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STRIDE INTO THE FUTURE OF ASSESSMENT

Teacher Companion Guide

Numbers

STRIDE Maths

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Overview

Stride is a new offering from AQA which is designed to empower students and quickly identify and close their knowledge gaps in mathematics. Designed to help students starting their GCSEs – either for the first time or as a resit – the tests are accessible for all and adapt to students' knowledge, delivering the right amount of challenge.

Our new maths tests will allow teachers to pinpoint gaps in their students' conceptual knowledge - saving them time and empowering students, who will understand how to improve. They're fully funded for schools and colleges, easy to use for teachers and engaging for students.

The five short tests, created with the Key Stage 1 and 2 and Key Stage 3 guidance in mind, focus on key areas of maths that experts have identified as the most impactful for GCSE success. They come with personalised learning and next steps to allow students to develop in both knowledge and confidence.

Rationale

We know that maths is a hierarchical subject, with knowledge being built upon foundational maths which underpins the new concept. We have analysed data from hundreds of thousands of exam questions and found that even though content is first encountered in the early stages of a learner's schooling, a significant proportion of learners answer questions on the foundations of maths incorrectly.

With this in mind, we want to empower teachers to take control of their classrooms and provide a nurturing environment in which gaps within key prerequisite understanding are identified and corrective instruction is deployed, filling the gaps and ensuring that more complex content can be taught, safe in the knowledge that learners have the underlying knowledge required to be successful in their lessons, and thrive in the GCSE examinations.

Key features

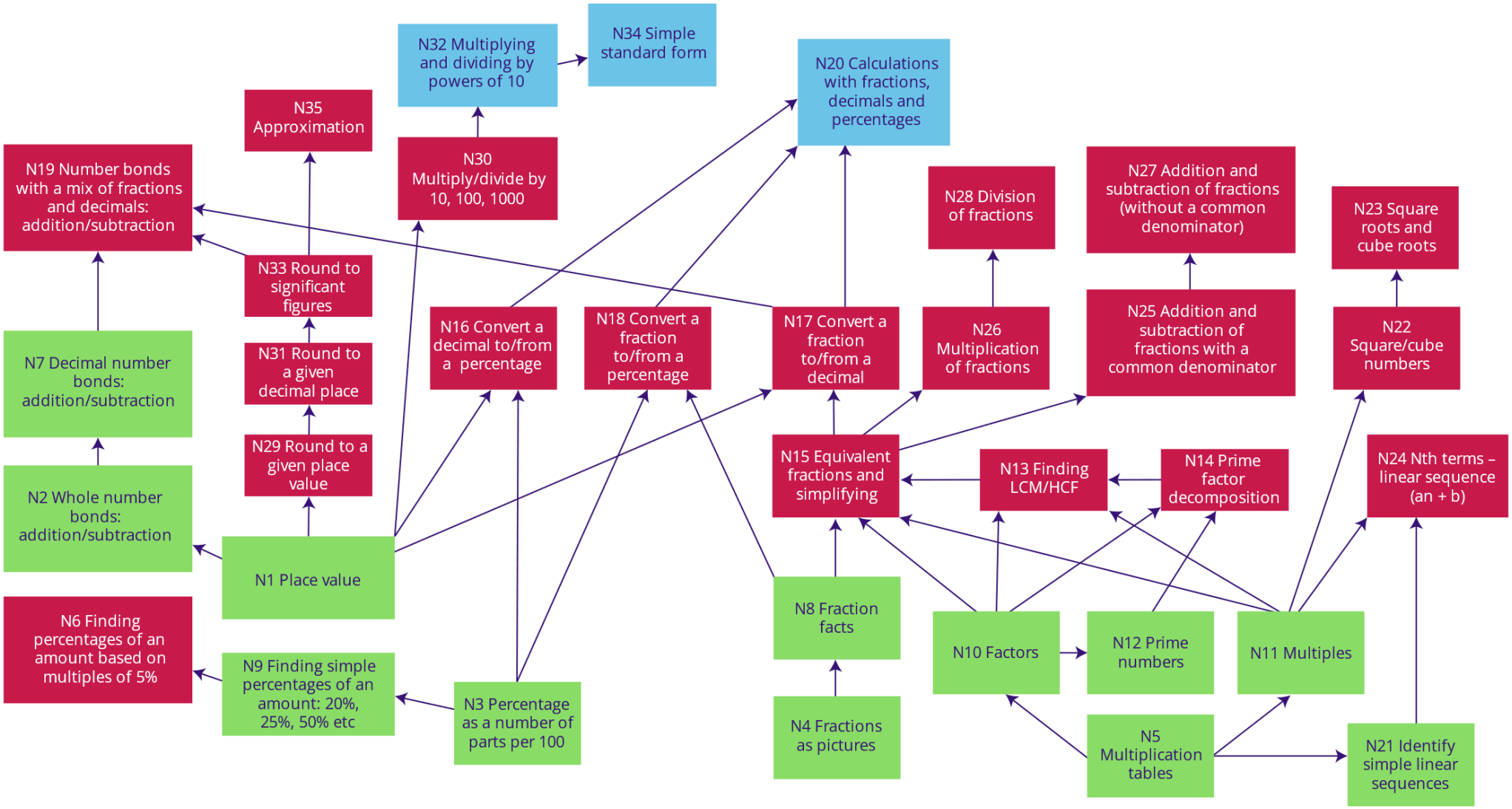
The Concept Map on the following page shows that N1 Place Value is a key prerequisite in developing expertise and knowledge within Numbers, fundamental to success with rounding and estimation, equivalence between fractions, decimals and percentages, and multiplication and division by powers of ten.

