

Numeracy Evening

Welcome

Brading CE Primary School

June 2015

What are we going to do this afternoon?

- Pencil & paper procedures for the four operations, $+$, $-$, \times & \div
- Consistent, progressive approach as we have a four rules policy
- KS1 - Mental calculation strategies
- KS2 - Informal written method \rightarrow Standard written method
- Model each method \rightarrow Practise multiplication & division

Addition- KS1

- Yr F – Relate addition to combining two groups of objects & extend to three groups by counting on.
- “There are 2 cars in the garage, three more arrive, how many are there now?”
- Use fingers and count on using a numberline

Addition- KS1

- Yr 1- Put the larger number first in order to count on, so $4+7$ becomes $7+4$.
- Begin to partition & recombine so that,
- $5+8=$
- $5+5+3$
- $=10+3$
- $=13$

Addition- KS1

Yr 2 – Add three numbers by looking for pairs that make 10 & do these first.

Partition & recombine so,

$$9+8=$$

$$(5+4) + (5+3)$$

$$=5+5+4+3$$

$$= 10+7$$

$$= 17$$

Addition- KS2

- Year 3
- Using a numberline, children count on in multiples of 100, 10 or 1
- So $86+57=86+50+7$
- 86 136 140 143

Addition- KS2

- Children in year 3 then start to record their calculations in preparation for an efficient standard method by adding the larger digits first
- $67+24$
- $\rightarrow(60+20) + (7+4)$
- $= 80 +11 =91$

Next steps

$$\begin{array}{r} 67 \\ + \underline{24} \\ 80 \\ \underline{11} \\ 91 \end{array}$$

After this, the standard compact method that we are familiar with is used.

Subtraction KS1

- Year F
- Find one more & one less than a given number
- Begin to relate subtraction to 'taking away' and counting how many are left
- "We ate 2 of our 6 jellies, how many are left?"

Subtraction KS1

Year 1

Find a small difference by counting up

$$\underline{4 \quad \quad \quad 10}$$

Subtraction KS1

- Year 2
- Recognise that when finding a difference between 2 numbers that are close together that it is easier to find the difference by counting up not back
- So $82-79$ is best done by counting up from 79 to 82

Subtraction KS2

Year 3

Again, use the numberline to count up to the nearest 10 and count on.

- $45 - 16 =$
- $16 \rightarrow 20 \rightarrow 30 \rightarrow 40 \rightarrow 45 = 4 + 10 + 10 + 5 = 29$
- Next step is decomposition

Subtraction - decomposition

- 84
- 53

- Becomes $80 + 4$
-- $50 + 3$

$$= 30 + 1 + 31$$

Place value & position of digits in columns is very important here

What happens here?

- 81-57

$$\begin{array}{r} 81 \\ - \underline{57} \end{array}$$

Subtraction - decomposition

$$\begin{array}{r} 81 \\ - \underline{57} \end{array}$$

$$= 70 + 10 + 1$$

$$\underline{- 50 + 7}$$

$$20 + 3 + 1$$

$$= 24$$

Now try these !

- $65 - 14 =$

- $57 - 29 =$

Standard Written method

- This leads to a standard written method

$$\begin{array}{r} 467 \\ - \underline{231} \\ 6 \\ 30 \\ \underline{200} \\ 236 \end{array}$$

Which can be further compacted to

$$\begin{array}{r} 467 \\ - \underline{238} \\ 229 \end{array}$$

The 'traditional borrowing' is introduced here

Multiplication- Informal written method

- **The Grid method (Starts in Year 3)**
- Examples
- 23×4
- 12×14
- 120×5

Now try these

$$14 \times 6,$$

$$23 \times 12,$$

$$125 \times 6$$

Moving towards a standard written method

$$\begin{array}{r} 346 \\ \times 9 \\ \hline \end{array}$$

| | |
|----------------|------------------------|
| 300×9 | 2700 |
| 40×9 | 360 |
| 6×9 | <u>54</u> |
| | 3114 |

Note the importance of having the digits in the correct column

This leads to →

346

x 9

3114

Division

- Chunking – repeated subtraction (From year 4)
- $25 \div 5$
- $96 \div 6$
- Note- It is useful to write down known facts
- $1 \times 6 = 6$, $5 \times 6 = 30$, $10 \times 6 = 60$
- Now try these, $72 \div 6$, $96 \div 8$

Thank you for attending

- Please remember that if you have a query with any aspect of your child's schoolwork, to contact the office who will obtain an appointment with the class teacher at the earliest mutually convenient opportunity.
- Useful website
- www.topmarks.co.uk