Calculation Methods
What should I expect my child to be doing in Year 3?
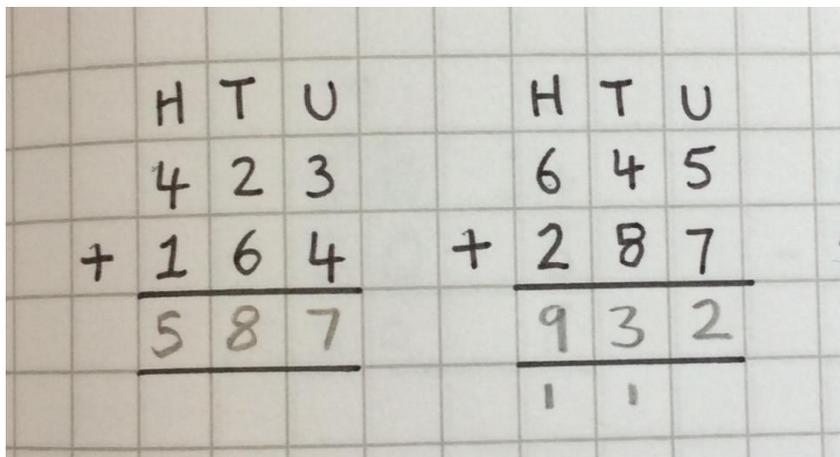
Written methods:

Addition and Subtraction

National Curriculum Expectations:
- Add and subtract numbers mentally, including:
- a three-digit number and ones
- a three-digit number and tens
- a three-digit number and hundreds
- two two-digit numbers (including answer crossing 100)
- Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction
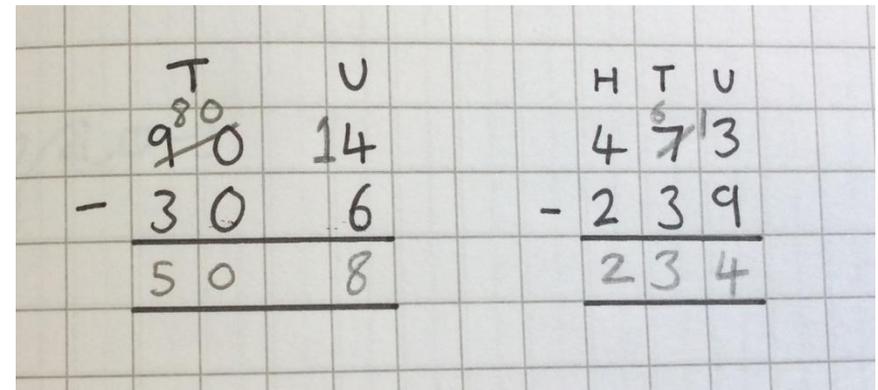
Addition Written Method:

1. Reinforce vertical partitioning, going beyond 100.

2. Columnar addition

Subtraction Written Method:
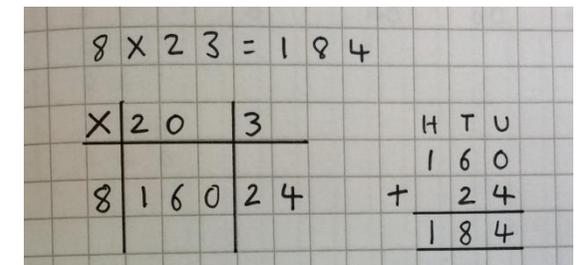
1. Expanded partitioning (with decomposition)

Multiplication

National Curriculum Expectations:
- develop reliable written methods for multiplication and division, starting with calculations of two-digit numbers by one-digit numbers and progressing to the formal written methods of short multiplication and division

Written Method:

