1st grade Mathematics Considerations from Achieve the Core/CCSSO

2020–21 Priority Instructional Content in English Language Arts/Literacy and Mathematics

Grade 1 Mathematics Priority Instructional Content for the 2020–21 School Year

The Mathematics Priority Instructional Content for the 2020–21 School Year (Mathematics Instructional Priorities) is designed to support decisions about how to elevate some of the most important mathematics at each grade level in the coming school year while reducing time and intensity for topics that are less integral to the overall coherence of college- and career-ready standards.

At each grade level from kindergarten through grade 8, the Mathematics Instructional Priorities name the grade-level mathematics that is of highest priority at each grade; provide a framework for strategically drawing in prior grade-level content that has been identified as essential for supporting students' engagement with the most important grade-level work; and suggest ways to reduce or sometimes eliminate topics in a way that minimizes the impact to overall coherence. In using this guidance, decision makers should thoughtfully consider in their unique context the likely implications of the spring 2020 disruption as decisions are made to select supports to ensure that students are able to successfully engage with the grade-level content. Decision makers should also bear in mind that while this document articulates content priorities, elevating the Standards for Mathematical Practice in connection with grade-level content is always a priority.

At each grade level, recommendations are provided for facilitating social, emotional, and academic development (SEAD) in mathematics. These recommendations stress themes of discourse, belonging, agency, and identity and can either be applied across grades (even if only listed in one) or they can be modified to fit different grades. These themes of discourse, belonging, agency, and identity are integral to the Standards of Mathematical Practice and the language in the recommendations reflects this connection.

The 2020–21 school year presents a unique set of opportunities and challenges due to the disruption to instruction in spring 2020 as well as the uncertainty associated with the 2020–2021 school year. The Mathematics Instructional Priorities are provided in response to these conditions. They are not criteria, and they do not revise the standards. Rather, they are potential ways, and not the only ways possible, to help students engage deeply with grade-level mathematics in the 2020–21 school year.

The Mathematics Instructional Priorities do not stand alone but are to be used in conjunction with college- and career-ready standards. One reason for this is that codes such as 1.OA.A must be traced back to the standards in order to see the language to which they refer. The Mathematics Instructional Priorities do not reiterate what the standards already say—even in cases where the specific language of a standard is fundamentally important to a high-quality aligned curriculum. Nor do the Mathematics Instructional Priorities mention every opportunity the standards afford to make coherent connections within a grade or between one grade and another—again, even when those connections are fundamentally important and are the basis for the guidance given. Therefore, the Mathematics Instructional Priorities will be used most powerfully in cross-grade collaboration among educators who know the standards well and can use existing resources such as the *Progressions* documents and other resources listed in the Appendix.

While the grade-level guidance isn't specific to any math program or set of programs, an examination of a selection of curriculum scope and sequence documents informed the recommendations, especially recommendations about when and how to integrate prior-grade concepts into the current grade. The guidance does not list all possible prior-grade content relevant to the current grade, but instead concentrates the recommendations on the most critical prior-grade connections, with greater emphasis on that content which was likely taught during the last third of the 2019–20 school year based on the scope and sequence analysis.

Where to focus Grade 1 Mathematics?

College- and career-ready mathematics standards have important emphases at each grade level, which for grade 1 are highlighted in this Focus Document. The considerations for the 2020–21 school year that follow are intended to be a companion to the Focus Document. Users should have both documents in hand, as well as a copy of grade-level standards, when considering these recommendations.

For the 2020–21 school year, prioritization of grade-level mathematical concepts combined with some incorporation of prior-grade knowledge and skills will be essential to support all students in meeting grade-level expectations. For these unique times, Student Achievement Partners has developed additional guidance above and beyond what is communicated through the major work designations. As described at greater length on the previous page, the following tables:

- Name priority instructional content at each grade;
- Provide considerations for addressing grade-level content in a coherent way;
- Articulate selected content from the prior grade that may be needed to support students in fully engaging with grade-level mathematics;
- Suggest where adaptations can be made to allow for additional time on the most important topics; and
- Provide suggestions for ways to promote social, emotional, and academic development (SEAD) in grade-level mathematics learning, often through the Standards for Mathematical Practice.

