

Whitehill Junior School – Mathematics Curriculum Map 2021-2022

Addition, Subtraction, Multiplication and Division

Year Three

- Add and subtract numbers mentally (HTO + O, HTO + T and HTO + H).
- Estimate the answer to a calculation and use inverse operation to check answers.
- Write and calculate mathematical statements for multiplication and division using the multiplication tables they they know.
- Solve problems, including missing number problems, involving multiplication and division, including positive and integer scaling problems.

- Add and subtract HTO using formal methods of columnar addition and subtraction.
- Solve problems, including missing number problems, using number facts, place value and complex addition and subtraction.
- Add and subtract HTO using formal methods of columnar addition and subtraction.
- Recall and use multiplication facts for the 3, 4 and 8 x tables.

Year Four

- Recall multiplication and division facts for facts up to 12x12.

- Add and subtract numbers with up to 4 digits using formal written method where appropriate.

Year Five

- Solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects.

- Recognise and use factor pairs and commutativity in mental calculations.

- Estimate and use inverse operations to check answers to a calculation

- Add and subtract whole numbers with more than 4 digits, including using formal written methods.

- Multiply two-digit and three-digit numbers by a one-digit number using formal 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 with three numbers.

- Solve addition and subtraction two-step problems in contexts, deciding which operations to use.

- Add and subtract numbers mentally with increasingly larger numbers.

- Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.

- Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.

- Establish whether a number up to 100 is prime and recall prime numbers up to 19.

- Multiply and divide numbers mentally drawing upon known facts.

- Multiply and divide whole numbers and those involving decimals by 10 and 100 and 1000.

- Solve problems, involving addition, subtraction, multiplication and division and a combination of these.

- Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.

- Know and use the vocabulary of prime numbers, prime factors and composite numbers.

- 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.

- 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.

- Recognise and use square numbers and cube numbers, and use the notation for squared and cubed.

KS3

- Solve problems involving addition, subtraction, multiplication and division.

- Use their knowledge of the order of operations to carry out calculations involving the four operations.

- Perform mental calculations, including mixed operations and large numbers.

- Divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate to the context.

- Solve problems, involving multiplication and division including using their knowledge of factors and multiples, squares and cubes.

- Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.

- Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use.

- Identify common factors, common multiples and prime numbers.

- Divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context.

- Multiply multi-digit numbers up to 4 digit by a two-digit whole number using the formal written method of long multiplication.

Year Six

- Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.