

# CCSS Mathematical Practices

## Second Grade

### 1. Make sense of problems and persevere in solving them.

Students...

- Realize that doing mathematics involves solving problems and discussing how they solved them.
- Explain the meaning of a problem and look for ways to solve it.
- Use objects and/or pictures to help them conceptualize and solve problems.
- Ask themselves, “Does this make sense?”
- Make guesses about the solution and plan an approach to solving the problem.

### 2. Reason abstractly and quantitatively.

Students...

- Recognize that a number represents a specific quantity.
- Connect the quantity to written symbols.
- Reason quantitatively by creating a representation of a problem while attending to the meanings of the quantities.
- Know and use different properties of operations and relate addition and subtraction to length.

### 3. Construct viable arguments and critique the reasoning of others.

Students...

- Construct arguments using objects, pictures, drawings, and actions.
- Practice mathematical communication skills in mathematical discussions involving questions like: “How did you get that?” “Explain your thinking.” “Why is that true?”
- Explain their thinking and listen to others’ explanations.
- Decide if the explanations make sense and ask appropriate questions.

### 4. Model with mathematics.

Students...

- Experiment with representing problem situations in multiple ways including numbers, words, drawing pictures, using objects, acting out, making a chart/list, creating equations, etc.
- Connect the different representations and explain the connections.
- Use all of these representations as needed.

### 5. Use appropriate tools strategically.

Students consider available tools (including estimation) when solving a problem and decide when certain tools might be better suited.

### 6. Attend to precision.

Students...

- Try to use clear and precise language in their discussions with others and when they explain their own reasoning.
- Do calculations accurately.

### 7. Look for and make use of structure.

Students...

- Look for patterns.
- Adopt mental math strategies based on patterns (making ten, fact families, doubles).

### 8. Look for and express regularity in repeated reasoning.

Students...

- Notice repetitive actions in counting and computation.
- Look for shortcuts, such as rounding up and adjust the answer to compensate for the rounding.
- Check their work by asking themselves, “Does this make sense?”

| 2 <sup>nd</sup> Grade Standard   | 1 <sup>st</sup> Nine Weeks Resources   | Days | Comments  |
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| Understand that the 2 digits of a 2-digit number represent amounts of tens and ones (1 <sup>st</sup> grade standard)<br><b>*Show and explain why strategies work</b>   | 1 <sup>st</sup> Grade Singapore Resources:<br><br>1 <sup>st</sup> Teacher's Manual 1B<br>Chapter 13 Lessons 1-4                                  | 10   | Transition period to compensate for instructional gaps— <u>stress</u> place value of tens and ones; “number bonding” of one and two digit numbers; adding and subtracting with and without regrouping<br>*Assess and give points as needed using various grade 1 Chapter 13 materials |
| Understand that the 3 digits of a 3 digit number represent amounts of hundreds, tens and ones<br><b>*Show and explain why strategies work</b>  | 1.0 (1 day)<br>1.1 (2 days)<br>1.2 (2 days)<br>1.3 (2 days)<br>1.4 (2 days)<br>Problem solving lesson +<br>Wrap-up (1 day)<br>Assessment (1 day) | 11   | See Chapter Planning Guide in Teacher's Manual at the Beginning of Each Chapter for additional planning support!<br><br>Materials: Place value models<br>Hundreds Charts  |
| Add & subtract within 1,000, with concrete models, drawings, & strategies based on place value<br>Explain why addition & subtraction strategies work, using place value & the properties of operations<br><b>*Show and explain why strategies work</b> | 2.0 (1 day)<br>2.1 (1 day)<br>2.2 (2 days)<br>2.3 (2 days)<br>2.4 (2 days)<br>Problem solving lesson +<br>Wrap-up (2 day)<br>Assessment (1 day)  | 11   | See Chapter Planning Guide in Teacher's Manual at the Beginning of Each Chapter for additional planning support!<br><br>Materials: Place value models<br>Hundreds Charts  |
| Add and subtract within 1,000, using concrete models, drawings, and strategies based   | 3.0 (1 day)<br>3.1 (1 day)<br>3.2 (2 days)   | 13   | See Chapter Planning Guide in Teacher's Manual at the Beginning of Each Chapter for additional planning support!  |