The considerations repeatedly use several verbs, such as *combine*, *integrate*, etc. The verbs most commonly used in the considerations are italicized below and defined in a glossary in the Appendix. Note that content is designated at the cluster level when the guidance refers to the cluster and its standards, and at the standard level in cases where guidance varies within a cluster.

Considerations for Addressing PRIORITY Grade-Level Content	
The clusters and standards listed in this table name the priority instructional content for grade 1. The right-hand column contains approaches to shifting how time is dedicated to the clusters and standards in the left-hand column.	
Clusters/Standards	**Considerations**
1.OA.A.1	*Emphasize* problems that involve sums less than or equal to 10 and/or the related differences to keep the focus on making sense of different problem types; do not limit the range of addition and subtraction situations, but assign fewer problems with sums greater than 10 or related differences.
1.OA.B	No special considerations for curricula well aligned to understanding and applying properties of operations to addition and subtraction, as detailed in this cluster. Time spent on instruction and practice should NOT be reduced.
1.OA.C.6	No special considerations for curricula well aligned to adding and subtracting within 20, as detailed in this standard. Time spent on instruction and practice should NOT be reduced.
1.OA.D	No special considerations for curricula well aligned to work with addition and subtraction equations, as detailed in this cluster. Time spent on instruction and practice should NOT be reduced.
1.NBT.B	*Incorporate* foundational work on understanding that numbers 11–19 are built from ten ones and some further ones (K.NBT.A) to support grade 1 understanding of place value.
1.NBT.C	*Emphasize* the understanding that in adding two two-digit numbers, one adds tens and tens, ones and ones, and sometimes it is necessary to compose a ten, in order to strengthen the progression toward fluency with multi-digit addition and subtraction.
1.MD.A	No special considerations for curricula well aligned to measuring lengths indirectly by iterating length units, as detailed in this cluster. Time spent on instruction and practice should NOT be reduced.

Considerations for Addressing REMAINING Grade-Level Content	
The clusters and standards listed in this table represent the remainder of grade 1 grade-level content. The right-hand column contains approaches to shifting how time is dedicated to the clusters and standards in the left-hand column.	
Clusters/Standards	**Considerations**
1.OA.A.2*	*Reduce* the amount of time spent on lessons and problems that call for addition of three whole numbers. *Limit* the amount of required student practice.
1.OA.C.5*	*Integrate* counting into the work of the domain (OA), instead of separate lessons, in order to reduce the amount of time spent on this standard.
1.NBT.A*	*Eliminate* lessons that are solely about extending the count sequence in order to reduce the amount of time spent on this cluster. *Incorporate* extending the count sequence into other lessons in the grade.
1.MD.B	*Eliminate* lessons devoted to telling and writing time to the hour and half-hour (1.MD.B.3).
1.MD.C	*Eliminate* lessons devoted to representing and interpreting data. (Do not eliminate problems about using addition and subtraction to solve problems about the data.)
1.G.A	*Combine* lessons to address key concepts of defining attributes of shapes and composing shapes in order to reduce the amount of time spent on this cluster.

**While these standards or clusters are Major Work of the Grade, during the 2020–21 school year, it is recommended that they receive lighter treatment in favor of other priority instructional content.*

