Year 2/3 Maths MTP

Added in

Autumn – 11 weeks

Year 2	Year 3	White Rose Sequence
Number and Place Value • Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward • Recognise the place value of each digit in a two-digit number (tens, ones) • Identify, represent and estimate numbers using different representations, including the number line • Compare and order numbers from 0 up to 100; use <, > and = signs • Read and write numbers to at least 100 in numerals and in words **Addition and Subtraction** • Solve problems with addition and subtraction: ○ using concrete objects and pictorial representations, including those involving numbers, quantities and measures ○ applying their increasing knowledge of mental and written methods • Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 • Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: ○ a two-digit number and ones ○ a two-digit number and tens ○ two two-digit number ○ adding three one-digit numbers • Show that addition of two numbers can be done in any order (commutative), and subtraction of one number from another cannot **Measurement – Length** • Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm) • Compare and order lengths, and record the results using >, < and = ~~**Number and Place Value**~~ ~~• Count in steps of 2, 3, and 5 from 0, and in tens from any number, forwards and backwards~~ ~~• Recognise the place value of each digit in a two-digit number (tens, ones)~~ ~~• Identify, represent and estimate numbers using different representations, including the number line~~ ~~• Compare and order numbers from 0 up to 100; use <, > and = signs~~ ~~• Read and write numbers to at least 100 in numerals and in words~~ **Multiplication and Division** • Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers • Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs • Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot • Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods and multiplication and division facts, including problems in contexts **Measurement – Money** • Recognise and use symbols for pounds (£) and pence (p); Combine amounts to make a particular value • Find different combinations of coins that equal the same amounts of money • Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change ~~**Measurement – Time – Moving to match Y3**~~ ~~• Compare and sequence intervals of time~~ ~~• Solve simple problems~~ ~~• Tell / write time to five minutes~~ ~~• Know number of minutes in an hour/ number of hours in a day~~	**Number and Place Value** • Count from 0 in multiples of 4, 8, 50 and 100; find 10 more or 100 more or less than a given number • Recognise the place value of each digit in a three-digit number (hundreds, tens, ones) • Compare and order numbers up to 1000 • Identify, represent and estimate numbers using different representations • Read and write numbers up to 1000 in numerals and in words **Addition and Subtraction** • Add and subtract numbers mentally, including: ○ a three-digit number and ones ○ a three-digit number and tens ○ a three-digit number and hundreds • Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction • Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction **Measurement – Length** • Measure, compare, add and subtract lengths (m, cm, mm) ~~**Number and Place Value**~~ ~~• Count from 0 in multiples of 4, 8, 50 and 100; find 10 more or 100 more or less than a given number~~ ~~• Recognise the place value of each digit in a three-digit number (hundreds, tens, ones)~~ ~~• Compare and order numbers up to 1000~~ ~~• Identify, represent and estimate numbers using different representations~~ ~~• Read and write numbers up to 1000 in numerals and in words~~ ~~• Solve number problems and practical problems involving these ideas~~ **Multiplication and Division** • Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables • 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 **Measurement – Money** • Add and subtract amounts of money to give change, using both £ and p in practical contexts	**Number and Place Value – 3 weeks** Numbers to 20 Represent numbers to 100 Count to 100 making 10s Hundreds Reoognise 10s and 1s Number line to 100 Use a place value chart Partition numbers to 100 Partition numbers to 100 Represent numbers to 1000 Write numbers to 100 in words Write numbers to 1000 in words Flexibly partition to 100 Flexible partitioning of numbers to 1000 Write numbers to 100 in expanded form Partition numbers to 1000 10s and 1s on the number line to 100 Number line to 1000 Estimate numbers on a number line to 100 Estimate on a number line to 1000 compare objects/numbers Compare numbers to 1000 Order objects and numbers Order numbers to 1000 Find 1 or 10 more or less Find 1, 10 or 100 more or less Count in 2s, 5s and 10s Count in 50s Count in 3s 3x tables activities **Addition and Subtraction – 3 weeks** Bonds to 10 Apply number bonds within 10 Fact families within 20 Apply bonds within 20 Related facts Related facts within 100 Bonds to 100 Bonds to 100 10 more, 10 less Complements to 100 Addition week Add by making 10 / Add 1s across a 10 Add 3 1-digit numbers / Add 10s across a 100 Add to the next 10 / Make connections Add across 10 / Add two numbers across 10 Add two 2-digit numbers (not across 10) / Add two numbers across 100 Add two numbers (no exchange) Subtraction week Subtract across 10 / Subtract 1s across a 10 Subtract 1-digit from a 2-digit number (across 10) / Subtract 10s across a 100 Subtract two numbers across 10 Subtract two numbers across 100 Subtract two 2-digit numbers (not across 10) / Subtract two numbers (no exchange) **Measurement: Length – 2 weeks** Measure in centimetres Measure in cm and mm Measure in metres Measure in m and cm Metres and cm Metres, cm and mm Compare lengths and heights Compare lengths Order lengths and heights Equivalent lengths (m and cm) Equivalent lengths (cm and mm) Four operations with lengths and heights Add lengths/Subtract lengths Something What is perimeter? Something Measure perimeter Something Calculate perimeter **Multiplication and Division – 2 weeks** Make and add equal groups Multiplication – equal groups Multiplication sentences Something Use arrays Use arrays Make equal groups – grouping Sharing and grouping Make equal groups – sharing Sharing and grouping 2 times table / Multiples of 2, Multiples of 5 and 10 Doubling and halving / 3 times table Odd and even numbers / 4 times table Count in 5s (5x table) / 8 times table Count in 10s (10x table) / 2, 4 and 8 times tables **Money – 1 week (ish)** Count money – pence – both Count money – pounds – both Count money – pounds and pence Pounds and pence Choose notes and coins Convert pounds and pence Make the same amount – both Compare amounts of money – both Make a pound Add money Find change Subtract money Two-step problems Find change

