

Progression in mental fluency in KS1



Faster Fluency Year 1 Objectives

- 1 Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number
e.g. Count on from 93
- 2 Count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens
e.g. Counting in 2s, what are the next three numbers after 6?
- 3 Given a number, identify one more and one less
e.g. What number is 1 less than 57?
- 4 Read and write numbers from 1 to 20 in numerals and in words
e.g. Write the number sixteen in numerals

Blue

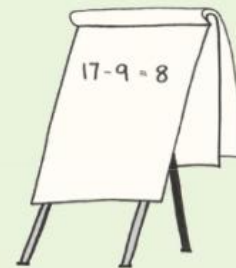
Number and Place Value

- 5 Represent and use number bonds and related subtraction facts within 10*
e.g. What is $6 + 3$?
- 6 Add and subtract one-digit numbers to 10, including zero*
e.g. What do you add to 4 to make 10?
- 7 Represent and use number bonds and related subtraction facts within 20
e.g. What is $17 - 9$?
- 8 Add and subtract one-digit numbers to 20, including zero
e.g. What do you add to 7 to make 20?

Yellow

Addition and Subtraction

- 9 Double numbers to 5*
e.g. What is double 3?
- 10 Halve even numbers to 10*
e.g. What is half of 8?



Green

Multiplication and Division

*This is an additional objective, included to support the National Curriculum



Faster Fluency Year 2 Objectives

- 1 Count in steps of 2, 3 and 5 from zero
e.g. Counting in 3s, what are the next three numbers after 15?
- 2 Count in tens from any number, forwards and backwards
e.g. Count in tens from 27
- 3 Recognise the place value of each digit in a two-digit number (tens, ones)
e.g. What is the value of the 7 in the number 73?
- 4 Compare and order numbers from 0 up to 100
e.g. Put the following numbers in order, starting with the smallest: 39, 52, 31
- 5 Read and write numbers to at least 100 in numerals and in words
e.g. Write the number seventy-eight in numerals

Blue

Number and Place Value

- 6 Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100
e.g. Add together 9 and 8
- 7 Add and subtract numbers mentally, including
 - a two-digit number and ones
 - a two-digit number and tens
 - two two-digit numbers
 - adding three one-digit numbers
 e.g. Add together 7, 2 and 8



Yellow

Addition and Subtraction

- 8 Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables
e.g. What is 9×5 ?
- 9 Recognise odd and even numbers
e.g. Is 79 an odd or even number?
- 10 Double single-digit numbers*
e.g. What is double 7?
- 11 Halve even numbers to 20*
e.g. What is half of 18?



Green

Multiplication and Division

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Progression in mental fluency in LKS2



Faster Fluency Year 3 Objectives

- 1 Count from zero in multiples of 4, 8, 50 and 100
e.g. Counting in 4s, what are the next three numbers after 20?
- 2 Find 10 or 100 more or less than a given number
e.g. What is 100 more than 786?
- 3 Recognise the place value of each digit in a three-digit number (hundreds, tens, ones)
e.g. What is the value of the 4 in the number 491?
- 4 Compare and order numbers up to 1000
e.g. Put the following numbers in order, starting with the smallest: 439, 512, 431
- 5 Read and write numbers up to 1000 in numerals and in words
e.g. Write the number six hundred and eight in numerals

Blue
Number and Place Value

- 6 Add and subtract numbers mentally including
 - a three-digit number and ones
 - a three-digit number and tens
 - a three-digit number and hundreds
 e.g. What is $472 + 80$?
- 7 Recognise and use number bonds / complements to 100*
e.g. How many must you add to 68 to make 100?

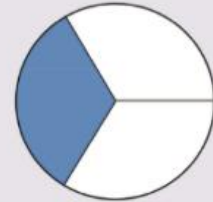


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Yellow
Addition and Subtraction

- 8 Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables
e.g. What is $56 \div 8$?
- 9 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
e.g. What is 17×3 ?
- 10 Double two-digit numbers*
e.g. What is double 74?
- 11 Halve even numbers to 100*
e.g. What is half of 56?

Green
Multiplication and Division



- 12 Count up and down in tenths
e.g. What are the next three fractions:
 $\frac{9}{10}$ 1 $1\frac{1}{10}$
- 13 Add and subtract fractions with the same denominator within one whole
e.g. What is $\frac{3}{6} + \frac{2}{6}$?
- 14 Compare and order unit fractions and fractions with the same denominators
e.g. Order these fractions, starting with the smallest:
 $\frac{3}{6}$ $\frac{1}{6}$ $\frac{5}{6}$

Purple
Fractions



Faster Fluency Year 4 Objectives

- 1 Count in multiples of 6, 7, 9, 25 and 1000
e.g. What are the next three numbers? 175 200 225
- 2 Find 1000 more or less than a given number
e.g. What is 1000 more than 37,856
- 3 Count backwards through zero to include negative numbers
e.g. What are the next three numbers? 2 1 0
- 4 Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, ones)
e.g. What is the value of the 7 in 7159?
- 5 Order and compare numbers beyond 1000
e.g. Order these numbers, largest first: 9716 18,178 14984
- 6 Round any number to the nearest 10, 100 or 1000
e.g. Round 14,513 to the nearest thousand

Blue
Number and Place Value

- 7 Add and subtract two-digit numbers*
e.g. Add together 34 and 49
- 8 Add and subtract three-digit numbers (tens and ones do not cross the tens barrier)*
e.g. What is the sum of 413 and 823?



