

Y6 Learning Sequences

Numbers to 10,000,000

The lessons with an asterisk will give a **secure, durable, secondary-ready understanding** of additive calculations, however if you are short of curriculum time before SATs...

- If +90% of children have secured additive calculations in fluency lessons, you could consider collating the varied fluency and 'think' questions from the lessons with an asterisk into one practice lesson.
- For children who have not secured the calculation skills in the lessons with an asterisk, these full lessons could be used for intervention.

Learning Steps

Prior learning check & remediation/deepening of prior

Composition of 10,000

Composition of 100,000

Composition of 1,000,000

Position numbers to 10,000 on a number line

Position numbers to 100,000 on a number line

Position numbers to 1,000,000 on a number line

Count forwards and backwards in powers of ten to 1,000,000

Represent numbers to 10,000,000

Partition numbers to 10,000,000

Value of digits to 10,000,000

Number lines to 10,000,000

Compare numbers to 10,000,000 (same PV)

Compare numbers to 10,000,000 (different PV)

Order sets of numbers to 10,000,000

PS Lesson: PV to 1,000,000 (all possibilities)

Round any 4-digit number to the 10, 100, 1,000

Round numbers to any power of 10

PS Lesson: rounding (multi-domain)

Add & subtract mentally using place value – not crossing millions boundary*

Add mentally using place value – crossing millions boundary*

Subtract mentally using place value – crossing millions boundary*

Written column addition to 10,000,000*

Written column subtraction to 10,000,000*

Missing digit column addition & subtraction

Assessment

Pause & Stretch: re-assessment & deepening as required

Y6 Learning Sequence

Addition & Subtraction

Learning Steps

Prior learning check & remediation/deepening of prior

- Missing whole additive problems
- Missing part additive problems (reduction and partition structures)
- Difference additive problems (difference structures)
- Problem-solving using knowledge of structures 1 (bar modelling)
- Problem-solving using knowledge of structures 2 (bar modelling)
- Missing number equations
- Balancing equations
- Order of Operations – no brackets or orders
- Order of Operations – brackets & orders

Assessment

Pause & Stretch: re-assessment & deepening as required

Y6 Learning Sequences

Multiplication

The lessons with an asterisk will give a **secure, durable, secondary-ready understanding** of multiplication calculations, however if you are short of curriculum time before SATs...

- If +90% of children have secured long multiplication in fluency lessons, you could consider collating the varied fluency and 'think' questions from the lessons with an asterisk into one practice lesson.
- For children who have not secured long multiplication, these full lessons could be used for intervention.

Learning Steps

Prior learning check & remediation/deepening of prior

Moving digits multiplication including decimals

Convert large metric units to small

Convert large metric units to small

PS Lesson: converting units large to small (multi-step / visual)

Short multiplication refresh including decimals

Long multiplication with no regroup*

Long multiplication with one regroup*

Long multiplication with two regroup*

Long multiplication with multiple regroup*

Long multiplication Practice Lesson (VF & Think)

PS Lesson: long multiplication (all possibilities)

Distributing for multiplying by a 2-digit number

Double and half to multiply without long multiplication

Factorisation to remove long multiplication

Most efficient method for multiplication

PS Lesson: multiplication (working backwards)

Assessment

Pause & Stretch: re-assessment & deepening as required

Y6 Learning Sequences

Division

The lessons with an asterisk will give a **secure, durable, secondary-ready understanding** of division calculations, however if you are short of curriculum time before SATs...

- If +90% of children have secured short/long division in fluency lessons, you could consider collating the varied fluency and 'think' questions from the lessons with an asterisk into one practice lesson and likewise for lessons with a double asterisk**
- For children who have not secured short/long multiplication, these full lessons could be used for intervention.

Learning Steps

Prior learning check & remediation/deepening of prior

Moving digits division including decimals

Convert smaller metric units to larger

Short division: decimal dividends*

Short division: decimal quotients (expressing remainders as decimals)*

Short Division Practice Lesson (varied fluency and think)

PS Lesson: short division (word problems)

Building multiple strings (fact bank)**

Long division – no remainder – divisor smaller than first 2 digits of dividend**

Long division – no remainder – divisor larger than first 2 digits of dividend**

Long division – remainders**

Long division – remainders**

Long division practice lesson (VF/RPS)

PS Lesson: long division (word problems)

Most efficient method for division

Assessment

Pause & Stretch: re-assessment & deepening as required

The lessons above the dashed line will give a **secure, durable, secondary-ready understanding** of additive fraction calculations, however if you are short of curriculum time before SATs...

- If +90% of children have secured additive fraction calculations through fluency sessions you could consider completing the lessons marked with an asterisk* above the dashed line then moving to the percentages & FDP lessons below the dashed line.
- For children who have not secured additive fraction calculations through fluency sessions you could consider using the lessons above the dashed line as intervention sessions.