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| <p>on place value<br/>Explain why addition &amp; subtraction strategies work, using place value &amp; the properties of operations<br/><b>*Show and explain why strategies work</b></p>   | <p>3.3 (2 days)<br/>3.4 (2 days)<br/>3.5 (2 days)<br/>Problem solving lesson +<br/>Wrap-up (2 day)<br/>Assessment (1 day)</p>                                 |                  | <p>Materials: Place value models<br/>Hundreds Charts</p>   |
| <p>Common Assessment 1</p>  |   |                  |  |
| <p><b>1<sup>st</sup> 9 Weeks Total Days</b></p>   |   |                  |  |
| <p>Use addition &amp; subtraction to solve one- and two-step word problems &amp; comparing with unknown number to represent the problem<br/>Explain why addition &amp; subtraction strategies work, using place value &amp; the properties of operations<br/><b>*Show and explain why strategies work</b></p>                     | <p>4.0 (1 day)<br/>4.1 (2 days)<br/>4.2 (2 days)<br/>4.3 (2 days)<br/>4.4 (1 day)<br/>Problem solving lesson +<br/>Wrap-up (1 day)<br/>Assessment (1 day)</p> | <p>47<br/>10</p> | <p>See Chapter Planning Guide in Teacher's Manual at the Beginning of Each Chapter for additional planning support!</p> <p>Materials: Unifix cubes<br/>Counters<br/>Paper strips</p>   |
| <p>Count within 1,000; skip-count by 5s, 10s &amp; 100s<br/>Use addition to find the total amount of objects arranged in arrays; write an equation to express the total as a sum of equal addends<br/>Represent and solve problems involving division (<b>3<sup>rd</sup> grade standard</b>)<br/><b>*Show and explain why</b></p> | <p>5.0 (1 day)<br/>5.1 (2 days)<br/>5.2 (2 days)<br/>5.3 (1 day)<br/>Problem solving lesson +<br/>Wrap-up (1 day)<br/>Assessment (1 day)</p>                  | <p>8</p>         | <p>See Chapter Planning Guide in Teacher's Manual at the Beginning of Each Chapter for additional planning support!</p> <p>Materials: Unifix cubes<br/>Counters<br/>Hundreds Chart</p> |

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| <p><b>strategies work</b></p> <p>Count within 1,000; skip-count by 5s, 10s &amp; 100s</p> <p>Use addition to find the total amount of objects arranged in arrays; write an equation to express the total as a sum of equal addends</p> <p><b>*Show and explain why strategies work</b></p> | <p>6.0 (1 day)</p> <p>6.1 (1 day)</p> <p>6.2 (2 days)</p> <p>6.3 (1 day)</p> <p>6.4 (2 days)</p> <p>6.5 (2 days)</p> <p>6.6 (1 day)</p> <p>Problem solving lesson + Wrap-up (1 day)</p> <p>Assessment (1 day)</p>        | <p>12</p>        | <p>See Chapter Planning Guide in Teacher's Manual at the Beginning of Each Chapter for additional planning support!</p> <p>Materials: Dot Paper<br/>Counters<br/>Unifix Cubes<br/>Egg Cartons (optional)<br/>Hundreds Chart<br/>Number Cubes</p> |
| <p>Measure the length of an object by selecting and using appropriate tools</p> <p>Estimate lengths using units of inches, feet, centimeters, &amp; meters</p> <p>Compare lengths</p> <p><b>*Show and explain why strategies work</b></p>  | <p>7.0 (1 day)</p> <p>7.1 (1 day)</p> <p>7.2 (1 day)</p> <p>7.3 (2 days)</p> <p>7.4 (1 day)</p> <p>7.5 (1 day)</p> <p>Problem solving lesson + Wrap-up (1 day)</p> <p>Assessment (1 day)</p> <p>Common Assessment #2</p> | <p>9</p>         | <p>See Chapter Planning Guide in Teacher's Manual at the Beginning of Each Chapter for additional planning support!</p> <p>Materials: Meter Sticks<br/>Measuring Tape<br/>Rulers (metric &amp; standard)</p>                                     |
| <p><b>2<sup>nd</sup> 9 Weeks Total Days</b></p>  |  | <p><b>40</b></p> |  |
| <p>Measure the length of an object by selecting and using appropriate tools</p> <p>Estimate lengths using units of inches, feet, centimeters, &amp; meters</p> <p>Compare lengths</p> <p><b>*Show and explain why strategies work</b></p>  | <p>13.0 (1 day)</p> <p>13.1 (1 day)</p> <p>13.2 (1 day)</p> <p>13.3 (1 day)</p> <p>13.4 (1 day)</p> <p>13.5 (1 day)</p> <p>Problem solving lesson + Wrap-up (1 day)</p> <p>Assessment (1 day)</p>                        | <p>8</p>         | <p>See Chapter Planning Guide in Teacher's Manual at the Beginning of Each Chapter for additional planning support!</p> <p>Materials: Yard Sticks<br/>Measuring Tape<br/>Rulers (metric &amp; standard)</p>                                      |