It's also clear that N10 Factors and N11 Multiples are key to understanding many other areas of the mathematics curriculum, including prime factors and prime factor decomposition, equivalence and simplification of fractions, and square and cube numbers and their associated roots. Factors and multiples are successors of N5 Multiplication Tables, which is a key foundation for success in Numbers.

It is key that learners have not only developed fluency with these ideas, but have developed significant expertise with these building blocks, upon which success in GCSE mathematics is founded.

Concept Map

1. Numbers



N1 Place value

What is being tested	Learners are being tested on their understanding of the place value table, between millions and millionths.
Learning Objectives	N1.1 Recognise place values for integers up to 1 000 N1.2 Recognise place values for integers up to 1 000 000 N1.3 Label the place value columns N1.4 Identify which column a given digit of a decimal number is in N1.5 Identify the place of numbers on the number line N1.6 Recognise place values for decimal numbers up to 6 d.p.
Predecessors	None
Successors	N2 Whole number bonds: addition/subtraction N16 Convert a decimal to/from a percentage N17 Convert a fraction to/from a decimal N29 Round to a given place value N30 Multiply/divide by 10, 100, 1000
KS2 & KS3 Guidance	Learners begin their journey with place value with tens and ones in Year 2 (page 48, KS1 and KS2 guidance) and begin working with decimals in Year 5 (page 208, KS1 and KS2 guidance).
Oxford Smart Mosaic Textbook References	Student Book 1 Section 1.1.1 Understanding place value of integers Student Book 1 Section 1.1.2 Representing place value of integers using powers of 10 Student Book 1 Section 1.2.1 Understanding place value of decimals Student Book 1 Section 1.2.2 Representing place value of decimals using powers of 10

N2 Whole number bonds: addition/subtraction

What is being tested	Learners are being tested on their understanding of number bonds with addition and subtraction.
Learning Objectives	N2.1 Calculate integer number bonds up to two digits N2.2 Calculate integer number bonds up to three digits N2.3 Calculate integer number bonds with a mixed number of digits
Predecessors	N1 Place value
Successors	N7 Decimal number bonds: addition/subtraction
KS2 & KS3 Guidance	Learners begin to work with number bonds in Year 1 (page 17, KS1 and KS2 guidance) and work with addition and subtraction of whole numbers throughout their mathematical journey.
Oxford Smart Mosaic Textbook References	

N3 Percentage as a number of parts per 100

What is being tested	Learners are being tested on their understanding of the use of the % sign and how this relates to fractional representations.
Learning Objectives	N3.1 Describe percentage N3.2 Recognise a visual representation of a percentage as parts per 100 N3.3 Calculate a fraction as a percentage when the denominator is 100
Predecessors	None
Successors	N9 Finding simple percentages of an amount: 20%, 25%, 50% etc N16 Convert a decimal to/from a percentage N18 Convert a fraction to/from a percentage
KS2 & KS3 Guidance	Learners begin to understand percentages in Year 5 (page 208, KS1 and KS2 guidance) and continue to work with percentages through KS2 and KS3 (page 162, KS3 guidance).
Oxford Smart Mosaic Textbook References	Student Book 2 Section 5.1.1 Percentages, fractions and decimals Student Book 2 Section 5.1.3 Finding percentages

N4 Fractions as pictures

What is being tested	Learners are being tested on their ability to identify simple fractions from diagrams.
Learning Objectives	N4.1 Recognise the diagram that represents a given fraction N4.2 Identify equivalent fractions represented as bars
Predecessors	None
Successors	N8 Fraction facts
KS2 & KS3 Guidance	Learners begin to use fraction notation to describe parts of a whole in Year 3 (page 120, KS1 and KS2 guidance).
Oxford Smart Mosaic Textbook References	

N5 Multiplication tables

What is being tested	Learners are being tested on their understanding of multiplication facts and their ability to identify numbers as being in specified times tables.
Learning Objectives	N5.1 Complete a multiplication grid with missing numbers N5.2 Categorise numbers between 50 and 100 according to their appearance in the 6,7,8 or 9 times tables
Predecessors	None
Successors	N10 Factors N11 Multiples N21 Identify simple linear sequences
KS2 & KS3 Guidance	Learners begin work with the 2, 5 and 10 multiplication tables in Year 2 (page 69, KS1 and KS2 guidance), progressing throughout KS2.
Oxford Smart Mosaic Textbook References	