Learning Steps

Prior learning check & remediation/deepening of prior

- Simplifying Fractions – Basic Fluency*
- Simplifying Fractions – Practice (VF/Think)*
- Compare related fractions *
- Add related fractions not bridging the whole
- Add mixed numbers with related fractions not bridging the whole
- Add related fractions bridging the whole
- Add mixed numbers with related fractions bridging the whole
- Practice lesson adding related fractions – VF, Think, GDS*
- Subtract related fractions not bridging whole
- Subtract mixed numbers with related fractions not bridging the whole
- Subtract related fractions bridging whole
- Subtract mixed numbers with related fractions bridging the whole
- Practice lesson subtracting related fractions – VF, Think, GDS*
- Compare unrelated fractions*
- Add unrelated fractions not bridging the whole
- Add mixed numbers with unrelated fractions not bridging the whole
- Add unrelated fractions bridging the whole
- Add mixed numbers with unrelated fractions bridging the whole
- Practice lesson adding unrelated fractions – VF, Think, GDS*
- Subtract unrelated fractions not bridging whole
- Subtract mixed numbers with unrelated fractions not bridging the whole
- Subtract unrelated fractions bridging whole
- Subtract mixed numbers with unrelated fractions bridging the whole
- Practice lesson subtracting unrelated fractions – VF, Think, GDS*

PS Lesson: adding and subtracting fractions (multi-step / multi-domain)*

- What is percentage?
- FDP equivalence – denominator of 100
- FDP equivalence – denominator not 100
- FDP Equivalence Problems
- Percentages of amounts multiples of 25%, 50%, 75%
- Percentages of amounts 10%
- Percentages of amounts multiples of 10%
- Percentages of amounts 5%
- Percentages of amounts multiples of 5%
- Percentages of amounts 1%
- Finding percentages of amounts – multiples of 1%
- Percentages of amounts – VF, Think, GDS
- Most efficient method for percentages
- Finding the whole from given percentage/fraction parts
- Percentages & pie charts

PS Lesson: percentages (real-life word)

- Fractions and percentages as operators

Assessment

Pause & Stretch: re-assessment & deepening as required

Y6 Learning Sequences
Proportional Reasoning

Learning Steps

Prior learning check & remediation/deepening of prior

Ratio tables
Language of ratio – scaling up
Language of ratio – simplest form
Real-life ratio problems
Recipes
Multiplicative Structures & Bar Modelling 1
Multiplicative Structures & Bar Modelling 2
Scale drawings
Scale factors
Miles & Kilometres
Correspondence problems

Assessment

Pause & Stretch: re-assessment & deepening as required

Y6 Learning Sequences

Geometric Reasoning

Learning Steps

Prior learning check & remediation/deepening of prior

- Area of parallelograms
- Area of triangles
- Mixed area calculation practice
- Same perimeter; different area
- Same area; different perimeter
- Right angles: calculating missing angles
- Straight lines: calculating missing angles
- 360° around a point: calculating missing angles
- Triangles: calculating missing angles
- Quadrilaterals: calculating missing angles
- Vertically opposite angles: calculating missing angles
- Mixed practice: calculating missing angles
- PS Lesson:** investigating internal angles of regular polygons
- Construct 3d shapes from 2d nets
- Problems involving coordinates

Assessment

Pause & Stretch: re-assessment & deepening as required

Y6 Learning Sequences

Algebra

Learning Steps

Prior learning check & remediation/deepening of prior

1-step function machines
2-step function machines (output)
2-step function machines (input)
Missing Number Equations
Balancing Number Equations
Sequences
Form expressions
Algebraic expressions
Solve 1-step equations
Solve 2-step equations
Pairs of values

Assessment

Pause & Stretch: re-assessment & deepening as required

Y6 Learning Sequences

Statistics

Learning Steps

Prior learning check & remediation/deepening of prior

Interpret bar charts with different scales

Interpret dual bar charts

Interpret line charts

Interpret dual line charts

Circles

Interpret pie charts using angles, fractions and percentages

The relationships between the mean and sharing equally

Calculate the mean

Explain how the mean changes when the total quantity or number of values changes

Explain how to calculate the mean when one of the values in the data set is zero or missing

Explain when the mean is not an appropriate representation of a set of data

Assessment

Pause & Stretch: re-assessment & deepening as required

Y6 Learning Sequences

Calculator Crunch

Learning Steps

- Seven segments – calculator displays
 - All the sevens – calculating with a calculator
 - 7-digit numbers – calculating with a calculator
 - What is one seventh – fractions with a calculator
 - 7 is an amazing number – problem solving with a calculator
- PS Skills Lesson:** conjecture & generalising

Y6 Learning Sequences

Y7 Bridging Units

Children, who did not secure understanding in these core concepts of the primary curriculum, should complete intervention and revisits of earlier content; children who did secure understanding should complete these consolidation/bridging activities.

Learning Steps	
Place Value	- Understand place value in integers - Understand place value in decimals - Understand place value in the context of measure - Compare & order numbers and measures
Properties of Number	- Understand multiples - Understand integer exponents & roots - Understand the unique prime factorisation of a number
Arithmetic Procedures	- Additive structures for negative numbers - Additive structures for decimals - Multiplicative structures for integers - Multiplication with decimals - Division with decimals