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| <p>Mentally add &amp; subtract 10 or 100 to a given number with or without regrouping<br/> <b>*Show and explain why strategies work</b></p>                             | <p>10.0 (1 day)<br/> 10.1 (1 day)<br/> 10.2 (2 days)<br/> 10.3 (1 day)<br/> 10.4 (2 days)<br/> 10.5 (2 days)<br/> Problem solving lesson +<br/> Wrap-up (1 day)<br/> Assessment (1 day)</p>        | <p>11</p>              | <p>See Chapter Planning Guide in Teacher's Manual at the Beginning of Each Chapter for additional planning support!<br/><br/> Materials: Number Lines<br/> Number Cubes</p>   |
| <p>Solve word problems involving dollars, quarters, dimes, nickels, &amp; pennies<br/><br/> <b>*Show and explain why strategies work</b></p>                            | <p>11.0 (3 days)<br/> 11.1 (3 days)<br/> 11.2 (1 day)<br/> 11.3 (2 days)<br/> Problem solving lesson +<br/> Wrap-up (1 day)<br/> Assessment (1 day)</p>  | <p>11</p>              | <p>See Chapter Planning Guide in Teacher's Manual at the Beginning of Each Chapter for additional planning support!<br/><br/> Materials: Money Manipulatives<br/> Supplement with previously-used money materials</p> |
| <p>Tell &amp; write time from analog &amp; digital clocks to the nearest five minutes, using a.m. &amp; p.m.<br/><br/> <b>*Show and explain why strategies work</b></p> | <p>14.0 (1 day)<br/> 14.1 (1 day)<br/> 14.2 (2 days)<br/> 14.3 (1 day)<br/> 14.4 (2 days)<br/> Problem solving lesson +<br/> Wrap-up (1 day)<br/> Assessment (1 day)<br/> Common Assessment #3</p> | <p>9</p>               | <p>See Chapter Planning Guide in Teacher's Manual at the Beginning of Each Chapter for additional planning support!<br/><br/> Materials: Model Clocks</p>   |
| <p>Count within 1,000; skip-count by 5s, 10s &amp; 100s<br/> Use addition to find the total amount of objects arranged in</p>   | <p><b>3<sup>rd</sup> 9 Weeks Total Days</b><br/> 15.0 (1 day)<br/> 15.1 (1 day)<br/> 15.2 (2 days)<br/> 15.3 (1 day)</p>   | <p>40<br/><br/> 10</p> | <p>See Chapter Planning Guide in Teacher's Manual at the Beginning of Each Chapter for additional planning support!</p>   |

