Owston Park Primary Academy

Whole School Arithmetic Progression

Years 1–6

Purpose

To provide a consistent, cumulative approach to arithmetic fluency across the school, ensuring that key number facts, mental strategies and written methods are explicitly taught, regularly retrieved and progressively developed.

How to use this progression

- Each half term identifies an arithmetic focus. This is not intended to replace the school's mathematics curriculum or daily mathematics lessons.
- Arithmetic is cumulative. Previously taught knowledge continues to be revisited through short retrieval opportunities so that fluency is maintained.
- "Keep warm / retrieval" identifies high-value prior learning that should continue to appear regularly. Teachers should also respond to assessment and class need.
- Automatic recall should be developed alongside conceptual understanding. Pupils should understand relationships between facts and operations, not simply memorise isolated procedures.
- Where pupils are not secure, teachers will identify the prerequisite knowledge from an earlier year group and provide timely keep-up intervention before accelerating to harder calculations.

Element	Purpose	Example
Current focus	Explicit practice of the half-term priority	e.g. short division
Keep warm	Retrieve previously secured learning	e.g. table facts, complements, column addition

Whole-school progression at a glance

Year 1	Build number sense and additive facts within 20; introduce equal groups, sharing and simple fractions.
Year 2	Secure additive facts and 2, 5 and 10 multiplication/division facts; develop efficient calculation within 100.
Year 3	Extend mental and written addition/subtraction; secure 3, 4 and 8 tables and related division; calculate simple fractions.
Year 4	Secure all multiplication tables to 12 × 12; develop formal methods and decimal/fraction connections.
Year 5	Apply fluent facts to larger numbers and decimals; secure multiplication/division methods; deepen fraction calculation.
Year 6	Achieve flexible, accurate mixed arithmetic with integers, fractions, decimals and percentages; prepare for KS3.

Arithmetic practice should remain short, purposeful and focused on developing fluency. The number of questions increases progressively across the school, alongside increasing complexity and independence. Pupils in Years 1-5 will complete arithmetic tests using the whole-school pro-forma, which will be glued into the back of mathematics books. From Summer Term in Year 5, and throughout Year 6, pupils will complete weekly mixed arithmetic assessments using Primary Maths Hub resources to develop fluency, accuracy, efficiency and arithmetic stamina.

Year group	Questions	Approx. time	Rationale
Year 1	6	5-10 mins	Short and accessible, with opportunities to use practical or pictorial support
Year 2	8 - 12	10 mins	Begins to build fluency and recall
Year 3	10 - 15	10-15 mins	Greater range of mental calculation and number facts
Year 4	15	10-15 mins	Builds arithmetic stamina while maintaining fluency
Year 5	20	15 - 20 mins	Mix of recall, mental methods and application of known facts
Year 6	30	20 - 30 mins	Builds efficiency and stamina towards KS2 arithmetic expectations

Example Arithmetic Worksheet (Year 5)

Autumn 1 Week 6 – W.C. 05.10.26

1. 7 × 8 = _____	
2. 108 ÷ 12 = _____	
3. 11 × 6 = _____	
4. 96 ÷ 12 = _____	
5. 9 x 4 = _____	
6. 84 ÷ 7 = _____	
7. 370 + _____ = 1,000	
8. 1,000 + _____ = 10,000	
9. 6.4 + _____ = 10	
10. £7.35 + £____ = £10.00	
11. 5.6 + 0.4 = _____	
12. 6,482 + 4,000 = _____	
13. 73,561 – 30,000 = _____	

14. 7,204 − 3,586 =	
15. If 7 × 8 = 56, what is 70 × 8?	
16. If 48 ÷ 6 = 8, what is 4,800 ÷ 6?	
17. If 6 × 9 = 54, what is 600 × 9?	
18. If 4 × 7 = 28, what is 0.4 × 7?	
19. Write ½ as a decimal.	
20. Write ¼ as a decimal.	

