Hesketh-with-Becconsall All Saints Church of England Primary School

'What you are is God's gift to you, what you become is your gift to God.'

School Improvement Newsletter - Issue 10

Dear Parents & Carers,

An update from Governors and the Learning Together Trust:

Following a meeting with the Department for Education and due to reasons beyond our control, the proposed conversion date for Learning Together Trust to sponsor Hesketh-with-Becconsall All Saints Church of England is now 1st February 2024.

The School and Trust will continue to work together during the transition period to ensure that this process is seamless and effective; to facilitate this we can also inform you that Mrs Ainsworth's role as Associate Headteacher has been extended to 31st August 2024.

For my part, I am delighted to lead the journey of school improvement at Hesketh-with-Becconsall All Saints and excited about the year ahead!

In Issue 10 we have a 'Spotlight on Calculations in Maths' which includes an overview on how we teach Maths in school from EYFS to Year 6 including the use of practical resources and adaptations to support the needs of all learners, including disadvantaged and those with additional needs.

Thank you for your support.

Kind regards,

RSAinsworth

Associate Headteacher

'May the God of hope fill you with all joy and peace in believing, so that by the power of the Holy Spirit you may abound in hope.'

Romans 15:13

Spotlight on Calculations in Maths

At Hesketh-with-Becconsall mathematics is fun, engaging and encourages curiosity. Through reasoning, problem solving, communicating, and calculating, children become successful, autonomous learners who can make sense of the world around them.

A high-quality maths education should inspire in pupils a love of maths and develop their understanding and ability to make links and apply their knowledge and skills. In addition to the daily maths lesson, further practice sessions are timetabled to improve children's arithmetic skills.

In Early Years, mathematics lessons consist of a short-taught element to the whole class. This will be very practical, playful and involve a considerable amount of discussion including questions such as What can you see? What do you notice? Why do you think that happens? What would happen if…?

Children will then be given opportunities in continuous provision to apply this learning in different ways. Mathematics is also experienced through many daily routines and the adults take advantage of all the opportunities for mathematical learning in such activities as registration, snack time and tidying up.

A typical lesson in Years 1 to 6 following the White Rose Maths Scheme would involve:

- A Flashback activity to allow children to revisit, practise and refine previously learned content to support long term memory retention as well as developing children's mathematical fluency.
- Teacher modelling is interactive through the use of effective questioning that leads children to identify for themselves how to be successful with the learning. Children explore the learning practically and pictorially during the modelling. This is supported through the use of both conceptual and procedural variation and short tasks for the children to complete before moving on to the next step in learning.
- During the lesson the teacher identifies at what point children will continue with their learning independently. This task includes questions that build children's understanding and fluency and will also involve different elements of reasoning and solving problems.
- Throughout the lesson, children's thinking is supported and extended through the deliberate use of questioning by the adults.

A variety of approaches are used within our lessons including practical exploration, group discussion, paired work and individual work.

In all lessons, some children will grasp the concept and learning quicker than others. These children will be challenged further through more complex reasoning, problem solving and by developing their ability to communicate mathematically.

Other children may take longer to grasp the learning and these children may be supported through: extra resources, targeted questioning, further practice, specific same day intervention or a programme of intervention.

What is a calculation?

A calculation is something that you think about and work out mathematically. Calculation is the process of working something out mathematically and can involve adding, taking away, multiplying or dividing numbers to find the number or amount of something.

Confident and competent mathematicians know their number bonds and times tables facts enabling them to calculate fluently and accurately.

How will my child be taught about calculations in school?

Children may begin to learn addition in reception when they have mastered the numbers up to 10. They will generally start with basic sums, such as 1 more or 1 less. Throughout their primary schooling, children may be taught calculations using whole numbers, fractions and decimals, negative numbers and amounts in pounds.

