

Mastery Five Unit Overview: Autumn Term 1

Use opportunities as part of the daily routine to tell the time.

At some point in each day, not necessarily the maths lesson, addition and subtraction facts (number Bonds to 10, 20 and 100) and multiplication and division facts for the 2 to 12 times tables should be rehearsed following guidance provided.

Recall key conversions of time including 60 seconds = 1 minute, 60 minutes = 1 hour, 24 hours = 1 day and 7 days = 1 week and vice versa.

Recall key conversions of distance including 10mm = 1cm, 100cm = 1m, 1000m = 1km and vice versa 1000g = 1kg and vice versa and volume/capacity 1000ml = 1 litre and vice versa.

Autumn 1 Unit 1 (Weeks 1 & 2): Place Value

Lesson	Starter	Lesson Focus
1	Count on and back in ones, tens, hundreds and thousands from any number up to four digits	Exchange 10 thousands for 1 ten thousand and vice versa using place value counters Exchange 10 ten thousands for 1 hundred thousand and vice versa using place value counters Identify represent and estimate numbers using place value counters and a place value chart Partition a five-digit number into ten thousands, thousands, hundreds, tens and ones
2	Count on in tens and hundreds from any number up to four digits (crossing the 100 and 1,000 boundaries)	Exchange 10 ten thousands for 1 hundred thousand and vice versa using place value counters Exchange 10 hundred thousands for 1 million and vice versa using place value counters Identify represent and estimate numbers using place value counters and a place value chart Partition a six-digit number into hundred thousands, ten thousands, thousands, hundreds, tens and ones
3	Count back in tens and hundreds from any number up to four digits (crossing the 100 and 1,000 boundaries)	Exchange 1 tenth for 10 hundredths and vice versa using place value counters Exchange 1 hundredth for 10 thousandths and vice versa using place value counters Identify and represent numbers up to three decimal places using place value counters Partition a number with up to three decimal places into tens, ones, tenths, hundredths and thousandths Use a place value chart or place value counters to support with identifying the value of each digit to three decimal places
4	Match multiplication and division number sentences to arrays and vice-versa for any multiplication table	Compare numbers to 1,000,000 Compare numbers up to three decimal places where 0 is not used as a place holder
5	Exchange 10 thousands for 1 ten thousand and vice versa (pv counters) Exchange 10 ten thousands for 1 hundred thousand and vice versa (pv counters)	Order numbers to 1,000,000 Order numbers up to three decimal places where 0 is not used as a place holder

6	Correctly place any multiple of 100 on a number line with multiples of 1,000 marked but not labelled with start and end labelled 0 and 10,000	Identify, represent and estimate numbers on a numberline from 0 to 100,000 where the number line has ten demarcations Identify, represent and estimate numbers on a numberline from 0 to 1,000,000 where the number line has ten demarcations
7	Recall multiplication and division facts for all the multiplication tables	Round any number up to 100,000 (Year 5 number) to the nearest 10, 100 or 1,000 (Year 4 rounding) Round any number up to 1,000,000 (Year 5 number) to the nearest 10, 100 or 1,000 (Year 4 rounding) Round any number up to 100,000 to the nearest 10,000
8	Recognise and solve calculations that involve known or related facts	Find 0.01, 0.1, 1, 10, 100, 1000 more or less than a given number up to 1,000,000 including crossing boundaries Find 10,000 more or less than a given number up to 1,000,000 including crossing 100,000 boundaries Find 100,000 more or less than a given number up to 1,000,000
9	Identify and describe 2-D shapes (sides, parallel and perpendicular sides, vertices, angles and symmetry)	Count forwards and backwards in steps of 10, 100 or 1,000 (Year 4 steps) for any given number up to 100,000 (Year 5 number) Count forwards and backwards in steps of 10, 100 or 1,000 (Year 4 steps) for any given number up to 1,000,000 (Year 5 number) Count forwards and backwards in steps of 10,000 for any given number up to 1,000,000
10	Multiply/divide whole numbers by 10, e.g. 324×10 or $709 \div 10$	Describe and extend number sequences where the step size is in multiples of tenths, e.g. 1.4, 1.7, 2.0, 2.3 (step size 0.3) Describe and extend number sequences where the step size is in multiples of hundredths less than a tenth, e.g. 2.31, 2.37, 2.43, 2.49 (step size 0.06) Describe and extend number sequences where the step size is in multiples of hundredths greater than a tenth, e.g. 2.42, 2.57, 2.72, 2.87 (step size 0.15)

Autumn 1 Unit 2 (Weeks 3 and 4): Addition and Subtraction		
Lesson	Starter	Lesson Focus
1	Recognise and write decimal equivalents of any number of fractional tenths	Recognise calculations that require mental partitioning e.g. $4,300 + 1,400$ or $424 - 250$ or $6.32 - 3.5$ and use this strategy where appropriate
2	Recognise and write decimal equivalents of any number of fractional hundredths	Recognise calculations that require counting on or back mentally, bridging through a multiple of 10 efficiently e.g. $1995 + 278$ becomes $1995 + 5 + 273$ or $703 - 128$ becomes $703 - 3 - 125$ and use this strategy where appropriate
3	Recall and use addition and subtraction facts for 1 (to 1 decimal place) Recall and use addition and subtraction facts for 10 (to 1 decimal place)	Recognise calculations that require counting on mentally to find the difference e.g. $5003 - 1960$ (counting efficiently between the two numbers) and use this strategy where appropriate

