FRACTIONS

When given quarters of the same object (cake, apple, pizza, paper plate or strip of paper), are able to show whether it makes 2/4, ¾ or 4/4 (one whole)

Year 2

A Parent's Guide to Maths Calculations

By the end of Year 2, most children should be able to:

- Count in steps of 2, 3, and 5 from 0, and in tens from any number, forwards and backwards

- Recognise the place value of each digit in a two-digit number

- Compare and order numbers from 0 up to 100; use < , > and = signs

- Use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100

- Add and subtract numbers using objects, pictures of objects, and mentally, including: TU + U, TU + T, TU + TU, U+U+U, TU – U, TU – T, and TU – TU (T is tens, U is units or ones)

- Use the inverse relationship between addition and subtraction to check calculations and solve missing number problems.

- Know 2, 5 and 10 times tables; recognising odd & even numbers

- Calculate mathematical statements using x and ÷ symbols

- Recognise, find, name and write 1/3, 1/4, 2/4 and 3/4 of a shape, size or quantity

- Write simple fraction facts, e.g. 1/2 of 6= 3

- Combine amounts of money to make a value, including using £ and p symbols

- Tell the time to the nearest 5 minutes, including drawing clocks

- Describe properties of 2-D shapes, including number of sides and symmetry

- Describe properties of 3-D shapes, including number of edges, vertices and faces

- Interpret and construct simple tables, tally charts and pictograms

DIVISION   Using ÷ and = signs

Sharing objects equally between 2 groups, 3 groups, 10 groups etc. Linked to halving / fraction work. Introducing ÷ sign

Find how many groups of a given size can be made. Linked to multiplication / times table facts- How many groups of 2 in 12?

Read division calculation as 'How many jumps of 5 in 20?' Draw number line. Start at 0. Count in multiples and draw jumps (of 5) until number to be divided is reached (20). Count number of jumps, ie. 4 jumps of 5 to reach 20.

As previous slide but this the number being divided will leave a remainder. Draw number line. Start at 0 Count and draw jumps (of 5) to nearest multiple (15). Then count remainder 2. 3 jumps of 5 make 15, with a remainder of 2 to make 17.

MULTIPLICATION   Using x and = signs

M2: Repeated Addition (Number Line)

$$5 \times 3 = 5 + 5 + 5 = 15$$

"5 times 3" means "5, 3 times!"

Introduce idea of multiplication through repeated jumps of 2, 10 or 5 on a number line to solve multiplication questions.

M3: Arrays

$$3 \times 5 = 15 \text{ or } 5 \times 3 = 15$$

Understand that the multiplication of two numbers can be done in any order

- Learn 10 times tables
- Learn 2 times tables
- *Learn 5 times tables*

ADDITION   Using + and = signs

A3a: Forwards Jump

$$43 + 24 = 67$$

Add two 2-digit numbers with a total within 99 on a number line. Start with largest number, and add tens of smaller number, then units or ones

A5*a1: Partitioning Column partitioning with equipment

$$43 = 40 + 3$$
$$+ 24 = 20 + 4$$
$$\overline{60 + 7} = 67$$

Add two 2-digit numbers with a total within 99, where total of units is 9 or less. Split both numbers into tens and ones. Add ones, add tens, and then add tens and ones. Total of ones is 9 or below.

(A6: Expanded Column) Additional Addition

```
  T  U
  43
+ 24
____
   7
  60
  67
```

Add two 2-digit numbers with a total within 99, where total of units is 9 or less. Introduce expanded column addition. Write total of units / ones, then total of tens. Add digits in units / ones column, then add digits in tens column.

(A7: Column Addition) Additional

```
  T  U
  43
+ 24
____
  67
```

Add two 2-digit numbers with a total within 99, where total of units is 9 or less. Add digits in units / ones column first, then digits in tens column.

ADDITION continued

A3b: Forwards Jump

$$57 + 25 = 82$$

+20   +5

57   77   82

Add two 2-digit numbers with a total within 99 on a number line. Start with largest number, and add tens from smaller number, then units / ones

(A6: Expanded Column)
Additional:a   Addition

```
  T U
  5 7
+ 2 5
-----
  1 2
  7 0
-----
  8 2
```

Add two 2-digit numbers with a total within 99, where total of units is more than 9. Write total of units / ones, then total of tens. Add digits in units column, then add digits in tens column.

(A7: Column Addition)
Additional:a

```
  T U
  5 7
+ 2 5
-----
  8 2
    1
```

Add two 2-digit numbers with a total within 99, where total of units is more than 9. Add digits in units column, and carry any tens under tens column. Then add digits in tens column.

SUBTRACTION

S10: Column Partitioning

$$87 = 80 + 7$$
$$- 23 = 20 + 3$$
$$60 + 4 = 64$$

Subtract two 2-digit numbers. Units in top row are greater than those in the second row (number being subtracted). Split both numbers into tens and units / ones. Subtract units, then tens. Add tens and units back together.

S11: Column Subtraction

```
  T U
  8 7
- 2 3
-----
  6 4
```

Subtract two 2-digit numbers. Units in top row are greater than those in the second row (number being subtracted). Subtract units, then tens.

S10: Column Partitioning

$$75 = \overset{60}{\cancel{7}}0 + \overset{1}{5}$$
$$- 37 = 30 + 7$$
$$30 + 8 = 38$$

Subtract two 2-digit numbers. Split both numbers into tens and units / ones. Units in top row are less than those in the second row. Exchange / take 10 to put into units, and then subtract units. Subtract tens. Add tens and units back together.

S11: Column Subtraction

```
  T U
  6 1
  7 5
- 3 7
-----
  3 8
```

Subtract two 2-digit numbers. Units in top row are less than those in the second row (number being subtracted). Exchange / take 10 to put into units, and then subtract units. Subtract tens.