

CONTENTS

Teacher's Guide	iii
Forward	
How to use Maths Mate Skill Builders	
Letter to parents	
Contents	vii
Skill Builders	1
Glossary	285
Maths Facts	313
Symbols, Abbreviations and Conversions	
Number Facts	
Time Facts	
Geometry Facts	
Answers	323

MM	SB	[Maths Mate - Mathematical strand]
Question	Skill No.	Skill Builder - Skill description

1.		[Counting]	1
	1.1	Counting objects.	
	1.2	Investigating number sequences by finding numbers before and after a number.	
	1.3	Counting forwards and backwards by 1s.	
	1.4	Counting forwards by 2s, 3s, 4s and 5s.	
	1.5	Counting forwards and backwards by 10s, 100s and 1000s.	
	1.6	Investigating number sequences by skip counting.	
	1.7	Counting forwards by numbers from 1 to 9 from a larger number.	
	1.8	Recognising odd and even numbers.	
	1.9	Counting forwards by numbers from 1 to 9 using a number line.	
	1.10	Counting forwards by 6s, 7s, 8s and 9s.	
	1.11	Counting forwards and backwards by a number greater than 1, from a larger number.	
2.		[Addition / Subtraction]	15
	2.1	Adding the numbers from 1 to 10 represented by pictures, by counting on.	
	2.2	Recognising pairs of numbers that add to 10.	
	2.3	Adding numbers by first making 10.	
	2.4	Recognising pairs of numbers that add to 20.	
	2.5	Adding 10 and 100 to a number by using base 10 blocks.	
	2.6	Adding the numbers from 1 to 10 by counting forwards on a number line.	
	2.7	Adding numbers by using base 10 blocks.	
	2.8	Completing addition number sentences by using base 10 representation.	
	2.9	Modelling the commutative property for addition on a number line.	
	2.10	Adding 2-digit numbers by trading with base 10 blocks.	
	2.11	Subtracting the numbers from 1 to 10 represented by pictures, by counting back.	
	2.12	Subtracting 1-digit and 2-digit numbers by using base 10 blocks, no trading.	
	2.13	Subtracting the numbers from 1 to 10 by counting backwards on a number line.	
	2.14	Subtracting 1-digit and 2-digit numbers by first building up to the nearest multiple of 10 on a number line.	
	2.15	Subtracting the numbers from 1 to 10 from 2-digit numbers with smaller unit values, by trading with base 10 blocks.	
	2.16	Relating addition and subtraction facts.	
	2.17	Modelling facts for subtraction on a number line.	

