# Stanley Grove Primary Academy
# Skills Map for Maths
# Multiplication and Division

| YEAR 1 | YEAR 2 | YEAR 3 | YEAR 4 | YEAR 5 | YEAR 6 |
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| **MULTIPLICATION AND DIVISION FACTS** | | | | | |
| *count in multiples of twos, fives and tens* (copied from Number and Place Value) | *count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward* (copied from Number and Place Value) | *count from 0 in multiples of 4, 8, 50 and 100* (copied from Number and Place Value) | *count in multiples of 6, 7, 9, 25 and 1 000* (copied from Number and Place Value) | *count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000* (copied from Number and Place Value) | |
| | recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers | recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables | recall multiplication and division facts for multiplication tables up to 12 × 12 | | |
| **MENTAL CALCULATION** | | | | | |
| | | write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods (appears also in Written Methods) | use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers | multiply and divide numbers mentally drawing upon known facts | perform mental calculations, including with mixed operations and large numbers |

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| | show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot | | recognise and use factor pairs and commutativity in mental calculations (appears also in Properties of Numbers) | multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 | *associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. $^3$/8) (copied from Fractions)* |
| **WRITTEN CALCULATION** | | | | | |
| | calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs | write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods (appears also in Mental Methods) | multiply two-digit and three-digit numbers by a one- digit number using formal written layout | multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers | multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication |
| | | | | divide numbers up to 4 digits by a one- digit number using the formal written method of short division and interpret remainders appropriately for the context | divide numbers up to 4-digits by a two-digit whole number using the formal written method of short division where appropriate for the context divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as |

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| | | | | | whole number remainders, fractions, or by rounding, as appropriate for the context |
| | | | | | *use written division methods in cases where the answer has up to two decimal places* (copied from Fractions (including decimals)) |
| **PROPERTIES OF NUMBERS: MULTIPLES, FACTORS, PRIMES, SQUARES AND CUBE NUMBERS** | | | | | |
| | | | recognise and use factor pairs and commutativity in mental calculations (repeated) | identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers. | identify common factors, common multiples and prime numbers *use common factors to simplify fractions; use common multiples to express fractions in the same denomination* (copied from Fractions) |
| | | | | know and use the vocabulary of prime numbers, prime factors and composite (non- prime) numbers | *calculate, estimate and compare volume of cubes and cuboids using standard units, including centimetre cubed (cm ) and cubic metres (m ), and extending to other units such as mm and km* (copied from Measures) |
| | | | | establish whether a number up to 100 is prime and recall prime numbers up to 19 | |

| | | | | recognise and use square numbers and cube numbers, and the notation for squared 2      3 ( ) and cubed ( ) | |
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| **ORDER OF OPERATIONS** | | | | | |
| | | | | | use their knowledge of the order of operations to carry out calculations involving the four operations |
| **INVERSE OPERATIONS, ESTIMATING AND CHECKING ANSWERS** | | | | | |
| | | *estimate the answer to a calculation and use inverse operations to check answers* (copied from Addition and Subtraction) | *estimate and use inverse operations to check answers to a calculation* (copied from Addition and Subtraction) | | use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy |
| **CORE VOCABULARY** | | | | | |
| **Year 1** | **Year 2** | **Year 3** | **Year 4** | **Year 5** | **Year 6** |
| Odd, even, how many times, lots of, groups of, multiply, multiple of, repeated addition, array, row, double, halve, share, share equally, equal groups of, divide, divided by, left over | Odd, even, how many times, lots of, groups of, multiply, multiple of, repeated addition, array, row, double, halve, share, share equally, equal groups of, divide, divided by, left over | Multiples of, scale up, multiply, multiple of, repeated addition, array, row, share, share equally, equal groups of, divide, divided by, left over, product, scale up | Multiplications facts (up to 12 x 12), division facts, inverse, derive | Efficient written method, factor pairs, composite, prime, prime factor, square numbers, cubed numbers, formal written method | Order of operations, bidmas, common factors, common multiples |