Facilitate Social, Emotional, and Academic Development (SEAD)[10] Through Grade-Level Content	
The left-hand column contains sample actions for how SEAD can be effectively integrated into grade-level mathematics instruction, in connection with Standards for Mathematical Practice named in the right-hand column. Efforts should be made to facilitate SEAD even in remote learning environments, using synchronous and asynchronous approaches and the capabilities afforded by remote learning technologies.	
Sample Actions	**Connection to Standards for Mathematical Practice (SMP)**
Position students as competent young mathematicians by highlighting their successes with grade-level content (for example, creating their own word problems and becoming fluent with adding and subtracting within 10), as well as by strategically creating just-in-time supports and enrichment that provide every student opportunity to actively engage with grade-level work.	MP1: Make sense of problems and persevere in solving them.
Communicate collective learning goals for the class as a whole to reinforce that students belong to a learning community where they can succeed and where they will be supported to grow.	Creating a learning community is essential for mathematical practices such as MP3 that are interpersonal by nature.
Establish norms for participation within routines, such as number talks for addition and subtraction within 20 and choral counting within 120, to position every student as a competent mathematical thinker.	MP7: Look for and make use of structure.

[10] Sample SEAD actions contribute to students' sense of belonging and safety, efficacy, value for effort and growth, as well as a sense of engagement in work that is relevant and culturally responsive. The actions can be modified to fit any grade, K–8, by considering the content of that grade level. See other grade-level Mathematics Instructional Priorities documents for additional samples.

1st Grade Math Important Prerequisites

K-1 note: There is a significant degree of overlap between kindergarten and 1st grade standards. High-quality instructional materials embrace this overlap and provide teachers with resources to meet students where they are. For this reason, when kindergarten prerequisites are to be addressed "within" grade-level instruction, this is an area where emphasis is needed on certain problems and/or strategies; additional tasks may not need to be added. For example, word problems within 10 (K.OA.A.2) are likely already addressed within 1st grade curricular materials before problems within 20 (1.OA.A.1).

Prerequisite Standard Address before or within grade-level instruction	Grade-Level Standard ■ Major ■ Supporting ■ Additional	Standard Language	Instructional Time Preserve or reduce time in 20-21 as compared to a typical year, per SAP guidance
K.OA.A.2	■1.OA.A.1 *Application*	Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.	*Emphasize problems that involve sums less than or equal to 10 and/or the related differences to keep the focus on making sense of different problem types; do not limit the range of addition and subtraction situations, but assign fewer problems with sums greater than 10 or related differences.*
	■1.OA.A.2 *Application*	Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.	*Reduce the amount of time spent on lessons and problems that call for addition of three whole numbers. Limit the amount of required student practice.*
	■1.OA.B.3 *Conceptual*	Apply properties of operations as strategies to add and subtract. *Examples: If 8 + 3 = 11 is known, then 3 + 8 = 11 is also known. (Commutative property of addition.) To add 2 + 6 + 4, the second two numbers can be added to make a ten, so 2 + 6 + 4 = 2 + 10 = 12. (Associative property of addition.)*	
	■1.OA.B.4 *Conceptual*	Understand subtraction as an unknown-addend problem. For example, subtract 10 - 8 by finding the number that makes 10 when added to 8.	
	■1.OA.C.5 *Conceptual*	Relate counting to addition and subtraction (e.g., by counting on 2 to add 2).	*Integrate counting into the work of the domain (OA), instead of separate lessons, in order to reduce the amount of time spent on this standard.*

K.OA.A.3 K.OA.A.4 K.OA.A.5	■1.OA.C.6 *Conceptual* *Procedural*	Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., 8 + 6 = 8 + 2 + 4 = 10 + 4 = 14); decomposing a number leading to a ten (e.g., 13 - 4 = 13 - 3 - 1 = 10 - 1 = 9); using the relationship between addition and subtraction (e.g., knowing that 8 + 4 = 12, one knows 12 - 8 = 4); and creating equivalent but easier or known sums (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13).	
	■1.OA.D.7 *Conceptual* *Procedural*	Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. *For example, which of the following equations are true and which are false? 6 = 6, 7 = 8 - 1, 5 + 2 = 2 + 5, 4 + 1 = 5 + 2.*	
	■1.OA.D.8 *Procedural*	Determine the unknown whole number in an addition or subtraction equation relating three whole numbers. *For example, determine the unknown number that makes the equation true in each of the equations 8 + ? = 11, 5 = _ - 3, 6 + 6 = _.*	
	■1.NBT.A.1 *Conceptual* *Procedural*	Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.	*Eliminate lessons that are solely about extending the count sequence in order to reduce the amount of time spent on this cluster. Incorporate extending the count sequence into other lessons in the grade.*
K.NBT.A.1	■1.NBT.B.2 *Conceptual*	Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases:	
	■1.NBT.B.2a *Conceptual*	10 can be thought of as a bundle of ten ones — called a "ten."	
	■1.NBT.B.2b *Conceptual*	The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.	
	■1.NBT.B.2c *Conceptual*	The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).	
K.CC.C.7	■1.NBT.B.3 *Conceptual*	Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols >, =, and <.	
	■1.NBT.C.4 *Conceptual* *Procedural*	Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.	

