**Singapore Modeling Method (SMM) Sample Problems**

**Whole Numbers**

1. Addition (Discrete)

Ramon had 3 red crayons and found 2 blue crayons in his backpack. How many total crayons does Ramon have?

1. Subtraction (Discrete)

Susan had 8 pencils. She gave 3 of them away. How many pencils did she have left?

1. Addition (Larger Numbers)

124 boys and 109 girls took part in an art contest. How many children took part in the contest?

1. Subtraction (Larger Numbers)

A total of 438 people were at a little league football game. There were 213 children, and the remainder were adults. How many adults were at the football game?

1. Subtraction (Comparison)

Khaji saved $184. Jamil saved $121. How much more money did Khaji save than Jamil?

1. Ratio

The ratio of children to adults at the football game was 2:3. If there were 140 children at the football game, how many adults were there?

1. Rate

Jesse roasted 12 marshmallows in 4 minutes. How many marshmallows could he roast in 7 minutes?

1. Multiplication

Each student received 3 stickers on each page of his/her math journal. If there were 9 pages, how many stickers did each student receive in their journal?

1. Multiplication (Comparison)

A farmer has 8 cows. He has 4 times as many chickens as cows. How many animals does the farmer have altogether?

1. Division (Partitive)

Alex and Cody are playing Memory. They put 42 cards into 6 equal rows. How many cards are in each row?

1. Division (Quotitive with remainders)

Ms. Taylor had 26 students in homeroom. If only 4 students can sit at each table, how many tables will Ms. Taylor need?

**Fractions**

1. Jackie spent 2/3 of her money at the book fair and had $10 left. How much money did she spend at the book fair?
2. A pizza was cut into 6 equal pieces. Kurt ate 1/3 of the pizza. How many pieces were left?
3. Asha had two candy bars and wanted to share ¼ of her candy with her sister, Anna. Anna’s total share was what fraction of the whole candy bar?
4. Joni had ½ of a birthday cake left that she wanted to divide evenly with 3 friends. What fraction of the total cake will each friend receive?

**Decimals**

1. Janna spent $48.69 on shorts and t-shirts. She has $13.55 left. How much money did she have at first?
2. Calvin wants to buy a new Xbox game that costs $15.99. He has $8.43 right now. How much more money does Calvin need to save to buy the Xbox game?
3. Students found that the teacher’s desk measured 1.3 meters long. The length of the board was 3 times as long as the teacher’s desk. What is their combined length?
4. Shuntia is helping decorate the school for red ribbon week. She needs to cut a ribbon into 3 equal pieces. If the ribbon is 6.3 meters long, what should be the length of each piece?

**Percentage**

1. Raven knows 60% of the sixth graders have dogs. If 75 sixth graders have dogs, how many students are in sixth grade?

**A Bridge to Algebra**

1. Together, Paul and John earned a total of $64 cutting grass. If Paul earned $14 more than John, how much money did each person earn?



For more information, consider the following resources:

Englard, L. (2010). Raise the bar on problem solving. *Teaching
 Children Mathematics*, 156-163.

Forsten, C. (2010). *Step-by-step model drawing: Solving word problems
 the Singapore way*. Peterborough, NH: Crystal Springs Books.

Walker, L. (2010). *Model drawing for challenging word problems: Finding solutions the Singapore way*.
 Peterborough, NH: Crystal Springs Books.

Hong, K. T., Mei, Y. S., & Lim, J. (2009). *The Singapore model method for learning mathematics*.
 Singapore: EPB Pan Pacific.

Ng, S. F., & Lee, K. (2009). The model method: Singapore children's tool for representing and solving
 algebraic word problems. *Journal for Research in Mathematics Education, 40*(3), 282-313.

<http://www.symbaloo.com/mix/singaporemathresources> <http://www.mathplayground.com/tb_addition/thinking_blocks_addition_subtraction.html>
<http://www.mathplayground.com/tb_multiplication/thinking_blocks_multiplication_division.html>
<http://timssandpirls.bc.edu/timss2015/frameworks.html> (TIMSS website: Check out the problem choices!)