Medium Term Plans for Autumn Term 1 Year 5 – Beecroft Primary School

Every morning children will continue to do all 4 operations (formal methods) in their morning maths arithmetic, along with the full range of arithmetic questions.

<table>
<tr><th>Week</th><th>Main focus of teaching and activities each day</th><th>Starter</th><th>Outcomes and plenary for each day</th></tr>
<tr><td rowspan="3">1</td><td colspan="3">Mental skills for week:
Add and subtract numbers mentally with increasingly large numbers
Add and subtract whole numbers with more than four digits, including using formal written methods (columnar addition and subtraction)
Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and when
6 x Table 9 – recall facts forwards and back/ solve problems using related facts</td></tr>
<tr><td colspan="3">Vocabulary for week:
Inverse addition subtract addition subtraction increase decrease how much more difference column strategy carry borrow rounded estimated actual compare total count on smallest greatest plus increase sum total altogether score double near double minus decrease leave how many are left/left over? difference between half halve how many more/fewer is… than…? is the same as, equals tens boundary hundreds boundary inverse units boundary, tenths boundary</td></tr>
<tr><td>Day 1: Mind maps of times table e.g. 7x6 = 42 so 70x6 = 420 70x 60 = 4200

Day 2: look at pattern of 6, 2, 8, 4, 0 – how can we use this in pairs to answer the questions about multiples/ factors/ products</td><td>Day 1: Pupils investigate how does knowing that 2 + 5 = 7 help you to work out 20,000 + 50,000? • How can the numbers be partitioned to help add/subtract them?

Day 2:
Look at different mental strategies including partitioning and round/adjust to solve
E.g
1245 + 324
1245 + 9
1245 + 199
1245 + 60</td><td>Day 1 –
Rosie is working out a subtraction. Explain why Rosie is correct. Work out the answer to 1,000 – 372 Use this strategy to work out the subtractions. 1,000 – 625 10,000 – 6,832 100,000 – 47,356

Day 2 –</td></tr>
</table>

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	Day 3: How many 60ps in 4.20? many 6s in £3.60? What is 60x greater than £0.90 Day 4: Follow me cards: who has 54/ 6? I HAVE 9. Who has 0.9 x 6? I have 5.4 . Etc **Day 5:** See whole class shape plan **Quick Rising Stars arithmetic - timed**	1245+ 800 **Day 3:** Explain and reason the methods for 8 Complete the calculations. **a)** 2,360 + 99 = ☐ **d)** 470,364 – 99 = ☐ **b)** 2,360 – 99 = ☐ **e)** 999 + 52,863 = ☐ **c)** 52,871 + 99 = ☐ **f)** 176,507 + 990 = ☐ Which would you partition? Which would you round and adjust? How can we use place value to help us?	Jack, Kim and Eva are playing a computer game. • Jack has 3,452 points. • Rosie has 4,039 points. • Eva has 10,989 points. How many points do Jack and Rosie have altogether? How many points do Rosie and Eva have altogether? How many points do Jack and Eva have altogether? How many points do Jack, Rosie and Eva have altogether? **Day 3 –** 623 + 754 = 1,377 Use the calculation to complete the number sentences. ?– 754 = 623 ? – 6,230 = 7,540 137,700 – 75,400 = **Day 4-** Mo has completed an addition. 31,207 + 6,529 = 96,497 Use an estimate to show that Mo must have made a mistake.

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<tr><td rowspan="3">2</td><td colspan="3">Mental skills for week:
Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why
Sort and know by heart the vocabulary of +/ -
Recall 3 and 4 x table rapidly and in context</td></tr>
<tr><td colspan="3">Vocabulary for week:
Prime factor divisible odd even multiple difference subtract number statement plus increase sum total altogether score double near double minus decrease leave how many are left/left over? difference between half halve how many more/fewer is… than…? is the same as, equals tens boundary hundreds boundary inverse units boundary, tenths boundary</td></tr>
<tr><td>3x and 4x table

Day 1:
Revise 3x table with counting stick and playing cards
Day 2:

Look at divisibility tests for 3 digital roots = 3, 6 or 9

Determine which numbers upto 4 digits are multiples of 3</td><td>Day 1:
Pupils sort the vocabulary cards for +/ - (sum/increase/change difference etc) which go in each side and why? Which go in the middle? (inverse and more) Make sure all chn can explain the context of more being add and being subtract e.g
+ = Yusuf has£15 Mum gives him £10 more. How much has he got?