N6 Finding percentages of an amount based on multiples of 5%

What is being tested	Learners are being tested on their ability to calculate 5%, and multiples of 5%, of a specified amount.
Learning Objectives	N6.1 Calculate 5% of a two-digit integer N6.2 Calculate 5% of a decimal up to two decimal places N6.3 Know that dividing 100% into twenty parts equals 5%
Predecessors	N9 Finding simple percentages of an amount: 20%, 25%, 50% etc
Successors	None
KS2 & KS3 Guidance	Learners work with percentage calculations beginning in KS3 (page 162, KS3 guidance).
Oxford Smart Mosaic Textbook References	Student Book 2 Section 5.1.3 Finding percentages

N7 Calculate decimal number bonds up to 1 d.p.

What is being tested	Learners are being tested on their understanding of number bonds with addition and subtraction of decimal numbers.
Learning Objectives	N7.1 Calculate decimal number bonds up to 1 d.p. N7.2 Calculate decimal number bonds up to 2 d.p. N7.3 Calculate decimal number bonds up to 3 d.p. N7.4 Calculate decimal number bonds with a mixed number of decimal places
Predecessors	N2 Whole number bonds: addition/subtraction
Successors	N19 Number bonds with a mix of fractions and decimals: addition/subtraction
KS2 & KS3 Guidance	Learners begin to add and subtract using decimals in Year 5 (page 216, KS1 and KS2 guidance).
Oxford Smart Mosaic Textbook References	

N8 Fraction facts

What is being tested	Learners are being tested on their understanding of the parts that form a fraction.
Learning Objectives	N8.1 Describe numerator N8.2 Describe denominator N8.3 Describe mixed fraction
Predecessors	N4 Fractions as pictures
Successors	N15 Equivalent fractions and simplifying
KS2 & KS3 Guidance	Learners begin to use fraction nomenclature to describe parts of a whole in Year 3 (page 120, KS1 and KS2 guidance), encountering mixed fractions in Year 4 (page 185, KS1 and KS2 guidance).
Oxford Smart Mosaic Textbook References	Student Book 1 Section 7.1.1 Wholes and parts Student Book 1 Section 7.1.2 Improper fractions and mixed numbers

N9 Finding simple percentages of an amount; 20%, 25%, 50% etc

What is being tested	Learners are being tested on their ability to calculate a simple percentage of a specified amount.
Learning Objectives	N9.1 Recognise how to find 50% of a number N9.2 Recognise how to find 25% of a number N9.3 Recognise how to find 20% of a number N9.4 Calculate 50% of a two-digit integer N9.5 Calculate 25% of a two-digit integer N9.6 Calculate 20% of a two-digit integer
Predecessors	N3 Percentage as a number of parts per 100
Successors	N6 Finding percentages of an amount based on multiples of 5%
KS2 & KS3 Guidance	Learners work with percentage calculations beginning in KS3 (page 162, KS3 guidance).
Oxford Smart Mosaic Textbook References	Student Book 2 Section 5.1.3 Finding percentages

N10 Factors

What is being tested	Learners are being tested on their understanding of the term 'factor', and how this links to multiplication facts.
Learning Objectives	N10.1 Identify the factors of a given number N10.2 Identify common factors of different numbers N10.3 Match different numbers to their factors N10.4 Define a factor
Predecessors	N5 Multiplication tables
Successors	N12 Prime numbers N13 Finding LCM/HCF N14 Prime factor decomposition N15 Equivalent fractions and simplifying
KS2 & KS3 Guidance	Learners build on their understanding of multiplication facts by finding factors of specified numbers in Year 5 (page 245, KS1 and KS2 guidance).
Oxford Smart Mosaic Textbook References	Student Book 1 Section 2.3.1 Understanding factors of numbers

N11 Multiples

What is being tested	Learners are being tested on their ability to identify multiples of a specified number as the values in that number's times table.
Learning Objectives	N11.1 Define the times table of a number N11.2 Identify common multiples of different numbers
Predecessors	N5 Multiplication tables
Successors	N13 Finding LCM/HCF N22 Square/cube numbers N24 Nth terms – linear sequence (an + b)
KS2 & KS3 Guidance	Learners are introduced to the idea of multiples in Year 1 (page 26, KS1 and KS2 guidance) and extend upon this idea throughout Key Stages 1 and 2, identifying multiples of specified numbers in Year 5 (page 244, KS1 and KS2 guidance).
Oxford Smart Mosaic Textbook References	Student Book 1 Section 2.1.1 Understanding multiples

