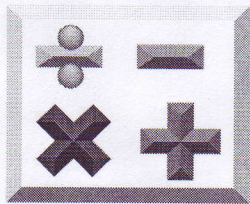


Numeracy Workshop
Tuesday 6th October 2015

The 4 Operations



Page 1

Addition Calculations

- Children will start with a horizontal calculation eg. $3+5=8$
- From here they move on to vertical addition as the concept of place value is introduced.

$$\begin{array}{r} 34 \\ + 3 \\ \hline 37 \end{array}$$

Page 2

The children need to lay out the calculation as prescribed by the Woodfarm Cluster.

| | |
|-------|--|
| 56 | |
| + 39 | |
| | |
| | |
| 387 | |
| + 235 | |
| 622 | |
| 11 | |

Key vocabulary

- carry digit
- refer to tens and units

This method transfers to more difficult calculations.

Page 3

Subtraction Calculations

This is the same process as addition.

However, children must learn that in subtraction, the digits can't be swapped around. You must always start with the number at the top of the calculation.

Page 4

Multiplication Calculations

For multiplication tables, the table number comes first.

$$5 \times 1 = 5$$

$$5 \times 2 = 10$$

$$5 \times 3 = 15$$

~~$$\begin{array}{l} 1 \times 5 = 5 \\ 2 \times 5 = 10 \\ 3 \times 5 = 15 \end{array}$$~~

We say:

"five ones are five... five twos are ten..."

Page 6

| | |
|-------|--|
| 63 | |
| - 21 | |
| 42 | |
| | |
| 31 | |
| - 12 | |
| | |
| | |
| 400 | |
| - 234 | |
| | |

- 3 take away 1 equals 2
- 6 take away 2 equals 4

Key Vocabulary

- "we can't do this"
- exchange one ten for ten units
- "that leaves me with"
- no working below the calculation

Page 5

$$\begin{array}{r} 26 \\ \times 4 \\ \hline \end{array}$$

- four sixes are 24
- "carry the 2 tens"
- four twos are 8
- add the 2 tens that were carried to give an answer of 10

$$\begin{array}{r} 187 \\ \times 6 \\ \hline \end{array}$$

Page 7

Division Calculations

$28 \div 4 = 7$

$$\begin{array}{r} 268 \\ \hline \end{array}$$

In addition, subtraction and multiplication we start with the units. However, division is different! We start with digit nearest to the number we are dividing by.

Page 8

$$\begin{array}{r} 269 \\ \hline \end{array}$$

"9 is not a station of the 2 times table"

"find the station closest to..."

"there is one left over"

"remainder"

$$\begin{array}{r} 279 \\ \hline \end{array}$$

"there is one left over"

"carry the one ten over"

Page 9

Multiplying by 10

All digits move up one place value to the left.

Multiplying by 100

All digits move up two place values to the left.

$$\begin{array}{r} u \\ 5 \times 10 = \\ \hline T/u \\ 50 \end{array}$$

$$\begin{array}{r} u \\ 5 \times 100 = \\ \hline H T/u \\ 500 \end{array}$$

Page 10

Dividing by 10

All digits move down one place value to the right.

Dividing by 100

All digits move down two place values to the right.

$$\begin{array}{r} u \\ 5 \div 10 = \\ \hline u \cdot t \\ 0.5 \end{array}$$

$$\begin{array}{r} u \\ 5 \div 100 = \\ \hline u \cdot t \cdot h \\ 0.05 \end{array}$$

The decimal point never moves. The number of zeros indicates how many places to move.

Page 11

Long Multiplication

$$\begin{array}{r} 47 \\ \times 56 \\ \hline 282 \\ + 2350 \\ \hline 2632 \end{array}$$

Multiply by 6 first.

Then multiply by 50.

Finally add the 2 answers.

Page 12