- = Yusuf has £15/ mum has £10 how much more has he got?

Day 2:
Revise language from day before with quickfire questions. Then look in depth at DIFFERENCE – how can this be presented? Usually hidden as hotter/colder, faster/ slower/ heavier/lighter, longer/ shorter etc</td><td>Day1: Here are two number cards. 800 and ?
The sum of the two numbers is 2,900 What is the difference between the two numbers?

Day 2: There are 15,600 people at a concert. There are 9,050 adults. The rest are children. How many more adults than children are there?

Day 3:
A milkman has 250 bottles of milk. During the day, he</td></tr>
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<table>
<tr>
<td></td>
<td>Day 3:

4 x table practise in pairs using fast cards – how does it relate to 2s?

Day 4:

4x table in context – 4 lots of £60? ¼ of the class(36) are boys how many are girls ?</td>
<td>Day 3
Pupils look at problems Filip is writing a report. He writes the first 460 words on Monday and another 735 words on Tuesday. The report must be at least 2,500 words long. How many more words does Filip need to write? FIND KEY WORD CLUES and write number statements.

Show children how group names are split into categories = Left e.g. people = children/ adults, children = boys/girls , car parking spaces = full/empty --- if you are given one, use subtraction to find the other
Day 4:
Explain RUCSAC – decompose the2 step problem and explain to partner how to solve.
Continue to solve +/- e.g. A pole is used to measure the depth of water in a river. The part of the pole above the water is 95 cm. The part of the pole in the water is 35 cm greater than the part of the pole above the water. How long is the pole? - Pupils explain their methods in pairs.</td>
<td>collects another 160 from the dairy and delivers 375 bottles. Nijah works out how many bottles are left. (SHOW NIYAH’S INCORRECT CALCS)

Do you agree with Nijah? Explain your answer.

Day 4
Mo is twice as old as Jack. Dora is 3 years younger than Jack.

The sum of all their ages is 33
“ Jack is 15”

Explain the mistake Tiny has made. How old is Jack?</td>
</tr>
<tr>
<td rowspan="2">3</td>
<td colspan="3">Mental skills for week:
• Add and subtract whole numbers with more than four digits, including using formal written methods (column addition and subtraction)
• Include addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why
• Recall 8x table</td>
</tr>
<tr>
<td colspan="3">Vocabulary for week:</td>
</tr>
</table>

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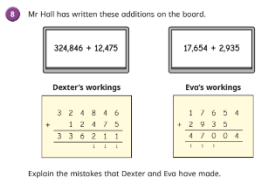
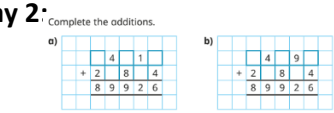
	Prime factor divisible odd even multiple difference subtract number statement plus increase sum total altogether score double near double minus decrease leave how many are left/left over? difference between half halve how many more/fewer is… than…? is the same as, equals tens boundary hundreds boundary inverse units boundary, tenths boundary		
	8x table **Day 1:** Learn the pattern 8, 6, 2, 4 , 0 and show chn how to use this to learn by repetition **Day 2:** quickfire questions/ last man standing game **Day 3:** Follow me card game and higher lower for 8s **Day 4:** Race around timetsable sheets in pairs 8x with place value (multiples of 10)	**Day 1: Complete formal additions for e.g** 23,245 + 14,323 = b) 23,245 + 14,328 = **Look at estimating to be accurate and checking answers with inverse** **Day 2:** Use column addition to solve in context: a) £36,000 + £19,420 c) 843 cm + 15,611 cm b) 40,720 g + 6,872 g d) £17,320 + £6,009 + £34,871 Make sure children are lining up accurately **Day 3:** Complete formal subtractions of numbers with more than 4 digits e.g 10553 -9457 - can we check with inverse? **Day 4:** Solve problems using formal subtraction/ addition e.g. It is 10,553 miles from London to Sydney. It is 9,929 miles from New York to Sydney. How much further away is Sydney from London than from New York?	**Day1:**  8 Mr Hall has written these additions on the board. 324,846 + 12,475 17,654 + 2,935 Dexter's workings Evo's workings Explain the mistakes that Dexter and Evo have made. **Day 2:**  Complete the additions. a) b) **Day 3:** Teddy and Jack are playing a computer game. Teddy scores 55,890 points. Jack scores 36,475 points fewer than Teddy. a) How many points does Jack score? b) How many points do they have altogether? **Day 4** Here are some digit cards. 1 5 8 9 Ron makes a 4-digit number with the cards. Eva makes a 4-digit number with the cards. The difference between their numbers is between 1,000 and 3,000 What numbers could Ron and Eva have made?