Spring – 10 weeks

Year 2

Addition and subtraction

- Solve problems with addition and subtraction:
  - using concrete objects and pictorial representations, including those involving numbers, quantities and measures
  - applying their increasing knowledge of mental and written methods
- Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100
- Partition two-digit numbers into different combinations of tens and ones. This may include using apparatus (e.g. 23 is the same as 2 tens and 3 ones which is the same as 1 ten and 13 ones)
- Add and subtract numbers using concrete objects, pictorial representations, and mentally, including:
  - a two-digit number and ones
  - a two-digit number and tens
  - two two-digit numbers
  - adding three one-digit numbers
- Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot
- Recognise and use the inverse relationship between addition
- And subtraction and use this to check calculations and solve missing number problems

Multiplication and Division

- Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers
- Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs
- Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot

Fractions

- Recognise, find, name and write fractions 1/3, ¼, 2/4 and ¾ of a length, shape, set of objects or quantity
- Write simple fractions ½ of 6=3

Measurement- ~~Length~~, Mass, Volume and Capacity

- Choose and use appropriate standard units to estimate and measure ~~length/height in any direction (m/cm)~~; mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels
- Compare and order lengths, mass, volume/capacity and record the results using >, < and =

Geometry – Properties of Shape

- Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line
- Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces
- Identify 2-D shapes on the surface of 3-D shapes [for example, a circle on a cylinder and a triangle on a pyramid
- Compare and sort common 2-D and 3-D shapes and everyday objects

~~Statistics~~

- ~~Interpret and construct simple pictograms, tally charts, block diagrams and simple tables~~
- ~~Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity~~
- ~~Ask and answer questions about totalling and comparing categorical data~~

Year 3

Addition and Subtraction

- Add and subtract numbers mentally, including:
  - a three-digit number and ones
  - a three-digit number and tens
  - a three-digit number and hundreds
- Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction
- Estimate the answer to a calculation and use inverse operations to check answers
- Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction

Multiplication and Division

- Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables
- 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

Fractions

- Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators
- Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators

Measurement- Mass, Volume and Capacity

- Measure, compare, add and subtract: mass (kg/g); volume/capacity (l/ml)

Geometry – Properties of Shapes

- Draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them
- ~~Recognise angles as a property of shape or a description of a turn~~
- ~~Identify right angles, recognise that two right angles make a half turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle~~
- Identify horizontal and vertical lines and pairs of perpendicular and parallel lines

~~Statistics~~

- ~~Interpret and present data using bar charts, pictograms and tables~~
- ~~Solve one-step and two-step questions [for example, 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables~~

White Rose Sequence

Addition and Subtraction – 2 weeks

Add two 2-digit numbers (not across 10)
Add two 2-digit numbers (across 10) Add 2- and 3-digit numbers
Subtract two 2-digit numbers (across 10) Subtract a 2-digit number from a 3-digit number
Mixed addition and subtraction – both
Compare number sentences – both
Missing number problems – both
Both – Estimate answers
Add/subtract inverse Inverse operations
Both – Make decisions

Multiplication and Division – 2 weeks

Multiplication

10 times table 5 times table Related calculations Reasoning	Multiples of 10 Related calculations Reasoning about multiplication Multiply 2-digit by 1-digit – no exchange Multiply 2-digit by 1-digit – with exchange

Division

Divide by 10 Divide by 5 5 and 10 times tables How many ways?	Divide 2-digit by 1-digit – no exchange Divide 2-digit by 1-digit – flexible partitioning Divide 2-digit by 1-digit – with remainders Scaling How many ways?

Fractions (A) – 2 weeks

Introduction to parts and whole Understand the denominators of unit fractions
Equal and unequal parts
Recognise a half
Recognise a quarter
Recognise a third Fractions on a number line
Unit fractions Compare and order unit fractions
Non-unit fractions Understand numerators of non-unit fractions
Non-unit fractions Compare and order non-unit fractions
Recognise the equivalent of half and 2-quarters
Equivalent fractions on a number line
Recognise 3-quarters Equivalent fractions as bar models
Count in fractions up to a whole Understand the whole

Measurement – Mass, Capacity and Temperature – 2 weeks (ish)