N12 Prime numbers

What is being tested	Learners are being tested on their understanding of the term 'prime number' and their ability to identify prime numbers.
Learning Objectives	N12.1 Define a prime number N12.2 Know the prime numbers up to thirty N12.3 Recognise prime numbers up to 50
Predecessors	N10 Factors
Successors	N14 Prime factor decomposition
KS2 & KS3 Guidance	Learners encounter prime numbers in Year 5 (page 246, KS1 and KS2 guidance), identifying primes up to 100.
Oxford Smart Mosaic Textbook References	Student Book 1 Section 2.3.2 Prime numbers

N13 Finding LCM/HCF

What is being tested	Learners are being tested on their understanding of common factors and multiples, calculating the Lowest Common Multiple and the Highest Common Factor.
Learning Objectives	N13.1 Recognise the highest common factor from a list of multiples and factors N13.2 Recognise the lowest common multiples from a list of multiples and factors N13.3 Calculate the highest common factor of two positive integers from a Venn diagram N13.4 Calculate the lowest common multiple of two positive integers from a Venn diagram N13.5 Identify common factors of two positive integers using prime factor decomposition by completing a Venn diagram
Predecessors	N10 Factors N11 Multiples N14 Prime factor decomposition
Successors	N15 Equivalent fractions and simplifying
KS2 & KS3 Guidance	Learners are introduced to the idea of common factors and common multiples in Year 5 (page 245, KS1 and KS2 guidance) and make the connection to prime numbers in Year 7 (page 30, KS3 guidance).
Oxford Smart Mosaic Textbook References	Student Book 1 Section 2.3.5 Highest common factor using prime factorisation Student Book 1 Section 2.3.6 Lowest common multiple using prime factorisation

N14 Prime factor decomposition

What is being tested	Learners are being tested on their ability to write composite numbers as a multiplication of prime numbers.
Learning Objectives	N14.1 Identify the prime factors of a positive integer N14.2 Identify the prime factor decomposition of a given positive integer N14.3 Show the prime factor decomposition of a positive integer using index form where appropriate
Predecessors	N10 Factors N12 Prime numbers
Successors	N13 Finding LCM/HCF
KS2 & KS3 Guidance	Learners are introduced to prime factorisation in Year 7 (page 30, KS3 guidance).
Oxford Smart Mosaic Textbook References	Student Book 1 Section 2.3.3 Prime factorisation

N15 Equivalent fractions and simplifying

What is being tested	Learners are being tested on their ability to identify and use equivalence between fractions, and to write a fraction in its simplest form.
Learning Objectives	N15.1 Write a fraction in its simplest form (lowest term) N15.2 Calculate missing numerators using equivalent fractions N15.3 Calculate missing denominators using equivalent fractions N15.4 Match equivalent fractions
Predecessors	N8 Fraction facts N10 Factors N11 Multiples
Successors	N17 Convert a fraction to/from a decimal N18 Convert a fraction to/from a percentage N25 Addition and subtraction of fractions with a common denominator N26 Multiplication of fractions
KS2 & KS3 Guidance	Learners work with equivalent fractions in Year 5 (page 258, KS1 and KS2 guidance), simplifying fractions in Year 6 (page 312, KS3 guidance).
Oxford Smart Mosaic Textbook References	Student Book 1 Section 7.1.5 Simplifying fractions

N16 Convert a decimal to/from a percentage

What is being tested	Learners are being tested on their ability to convert between percentage and decimal representations of a number.
Learning Objectives	N16.1 Recognise the correct equivalence of a percentage as a decimal N16.2 Order decimals and percentages N16.3 Recognise a decimal as its equivalent percentage
Predecessors	N1 Place value N3 Percentage as a number of parts per 100
Successors	N20 Calculations with fractions, decimals and percentages
KS2 & KS3 Guidance	Learners begin to appreciate hundredths in Year 5 (page 212, KS1 and KS2 guidance), building on this in upper KS2 before KS3 study (page 81, KS3 guidance).
Oxford Smart Mosaic Textbook References	Student Book 2 Section 5.1.1 Percentages, fractions and decimals Student Book 2 Section 5.1.2 Comparing quantities with percentages

