

Focus Areas in Grade 1

In Grade 1, instructional time should focus on four critical areas:

1. Developing understanding of addition, subtraction, and strategies for addition and subtraction within 20.

Students develop strategies for adding and subtracting whole numbers based on their prior work with small numbers. They use a variety of models, including discrete objects and length-based models (e.g., cubes connected to form lengths), to model add-to, take-from, put-together, take-apart, and compare situations to develop meaning for the operations of addition and subtraction, and to develop strategies to solve arithmetic problems with these operations. Students understand connections between counting and addition and subtraction (e.g., adding two is the same as counting on two). They use properties of addition to add whole numbers and to create and use increasingly sophisticated strategies based on these properties (e.g., “making tens”) to solve addition and subtraction problems within 20. By comparing a variety of solution strategies, children build their understanding of the relationship between addition and subtraction.

2. Developing understanding of whole number relationships and place value, including grouping in tens and ones.

Students develop, discuss, and use efficient, accurate, and generalizable strategies to add within 100 and subtract multiples of 10. They compare whole numbers (at least to 100) to develop understanding of and solve problems involving their relative sizes. They think of whole numbers between 10 and 100 in terms of tens and ones (especially recognizing the numbers 11 to 19 as composed of a ten and some ones). Through activities that build number sense, they understand the order of the counting numbers and their relative magnitudes.

3. Developing understanding of linear measurement and measuring lengths as iterating length units.

Students develop an understanding of the meaning and processes of measurement, including underlying concepts such as iterating (the mental activity of building up the length of an object with equal-sized units) and the transitivity principle for indirect measurement.

4. Reasoning about attributes of, and composing and decomposing geometric shapes.

Students compose and decompose plane or solid figures (e.g., put two triangles together to make a quadrilateral) and build understanding of part-whole relationships as well as the properties of the original and composite shapes. As they combine shapes, they recognize them from different perspectives and orientations, describe their geometric attributes, and determine how they are alike and different, to develop the background for measurement and for initial understandings of properties such as congruence and symmetry

Mathematical Practices in Grade 1

1.MP.1 Make Sense and Persevere in Solving Problems.	• Explain to themselves the meaning of a problem and look for ways to solve it.
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	<ul style="list-style-type: none"> • Use concrete objects or pictures to help them conceptualize and solve problems. • Willing to try different approaches
1.MP.2 Reason abstractly and quantitatively.	<ul style="list-style-type: none"> • Recognize that a number represents a specific quantity. • Connect the quantity to written symbols. • Create a representation of a problem while attending to the meanings of the quantities.
1.MP.3 Construct viable arguments and critique the reasoning of others.	<ul style="list-style-type: none"> • Construct arguments using concrete referents, such as objects, pictures, drawings, and actions. • Explain their own thinking and listen to others' explanations. • Decide if the explanations make sense and ask questions.
1.MP.4 Model with mathematics	<ul style="list-style-type: none"> • Experiment with representing problem situations in multiple ways including numbers, words (mathematical language), drawing pictures, using objects, acting out, making a chart or list, creating equations, etc. • Connect the different representations and explain the connections.
1.MP.5 Use appropriate tools strategically.	<ul style="list-style-type: none"> • Decide when certain tools might be helpful when solving a mathematical problem. <i>For example , first graders decide it might be best to use colored chips to model an addition problem.</i>
1.MP.6 Attend to precision	<ul style="list-style-type: none"> • Use clear and precise language in their discussions with others and when they explain their own reasoning.
1.MP.7 Look for and make use of structure	<ul style="list-style-type: none"> • Begin to discern a pattern or structure. <i>For example, if students recognize $12 + 3 = 15$, then they also know $3 + 12 = 15$. (Commutative property of addition.) To add $4 + 6 + 4$, the first two numbers can be added to make a ten, so $4 + 6 + 4 = 10 + 4 = 14$.</i>
1.MP.8 Look for and express regularity in repeated reasoning.	<ul style="list-style-type: none"> • Notice repetitive actions in counting and computation, etc. • Check their work by asking themselves, "Does this make sense?"