	1.NBT.C.5 *Conceptual Procedural*	Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.	
	1.NBT.C.6 *Conceptual Procedural*	Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90 (positive or zero differences), using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.	
	1.MD.A.1 *Conceptual Procedural*	Order three objects by length; compare the lengths of two objects indirectly by using a third object.	
	1.MD.A.2 *Conceptual Procedural*	Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps.	
	1.MD.B.3 *Conceptual Procedural*	Tell and write time in hours and half-hours using analog and digital clocks.	*Eliminate lessons devoted to telling and writing time to the hour and half-hour.*
	1.MD.C.4 *Procedural Application*	Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another.	*Eliminate lessons devoted to representing and interpreting data. (Do not eliminate problems about using addition and subtraction to solve problems about the data.)*
K.G.A.2 K.G.B.4	1.G.A.1 *Conceptual Procedural*	Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size); build and draw shapes to possess defining attributes.	*Combine lessons to address key concepts of defining attributes of shapes and composing shapes in order to reduce the amount of time spent on this cluster.*
	1.G.A.2 *Conceptual*	Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape.	
	1.G.A.3 *Conceptual Procedural*	Partition circles and rectangles into two and four equal shares, describe the shares using the words halves, fourths, and quarters, and use the phrases half of, fourth of, and quarter of. Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares.	

- **What should we make of standards that have an important prerequisite that needs to be addressed, but a reduction in instructional time is also recommended?** These considerations should be weighed together, along with the needs of your group of students. For example, the time spent on a standard might be reduced from five days to three days by de-emphasizing one part of the standard, but prior-grade needs might be addressed within the first lesson through strategic choice of tasks.

Category	Meaning	Example	Actions to take
Address **before** grade-level instruction	Without this prior knowledge, students most likely do not have a way to access the grade-level standard.	A 7th-grader who has not learned how to divide positive fractions (6.NS.A.1) needs to build that understanding before beginning to divide negative fractions (7.NS.A.2c).	Students may require **dedicated instruction** on prerequisite standards before the grade level instruction is taught. (Not every standard needs its own full lesson; multiple standards may be addressed at once, or a standard might be taught as a short mini-lesson.)
Address **within** grade-level instruction	Students will have an entry point into grade-level content, but will benefit from instruction that weaves in this prior-grade content.	A 4th-grader who struggles with recalling multiplication facts (3.OA.C.7) can still access grade-level, multi-step application problems (4.OA.A.3) when given a multiplication table, but will need small doses of continued support to attain fluency.	**Individual tasks or strategies** from these standards can be incorporated into grade-level lessons to address important content that was missed in the prior grade.

See Complete K-8 Documents here:

2020–21 Priority Instructional Content from Achieve the Core
https://achievethecore.org/content/upload/2020%E2%80%9321%20Priority%20Instructional%20Content%20in%20ELA%20Literacy%20and%20Mathematics_June%202020.pdf

Math Important prerequisite skills list from CCSSO:
https://docs.google.com/document/d/1mcApF1n7sPI7XsrIx29Ab_tmAAvne4A-VuJKSWb_qSg/edit