N17 Convert a fraction to/from a decimal

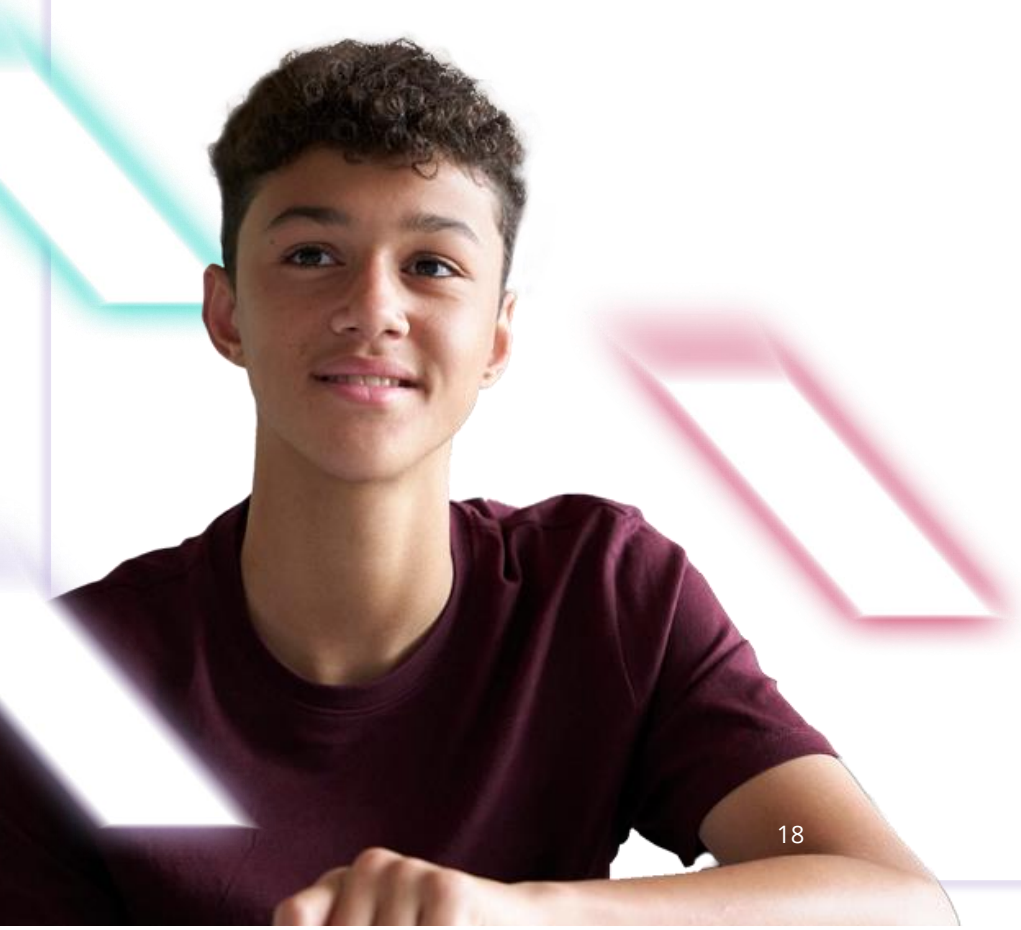
What is being tested	Learners are being tested on their ability to convert between fractional and decimal representations of a number.
Learning Objectives	N17.1 Match decimals and equivalent fractions N17.2 Order fractions and decimals N17.3 Find the equivalent fraction from a decimal (hundredths) N17.4 Find the equivalent decimal from a fraction (hundredths) N17.5 Match fractions to equivalent decimals (non-standard) N17.6 Convert a fraction to a decimal using division
Predecessors	N1 Place value N15 Equivalent fractions and simplifying
Successors	N19 Number bonds with a mix of fractions and decimals: addition/subtraction N20 Calculations with fractions, decimals and percentages
KS2 & KS3 Guidance	Learners recall decimal equivalents for common fractions in Year 5 (page 262, KS1 and KS2 guidance).
Oxford Smart Mosaic Textbook References	Student Book 1 Section 7.1.3 Writing fractions as divisions and decimals Student Book 1 Section 7.1.4 Writing decimals as fractions Student Book 1 Section 7.2.1 Comparing and ordering fractions Student Book 1 Section 7.2.2 Comparing and ordering fractions by converting to decimals

N18 Convert a fraction to/from a percentage

What is being tested	Learners are being tested on their ability to convert between percentage and fractional representations of a number.
Learning Objectives	N18.1 Recognise the correct equivalence of a percentage as a fraction out of 100 N18.2 Calculate a fraction as a percentage when the denominator is a factor of 100 N18.3 Match percentages to their equivalent fractions N18.4 Identify the calculation to convert a real-world fraction to a percentage N18.5 Find the equivalent fraction from a percentage containing a decimal N18.6 Match fractions to equivalent percentages
Predecessors	N3 Percentage as a number of parts per 100 N15 Equivalent fractions and simplifying
Successors	N20 Calculations with fractions, decimals and percentages
KS2 & KS3 Guidance	Learners begin to appreciate hundredths in Year 5 (page 212, KS1 and KS2 guidance), building on this in upper KS2 before KS3 study (page 81, KS3 guidance).
Oxford Smart Mosaic Textbook References	Student Book 2 Section 5.1.1 Percentages, fractions and decimals