3.	[Multiplication / Division]	47
3.1	Recognising and counting groups of equal numbers of objects.	
3.2	Counting equal groups and objects in a group.	
3.3	Multiplying the numbers from 1 to 10 by using arrays.	
3.4	Multiplying the numbers from 1 to 10 by using repetitive addition.	
3.5	Doubling a number.	
3.6	Multiplying by 10 and 100 by using base 10 blocks.	
3.7	Multiplying the numbers from 1 to 10 by using multiplication tables.	
3.8	Modelling the commutative property for multiplication by using arrays.	
3.9	Modelling multiplication of numbers greater than 12 by a single digit, by using base 10 blocks.	
3.10	Dividing objects into equal groups.	
3.11	Modelling division by arranging objects in equal groups, by using pictures.	
3.12	Modelling division by arranging objects in equal groups, by using arrays.	
3.13	Modelling division by the numbers from 1 to 10, by using repetitive subtraction.	
3.14	Modelling division by arranging an equal number of objects into groups, by using arrays.	
3.15	Modelling division by the numbers from 1 to 10, by using arrays.	
3.16	Modelling division by the numbers from 1 to 12 with remainder, by using arrays.	
3.17	Relating multiplication and division facts by using arrays.	
4.	[+ Whole Numbers]	79
4.1	Understanding different terms used for addition.	
4.2	Adding the numbers from 1 to 10 by counting on, using your fingers or pencil marks.	
4.3	Adding the numbers from 1 to 10 by counting forwards on a number line.	
4.4	Adding the numbers from 1 to 10 by using base 10 blocks.	
4.5	Adding the numbers from 1 to 10 by first making 10 or the nearest multiple of 10.	
4.6	Adding 10.	
4.7	Adding two 2-digit numbers by separately adding the tens and the units, and then adding the results.	
4.8	Adding multi-digit whole numbers by using the standard algorithm, no carry.	
4.9	Adding multi-digit whole numbers by using the standard algorithm, with carry.	
4.10	Finding the unknown number in an addition number sentence.	
5.	[- Whole Numbers]	91
5.1	Understanding different terms used for subtraction.	
5.2	Subtracting the numbers from 1 to 10 by counting backwards, using your fingers or pencil marks.	
5.3	Subtracting the numbers from 1 to 10 by counting backwards on a number line.	
5.4	Subtracting the numbers from 1 to 10 from 2-digit numbers, by first moving backwards to the nearest 10.	
5.5	Subtracting the numbers from 1 to 10 from 2-digit numbers, by trading with base 10 blocks.	
5.6	Subtracting the numbers from 1 to 10 by first building up to the nearest 10 on a number line.	
5.7	Subtracting two 2-digit numbers by separately subtracting the units and tens, and then adding the results.	
5.8	Subtracting multi-digit whole numbers by using the standard algorithm, no carry.	
5.9	Subtracting multi-digit whole numbers by using the standard algorithm, with carry.	
5.10	Finding the unknown number in a subtraction number sentence.	
6.	[× Whole Numbers]	103
6.1	Understanding different terms used for multiplication.	
6.2	Multiplying the numbers from 1 to 10 by 2 or 4.	
6.3	Multiplying the numbers from 1 to 10 by 3.	
6.4	Multiplying the numbers from 1 to 10 by 5.	
6.5	Multiplying the numbers from 1 to 10 by 6, 7 or 8.	
6.6	Multiplying the numbers from 1 to 10 by 9.	
6.7	Multiplying the numbers from 1 to 10 by 10 or a multiple of 10.	
6.8	Multiplying two 1-digit numbers by using the standard algorithm.	
6.9	Multiplying a 2-digit number by a 1-digit number, by using the standard algorithm and showing the partial sums.	
6.10	Multiplying a 2-digit number by a 1-digit number, by using the standard algorithm.	
6.11	Multiplying three 1-digit numbers.	
7.	[÷ Whole Numbers]	117
7.1	Understanding different terms used for division.	
7.2	Dividing by 1 or 10.	
7.3	Dividing by whole numbers from 1 to 10 by using arrays.	
7.4	Dividing by 1-digit numbers by using the standard algorithm.	
7.5	Finding the unknown number in a division number sentence.	

MM	SB	[Maths Mate - Mathematical strand]
Question	Skill No.	Skill Builder - Skill description
8.		[Word Problems] 125
	8.1	Solving word problems using addition.
	8.2	Solving word problems using subtraction.
	8.3	Solving word problems using multiplication.
	8.4	Solving word problems using division.
9.		[Fractions] 129
	9.1	Recognising fractions as part of a whole.
	9.2	Illustrating fractions as part of a whole by shading parts of a diagram.
	9.3	Illustrating fractions as part of a group by shading parts of a diagram.
	9.4	Illustrating fractions as part of a whole by drawing dividing lines in a diagram.
	9.5	Writing fractions to represent parts of a whole.
	9.6	Writing fractions to represent parts of a group.
	9.7	Matching fractions to diagrams.
	9.8	Reading and illustrating fractions on a number line.
	9.9	Completing equivalent fractions.
	9.10	Comparing two fractions with the same denominators.
	9.11	Finding the remaining fraction from a whole.
	9.12	Reading and illustrating mixed numbers on a number line.
	9.13	Recognising mixed numbers in a diagram.
	9.14	Comparing two fractions with the same numerators.
	9.15	Modeling addition and subtraction of fractions with the same denominators, by using parts of a whole.
	9.16	Adding and subtracting fractions with the same denominators.
10.		[Place Value] 151
	10.1	Writing numbers illustrated by base 10 blocks.
	10.2	Writing numbers illustrated by an abacus showing place values.
	10.3	Writing the expansion of a number by identifying the digit in each place.
	10.4	Writing numbers by using the place values of each digit.
	10.5	Writing the expansion of a number by adding the values of each digit based on its place.
	10.6	Recognising the place of a digit in a number.
	10.7	Finding the value of a digit in a number.
	10.8	Comparing numbers by using $<$, $=$ or $>$.
	10.9	Making the largest or the smallest number when the digits are given.
	10.10	Ordering numbers.
	10.11	Rounding whole numbers to the nearest 10 or 100.
11.		[Word Numbers] 165
	11.1	Expressing word numbers in numerals.
	11.2	Writing 2-digit numbers in words.
	11.3	Writing 3-digit numbers in words.
	11.4	Writing 4-digit numbers in words.
	11.5	Writing 5-digit numbers in words.
12.		[Money] 173
	12.1	Recognising coins and values of coins.
	12.2	Recognising banknotes and values of banknotes.
	12.3	Adding values of coins and banknotes.
	12.4	Counting collections of coins and banknotes to make up a value shown on a price tag.
	12.5	Comparing prices.
	12.6	Counting collections of identical coins to make up a cost.
	12.7	Calculating change.
	12.8	Adding two or more prices in dollars and cents.
13.		[Number Patterns] 187
	13.1	Completing number patterns by adding the same number.
	13.2	Completing number patterns by subtracting the same number.
	13.3	Completing number patterns by adding changing numbers.
	13.4	Completing number patterns by subtracting changing numbers.
	13.5	Completing number patterns by multiplying by the same number.