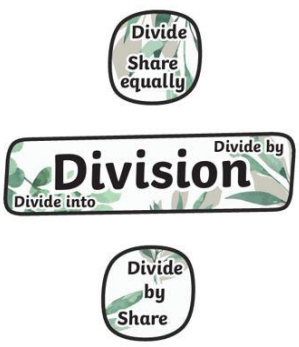
They may be taught how to calculate using numbers and in word problems, such as:

If Phil brought 5 bananas to school and Ahmed brought 8 bananas to school, how many bananas would they have all together?

How can I help my child with calculations at home?

Supporting your child, age appropriately, with learning number bonds and their times tables will help them enormously. Moving on asking your child to add up how much items cost on a trip to the local shop is a great way to get them practising addition and subtraction using money. It may also help them see how calculations can be relevant in daily life. Cutting up fruit for a snack is another good opportunity for maths calculations, this time with fractions!

Calculation Vocabulary



What do calculations look like in different year groups?

Year 1

Mental Calculation Strategies – Addition and Subtraction	
Skills	**Examples**
Count on or back in ones (chain count and link to objects, i.e. 1-1 correspondence). *Concrete – counters, beadstring, cubes on a number track* *Pictorial – number line*	4 + 5 count on in ones from 4 (or in ones from 5) 8 – 3 count back in ones from 8 10 + 7 count on in ones from 10 (or use place value) 13 + 5 count on in ones from 13 17 – 3 count back in ones from 17
Reorder numbers in a calculation. *Concrete – counters, counters in a ten frame*	8 + 3 doesn't need reordering as the greater number is first already 2 + 7 reorder as 7 + 2 5 + 13 reorder as 13 + 5 11 + 6 doesn't need reordering as the greater number is first already
Partition small numbers, e.g. 8 + 3 = 8 + 2 + 1 and 11 – 3 = 11 – 1 – 2 *Concrete – counters in a ten frame, beadstring* *Pictorial – number line*	7 + 5 partitioned as 7 + 3 + 2 9 + 7 partitioned as 9 + 1 + 6 6 + 8 partitioned as 6 + 4 + 4 or reordered and partitioned as 8 + 2 + 4 12 – 5 partitioned as 12 – 2 – 3 14 – 8 partitioned as 14 – 4 – 4

Year 2

Mental Calculation Strategies – Addition and Subtraction	
Skills	**Examples**
Count on or back in ones and tens from any given number, e.g. (36 + 40 =) *Concrete – Diennes equipment, place value counters, beadstring* *Pictorial – Diennes jottings, number line*	36 + 40 = __ 30 + 48 = __ 89 – 50 = __ 76 – __ = 46
Partition and combine multiples of tens and ones. *Concrete – Diennes equipment, place value counters, beadstring* *Pictorial – Diennes jottings, number line*	40 + 37 40 add **30** and **7** = 40 add 30 add 7 15 + 14 **10** and **5** add **10** and **4** = 10 add 10 add 5 add 4 or 15 add 10 add 4 37 + 12 37 add **10** and **2** = 37 add 10 add 2 78 – 42 78 take away **40** and **2** = 78 take away 40 take away 2 80 – 35 80 take away **30** and **5** = 80 take away 30 take away 5
Reorder numbers in a calculation. *Concrete – Diennes equipment, place value counters, beadstring* *Pictorial – Diennes jottings, number line*	28 + 3 doesn't need reordering as the greater number is first already 2 + 17 reorder as 17 + 2 5 + 63 reorder as 63 + 5 16 – 8 will not give the same answer if reordered
Find a small difference by counting up from the lesser to the greater number *Concrete – Diennes equipment shown horizontally, beadstring* *Pictorial – Number line*	52 – 47 74 – 66 81 – 79 32 – 25
Begin to bridge through 10 when adding a single digit number (partitioning, e.g. 58 + 5 = 58 + 2 + 3) *Concrete – Diennes equipment, place value counters, beadstring* *Pictorial – number line*	58 + 5 = 58 + 2 = 60 60 + 3 = 63 46 + 7 = 46 + 4 = 50 50 + 3 = 53 63 + 8 = 63 + 7 = 70 70 + 1 = 71 48 + 7 = 48 + 2 = 50 50 + 5 = 55
Add or subtract 9 or 11 and 19 or 21 by rounding and compensating. *Concrete – Diennes equipment, place value counters* *Pictorial – number line, 100 square*	34 + 9 as 34 + 10 – 1 34 + 11 as 34 +10 + 1 77 + 19 as 77 + 20 – 1, or 77 + 10 + 10 – 1 46 – 9 as 46 – 10 + 1 46 – 11 as 46 – 10 – 1 63 – 19 as 63 – 20 + 1, or 63 – 10 – 10 + 1

