



# Mathematics Benchmark Achievements

## Elementary Math

(Ages 8-12)

**Objectives at this age:**

Begin a systematic approach to developing math skills.

Progression through levels are individualized to meet the needs of the student.

*Please note that levels listed are not correlated with age or grade.*

Math programs and curriculum may be selected to teach the following math concepts to prepare children to begin pre-algebra in proximity to their 12<sup>th</sup> birthday. The concepts listed below correlate with the Singapore Mathematics curriculum. Other curricula may teach concepts in a different order.

Math Skills	Level 3	Level 4	Level 5	Level 6
<b>Whole Numbers:</b>				
Addition and Subtraction	Up to the thousands	To 100,000		
Multiplication and Division	Up to the thousands	By a 2-digit number		
Mental calculation (+, -, x, ÷)	x			
Time (calculating elapsed time)	x			
Factors of whole numbers		x		
Multiples of whole numbers		x		
Place values			x	
Average			x	
Order of operations				x
Algebraic expressions				x
Speed and average speed				x
<b>Measurement:</b>				
Length (metric and US standards)	x			
Weight (metric and US standards)	x			
Capacity (metric and US standards)	x			

<b>Math Skills</b>	<b>Level 3</b>	<b>Level 4</b>	<b>Level 5</b>	<b>Level 6</b>
Area and perimeter (definition and square units)	x			
Area of a rectangle	x			
Squares and rectangles (area and perimeter)		x		
Composite figures (calculating area and perimeter)		x		
Multiplication/Division of measurements		x		
Volume of a cube		x	x	
Area of a triangle			x	
Circles – Radius and diameter				x
Circumference				x
Area of a circle				x
Volume word problems				x
<b>Statistics</b>				
Bar Graphs	x			
Tables and graphs		x		
Line graphs			x	
Pie Charts				x
<b>Fractions</b>	x			
Adding fractions		x		
Subtracting fractions		x		
Mixed numbers (add and subtract)		x	x	
Improper fractions		x		
Unlike fractions (add and subtract)			x	
Multiply fractions with whole numbers			x	
Product of two fractions			x	
Dividing fractions by a whole			x	
Fraction word problems			x	x
Dividing fractions				x
Order of operations				x
<b>Decimals</b>				
Money	x			
Tenths, Hundredths, Thousandths		x		
Four operations (+, -, x, ÷)		x		
Approximation and estimation			x	

<b>Math Skills</b>	<b>Level 3</b>	<b>Level 4</b>	<b>Level 5</b>	<b>Level 6</b>
Multiply by 10s, 100s, 1000s			x	
Divide by 10s, 100s, 1000s			x	
Multiply by 2-digit whole numbers			x	
Conversion of measurements (metric)			x	
<b>Ratio</b>				
Equivalent ratios			x	
Comparing 3 quantities			x	
Rate			x	
Ratio and fraction				x
Ratio and proportion				x
Changing ratios				x
<b>Percentage</b>				
Writing fractions as percent			x	
Percentage of a quantity			x	
Part of a whole as a percent				x
One quantity as a percent of another				x
<b>Geometry</b>				
Angles – Right angles	x			
Measuring angles		x		
Perpendicular lines		x		
Parallel lines		x		
Symmetric Figures		x		
Solid Figures		x		
Finding unknown angles			x	x
Sums of angles of a triangle			x	
Isosceles and equilateral triangles			x	
Drawing triangles			x	
4-sides figures. Unknown angles			x	x
Drawing 4-sided figures			x	
Solid figures			x	