4	Recognise and solve calculations that involve known or related facts e.g. $1.2 + 0.8$	Recognise calculations that require a mental compensation method e.g. $325 + 298$ becomes $325 + 300 - 2$ and use this strategy where appropriate
5	Recognise that the numbers in addition calculations can be reordered to make calculating more efficient e.g. $1.7 + 2.8 + 0.3$ becomes $1.7 + 0.3 + 2.8$ or $58 + 47 - 38$ becomes $58 - 38 + 47$ and use this strategy where appropriate	Choose an appropriate mental strategy to solve a calculation based upon the numbers involved
6	Multiply/divide whole numbers and decimals by 10 where 0 is not used as a place holder, e.g. 3.24×10 or $729 \div 10$ and where 0 is used as a place holder, e.g. 2.04×10 or $806 \div 10$	Add whole numbers with more than 4 digits including combinations of numbers with different amounts of digits using a column method e.g. $4,689 + 67,302 + 78$ Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy
7	Add a four-digit number to another four-digit number where no boundaries are crossed e.g. $5,124 + 1,352$	Add decimals with two decimal places using a column method, e.g. $53.67 + 26.54 =$
8	Add a number with two decimal places to another where the tenths boundary is not crossed, e.g. $6.34 + 2.53$	Subtract whole numbers with more than 4 digits including pairs of numbers with different amounts of digits, e.g. $54,368 - 9,279$ Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy
9	Subtract a four-digit number from another four-digit number where no boundaries are crossed e.g. $7859 - 3427$	Subtract decimals with two decimal places, e.g. $206.04 - 72.36$
10	Subtract a number with two decimal places from another where the tenths boundary is not crossed, e.g. $5.45 - 2.33$	Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method)

Autumn 1 Unit 3 (Week 5): Statistics		
Lesson	Starter	Lesson Focus
1	Read and interpret information in a range of tables with different contexts Complete tables by identifying missing information	Discrete data Answer questions which ask 'How many/much more...?' or 'How many fewer/much less...?' when comparing two categories in a data set Answer questions which ask 'How many in total...?' for different data readings Solve question where the answer has to be inferred from a given data set e.g. few ice creams were sold on Tuesday because it was raining Understand the purpose of different types of graph and identify which is best suited for a particular data set
2	Interpret information in a variety of sorting diagrams	Continuous data Answer questions which ask 'How many/much more...?' or 'How many fewer/much less...?' when comparing two categories in a data set Answer questions which ask 'How many in total...?' for different data readings Solve question where the answer has to be inferred from a given data set e.g. few ice creams were sold on Tuesday because it was raining Understand the purpose of different types of graph and identify which is best suited for a particular data set (Misconception to address in teaching. E.g. rainfall on different days with a day's data missing. It can't be inferred from previous and subsequent data)

Autumn 1 Unit 4 (Week 5): Geometry (Angles)		
Lesson	Starter	Lesson Focus
1	Add and subtract a whole number to/from a number with two decimal places, e.g. $4.32 + 4$	Know that angles are measured in degrees ° Identify reflex angles as those greater than 180° where two lines meet Compare all types of angles including reflex angles
2	Use practical apparatus and known facts to create addition and subtraction facts for 1 with decimal numbers to two decimal places	Measure acute angles to the nearest degree Measure obtuse angles to the nearest degree
3	Complete a variety of sorting diagrams with given information Identify the properties used to sort a set of numbers or shapes in a completed diagram	Draw acute angles to the nearest degree Draw obtuse angles to the nearest degree

Autumn 1 Unit 5 (Week 6): Geometry and Measures

Lesson	Starter	Lesson Focus
1	Derive and use addition and subtraction facts for 1 (with decimal numbers to two decimal places) Create generalisations based on addition and subtraction facts for 1 (e.g. the hundredths digits sum to 0.1 and the tenths digits sum to 0.9 and these add to give a total of 1)	Measure and draw lines to the nearest mm Draw shapes with some given side dimensions, for example draw a triangle with side lengths of 67mm and 4.3cm. What is the length of the other side? Is there more than one possibility? lengths and angles be?
2	Read and interpret information in a range of timetables with different contexts	Identify the perimeter of composite rectilinear shapes through accurate measuring to the nearest mm
3	Convert between different units of measure e.g. km to m; hour to minute	Calculate/identify the length of missing sides of composite rectilinear shapes (lengths in mm and decimal cm)
4	Recall multiplication and division facts for all the multiplication tables	Calculate the perimeter of a composite rectilinear shape where the lengths of some sides are not given (lengths in mm and decimal cm)
5		Learning Check