Year 1

Half Term	Main focus	Progressive Skills	Keep warm/retrieval
Autumn 1	Number sense & bonds	• Subitise small quantities and recognise numbers without counting. • Count forwards and backwards within 20; find one more and one less. • Compose and partition numbers to 10. • Recall number bonds within 5 and begin bonds to 10.	Counting forwards/backwards Subitising One more/one less
Autumn 2	Addition & subtraction	• Represent addition as combining and subtraction as taking away/finding a difference. • Use bonds to 10 to calculate efficiently. • Add and subtract within 10, then extend within 20 using concrete/pictorial support. • Solve missing-part calculations.	Bonds within 5/10 Counting on/back Part-whole relationships
Spring 1	Equal groups & counting	• Count confidently in 10s. • Count in 2s. • Count in 5s. • Recognise and make equal groups. • Connect equal groups to repeated addition. • Use arrays and practical representations.	Bonds to 10 +/- within 20 One more/one less
Spring 2	Sharing & grouping	• Share quantities into equal groups. • Group objects into equal sets. • Relate grouping/sharing to counting in 2s, 5s and 10s. • Recognise doubles of small numbers and connect to equal groups.	Count in 10s Doubles Bonds to 10
Summer 1	Fractions & doubles/halves	• Recognise and find one half and one quarter of shapes, objects and quantities. • Connect halving to sharing into 2 equal groups. • Recall doubles and corresponding halves within an appropriate range.	+/- within 20 Bonds to 10 Counting patterns
Summer 2	Mixed fluency	• Secure bonds to 10 and use them within calculations. • Add and subtract within 20 with increasing fluency. • Use counting in 2s, 5s and 10s to solve simple grouping problems. • Choose appropriate representations and explain a calculation.	All Year 1 number facts Doubles/halves One more/one less

Year 2

Half Term	Main focus	Progressive Skills	Keep warm/retrieval
Autumn 1	Additive facts & place value	• Secure bonds to 10 and derive bonds to 20. • Use known facts to derive related facts, e.g. 3 + 7 = 10, so 13 + 7 = 20. • Recognise tens and ones in 2-digit numbers. • Add or subtract 1 and 10 mentally; begin adding/subtracting multiples of 10.	Y1 bonds to 10 +/- within 20 Count in 2s, 5s, 10s
Autumn 2	Addition & subtraction	• Add and subtract a 1-digit number to/from a 2-digit number, including crossing a ten. • Add/subtract multiples of 10. • Add two 2-digit numbers and subtract 2-digit numbers using secure representations and written strategies. • Use inverse relationships and missing-number calculations.	Bonds to 20 Tens/ones +/- 10
Spring 1	Multiplication facts	• Recall and use 2, 5 and 10 multiplication facts. • Connect multiplication to equal groups, repeated addition and arrays. • Use commutativity to derive facts. • Recognise odd and even numbers through grouping in 2s.	Additive facts Count in 2s, 5s, 10s Doubles
Spring 2	Division facts	• Recall related division facts for the 2, 5 and 10 tables. • Understand division as grouping and sharing. • Connect multiplication and division through fact families. • Solve division calculations with concrete/pictorial support before abstract recording.	2, 5, 10 tables Addition/subtraction Odd/even
Summer 1	Fractions of amounts	• Recognise and find 1/2, 1/3, 1/4, 2/4 and 3/4 of shapes and quantities. • Recognise that 2/4 is equivalent to 1/2. • Connect fractions of amounts to equal sharing/groups. • Use multiplication facts to support simple fraction calculations.	2, 5, 10 facts Bonds to 20 Division as sharing
Summer 2	Mixed fluency	• Apply addition and subtraction facts within 100. • Mix multiplication and division facts for 2, 5 and 10. • Solve missing-number calculations using inverse. • Choose an efficient strategy and explain why it works.	All core Y2 facts Fractions of amounts Place-value calculations