Use balance scales Use scales
Compare mass Compare mass
Measure in grams Measure mass in grams
Measure in kilograms Measure mass in kg and g
Four operations with mass Add and subtract mass
Something Equivalent masses (kg and g)
Compare volume and capacity Compare capacity and volume
Measure in millilitres Measure capacity and volume in ml
Measure in litres Measure capacity and volume in l and ml
Four operations with volume and capacity Add and subtract capacity and volume
Temperature Something Temperature

Something Equivalent capacities and volumes in l and ml

2d and 3d Shapes – 2 weeks

2d shapes

Recognise 2d shapes Count sides on 2d shapes Count vertices on 2d shapes Draw 2d shapes Lines of symmetry on shapes Use lines of symmetry to complete shapes Sort 2d shapes	Recognise and describe 2d shapes Draw polygons Horizontal and vertical Parallel and perpendicular

3d shapes

Recognise 3d shapes Count faces on 3d shapes	Recognise and describe 3d shapes Make 3d shapes

Summer – 11 weeks

Year 2

Multiplication and Division

- Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods and multiplication and division facts, including problems in contexts

Fractions

- Recognise, find, name and write fractions 1/3, 1/4, 2/4 and ¾ of a length, shape, set of objects or quantity
- Write simple fractions for example, 1/2 of 6 = 3 and recognise the equivalence of 2/4 and ½

Measurement – Time

- Compare and sequence intervals of time
- Tell and write the time to five minutes, including quarter past/ to the hour and draw the hands on a clock face to show these times
- Know the number of minutes in an hour and hours in a day

Statistics

- Interpret and construct simple pictograms, tally charts, block diagrams and simple tables
- Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity
  Ask and answer questions about totalling and comparing categorical data

~~Number and Place Value~~

- ~~Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward~~
- ~~Recognise the place value of each digit in a two-digit number (tens, ones)~~
- ~~Identify, represent and estimate numbers using different representations, including the number line~~
- ~~Compare and order numbers from 0 up to 100; use <, > and = signs~~
- ~~Read and write numbers to at least 100 in numerals and in words~~
- ~~Use place value and number facts to solve problems~~

Geometry – Position and Direction

- Order and arrange combinations of mathematical objects in patterns and sequences
- Use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anticlockwise)

Consolidation of all four operations and problem-solving strategies

Year 3

Multiplication and Division

- Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables
- 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

Fractions

- Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10
- Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators.
- Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators
- Recognise and show, using diagrams, equivalent fractions with small denominators
- Add and subtract fractions with the same denominator within one whole [for example, 5/7 + 1/7 = 6/7]
- Compare and order unit fractions, and fractions with the same denominators
- Solve problems that involve all of the above

Measurement – Time

- Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks
- Estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, am/pm, morning, afternoon, noon and midnight
- Know the number of seconds in a minute and the number of days in each month, year and leap year
- Compare durations of events [for example, to calculate the time taken by particular events or tasks

Statistics

- Interpret and present data using bar charts, pictograms and tables
- Solve one-step and two-step questions [for example, 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables

~~Number and Place Value~~

- ~~Count from 0 in multiples of 4, 8, 50 and 100; find 10 more or 100 more or less than a given number~~
- ~~Recognise the place value of each digit in a three-digit number (hundreds, tens, ones)~~
- ~~Compare and order numbers up to 1000~~
- ~~Identify, represent and estimate numbers using different representations~~
- ~~Read and write numbers up to 1000 in numerals and in words~~
- ~~Solve number problems and practical problems involving these ideas~~

Geometry – Properties of Shapes

- ~~Draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them~~
- Recognise angles as a property of shape or a description of a turn
- Identify right angles, recognise that two right angles make a half turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle
- ~~Identify horizontal and vertical lines and pairs of perpendicular and parallel lines~~

Consolidation of all four operations and problem-solving strategies

White Rose Sequence

Multiplication and Division – 2 weeks
SOMETHING, BASED ON ASSESSMENT

Fractions (B) – 2 weeks

Shape and amount for each?	Add fractions
Find a half	Subtract fractions
Find a quarter	Partition the whole
Find a third	Unit fractions of a set of objects
Find the whole	Non-unit fractions of a set of objects
Find 3-quarters	Reasoning with fractions of an amount

Measurement – Time – 2 weeks
O'clock and half past Read time on a digital clock
Quarter past and quarter to
Tell the time past the hour
Tell the time to the hour
Tell the time to 5 minutes Tell the time to 5 minutes
Something Tell the time to the minute
Minutes in an hour Days and hours
Hours in a day Hours and minutes – use start and end times
Hours and minutes – use durations
Years, months and days
Units of time
Before/After midday Use AM and PM
Minutes and seconds
Solve problems with time

Roman numerals to 12

Statistics – 1 week (ish)
Make tally charts Collect and represent data
Tables Two-way tables
Block diagrams Interpret bar charts
Make block diagrams Draw bar charts
Draw and interpret pictograms (1-1) Interpret pictograms
Draw pictograms (2, 5, 10) Draw pictograms
Interpret pictograms (2, 5, 10)

Geometry – Position and Direction – 2 weeks
Language of position Turns and angles
Describe movement
Describe turns Right angles
Describe movement and turns Compare angles
Shape patterns with turns
Measure and draw accurately

Consolidation