Year 3

Mental Calculation Strategies - Addition and Subtraction	
Skills	**Examples**
Identify and use knowledge of number bonds within a calculation. *Concrete – tens frames, Diennes equipment, place value counters* *Pictorial – Diennes jottings, number line*	42 + 38 42 + 30 + 8 (recognising that 2 and 8 is a number bond to 10, so the answer will be a multiple of 10) 60 – 28 60 – 20 – 8 (using knowledge that 10 – 8 = 2, so 40 – 8 = 32) 120 – 50 120 – 20 – 30 (using knowledge of number bonds to 100, leaving an answer of 70)
Derive and use addition and subtraction facts for 100 *Concrete – Diennes equipment, place value counters, beadstring* *Pictorial – Number line*	100 – 43 = __ 22 + __ = 100 100 = __ + 9 100 – 76 = __ 100 – __ = 48 66 = 100 – __
Derive and use addition and subtraction facts for multiples of 100 that total 1000 *Concrete – Diennes equipment, place value counters* *Pictorial – Diennes jottings*	1000 – 300 = __ 200 + __ = 1000 1000 = __ + 500 1000 – 400 = __ 1000 – __ = 100 600 = 1000 – __
Reorder numbers in a calculation. *Concrete – tens frames, Diennes equipment, place value counters* *Pictorial – Diennes jottings, number line*	23 + 54 54 + 23 12 + 19 + 12 12 + 12 + 19 (using knowledge of doubles) 6 + 8 + 4 6 + 4 + 8 (using knowledge of number bonds to 10) 70 + 50 + 30 70 + 30 + 50 (using knowledge of number bonds to 100)
Partition and combine multiples of hundreds, tens and ones. *Concrete – Diennes equipment, place value counters, beadstring* *Pictorial – number line*	526 + 200counting on in hundreds 137 + 40 counting on in tens 272 + 8 counting on in ones (or using knowledge of bonds to 10) 428 – 200 counting back in hundreds 323 – 70 counting back in tens 693 – 8 counting back in ones 37 + 15 37 add 10 and 5 = 37 add 10 add 5 (crossing tens boundaries) 42 – 25 42 take away 20 and 5 = 42 take away 20 take away 5 (crossing tens boundaries)
Find differences by counting up through the next multiple of 10 or 100 *Pictorial - number line*	60 – 43 useful for time calculations, e.g. a journey time from 2:43 until 3:00 53 – 38 efficient because the numbers are close to each other 104 – 95 efficient because the numbers are close to each other 200 – 86 useful for money calculations, e.g. change from £2 when spending 86p
Bridge through 10 when adding or subtracting a single digit number (partitioning, e.g. 58 + 5 = 58 + 2 + 3 or 76 – 8 = 76 – 6 – 2) *Pictorial - number line*	35 + 7 as 35 + 5 + 2 97 + 6 as 97 + 3 + 3 178 + 5 as 178 + 2 + 3 42 – 7 as 42 – 2 – 5 204 – 6 as 204 – 4 – 2 371 – 5 as 371 – 1 – 4
Add or subtract 9, 19, 29 etc by rounding and compensating *Pictorial - number line*	34 + 29 as 34 + 30 – 1 127 + 49 as 127 + 50 – 1 96 – 39 as 96 – 40 + 1 273 – 59 as 273 – 60 + 1