Year 3

Half Term	Main focus	Progressive Skills	Keep warm/retrieval
Autumn 1	Facts & mental calculation	• Secure additive facts and complements to 100. • Add/subtract 1, 10 and 100 mentally. • Use place value to add/subtract multiples of 10 and 100. • Use known facts to derive related calculations, including bridging through multiples of 10.	Y2 additive facts 2, 5, 10 tables Place value
Autumn 2	Written + / -	• Add and subtract up to 3-digit numbers using formal column methods when appropriate. • Calculate mentally where a more efficient method is available. • Estimate answers and use inverse operations to check. • Solve missing-number calculations and explain exchanges.	Complements to 100 Mental +/- 2, 5, 10 facts
Spring 1	Multiplication facts	• Secure 2, 5 and 10 tables; develop rapid recall of 3, 4 and 8 tables. • Use commutativity and known facts to derive unfamiliar facts. • Multiply multiples of 10 using known single-digit facts. • Use doubling relationships, e.g. 4× facts support 8× facts.	Mental +/- Place-value facts Previously learned tables
Spring 2	Division & fact families	• Recall division facts related to 2, 3, 4, 5, 8 and 10 tables. • Use multiplication/division fact families flexibly. • Divide 2-digit numbers by 1 digit using partitioning when appropriate. • Identify and interpret simple remainders through grouping.	All taught tables Column +/- Complements
Summer 1	Fractions	• Find unit and non-unit fractions of quantities where the answer is a whole number. • Recognise and show simple equivalent fractions. • Add/subtract fractions with the same denominator within one whole. • Use multiplication/division facts to support fractions of amounts.	Tables/division facts Written +/- Mental calculations
Summer 2	Mixed fluency	• Mix mental and formal addition/subtraction. • Mix multiplication and division across the six taught tables. • Apply known facts to scaled calculations. • Select efficient strategies and check answers.	All Y3 arithmetic Fractions Prerequisites for Y4

Year 4

Half Term	Main focus	Progressive Skills	Keep warm/retrieval
Autumn 1	Facts & place-value calculation	• Secure complements to 100 and 1,000. • Add/subtract multiples of 10, 100 and 1,000 mentally. • Use place-value knowledge to calculate with 4-digit numbers. • Use known facts to derive scaled facts.	Y3 tables (2, 5, 10, 4, 8, 3) Mental +/- Complements
Autumn 2	Formal + / -	• Add/subtract numbers with up to 4 digits using formal written methods. • Estimate before calculating and use inverse operations to check. • Choose mental methods where more efficient. • Solve missing-number and multi-step calculations involving +/-.	Mental strategies Place value Table facts
Spring 1	Multiplication fluency	• Recall all multiplication facts to 12 × 12 with increasing automaticity. • Use 0 and 1 facts and multiply three numbers. • Multiply 2- and 3-digit numbers by 1 digit using an appropriate written method. • Use distributive and associative relationships to derive facts.	Previously learned tables Written +/- Doubling/halving
Spring 2	Division & scaling	• Recall all related division facts to 12 × 12. • Divide 2- and 3-digit numbers by 1 digit, including appropriate remainder interpretation. • Multiply/divide whole numbers by 10 and 100 using place value. • Use factor pairs to support calculation.	12 × 12 facts Multiplication method Mental +/-
Summer 1	Fractions & decimals	• Find fractions of quantities using multiplication/division facts. • Recognise equivalent fractions. • Add/subtract fractions with the same denominator. • Connect tenths and hundredths to decimal notation. • Develop decimal bonds, including complements to 1.	Tables/division Written methods Place-value scaling
Summer 2	Mixed fluency	• Apply all four operations in mixed practice. • Recall multiplication/division facts rapidly. • Calculate with simple fractions and decimals. • Choose and justify efficient mental or written methods.	All Y4 arithmetic Fraction/decimal links Y5 prerequisites