N19 Number bonds with a mix of fractions and decimals: addition/subtraction

What is being tested	Learners are being tested on their understanding of number bonds with addition and subtraction of a combination of fractional and decimal representations of numbers.
Learning Objectives	N19.1 Calculate mixed number bonds involving whole numbers and decimals
Predecessors	N7 Decimal number bonds: addition/subtraction N17 Convert a fraction to/from a decimal
Successors	None
KS2 & KS3 Guidance	Learners begin to appreciate fraction/decimal equivalence in Year 7 (page 80, KS3 guidance).
Oxford Smart Mosaic Textbook References	



N20 Calculations with fractions, decimals and percentages

What is being tested	Learners are being tested on their ability to convert between percentage, decimal and fractional representations of a specified number, extending this knowledge to identify the best value in a specified context.
Learning Objectives	N20.1 Order a mixture of fractions, percentages, and decimals N20.2 Order sale offers that are in a mixture of fractions, percentages and decimals N20.3 Recognise 'best buys' by using the equivalence of fractions, percentages and decimals
Predecessors	N16 Convert a decimal to/from a percentage N17 Convert a fraction to/from a decimal N18 Convert a fraction to/from a percentage
Successors	None
KS2 & KS3 Guidance	Learners use fractions, decimals and percentages interchangeably in Year 8 (page 160, KS3 guidance).
Oxford Smart Mosaic Textbook References	Student Book 1 Section 7.1.3 Writing fractions as divisions and decimals Student Book 1 Section 7.1.4 Writing decimals as fractions Student Book 1 Section 7.2.1 Comparing and ordering fractions Student Book 1 Section 7.2.2 Comparing and ordering fractions by converting to decimals Student Book 2 Section 5.1.1 Percentages, fractions and decimals

N21 Identify simple linear sequences

What is being tested	Learners are being tested on their ability to extend simple linear sequences.
Learning Objectives	N21.1 Identify next term in a sequence of diagrams N21.2 Match positive number sequences with their term-to-term rule N21.3 Identify next term in a simple linear sequence
Predecessors	N5 Multiplication tables
Successors	N24 Nth terms – linear sequence (an + b)
KS2 & KS3 Guidance	Learners begin working with sequences in Year 1 (page 18, KS1 and KS2 guidance) and continue this work through KS1 and KS2.
Oxford Smart Mosaic Textbook References	Student Book 2 Section 3.1.1 Continuing sequences Student Book 2 Section 3.1.2 Using term-to-term rules

N22 Square/cube numbers

What is being tested	Learners are being tested on their ability to identify square and cube numbers, using correct definitions and terminology.
Learning Objectives	N22.1 Identify square numbers up to 100 N22.2 Identify cube numbers up to 100 N22.3 Define square number N22.4 Define cube number N22.5 Show numbers using index notation e.g. 16 = 4x4 = 4^2
Predecessors	N11 Multiples
Successors	N23 Square roots and cube roots
KS2 & KS3 Guidance	Pupils work with square and cube numbers in upper KS2 (page 30, KS3 guidance) and extend upon this knowledge in Year 7 (page 30, KS3 guidance).
Oxford Smart Mosaic Textbook References	Student Book 1 Section 2.2.1 Square and cube numbers

N23 Square roots and cube roots

What is being tested	Learners are being tested on their understanding of square and cube numbers, working inversely to find roots, using correct definitions and terminology.
Learning Objectives	N23.1 Define square root N23.2 Define cube root N23.3 Recall that taking the square root is the inverse of squaring N23.4 Recall that that taking the cube root is the inverse of cubing N23.5 Identify the square root of x^2 N23.6 Identify the cube root of x^3
Predecessors	N22 Square/cube numbers
Successors	None
KS2 & KS3 Guidance	Pupils work with square and cube roots in Year 7 (page 30, KS3 guidance).
Oxford Smart Mosaic Textbook References	Student Book 1 Section 2.2.2 Understanding square roots Student Book 1 Section 2.2.3 Understanding cube roots

N24 Nth term: Linear sequence (an + b)

What is being tested	Learners are being tested on their ability to describe an arithmetic sequence using an algebraic position-to-term rule.
Learning Objectives	N24.1 Identify linear sequences N24.2 Find first terms of a linear sequence given the nth term N24.3 Match the sequences with their nth term rule N24.4 Identify the nth term of a list of multiples N24.5 Find the first four terms of a sequence given in the form an N24.6 Write the general term for the multiples of a number
Predecessors	N11 Multiples N21 Identify simple linear sequences
Successors	None
KS2 & KS3 Guidance	Learners begin using the nth term to describe a sequence in Year 8 (page 129, KS3 guidance).
Oxford Smart Mosaic Textbook References	Student Book 2 Section 3.1.3 Using position to term rules Student Book 2 Section 3.2.1 Identifying arithmetic sequences Student Book 2 Section 3.2.2 nth terms of arithmetic sequences Student Book 2 Section 3.2.3 Using the nth term

