Content Design – Structure, Scope & Sequence of Mathematics Content Addressed Within Numbers Up! Volcanic Panic
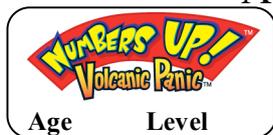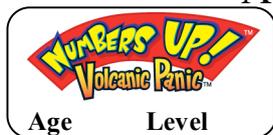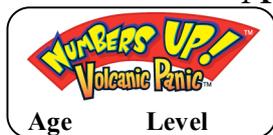
Age	Level	Addition
4-6	1 - 2	**Totals 1 - 5** Explores number pairs that total 5 Compares sets of objects – *more, less, the same* Compares 2 representations of the same set – how many have been taken away? Partition sets of objects Identifies *how many more* are needed to make a given total Uses word forms *take* and *less than* Solve simple word or picture problems related to subtraction 5 - 0
	3 - 4	**Totals 0 - 5, 0 - 6** Explores number pairs that total up to 6 Recognises the effect of subtracting zero Uses word forms *count back, take away* Recognises the signs - and = Finds *one less than* numbers 1 to 6 Solves simple word or picture problems related to totals up to 6
	5	**Totals 0 – 8** Explores number pairs that total up to 8 Recognises the effect of zero in subtraction Understands number statements involving – and = Compares 2 different sets of objects e.g. bears and shirts and identifies the inequality between the two sets Solves simple word and picture problems including money
6-7	6	**Totals 0 – 10** Explores pairs with totals up to 10 Uses + and = signs Understands number sentences Uses word form *what is the difference between…?* Completes number chains with repeated subtraction Identifies complementary addition and subtraction pairs Counts on to find the first number Solves simple word and picture problems including money

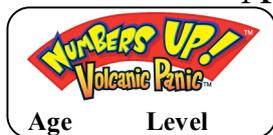# Content Design – Structure, Scope & Sequence of Mathematics Content Addressed Within Numbers Up! Volcanic Panic

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7	7	**Totals up to 15** Identifies addition pairs with totals up to 15 Joins 2 numbers across the 10 bridge - in 2 stages, and by a single operation using a number line Adds a single digit to a teens number without crossing 20 Adds a single digit to a twenties number without crossing 30 Writes a teens number as the sum of 10 and a single digit Writes a twenties number as the sum of 20 and a single digit Can add 10 to any single digit number including 0 Can respond to a symbol used to represent an unknown number in a number sentence Uses grids to identify *how many more* to make a given total Given a number total and a certain number of objects displayed – how many are hidden? Solves simple word problems including money
7-8	8-9	**Totals of all single digit number pairs** Recognises addition facts for all single digit number pairs Identifies number pairs that total 10 and 20 Adds 3 single digit numbers with totals up to 20 Recognises that addition can be done in any order Understands that addition and subtraction are complementary operations Uses both horizontal and vertical addition forms Adds single digit numbers crossing ten Solves simple word problems including money
8	10	**Totals to 30** Knows addition facts for all single digit pairs Adds ten and ten multiples to any 2-digit number Adds 9 and 11 to 2-digit numbers Adds single digits to 20 numbers crossing 30 Uses a number grid to add single digits to any 2-digit number (not crossing tens) Uses both vertical and horizontal algorithms Responds to a symbol representing an unknown number in a number sentence Recognises whether number statements are true or false Solves simple word problems including money

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9	11	**Totals involving 1- and 2-digit numbers** Knows addition facts for all single digit pairs Adds ten and ten multiples to any 2-digit number Adds 9 and 11 to 2-digit numbers Adds single digits to 2-digit numbers crossing tens boundaries Uses a number grid to add single digits to any 2-digit number (not crossing tens) Adds a pair of ten multiples without crossing 100 Adds 3 ten multiples without crossing 100 Uses both vertical and horizontal algorithms Recognises whether number statements are true or false Responds to a symbol representing an unknown number in a number sentence Solves simple word problems including money and measurement
	12-14	**Number pairs totalling 20** Consolidates addition facts related to number pairs totalling 20 Adds a single digit number to any 2-digit number including crossing 100 Adds a single digit number to any 3-digit number without crossing ten. Adds any 2-digit number to a multiple of 100 Adds teen numbers including crossing tens boundary Solves simple word problems including money and measurement
-	15-18	**Number pairs totalling 20** Knows number pairs totalling 20 and derives related number facts Recognises number pairs totalling 100, 1 000 Adds up to three 2-digit ten multiples – totals up to 200 Uses symbols to represent an unknown number on either side of an addition equation Extends known addition pairs e.g. 3+4, 30 + 40, 300 + 400 Adds 2-digit ten multiples to a 3-digit number without crossing 100 boundary Adds 2-digit to 3-digit numbers Adds hundred multiples to 3- and 4-digit numbers, including crossing 1 000 Adds numbers using vertical algorithm, including "carrying" Recognises and can use the complementary properties of addition and subtraction Recognises what must be added to 3-digit number to make the next hundred Solves real life problems involving money and measurement

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	19-21	**All previous addition facts** **Decimal tenths, then decimal hundredths** Recognises decimal complements in 1, then 2, then 10 Knows doubles for all numbers up to 30 and derives doubles of related numbers Performs addition of 3-, 4- and 5-digit numbers Problem-solves to identify missing numbers in addition sums Adds 1 000 multiples to numbers of any size
	22-23	**All previous addition facts** **Whole number complements in 50, 100** **Fifty-multiple complements in 1 000, 10 000** **Decimal number facts** **Decimal complements in 1, 10** Processes mixed operations problems using the agreed order of operations Consolidates previously established addition processes
13-15	24-26	Addition of integers Addition of 4 numbers Addition of numbers of up to 7 digits Addition of decimals Mixed operations Addition of squares and cubes Roman numerals