Year 5

Half Term	Main focus	Progressive Skills	Keep warm/retrieval
Autumn 1	Mental fluency & place value	• Recall multiplication/division facts to 12 × 12 automatically. • Use complements to powers of 10, including decimals in context. • Add/subtract multiples of powers of 10 mentally. • Use known facts and place value to derive calculations with larger numbers and decimals.	Y4 written +/- 12 × 12 facts Fraction/decimal links
Autumn 2	Addition & subtraction	• Add/subtract whole numbers with 4+ digits using formal methods. • Add/subtract decimals with the same or different numbers of decimal places where appropriate. • Estimate and approximate to check reasonableness. • Choose efficient mental strategies.	Complements Mental +/- Multiplication facts
Spring 1	Multiplication	• Multiply up to 4-digit numbers by 1-digit and 2-digit numbers using formal methods. • Multiply mentally using known facts, factorisation and partitioning. • Identify square and cube numbers. • Multiply whole numbers and decimals by 10, 100 and 1,000 using place value.	12 × 12 division facts Written +/- Place value
Spring 2	Division	• Divide up to 4-digit numbers by 1 digit using short division where appropriate. • Interpret remainders according to context. • Divide whole numbers and decimals by 10, 100 and 1,000. • Use factors, multiples and known facts to support mental division.	Multiplication methods Table facts Mental +/-
Summer 1	Mixed Arithmetic **(Primary Maths Hub)**	• Apply all four operations fluently across a range of question types. • Retrieve and apply multiplication and division facts efficiently. • Calculate with fractions, decimals and percentages in arithmetic contexts. • Use known facts and number relationships to solve calculations. • Develop accuracy and pace when answering mixed arithmetic questions.	Four operations Decimal place value Tables
Summer 2	Mixed fluency **(Primary Maths Hub)**	• Complete mixed arithmetic questions with increasing efficiency and accuracy. • Select the most efficient strategy for each calculation. • Apply arithmetic skills involving whole numbers, decimals, fractions and percentages. • Use estimation and inverse operations to check answers. • Develop stamina for longer arithmetic tests in preparation for Year 6.	All Y5 arithmetic FDP equivalence Y6 prerequisites

Year 6

Throughout Year 6, pupils complete a weekly mixed arithmetic assessment using Primary Maths Hub. Questions revisit all arithmetic domains throughout the year, ensuring knowledge is continually retrieved and gaps are identified promptly. Half-termly focuses align closely with current curriculum content whilst maintaining regular practice of previously taught concepts.

Half Term	Main focus	Progressive Skills	Keep warm/retrieval
Autumn 1	Baseline Mixed Arithmetic	• Identify and address gaps in Year 5 content; develop calculation fluency and efficiency.	Times tables, four operations, FDP equivalence
Autumn 2	Mixed Arithmetic	• Improve accuracy with all four operations and strengthen mental strategies.	Number facts, fractions, decimals
Spring 1	Mixed Arithmetic	• Apply arithmetic methods efficiently across increasingly complex calculations.	Formal methods, place value, multiplication facts
Spring 2	Mixed Arithmetic	• Select and apply appropriate strategies across a range of question types.	Factors, multiples, division facts
Summer 1	SATS Arithmetic Prep	• Develop speed, accuracy and confidence through timed arithmetic practice.	All KS2 arithmetic domains
Summer 2	KS3 Readiness	• Maintain fluency and efficiency across all arithmetic content.	Individual gaps and identified misconceptions

Assessment and intervention principles

- Use low-stakes arithmetic checks to identify specific knowledge gaps rather than only generating an overall score.
- When a pupil struggles with a current-year skill, trace the dependency back through this progression and teach the missing prerequisite explicitly.
- Intervention should prioritise secure understanding and fluent recall before increasing numerical complexity.
- Review whether errors arise from fact recall, place value, understanding of the operation, choice of method, procedural accuracy or checking.
- Return pupils to whole-class age-related learning as soon as the prerequisite is secure, while continuing short retrieval.

Date: November 2026

Date to be reviewed: November 2027