various representations of problem situations in order to understand them better. Everyday Mathematics 4 provides a myriad of strategies and techniques for successfully solving problems. Students learn that solutions and answers are different in that an answer is the final result while a solution presents both the answer and the strategy by which it was found. Students learn to follow and combine different problem solving procedures such as find the problem, play with data, evaluate data, ask themselves which math procedure will help to find the solution, and check answers. Everyday Mathematics 4 students develop a variety of successful problem solving strategies and techniques providing support as extensions or as support for students below grade level.

Practice is easily differentiated through the use of games throughout every grade of Everyday Mathematics 4, which allows for adaptability to meet the needs of every child while providing an interactive, engaging environment. The Math Boxes in each lesson in Grades 1-6 are also an exceptional tool for differentiation. They develop creative and flexible thinking processes and can make easy transitions among all problem representations.

An explicit example includes: Grade 4, Lessons 6-1, 6-3, 6-4, and 6-7 provide a building sequence of practice with different representations of and approach to multi-digit division, supporting the student below level.

Additional examples:
Grade K: Lesson 2-4
Grade 1: Lesson 3-5
Grade 2: Lesson 2-9
Grade 3: Lesson 3-10
Grade 4: Lesson 5-3
Grade 5: Lesson 3-4

IV. Assessment
The instructional materials regularly assesses whether students are mastering standards-based content and skills:

20. Demonstrate grade-level CCSS (content and Mathematical Practices) and are rigorous.

The authors of Everyday Mathematics incorporated new information from the national assessment consortia into the assessment structure to develop an assessment system that addresses the full range of content and practices in the CCSS and provides information that will
complement data from external standards-based assessments. To support the teaching of rigor, educators need “to pursue with equal intensity: (1) conceptual understanding, (2) procedural skill and fluency, and (3) applications.” *Everyday Mathematics 4* has been engineered to support these three components utilizing strong mathematical diagnostic, formative, summative, interim, and challenge assessment tools.

Examples from the Teacher’s Lesson Guide:
Grade K: pages 34, 96, 162, 228
Grade 1: pages 42, 128, 214, 300, 386
Grade 2: pages 48, 142, 236, 326
Grade 3: pages 6, 116, 212, 316, 436, 530, 626, 724, 798
Grade 4: pages 6, 112, 212, 316, 432, 534, 640
Grade 5: pages 6, 102, 210, 322, 436

The instructional materials regularly assess whether students are mastering standards-based content and skills:

___21. Available in digital/non-digital formats and are accessible to all students.

All components of *Everyday Mathematics 4*, including assessments, are available in print as through the ConnectED Student Learning Center in digital format. The diagnostic Beginning-of-Year assessment, embedded formative assessments, unit Progress Checks, and interim assessments are all built-in to the ConnectED platform, rather than having to be assigned. Students may readily access teacher created assessments through the Assignment Center as well.

Teachers can also make use of digital curriculum components, such as the “evaluate” feature found in many of the digital lesson activities, to provide real-time feedback to individual students and use data gathered from these assignments to immediately impact instruction. Assessment resource masters are found in the Assessment Handbook or downloaded from ConnectED for customization.

These digital assessment components can be found at [http://connected.mcgraw-hill.com](http://connected.mcgraw-hill.com).
Username: em4review
Password: em4password

Standards addressed by periodic benchmark assessments (beginning of year, middle of year, and end of year) can be found in each grade-level’s Assessment Handbook:
Examples include:
Grade K: pages 8-34
Grade 1: pages 73, 77, 86-87
Grade 2: pages 70, 75-76, 83-84
Grade 3: pages 105, 111, 121-123
Grade 4: pages 77, 80-81, 89-90
Grade 5: pages 83, 88-89, 98-100

The instructional materials regularly assesses whether students are mastering standards-based content and skills:

___22. Includes rubrics and proficiency criteria.

Assessment opportunities in *Everyday Mathematics 4* make teachers aware of students’ preparedness towards mastering each standard, as well as providing students with valuable practice in preparation for the rigors of the Common Core assessments. The Spiral Trace located in every Unit/Section Organizer indicates proficiency criteria for focus standards within the unit by outlining instructional trajectories for key standards in the unit, highlighting focus, practices,
and assessment opportunities for each standard and describing the degree of mastery—as measured against the entire standard—that is expected at that point of the year.

Formative assessments include Preview Math Boxes, found in Student Math Journals, that can be used to assess skills and understandings that are prerequisite for the following unit. Assessment Check-Ins in each lesson provide actionable recommendations to inform instructional decisions, evaluate students’ progress, and differentiate appropriately. Assessment Check-In record sheets provide teachers with a print resource to monitor and record individual or class progress; they can be evaluated digitally as well. Writing/Reasoning prompts appear in approximately half of each grade level’s Math Boxes and provide opportunities to assess both Mathematical Content and Practice Standards.

Unit Progress Check Lessons in the Teacher’s Lesson Guide begin with a table listing the content and practice Standards assessed. The table indicates problem number(s) in which each standard is assessed, the item number on the self-assessment where the standard is addressed and the lesson(s) in which the standard is covered (For example, Grade 2 Teacher Lesson Guide 1, p.132). Progress Check Lessons include Unit, Challenge, Open Response (odd numbered units), and Cumulative Assessments (even numbered units).

Open Response Assessments (in odd-numbered units), addressing one or more content Standards and one Goal for Mathematical Practice, can be evaluated with task-specific rubrics. Also included are descriptions of what teachers might observe as students work, descriptions of how to evaluate both content and practice Standards, and samples of evaluated student work with detailed explanations of why they were scored as meeting expectations (For example, see Grade 2 Teacher’s Lesson Guide, p.135-137) Additional scored student work samples that do not meet, partially meet, or exceed expectations are available online at http://connected.mcgraw-hill.com

Examples include:
Grade K: Lesson 4-7
Grade 1: Lesson 4-4
Grade 2: Lesson 4-6
Grade 3: Lesson 4-12
Grade 4: Lesson 4-5
Grade 5: Lesson 4-10

23. Uses varied modes which must include selected, constructed, extended response items, self-assessments and performances tasks to provide teachers with a range of formative and summative data to inform instruction.

A variety of assessment modes are provided in Everyday Mathematics 4. Formative assessment opportunities such as Preview Math Boxes provide the opportunity to develop skills with selected response items. Teachers can also create assessments using question banks that include selected response items. Summative and interim assessment opportunities are predominantly grounded in constructed and extended response items. Performance tasks are taught in every unit/section through Open Response and Reengagement Lessons and assessed in Open Response assessments (odd-numbered units). Self-Assessments, included at the beginning of each Progress Check Lesson, allow students to reflect on their own understanding of mathematical concepts and practices in each unit.

Monitoring student progress is an important part of successfully implementing Everyday Mathematics. Formal and informal observations can be evaluated through print checklists or
digitally using either a two- or four-point scale. The Report tool provides information showing how students and classes have performed on a domain, cluster, standard, or activity. This tool can help teachers understand how students are progressing toward mastery so they can adjust instruction as needed. Students do not need to complete work online for teachers to use the digital evaluation and reporting tools.