

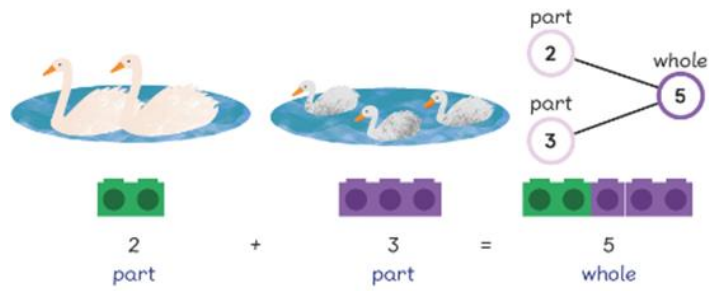
ADDITION - YEAR 1 Adding within 20

VOCABULARY: plus, add, equals, addition equation, altogether, total

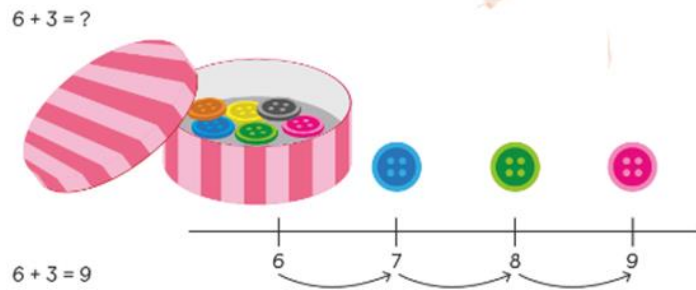
Mental calculation/recall of Addition facts:

*addition facts relating to number bonds for all numbers up to 20

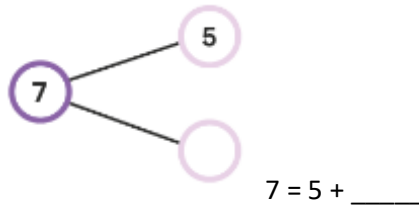
*adding by using number bonds and part-part-whole model



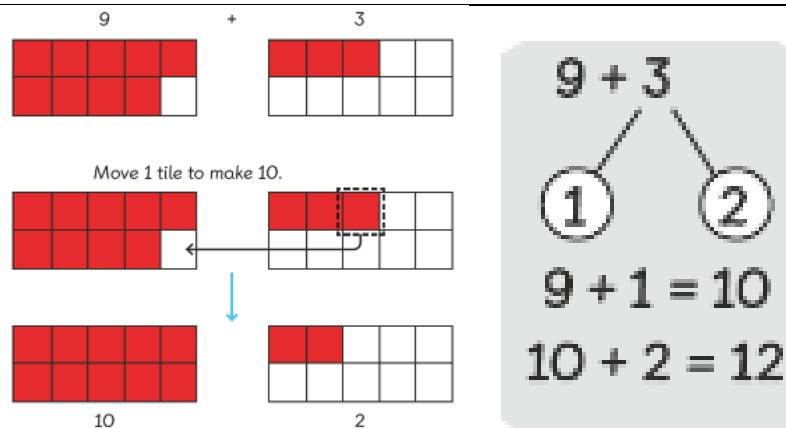
*counting on in ones from the biggest number



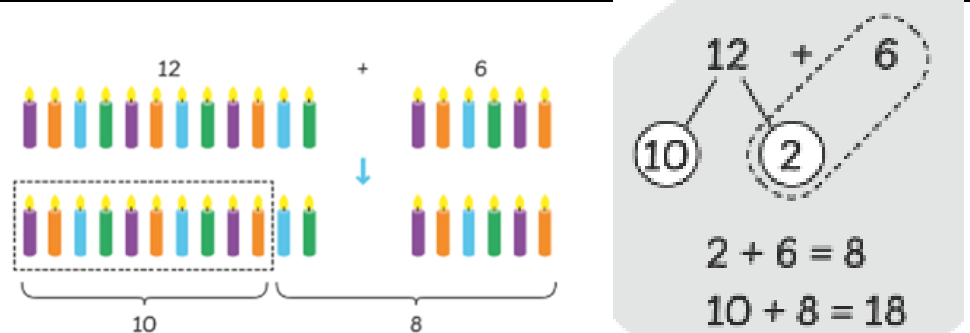
*missing numbers questions using part-part-whole model



*adding two 1-digit numbers, by making pairs to ten



*2-digit add 1-digit, by partitioning the 2-digit into T/U, then adding the units



*commutative law

8 + 4 = 4 + 8

ADDITION - YEAR 2 Adding within 100

VOCABULARY: partition, tens, units/ones, recombine

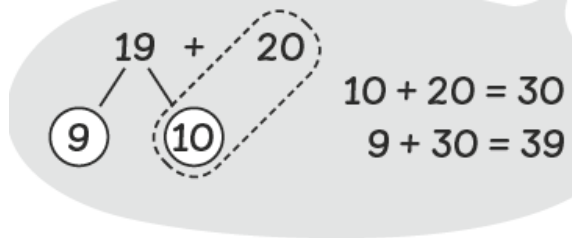
Mental calculation/recall of Addition facts:

*addition facts relating to number bonds for 100 (multiples of 10)

*using pairs to 10 to answer 2-digit + [] = next multiple of 10

[Y1: addition facts relating to number bonds for all numbers up to 20]