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| <p>arrays; write an equation to express the total as a sum of equal addends<br/> Represent and solve problems involving division (<b>3<sup>rd</sup> grade standard</b>)<br/> <i>*Show and explain why strategies work</i></p>  | <p>15.4 (2 days)<br/> 15.5 (1 day)<br/> Problem solving lesson +<br/> Wrap-up (1 day)<br/> Assessment (1 day)</p>                                     |          | <p>Materials: Counters<br/> Dot Paper<br/> Multiplication Chart<br/> Number Cubes</p>   |
| <p>Count within 1,000; skip-count by 5s, 10s &amp; 100s<br/> Use addition to find the total amount of objects arranged in arrays; write an equation to express the total as a sum of equal addends<br/> Represent and solve problems involving division (<b>3<sup>rd</sup> grade standard</b>)<br/> <i>*Show and explain why strategies work</i></p> | <p>16.0 (1 day)<br/> 16.1 (1 day)<br/> 16.2 (1 day)<br/> 16.3 (2 days)<br/> Problem solving lesson +<br/> Wrap-up (1 day)<br/> Assessment (1 day)</p> | <p>7</p> | <p>See Chapter Planning Guide in Teacher's Manual at the Beginning of Each Chapter for additional planning support!</p> <p>Materials: Paper Strips<br/> Dot Paper</p>               |
| <p>Partition circles &amp; rectangles into two, three, or four equal shares; describe the shares (halves, thirds, half of, a third of, etc.) and the whole as two halves, three thirds, four fourths, etc.<br/> Recognize that equal shares of identical wholes need not have the same shape.</p>  | <p>12.0 (1 day)<br/> 12.1 (2 days)<br/> 12.2 (1 day)<br/> 12.3 (1 day)<br/> Problem solving lesson +<br/> Wrap-up (1 day)<br/> Assessment (1 day)</p> | <p>7</p> | <p>See Chapter Planning Guide in Teacher's Manual at the Beginning of Each Chapter for additional planning support!</p> <p>Materials: Unifix Cubes<br/> Fraction Models TR26-30</p> |

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| <p><b>*Show and explain why strategies work</b></p> <p>Draw a picture graph &amp; a bar graph to represent a data set with up to four categories. Solve problems using data from the graph.</p> <p><b>*Show and explain why strategies work</b></p> | <p>17.0 (1 day)<br/>17.1 (1 day)<br/>17.2 (1 day)<br/>17.3 (1 day)<br/>Problem solving lesson +<br/>Wrap-up (1 day)<br/>Assessment (1 day)</p>   | <p>6</p>         | <p>See Chapter Planning Guide in Teacher's Manual at the Beginning of Each Chapter for additional planning support!</p> <p>Materials: Paper Clips (colored)<br/>Colored Pencils<br/>Counters</p>       |
| <p>Recognize and draw shapes having specific attributes. Identify triangles, quadrilaterals, pentagons, hexagons, &amp; cubes.</p> <p><b>*Show and explain why strategies work</b></p>  | <p>18.0 (1 day)<br/>18.1 (1 day)<br/>18.2 (1 day)<br/>Problem solving lesson +<br/>Wrap-up (1 day)<br/>Assessment (1 day)</p>                    | <p>5</p>         | <p>See Chapter Planning Guide in Teacher's Manual at the Beginning of Each Chapter for additional planning support!</p> <p>Materials: Solid Shapes<br/>Paper Cut-Outs</p>                              |
| <p>Recognize and draw shapes having specific attributes. Identify triangles, quadrilaterals, pentagons, hexagons, &amp; cubes.</p> <p><b>*Show and explain why strategies work</b></p>  | <p>19.0 (1 day)<br/>19.1 (3 day)<br/>19.2 (1 day)<br/>19.3 (2 days)<br/>Problem solving lesson +<br/>Wrap-up (2 days)<br/>Assessment (1 day)</p> | <p>10</p>        | <p>See Chapter Planning Guide in Teacher's Manual at the Beginning of Each Chapter for additional planning support!</p> <p>Materials: Solid Shapes<br/>Paper Cut-Outs<br/>TR47-55 – copy as needed</p> |
| <p>Common Assessment #4</p>   |  |                  |  |
| <p><b>4<sup>th</sup> 9 Weeks Total Days</b></p>   |  | <p><b>46</b></p> |  |