N25 Addition and subtraction of fractions with a common denominator

What is being tested	Learners are being tested on their ability to add and subtract fractions which are written in the same denominator.
Learning Objectives	N25.1 Recognise the correct addition of common fractions with the same denominator N25.2 Calculate the addition of mixed fractions with the same denominator N25.3 Recognise non-unit fractions as repeated addition of unit fractions N25.4 Calculate the subtraction of mixed fractions with the same denominator N25.5 Calculate common fraction bonds involving addition N25.6 Calculate common fraction bonds involving subtraction
Predecessors	N15 Equivalent fractions and simplifying
Successors	N27 Addition and subtraction of fractions (without a common denominator)
KS2 & KS3 Guidance	Learners add and subtract fractions written in the same unit in Year 4 (page 188, KS1 and KS2 guidance).
Oxford Smart Mosaic Textbook References	Student Book 1 Section 7.3.1 Adding and subtracting fractions with a common denominator

N26 Multiplication of fractions

What is being tested	Learners are being tested on their ability to multiply using fractions.
Learning Objectives	N26.1 Calculate non-unit fractions of an amount N26.2 Select the correct calculation to find a common fraction of an amount N26.3 Recognise the product of two fractions N26.4 Find the product of two fractions (no simplification) N26.5 Find the product of two fractions (with simplification) N26.6 Find the product of three fractions (no simplification)
Predecessors	N15 Equivalent fractions and simplifying
Successors	N28 Division of fractions
KS2 & KS3 Guidance	Learners encounter multiplication of fractions in Year 7 (page 85, KS3 guidance).
Oxford Smart Mosaic Textbook References	Student Book 1 Section 7.4.1 Multiplying fractions

N27 Addition and subtraction of fractions (without a common denominator)

What is being tested	Learners are being tested on their ability to add and subtract fractions which are written in different denominators, drawing on their understanding of equivalent fractions.
Learning Objectives	N27.1 Recognise the method for the sum of two fractions N27.2 Match fractions to their common denominators N27.3 Recognise the difference of two fractions N27.4 Find the difference of two fractions (no simplification) N27.5 Find the sum of two fractions (with simplification to a mixed number) N27.6 Find the difference of two mixed number fractions
Predecessors	N25 Addition and subtraction of fractions with a common denominator
Successors	None
KS2 & KS3 Guidance	Learners begin to add and subtract fractions written in different units in upper KS2 and continue to work on this in Year 7 (page 84, KS3 guidance).
Oxford Smart Mosaic Textbook References	Student Book 1 Section 7.3.2 Adding and subtracting fractions and mixed numbers

N28 Division of fractions

What is being tested	Learners are being tested on their ability to divide using fractions.
Learning Objectives	N28.1 Recognise the method for the division of fractions N28.2 Recognise the quotient of two fractions N28.3 Find the quotient of two fractions (no simplification) N28.4 Find the quotient of two fractions (with simplification to a mixed number)
Predecessors	N26 Multiplication of fractions
Successors	None
KS2 & KS3 Guidance	Learners encounter division of fractions in Year 7 (page 85, KS3 guidance).
Oxford Smart Mosaic Textbook References	Student Book 1 Section 7.4.4 Using reciprocals to divide fractions Student Book 1 Section 7.4.5 Divide a fraction by a whole number and a whole number by a fraction Student Book 1 Section 7.4.6 Divide a fraction by a fraction

N29 Round to a given place value

What is being tested	Learners are being tested on their understanding of rounding to the nearest multiple of powers of 10, and to the nearest whole number.
Learning Objectives	N29.1 Round to the nearest whole number N29.2 Round to the nearest 10 N29.3 Round to the nearest 100 N29.4 Round to the nearest 1000
Predecessors	N1 Place value
Successors	N31 Round to a given decimal place
KS2 & KS3 Guidance	Learners begin to round specified values in Year 4 (page 150, KS1 and KS2 guidance).
Oxford Smart Mosaic Textbook References	Student Book 2 Section 1.1.1 Rounding to the nearest 10, 100, 1000, and higher

N30 Multiply/divide by 10, 100, 1000

What is being tested	Learners are being tested on their ability to multiply and divide by 10, 100 and 1000 drawing on their understanding of the place value.
Learning Objectives	N30.1 Recognise the effect of multiplying by 100 or 1000 N30.2 Recognise the effect of dividing by 100 or 1000 N30.3 Identify the product when multiplying a given number by 1000 N30.4 Identify the quotient when dividing a given number by 100 N30.5 Calculate the multiplication of decimal numbers by 10, 100, 1000 N30.6 Calculate the division of decimal numbers by 10, 100, 1000
Predecessors	N1 Place value
Successors	N32 Multiplying and dividing by powers of 10
KS2 & KS3 Guidance	Learners begin to multiply and divide by 10 and 100 in Year 4 (page 170, KS1 and KS2 guidance).
Oxford Smart Mosaic Textbook References	Student Book 1 Section 1.2.3 Multiplying and dividing by positive powers of 10