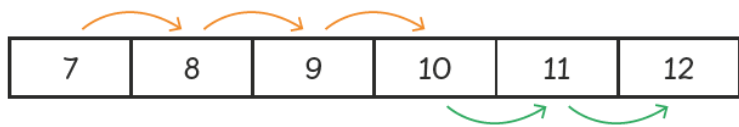
*adding a multiple of ten to a 2-digit number, by partitioning the 2-digit number into T/U then adding the T



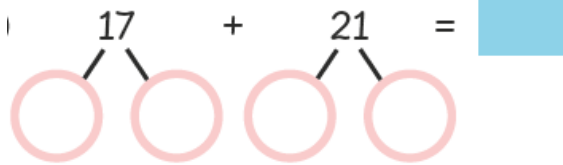
$19 + 20 = 39$

*adding three 1-digit numbers, by making pairs to 10, or counting on in ones

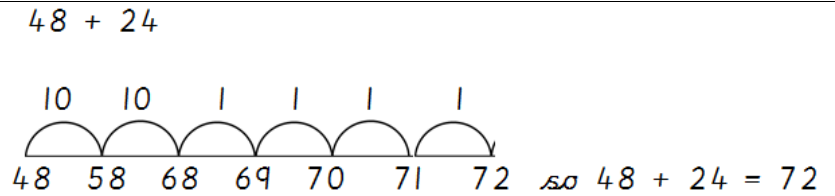
$7 + 3 + 2 = 10 + 2$
 $= 12$



*adding two 2-digit numbers, by partitioning into T/U, then adding the T and the U, recombining



*2-digit + 2-digit, by counting on in tens and ones



*2-digit + 1-digit, using expanded column addition

$$\begin{array}{r} 2 \quad 4 \\ + \quad 7 \\ \hline 1 \quad 1 \\ + 2 \quad 0 \\ \hline 3 \quad 1 \end{array}$$

*2-digit + 2-digit, using expanded column addition

$$\begin{array}{r} 1 \quad 5 \\ + 1 \quad 8 \\ \hline 1 \quad 3 \\ + 2 \quad 0 \\ \hline 3 \quad 3 \end{array}$$

ADDITION - YEAR 4 Adding within 10,000, with up to 2dp

VOCABULARY: approximately equal to, thousands

Mental calculation/recall of Addition facts:

*using $A + B = (A+c) + (B-c)$ to make adjustments eg $296 + 127 = 300 + 123 = 423$

[Y3: addition facts relating to number bonds for 100, addition facts relating to number bonds for all numbers up to 20, addition facts relating to number bonds for 100 (multiples of 10), using pairs to 10 to answer 2-digit + [] = next multiple of 10]

*rounding to the nearest ... to estimate

$$1364 + 592 \approx 1400 + 600 = 2000$$

*adding two 4-digit numbers, using expanded column addition

$$\begin{array}{r}
 4 \quad 2 \quad 5 \quad 6 \\
 + 1 \quad 9 \quad 8 \quad 7 \\
 \hline
 \quad \quad \quad 1 \quad 3 \quad \text{add ones} \\
 \quad \quad 1 \quad 3 \quad 0 \quad \text{add tens} \\
 1 \quad 1 \quad 0 \quad 0 \quad \text{add hundreds} \\
 + 5 \quad 0 \quad 0 \quad 0 \quad \text{add thousands} \\
 \hline
 6 \quad 2 \quad 4 \quad 3
 \end{array}$$

*adding two or more 4-digit numbers, using column addition

(inc numbers of different sizes, up to 4 digits)

$$\begin{array}{r}
 \quad 1 \quad 1 \quad 1 \\
 4 \quad 2 \quad 5 \quad 6 \\
 + 1 \quad 9 \quad 8 \quad 7 \\
 \hline
 6 \quad 2 \quad 4 \quad 3
 \end{array}$$

6 ones + 7 ones
= 13 ones
renaming: = 1 ten + 3 ones

1 ten + 5 tens + 8 tens
= 14 tens
renaming: = 1 hun + 4 tens

1 hun + 2 huns + 9 huns
= 12 huns
renaming: = 1 thou + 2 huns

*adding two amounts of money using column addition

$$\begin{array}{r}
 \quad 1 \\
 \pounds 3 \quad . \quad 7 \quad 0 \\
 + \pounds 2 \quad . \quad 9 \quad 5 \\
 \hline
 \pounds 6 \quad . \quad 6 \quad 5
 \end{array}$$

ADDITION - YEAR 6 Adding within 10,000,000, with tens of 1,000,000s, and with up to 3dp

VOCABULARY: millions, ten millions

Mental calculation/recall of Addition facts:

*mentally calculate with increasingly large numbers

[Y5: using addition facts and place value to mentally add numbers with up to 2dp, using $A + B = (A+c) + (B-c)$ to make adjustments eg $296+127 = 300+123 = 423$, addition facts relating to number bonds for 100, addition facts relating to number bonds for all numbers up to 20, addition facts relating to number bonds for 100 (multiples of 10), using pairs to 10 to answer 2-digit + [] = next multiple of 10]

*adding two or more numbers up to 10,000,000 and with up to 3 decimal places, using column addition

$$4000275 + 3537\cdot6 + 896\cdot785$$

$$\begin{array}{r} \\ \\ + \\ \hline 4000275 \\ \\ \\ + \\ \hline 4004709\cdot385 \end{array}$$