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|  | Addition | Illustration | Vocabulary |
| Pre-stage 1 | * Touch one thing and say the number name at the same time to count up to 3 or 4 things * One to one correspondence * Able to identify “one more” when given a number (up to 10) * Order and recognise numbers to ten * Count up to 10 objects | counting things or singing rhymes  https://s-media-cache-ak0.pinimg.com/236x/cb/70/13/cb70130b86f62da5a3d0ec612af41d7e.jpg | Add, more |
| Stage 1 | * Practical activities and discussion to relate addition to combining two groups of objects together. * Recognition that addition results in an answer that is bigger than the constituent numbers * Order and recognise numbers 11 to 20 * Count up to 20 and beyond * Able to identify “one more” when given a number (up to 20) * Horizontal recordings of number sentences with pictorial jottings * Know quick recall of number bonds within 10 * Use appropriate equipment to combine amounts | http://www.hortonparkprimary.co.uk/files/images/n1-4_2.png | Add, more, and, make, sum, total, altogether, score, plus, equals, how many more make… |
| Stage 2 | * Understand addition can be done in any order (commutative) * Adding a one digit number or a multiple of 10 to one-digit or a two-digit number * Learn to add ten to any given number * Understanding double as addition e.g. 7 + 7 = 14 * Use a given number line or a hundred square and count on * Know quick recall of number bonds within 20 * Begin to partition (TU) using Dienes or other appropriate equipment * Understand that subtraction is the reverse of addition e.g. 6 + 4 = 10 so 10 – 4 = 6 * To add three or more numbers together * Begin to do addition calculations using units of measure |  | +, add, addition, sum, inverse, plus, how many, equals, total, partition, altogether, Dienes, how much more is... |
| Stage 3 | * Partition (HTU) * Use hundred square to count on and begin to use shortcuts e.g. 25 + 12 (add 10 then 2, or add 2 then 10) * Pupils begin to use own, empty number line * Horizontal recording of partitioned calculation * Know quick recall of number bonds within 50 and 100 |  | Add, plus, how many, altogether, total, place value, columns, partition, total, hundreds, tens, units, ones, counting up / on, rounding, carrying tens |
| Stage 4 | * Expanded method used * Pupils develop on to condensed vertical (column) addition as an efficient written method to add two-digit and three-digit integers, carrying tens only * Use Dienes equipment to model |  | Place value, columns, partition, total, hundreds, tens, units, ones, counting up / on, rounding, carrying tens, integers |
| Stage 5 | * Refine efficient methods to add two-digit and three digit numbers * Use of HTU above numbers is essential   ‘carrying’ under the line   * Addition involves different units of measure i.e. £, cm etc. |  | Carrying, hundreds |
|  | Subtraction | Illustration | Vocabulary |
| Pre-stage 1 | * Singing rhymes involving take-away * Put numbers from ten in reverse order * Take away from up to 10 objects * Practical experience of removing objects from a given set |  | Take away, less |
| Stage 1 | * Subtraction taught through physical action. * Taking away and ‘how many are left’ are solved through practical and physical activities * Recognise that take away results in less than the original number * Horizontal reading of number sentences with pictures e.g. 8 take away 5 leaves 3 * Number line used to count back * Some informal recording * Able to identify ‘one less’ than a given number |  | Take away, leave, How many are left over? How many have gone? One less, two less, ten less. How many fewer…is…than? |
| Stage 2 | * Start with single digits * Subtraction understood firstly as taking-away * ‘Finding the difference’ then taught * Vocabulary and symbols used to describe actions and to record number sentences * Practical methods and informal written methods used to subtract simple numbers * Able to use number lines and hundred squares to find the difference (counting on/up or counting back) * Understand subtraction cannot be done in any order (non-commutative) |  | Subtract, minus, How much less is …than…? =, equals, the difference between, forwards, backwards, count up, count back, count on |
| Stage 3 | * Use of hundred square to take away 10, 20, 30… * Use of hundred square to take away – partition the number into tens and units * Use of numbered or empty number lines to solve * ‘Find the difference’ problems by counting on or counting back   15 – 8 = 7 15 – (5+3) = 7   * Expanded subtraction method used with partitioning (subtract the units then subtract the tens, then subtract the hundreds) |  | One hundred less, crossing the tens boundary |
| Stage 4 | * Using previous strategies to solve problems using larger (HTU) numbers, including multi-step problems * Horizontal recording of number sentences * Expanded subtraction method used with partitioning (subtract the units then subtract the tens, then subtract the hundreds) * Exchanging (moving between columns) |  | Exchange, crossing the hundreds barrier, hundreds, tens, units, ones |
| Stage 5 | * Use of vertical subtraction (unpartitioned numbers and no exchanging) * Understand and use inverse operation to check |  | Decrease, inverse |
|  | Multiplication | Illustration | Vocabulary |
| Stage 1 | * Double a number (use objects) * Counting in tens * Dienes blocks and cubes or alternative apparatus * Bundles of ten * Begin to understand repeated addition as a means of multiplication |  | Equal, double, group of, lots of |
| Stage 2 | * Understand multiplication as repeated addition * Introduction of ‘x’ sign * Counting in 2s, 5s and 10s * ‘Groups of’ jottings are recorded pictorially * A more formal array is recorded * Calculations involve 2s, 5s 10s times tables * Understand multiplication can be done in any order (commutative) (i.e. 5 x 2 = 2 x 5 = 10) |  | Multiply, multiplication, multiplied by, array, groups of, lots or, product |
| Stage 3 | * Number sentences recorded 3x5 = 15 * Further use of pictorial arrays * Number line using repeated addition * Know 2x, 5x and 10x tables |  | Once, twice, three times  Repeated addition  Row, column, product, times tables |
| Stage 4 | * Know all tables up to 12x tables * Begin to partition and record single multiplication as a number sentence eg 25 x 4 = (20x4) + (5x4) * Begin to use grid method to calculate TU x U |  | Times tables, grid method |

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|  | Division | Illustration | Vocabulary |
| Stage 1 | * Halve a number (using objects) * Objects are shared out equally and objects within groups are counted * Objects are shared out through practical activities * Informal recordings will include jottings of pictorial groups * Simple numbers are used (no remainders) * Understand the difference between grouping and sharing |  | Half, halve, share, equal |
| Stage 2 | * Quarter a number (using objects) * The division sign is introduced * Objects / numbers are divided into equal groups using multiplication facts * Arrays are used to understand number * Informal written methods are used to record * Understand division cannot be done in any order (non-commutative) |  | Division, divide, group, share, equal |
| Stage 3 | * Sharing /grouping taught as two aspects of division. Grouping is taught on a number line but sharing is taught using jottings * Division (repeated subtraction) seen as the inverse of multiplication * Use of numbered number line * Write fractions 1/3, 1/4 2/4 and 3/4 of quantity * Write simple fractions for example, 1/2 of 6 = 3 |  | Inverse, share equally, one each, two each, pairs, divide, divided by, lots of, groups of, jumps |