Year 4

Mental Calculation Strategies – Addition and Subtraction	
Skills	**Examples**
Derive and use addition and subtraction facts for 1 and 10 (with decimal numbers to one decimal place)	0.5 + __ = 1 2.3 + __ = 10 __ + 0.7 = 1 __ + 8.2 = 10 1 = 0.3 + __ 10 = 5.6 + __ 1 = __ + 0.8 10 = __ + 2.2 1 – 0.8 = __ 10 – 6.1 = __ 1 – __ = 0.6 10 – __ = 4.9 0.4 = 1 – __ 2.8 = 10 – __ __ = 1 – 0.9 __ = 10 – 6.7

Partition and combine multiples of hundreds, tens and ones. *Concrete – Diennes equipment, place value counters* *Pictorial – number line*	320 + 150 320 **add 100** = 420 then **add 50** = 470 243 + 230 243 **add 200** = 443 then **add 30** = 473 460 – 140 460 **subtract 100** = 360 then **subtract 40** = 320 562 – 320 562 **subtract 300** = 262 then **subtract 20** = 242 234 + 125 234 **add 100** = 334 then **add 20** = 354 then **add 5** = 359 (not crossing any boundaries) 765 – 241 765 **subtract 200** = 565 then **subtract 40** = 515 then subtract 1 = 514 (not crossing any boundaries) 85 + 47 85 **add 40** = 125 then **add 7** = 132 (crossing hundreds and tens boundaries) 122 – 35 122 **subtract 30** = 92 then **subtract 5** = 87 (crossing hundreds and tens boundaries)
Reorder numbers in a calculation. *Concrete – Diennes equipment, place value counters, beadstring*	7 + 12 + 3 + 5 reordered as 7 + 3 + 12 + 5 to make use of the bond to 10 18 + 6 – 8 reordered as 18 – 8 + 6 to make use of the place value of 18 27 + 75 reordered as 75 + 27 to make use of 75 + 25 seeing 27 as 25 + 2
Identify and use knowledge of number bonds within a calculation and identify related facts, e.g. 150 + 270 from 15 + 27 *Concrete – Diennes equipment, place value counters* *Pictorial – Diennes jottings*	120 + 80 using knowledge of 12 + 8 = 20 250 + 130using knowledge of 25 + 13 = 38 200 – 70 using knowledge of 20 – 7 = 13 460 – 150using knowledge of 46 – 15 = 31
Find differences by counting up through the next multiple of 10 or 100 *Concrete – Diennes equipment, beadstring* *Pictorial – number line*	80 – 43 43 **+ 7** = 50 **+ 30** = 80 so the difference is **37** 92 – 35 35 **+ 5** = 40 **+ 50** = 90 **+ 2** = 92 so the difference is **57** 203 – 96 96 **+ 4** = 100 **+ 100** = 200 **+ 3** = 203 so the difference is **107** 504 – 180 180 **+ 20** = 200 **+ 300** = 500 **+ 4** = 504 so the difference is **324**
Bridge through 10 when adding or subtracting a single digit number (partitioning, e.g. 58 + 5 = 58 + 2 + 3 or 76 – 8 = 76 – 6 – 2) *Concrete – Diennes equipment, beadstring* *Pictorial – number line*	48 + 35 as 48 + 2 + 33 = 50 + 33 = 83 97 + 64 as 97 + 3 + 61 = 100 + 61 = 161 103 – 25 as 103 – 3 – 22 = 100 – 22 (using number bonds to 100) 230 – 72 as 230 – 30 – 40 – 2 = 200 – 40 – 2
Add or subtract a multiple of 10 and adjust (for those numbers close to multiples of 10) *Concrete – Diennes equipment, place value counters* *Pictorial – number line*	84 + 28 as 84 + 30 – 2 = 114 – 2 = 112 167 + 48 as 167 + 50 – 2 = 217 – 2 = 215 96 – 38 as 96 – 40 + 2 = 56 + 2 = 58 213 – 58 as 213 – 60 + 2 = 153 + 2 = 155