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<table>
<tr><td>4</td><td colspan="3">Mental skills for week:
• Solve inverse +/-questions with missing numbers
• Include addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why
• Establish whether a number up to 100 is prime</td></tr>
<tr><td></td><td colspan="3">Vocabulary for week:
Prime factor divisible odd even multiple difference subtract number statement plus increase sum total altogether score double near double minus decrease leave how many are left/left over? difference between half halve how many more/fewer is… than…? is the same as, equals tens boundary hundreds boundary inverse units boundary, tenths boundary</td></tr>
<tr><td></td><td>Prime Numbers

Day 1: Revise prime number facts – only 2 factors/ dividible by 1 and themselves / only one multiple of 2/ one multiple of 5 - show Eratosthenes sieve on board – learn pattern for how many each row.
Day 2:
Pupils list prime numbers between given values using the 100 square – list all the primes between 40 and 60?

Day 3:
List primes on board:</td><td>Day 1: Pupils investigate f they add a number to another to get a total, what do they need to do to the total to find my original number? • If they subtract a number from another to find the difference, what do you need to do to the difference to find original number – ESTABLISH LABELLING OF B-S = S AND S+S = B
Day 2:
Pupils continue developing understanding of inverse with finding the missing numbers. 654 +? =
837 – 719 =?
424 3,820 = 5,260 –? 19,456 = 2,345 +?
Label and do inverse check for all

Day 3
Pupils develop their inverse +/- in word problems in context e.g. Filip is writing a report. He writes the first 460 words on Monday and another 735 words on Tuesday. The report must be at least 2,500 words long. How many more</td><td>Day1:
Huan thinks of a number. He adds 17 to his number and gets the answer 40
Which calculation can be used to find Huan's number? 17 + 40 /17 – 40 /40 – 17 /40 + 1

Day 2:
In the number pyramid, each number is the sum of the two numbers below. Use addition and subtraction to complete the pyramid - Show pyramid on slide

Day 3:
A milkman has 250 bottles of milk. During the day, he collects another 160 from the dairy and delivers 375 bottles. Nijah works out how many bottles are</td></tr>
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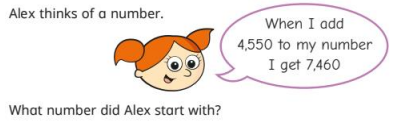
	Find 2 primes with a total of? With a sum of? With a product of? With a difference of? **Day 4:** Same as day before but with a given interval e.g find two prime numbers between____ and ____ with a total of _____	words does Filip need to write? FIND KEY WORD CLUES and write number statements. **Day 4:** Continue to solve inverse +/- I think of a number questions	left. (SHOW NIYAH'S INCORRECT CALCS) Do you agree with Nijah? Explain your answer. **Day 4** 

Week	Main focus of teaching and activities each day	Starter	Outcomes and plenary for each day
5	**Mental skills for week:** • Read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit • Count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000		
	Vocabulary for week: Thousands, ten thousand, hundred thousand, million digit, Roman numeral place value stands for, represents exchange >, greater than greatest, most, largest, least, fewest, smallest, more/less compare, order, between, half-way estimate		
	Starter: Times table revision Day 1: 2s/5s and 10s with quickfire qs and multiples game	**Day 1: Pupils** match the representations to the numbers. (Upto 10,000) how can they show the number 2,536 in three different ways? **Day 2:**	**Day 1:** Filip has made five numbers using the digits 1, 2, 3 and 4 He is using a letter to represent each digit. Here are his numbers. Use the clues to