1. Reinforce visual grid method.

2. Grid method

3. Short multiplication (if appropriate).

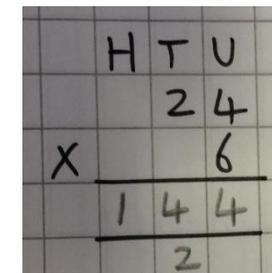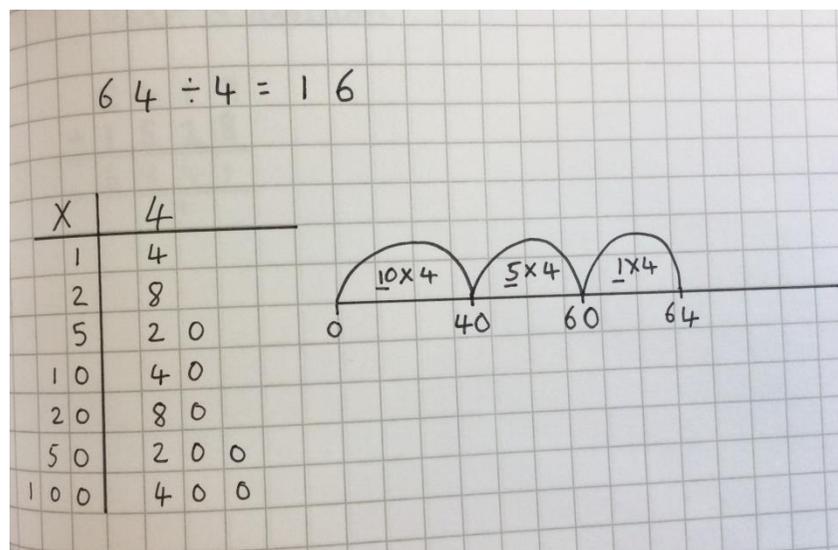# Division

National Curriculum Expectations:
- develop reliable written methods for multiplication and division, starting with calculations of two-digit numbers by one-digit numbers and progressing to the formal written methods of short multiplication and division

Written Method:

1. Reinforce repeated addition

2. Chunking

Mental methods:

Alongside formal, written methods, our children will be equipped with a range of strategies to solve problems mentally. This table reflects the progression in the teaching and learning of mental methods of calculation. The majority of mental strategies will develop during numeracy lessons or guided numeracy sessions but discrete learning of mental methods may also be appropriate. Our children should look at a calculation and be able to say: **Can I work this out in my head? Do I need to use a written method? Do I need to use a calculator?**

		Addition	Subtraction	Multiplication	Division

Y2		Add T U + U; T U + U; and any 2 two digit numbers using mental partitioning (give examples please)	Subtract T U - U, T U - T and any 2 x 2 digit numbers using counting down. 76-57 76-50 -7	- Recall & use x facts (2,5 &10)
				- Read/connect
				  10 x table to place value
				  5 x table to clock face
				- Variety & Language
				- Doubling & halving 2 digit numbers
				- Recall & use x facts (3,4,6,8)
				- Commutatively & associativity:-
				4 x 12 x 5 =
				4 x 5 x 12 =
				20 x 12 = 240
					Deriving division facts from x tables eg 6÷3=2 (because 3x2=6). Fact Families. Halving numbers up to 50.

Y3		Add H T U + U; H T U + T; H T U + H using mental partitioning.	Subtract H T U - U, H T U – T, H T U – H using counting down.	- Use known facts to derive related facts. - Missing number problems (simple)	Use x tables to derive division facts up to 2 digit numbers. 3x2=6 6÷3=2 60÷3=20
Y4		Add up to 2 three digit numbers using partitioning or counting on.	Subtract up to 2 x 3 numbers using counting down or counting on.	- Read & use x facts (all 2 x 12) - x mentally (using partitioning e.g. 9 x 34 = 9 x 30 and 9 x 4) - 3 digit numbers – derive facts - 2x6x5;10x6=60	Halving numbers up to 100. Extend mental methods to 3 digit numbers eg 600÷3=200 (2x3=6) INN - PIM. ÷ facts for x tables up to 12x12.

H = Hundreds   T = Tens   U = Units