Year 5

Mental Calculation Strategies – Addition and Subtraction	
Skills	**Examples**
Derive and use addition and subtraction facts for 1 (with decimal numbers to two decimal places) *Concrete – (if necessary) place value counters* *Pictorial – number line*	0.45 + __ = 1 __ + 0.27 = 1 1 = 0.39 + __ 1 = __ + 0.78 1 – 0.08 = __ 1 – __ = 0.61 0.54 = 1 – __ __ = 1 – 0.89
Partition and combine multiples of thousands hundreds, tens and ones. *Concrete (if necessary) – place value counters* *Pictorial – number line*	4300 + 1400 4300 **add 1000** = 5300 then **add 400** = 5700 364 + 250364 **add 200** = 564 then **add 50** = 614 3600 – 1200 3600 **subtract 1000** = 2600 then **subtract 200** = 2400 432 – 240 432 **subtract 200** = 232 then **subtract 40** = 192 5124 + 1352 5124 **add 1000** = 6124 then **add 300** = 6424 then **add 50** = 6474 then **add 2** = 6476 (not crossing any boundaries) 7584 – 2351 7584 **subtract 2000** = 5584 then **subtract 300** = 5284 then **subtract 50** = 5234 then **subtract 1** = 5233 (not crossing any boundaries)
Partition and combine multiples of ones and tenths. *Concrete (if necessary) – place value counters* *Pictorial – number line*	5.4 + 3.2 5.4 **add 3** = 7.4 then **add 0.2** = 7.6 4.7 – 2.5 4.7 **subtract 2** = 2.7 then **subtract 0.5** = 2.2

Identify and use knowledge of number bonds within a calculation and identify related facts, e.g. 1.5 + 2.7 from 15 + 27 *Concrete (if necessary) – place value counters*	1.2 + 0.8 using knowledge of 12 + 8 = 20 2.5 + 1.3 using knowledge of 25 + 13 = 38 3.8 + 4.5 using knowledge of 38 + 45 = 83 2 – 0.7 using knowledge of 20 – 7 = 13 4.6 – 1.5 using knowledge of 46 – 15 = 31 8.3 – 5.4 using knowledge of 83 – 54 = 29
Bridge through 10 when adding or subtracting a single digit number (partitioning, e.g. 58 + 5 = 58 + 2 + 3 or 76 – 8 = 76 – 6 – 2) *Concrete (if necessary) – Diennes equipment, place value counters* *Pictorial – number line*	594 + 170as 594 + 6 + 164 = 600 + 164 1995 + 278 as 1995 + 5 + 273 = 2000 + 273 703 – 128as 703 – 3 – 125 = 700 – 125 3002 – 87as 3002 – 2 – 85 = 3000 – 85
Find differences by counting up through the next multiple of 1, 10, 100 or 1000 *Concrete (if necessary) – place value counters* *Pictorial – number line*	604 – 289 289 **+ 11** = 300 **+ 300** = 600 **+ 4** = 604 so the difference is **315** 523 – 160 160 **+ 40** = 200 **+ 300** = 500 **+ 23** = 523 so the difference is **363** 1200 – 785 785 **+ 15** = 800 **+ 400** = 1200 so the difference is **415** 5003 – 1960 1960 **+ 40** = 2000 **+ 3003** = 5003 so the difference is **3043** 7.3 – 2.8 2.8 **+ 0.2** = 3 **+ 4** = 7 **+ 0.3** = 7.3 so the difference is **4.5** 20.1 – 6.7 6.7 **+ 3.3** = 10 **+ 10.1** = 20.1 so the difference is **13.4**
Add or subtract a multiple of 10 and adjust (for those numbers close to multiples of 10) *Concrete (if necessary) – Diennes equipment, place value counters* *Pictorial – number line*	257 + 68 as 257 + 70 – 2 = 327 – 2 325 + 298as 325 + 300 – 2 = 625 – 2 764 – 88 as 764 – 90 + 2 = 674 + 2 876 – 397 as 876 – 400 + 3 = 476 + 3