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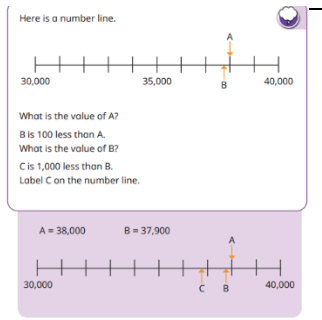
	Day 2: 3s and 4s, rapid fire game and king of the class Day 3. 6x table explore the pattern of 6, 2 8, 4 0 DAY 4 6x table questions in context e.g. 6 lots of 30p = If 7 children pay £6 a ticket how much altogether?	Pupils Find the missing numbers. 59,000 = 50,000 + = 30,000 + 1,700 + 80 75,480 = + 3,000 + Do any of the questions have more than one possible answer (Upto 100,000) **Day 3:** Pupils Count in 100,000s from zero to 1 million What is the value of the 4 in each number? Write four numbers that have a 3 in the hundreds column. Each number should have a different number of digits. (Upto 100000) **Day 4:** Pupils try e.g. number is made up of 2 ten-thousands, 5 hundreds and 7 ones. Show the number on a place value chart. Write the number in words and numerals **Day 5:** SEE WHOLE CLASS SHAPE PLAN	 work out each number. • The first number in the list is the greatest number. • The digits in the fourth number add up to 12 • The third number is the smallest number. **Day 2:** **Day 3:** Use the digit cards to make as many 6-digit numbers as you can. What is the greatest number you can make? What is the smallest number you can make? What is the difference

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			between the greatest and smallest numbers **Day 4:** Ron is thinking of a number. What is 1,000 less than Ron's number? What is 10 more than Ron's number? Give your answers in words
6	**Mental skills for week:** • Read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit • Solve number problems and practical problems that involve the above • Count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000		
	Vocabulary for week: Thousands, ten thousand, hundred thousand, million digit, Roman numeral place value stands for, represents exchange >, greater than greatest, most, largest, least, fewest, smallest, more/less compare, order, between, half-way estimate approximate, round integer, positive, negative odd, even every other digit next, consecutive sequence, continue, predict pattern, pair, rule relationship sort, classify, partition		
	Day 1 – Rapid fire questions What is 10567 to the nearest 10/100/1000? Etc	**Day 1**: Pupils look at: How many tens are there in 100? How many tens are there in 200? How many tens are there in 210? How many tens are there in 740?	**Day 1:** 1,000 × 1,000 = 1,000,000 How many other calculations using just

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	Day 2: Shopping list game – model first one by rounding the prices then estimating total. Chn have to round and find estimated total of items for next 4. **Day 3 –** Follow me rounding cards. Who has 976 to the nearest 10? I have 980 who has 65,876 to the nearest 100? I have 65900. Etc Cgp book page 112 **Day 4:** Estimate the answer to calculations: 5467 + 2678 = roughly? 10,655 – 978 = roughly? Etc Justify their answers – what did they round to and why Which of these calculations must be incorrect? **Day 5:** Shape – Whole class **Half-termly times table check up**	**Day 2:** Pupils count up in 1,000s starting from 6,240 Count up in 10,000s starting from 6,240 Count up in 100,000s starting from 6,240 **Day 3:** Pupils label and determine 100,000 on numberlines **Day 4:** Pupils practise partitioning the numbers into thousands, hundreds, tens and ones. 6,789 = + + + 4,813 = + + +	ones and zeros can you find that have the answer 1,000,000? **Day 2:** I am counting up in tens from 184 I will include 224. I s he correct? **Day 3**: Estimate the position of 42,500 on each number line. Explain your method **Day 4:** Some of the place value counters are hidden. The total value of the counters is 265,312 What place value counters could be hidden? Find at least three solutions.
7	**Mental skills for week:**		