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Yellow
Addition and Subtraction

- 9 Recall multiplication and division facts for multiplication tables up to 12×12
e.g. What is $108 \div 9$?
- 10 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
e.g. What is 300×4 ?
- 11 Solve problems involving multiplying and adding, including using the distributive law to multiply two-digit numbers by one-digit.
e.g. What is 37×6
- 12 Multiply numbers by 10 and 100*
e.g. What is 467×100 ?
- 13 Double and halve two-digit numbers*
e.g. What is double 79?

Green
Multiplication and Division

- 14 Count up and down in hundredths
e.g. What are the next three fractions? $\frac{9}{100}$ $\frac{91}{100}$ $\frac{99}{100}$
- 15 Add and subtract fractions with the same denominator
e.g. What is $\frac{1}{4} + \frac{3}{4}$
- 16 Recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$ or any tenths or hundredths
e.g. Write $\frac{7}{100}$ as a decimal
- 17 Find the effect of dividing a one or two-digit number by 10 and 100
e.g. What is $34 \div 100$?
- 18 Round decimals with one decimal place to the nearest whole number
e.g. Round 3.7 to the nearest whole number
- 19 Compare numbers with the same number of decimal places up to two decimal places
e.g. Order these numbers, smallest first: 3.41 3.49 3.14

Purple
Fractions

Progression in mental fluency in UKS2



Faster Fluency Year 5 Objectives

- 1 Read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit
e.g. What is the value of the 6 in 681,927?
- 2 Count forwards or backwards in steps of powers of ten, for any given number up to 1,000,000
e.g. Count on in 10,000s from 329,109
- 3 Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero
e.g. Continue the sequence: -7, -14, -21, ...
- 4 Round any number up to 1,000,000 to the nearest 10, 100, 1000, 10,000 and 100,000
e.g. Round 723,178 to the nearest hundred thousand



Blue

Number and Place Value

- 5 Add and subtract numbers mentally with increasingly large numbers
e.g. What is 12,463 - 2300?

- 6 Recall prime numbers up to 19
e.g. Write down all the prime numbers up to 10
- 7 Multiply and divide numbers mentally, drawing upon known facts
e.g. What is 179 x 8?
- 8 Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000
e.g. What is 35.6 x 100?
- 9 Recognise and use square numbers and cube numbers
e.g. Write two square numbers between 5 and 20
- 10 Double and halve three-digit numbers
e.g. What is double 386?

Yellow

Addition and Subtraction

- 11 Compare and order fractions whose denominators are all multiples of the same number
e.g. Enter the correct sign between the fractions ($<$ $>$ or $=$)
 $\frac{7}{8}$ $\frac{11}{16}$
- 12 Add and subtract fractions with the same denominator and denominators that are multiples of the same number
e.g. What is $\frac{1}{4} + \frac{3}{4}$?
- 13 Read and write decimal numbers as fractions
e.g. Express 0.71 as a fraction
- 14 Round decimals with two decimal places to the nearest whole number and to one decimal place
e.g. Round 4.67 to the nearest whole number
- 15 Recognise the percent symbol (%) and understand that percent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal
e.g. Express 48% as a fraction with denominator 100
- 16 Solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{3}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{4}{5}$ and those fractions with a denominator of a multiple of 10 or 25
e.g. Express $\frac{1}{100}$ as a decimal

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Multiplication and Division

Purple

Fractions

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Faster Fluency Year 6 Objectives

- 1 Read, write, order and compare numbers to at least 10,000,000 and determine the value of each digit
e.g. What is the value of the 8 in 8,239,146?
- 2 Round any whole number to a required degree of accuracy
e.g. Round 3,819,278 to the nearest million
- 3 Use negative numbers in context, and calculate intervals across zero
e.g. What is the difference between -37.4°C and 29.8°C ?



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Number and Place Value

- 4 Perform mental calculations, including with mixed operations and large numbers
e.g. What is 7000 x 0.9?
- 5 Identify common factors, common multiples and prime numbers
e.g. Is 37 prime or composite?
- 6 Use their knowledge of the order of operations to carry out calculations using the four operations
e.g. What is $2 + 7 \times 6$?
- 7 Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why
e.g. How much change do you get from £10 if you spend £1.45 and £2.57?
- 8 Double and halve three-digit numbers, including decimals*
e.g. What is double 79.6?

Green

Addition, Subtraction, Multiplication and Division

- 9 Compare and order fractions, including fractions > 1
e.g. Enter the correct sign between the fractions ($<$ $>$ or $=$)
 $1\frac{1}{4}$ $1\frac{3}{4}$
- 10 Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions
e.g. What is $1\frac{3}{4} + 2\frac{1}{4}$?
- 11 Multiply simple pairs of proper fractions
What is $\frac{3}{4} \times \frac{2}{5}$?
- 12 Divide proper fractions by whole numbers
e.g. What is $\frac{1}{4} \div 2$?
- 13 Identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000, giving answers up to three decimal places
e.g. What is $47 + 1000$?
- 14 Multiply one-digit numbers with up to three decimal places by whole numbers
e.g. What is 0.09×12 ?
- 15 Recall and use equivalences between simple fractions, decimals and percentages
e.g. Express 78% as a fraction

Purple

Fractions

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