Year 6

Mental Calculation Strategies – Addition and Subtraction	
Skills	**Examples**
Partition and combine multiples of thousands hundreds, tens and ones *Concrete (if necessary) – place value counters* *Pictorial – number line*	5800 + 2400 5800 add 2000 and 400 = 5800 add 2000 add 400 873 + 350 873 add 300 and 50 = 873 add 300 add 50 4100 - 1600 4100 take away 1000 and 600 = 4100 take away 1000 take away 600 2132 - 440 2132 take away 400 and 40 = 2132 take away 400 take away 40 5124 + 1352 5124 add 1000 and 300 and 50 and 2 = 5124 add 1000 add 300 add 50 add 2 (crossing no boundaries) 7584 - 2351 7584 take away 2000 and 300 and 50 and 1 = 7584 take away 2000 take away 300 take away 50 take away1 (crossing no boundaries)
Partition and combine multiples of ones and tenths *Concrete (if necessary) – place value counters* *Pictorial – number line*	8.4 + 3.8 8.4 add 3 and 0.8 = 8.4 add 3 add 0.8 13.2 – 4.5 13.2 take away 4 and 0.5 = 13.2 take away 4 take away 0.5
Identify and use knowledge of number bonds within a calculation and identify related facts, e.g. 680 + 430, 6.8 + 4.3, 0.68 + 0.43 can all be worked out using the related calculation 68 + 43 *Concrete (if necessary) – place value counters* *Pictorial – related facts addition trios*	0.62 + 0.38 using knowledge of 62 + 38 = 100 0.75 + 0.56 using knowledge of 75 + 56 = 131 2.8 + 0.43 using knowledge of 280 + 43 = 323 1 – 0.41 using knowledge of 100 – 41 = 59 0.92 – 0.35 using knowledge of 92 – 35 = 57 8.3 – 0.52 using knowledge of 830 – 52 = 778
Find differences by counting up through the next multiple of 0.1, 1, 10, 100 or 1000 *Pictorial – number line*	8.2 – 3.46 14.23 – 7.58
Bridge through 10 when adding or subtracting a single digit number (partitioning, e.g. 58 + 5 = 58 + 2 + 3 or 76 – 8 = 76 – 6 – 2) *Pictorial – number line*	1.5 + 1.7 as 1.5 + 0.5 + 1.2 0.7 + 0.56as 0.7 + 0.3 + 0.26 8.3 – 2.7 as 8.3 – 2.3 – 0.4
Add or subtract a multiple of 1 or 10 and adjust (for those numbers close to multiples of 1 or 10) *Pictorial – number line*	5.6 + 3.9 as 5.6 + 4 – 0.1 7.5 – 4.8 as 7.5 – 5 + 0.2

These examples are taken from the Lancashire **Arithmetic Year Group Expectations** and the full documents will be shared with parents via the new school website once this has been constructed.

For children to be fluent in calculating, arithmetic knowledge is built up and developed in order to support them to make decisions to answer questions and solve problems:

Counting
Number Facts
Mental Calculation Strategies – Addition and Subtraction
Mental Calculation Strategies – Multiplication and Division
Progression Towards Written Calculation Strategies – Addition
Progression Towards Written Calculation Strategies – Subtraction
Progression Towards Written Calculation Strategies – Multiplication
Progression Towards Written Calculation Strategies – Division

Decision Making
When calculating, children should ask themselves: • do I know the answer because it is a fact I have learnt? • can I work it out easily in my head? • can I use some equipment or a jotting? • do I need to use the written method?

Further ways to support mathematical understanding:

Number Bonds

Times Tables

Your child's log-in details are available in their reading record or Home Learning Book.

The following websites will help too:

- www.mathszone.co.uk/
- https://www.topmarks.co.uk/maths-games/
- www.bbc.co.uk/bitesize/primary/
- www.primarygames.com/
- www.primaryhomeworkhelp.co.uk/maths/
- www.theschoolrun.com/primary-numeracy-glossary-for-parents/

Thank you for your continued support.

Coming in Issue 11… Spotlight on Sport