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<table>
<tr><td></td><td colspan="3">Read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit
Round any number up to 1,000,000 to the nearest 10, 100, 1,000, 10,000 and 100,000</td></tr>
<tr><td></td><td colspan="3">Vocabulary for week:
Greater than/ less than / equal to/ round up / down/nearest whole/ ten / hundred/ thousand / ascending/ descending</td></tr>
<tr><td></td><td>9x table
Day 1: 9x table – chanting and follow me cards
Day 2: 9x table questions in context
Day 3: 7x table - how do we Know them from all we have learnt so far? – Test in pairs
Day 4: Teacher planned revision of all work covered so far

Day 5: Whole Class Shape
See separate plan</td><td>Day 1:
Pupils identify the greater number in each pair. 63 and 68 63,000 and 68,000 63,912 and 68,002 What is the same and what is different? Use symbols of greater /less to sort pairs

Day 2:
Pupils put number sets into ascending and descending order upto millions – They also position on number line/ estimate where they go

Day 3: Pupils look at which multiples of 10/100/1,000 does the number lie between? • Which multiple on the number line is the number closer to? • What is the number rounded to the nearest 10/100/1,000 – Learn by heart 0-4 stay on the floor 5-9 climb the vine

Day 4:
Pupils look at rounding in context e.g.</td><td>Day 1:
Pupisl Use the digit cards to make three different 5-digit numbers that match the clues. 0 1 2 3 4 5 6 7 8 9 • The digit in the ones column and the digit in the hundreds column have a difference of 2 • The digit in the hundreds column and the digit in the ten-thousands column have a difference of 2 • The sum of all the digits in the number is 19 Write their numbers in ascending order.
Day 2:
Write or = to make the statements correct. 600,000 + 80,000 618,000 10,000 less than 723,000 722,000 999,999 one million 50,000 half a million 20 ten-thousands 200 thousands</td></tr>
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		8,317 people attend a pop concert. Round the number of people at the concert to the nearest 10/ Round the number of people at the concert to the nearest 100/ Round the number of people at the concert to the nearest 1,000	**Day 3:** Mo is thinking of a number. • The number is 5,000 when rounded to the nearest 1,000 • The number is also 5,000 when rounded to the nearest 100 • The number is also 5,000 when rounded to the nearest 10 • The number is not 5,000 What is the greatest possible value of the number? **Day 4:** By rounding both numbers to the nearest 10,000, estimate the answer to the calculation. 47,826 + 88,112 Is your estimate greater than or less than the actual answer? How do you know

Whole Class Shape - Lesson 5 each Friday

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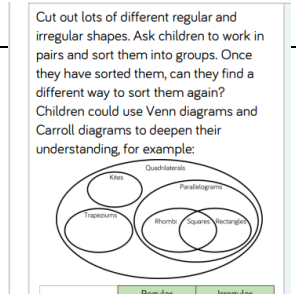
Week	Objective	Vocab	Plenary
Week 1	2D Shape properties Quadrilaterals	Quadrilateral/ square/ rectangle/ rhombus/ kite/ parallelogram/ Line of symmetry/ adjacent / regular/ irregular/ equal/ opposite / parallel	Always, Sometimes, Never. A four-sided shape has four lines of symmetry The rectangle is pink and green. The rectangle is reflected in the mirror line. What would its reflection look like? When you reflect a shape
Week 2	2d shape properties Polygons	Pentagon/ hexagon/ octagon / heptagon Line of symmetry/ adjacent / regular/ irregular/ equal/ opposite	When given half of a symmetrical shape I know the original shape will have double the amount of sides.
Week 3	2d shape properties: Triangles	Equilateral/ isosceles/ right angled/ equilateral/ lines of symmetry/ opposite angles/ 180 degrees/ interior / perpendicular/ right angle	A triangle has 1 line of symmetry unless you change the orientation.? Mo says his triangle has 2 right angles. Can he be correct?
Week 4	Regular and Irregular Polygons: What is a polygon? Can a polygon have a curved line? What makes a polygon irregular or regular? Is a square regular? Are all hexagons regular? Regular & Irregular Polygons	Regular/ irregular/ curved/ straight/ vertice/ lines of symmetry/ equal angles / opposite/ adjacent	

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Week 5	Parallel/ perpendicular lines	Parallel/ perpendicular/ 90 degrees / right angle / opposite adjacent	You can draw a shape with 5 parallel sides? A triangle can have two sets of perpendicular sides?
Week 6	Revision of all 2d shape		