N31 Round to a given decimal place

What is being tested	Learners are being tested on their ability to round decimals to a specified number of decimal places.
Learning Objectives	N31.1 Round to one decimal place N31.2 Round to two decimal places N31.3 Round to three decimal places
Predecessors	N29 Round to a given place value
Successors	N33 Round to significant figures
KS2 & KS3 Guidance	Learners begin to round to a specified number of decimal places in Year 6 (page 289, KS1 and KS2 guidance) and continue this work in Year 8 (page 122, KS3 guidance).
Oxford Smart Mosaic Textbook References	Student Book 2 Section 1.1.2 Rounding numbers to decimal places

N32 Multiplying and dividing by powers of 10

What is being tested	Learners are being tested on their ability to multiply and divide by powers of 10, recognising that multiplication and division are inverses.
Learning Objectives	N32.1 Identify the product of multiplying a given number by a power of 10 (>0, in index form) N32.2 Identify the quotient when dividing a given number by a power of 10 (>0, power in index form) N32.3 Recognise that the division with negative powers of 10 is equivalent to multiplication with positive powers of 10
Predecessors	N30 Multiply/divide by 10, 100, 1000
Successors	N34 Simple standard form
KS2 & KS3 Guidance	Learners continue to multiply and divide by powers of ten in Year 7 (page 26, KS3 guidance).
Oxford Smart Mosaic Textbook References	Student Book 1 Section 1.2.3 Multiplying and dividing by positive powers of 10 Student Book 1 Section 1.2.4 Multiplying and dividing by negative powers of 10

N33 Round to significant figures

What is being tested	Learners are being tested on their understanding of rounding to significant figures, drawing on their understanding of rounding to the nearest power of 10.
Learning Objectives	N33.1 Round to one significant figure N33.2 Round to two significant figures N33.3 Round to three significant figures
Predecessors	N31 Round to a given decimal place
Successors	N35 Approximation
KS2 & KS3 Guidance	Learners begin to round to a specified number of significant figures in Year 8 (page 121, KS3 guidance).
Oxford Smart Mosaic Textbook References	Student Book 2 Section 1.2.2 Rounding integers to significant figures Student Book 2 Section 1.2.3 Rounding decimals to significant figures

N34 Simple standard form

What is being tested	Learners are being tested on their understanding of the use of standard form to represent large numbers.
Learning Objectives	N34.1 Convert numbers in simple standard form $A \times 10^n$ (positive value of A and positive integer value of n) into an ordinary number N34.2 Convert ordinary numbers into simple standard form $A \times 10^n$ (positive value of A and positive integer value of n) N34.3 Identify the simple standard form of a number $A \times 10^n$
Predecessors	N32 Multiplying and dividing by powers of 10
Successors	None
KS2 & KS3 Guidance	Learners encounter the idea of 'standard index form' in Year 7 and extend on this idea in Year 9 (page 253, KS3 guidance).
Oxford Smart Mosaic Textbook References	Student Book 3 Section 7.1.1 Writing numbers with powers of 10 Student Book 3 Section 7.2.1 Writing positive powers of 10 in index notation Student Book 3 Section 7.2.2 Writing negative powers of 10 in index notation Student Book 3 Section 7.3.1 Recognising standard form Student Book 3 Section 7.3.2 Writing large numbers in standard form

N35 Approximation

What is being tested	Learners are being tested on their ability to approximate a calculation, drawing on their understanding of rounding to significant figures.
Learning Objectives	N35.1 Estimate integer number bonds of any size by using rounding N35.2 Recognise the appropriate rounded number by rounding to the nearest 10, 100, 1000 N35.3 Recognise the appropriate rounded number by rounding to a specified decimal place N35.4 Recognise the appropriate rounded number by rounding to a specified significant figure N35.5 Estimate decimal number bonds of any size by using rounding
Predecessors	N33 Round to significant figures
Successors	None
KS2 & KS3 Guidance	Learners build on their understanding of rounding, estimating calculations in Year 8 (page 121, KS3 guidance).
Oxford Smart Mosaic Textbook References	Student Book 2 Section 1.3.1 Estimating calculations Student Book 2 Section 1.3.2 Evaluating estimates

Contributors

AQA

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Our qualifications expertise dates back to 1903, when our predecessor boards were founded by five leading universities. Today, we're the largest provider of academic qualifications taught in schools and colleges.

We set and mark the papers for over half of all GCSEs and A-levels taken every year. But exams are only part of the story – we also make sure the content of our qualifications support great teaching.

Our qualifications are designed to suit a range of abilities and include GCSEs, AS and A-levels, the Extended Project Qualification and Technical Awards. Our qualifications are internationally recognised and taught in more than 40 countries around the world and they're highly valued by employers and universities.

We're led by our Executive Team and governed by a Board of Trustees drawn from schools, colleges, higher education, children's services and the business community.

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