14.	[Time]	195
14.1	Naming and ordering days of the week.	
14.2	Using calendars to identify a date or a day of the month.	
14.3	Naming and ordering months and seasons of the year.	
14.4	Telling the time by using 'past' and 'to'.	
14.5	Showing the time on an analogue clock.	
14.6	Matching digital and analogue time.	
14.7	Expressing digital and analogue time in words.	
14.8	Reading timetables.	
14.9	Converting between units of time.	
15.	[Measuring]	211
15.1	Comparing objects based on their length.	
15.2	Comparing objects based on their weight.	
15.3	Comparing objects based on their capacity.	
15.4	Estimating length, weight and capacity by using the standard units of measurement.	
15.5	Selecting the appropriate units of measurement.	
15.6	Measuring length by using a ruler.	
15.7	Reading scales for length, weight and capacity.	
15.8	Finding the perimeter of a shape by counting the units around the shape on a grid.	
15.9	Finding the area of a shape by counting the unit squares covered by the shape on a grid.	
15.10	Converting units of length.	
15.11	Converting units of mass (weight).	
15.12	Converting units of capacity (liquid volume).	
15.13	Finding the perimeter of a shape by adding the lengths of all sides.	
15.14	Finding the area of a rectangle by multiplying the side lengths.	
15.15	Measuring an angle using a protractor.	
16.	[Shapes]	235
16.1	Recognising 3D shapes.	
16.2	Recognising properties of 2D shapes.	
16.3	Counting vertices, edges and faces of 3D shapes.	
16.4	Recognising 2D shapes.	
16.5	Drawing 2D shapes.	
16.6	Counting vertices and sides of 2D shapes.	
16.7	Drawing lines of symmetry in 2D shapes.	
16.8	Recognising and drawing pairs of parallel and perpendicular lines.	
16.9	Recognising and drawing different types of angles.	
16.10	Comparing the size of two angles.	
16.11	Recognising different types of triangles.	
16.12	Recognising properties of triangles and quadrilaterals.	
17.	[Location]	249
17.1	Naming the position of objects (under, outside, next to, etc).	
17.2	Drawing objects in the positions under, outside, next to, etc.	
17.3	Naming and drawing objects in the positions left, right and middle.	
17.4	Identifying the location of objects on a map or a plan.	
17.5	Identifying the location of objects using columns and rows.	
17.6	Following paths on a maze, grid or map.	
17.7	Describing the transformation of an object.	
17.8	Drawing the transformation of an object on a grid.	
17.9	Describing location by using regions on a grid (e.g. A3).	
18.	[Statistics / Probability]	269
18.1	Interpreting picture graphs using one-to-one correspondence.	
18.2	Recognising tally marks.	
18.3	Interpreting and completing tables with tally marks.	
18.4	Interpreting bar graphs.	
18.5	Recognising the likelihood of an event as likely, unlikely, certain, uncertain, possible, impossible.	
18.6	Interpreting picture graphs where one picture represents many data values.	
18.7	Comparing the chance of two events.	
18.8	Listing all the possible outcomes of an event.	
18.9	Representing data from tables as bar graphs and data from bar graphs as tables.	
18.10	Describing the degree of likelihood of an event.	
18.11	Interpreting pictographs with a scale.	