Multiplication and division revision – Pauline

Objectives

The relevant framework objectives are:

- know by heart all multiplication facts up to 10 x 10 (key objective)
- extend written methods to short multiplication of a three–digit number by a single–digit integer (key objective)
- approximate first.

Activity description

The pupils tackled a revision exercise on multiplying and dividing a three–digit number by a single–digit integer. They estimated the answer before calculating it. They then checked their answers using an inverse calculation.

Commentary

Pauline has used a formal written method to calculate 486 multiplied by 9. She has also used the inverse operation to check her answer, and has used the digital root to check that 4,374 is indeed divisible by 9.

Using written methods for short multiplication and division is typical of performance at level 4 in Ma2.

To develop her understanding of multiplication Pauline needs to be taught written methods for long multiplication of a two–digit number by a two–digit number.

Items of work

Pauline's work showing estimation and checking

486 × 9

4600 ish because 9 is nearer 10 so 10 times 486 is 4860 but because the 9 isn't ten it will be a bit less.

$$
\begin{array}{r}
486 \\
\times \quad 9 \\
\hline
4374
\end{array}
$$

Check:

$$
9\overline{\smash{)}4374} \quad 0\ 486
$$

Double check :

$$
4+3+7+4 = 18
$$
$$
18 \div 2 = 9
$$

About this entry

Subject: mathematics

Year: 5

Key stage: 2

NC programme of study: Ma2p3a, Ma2p3f, Ma2p3j

Attainment target: Ma2

Evidence for: level 4

Framework for teaching mathematics – objectives:

- Know by heart all multiplication facts up to 10 x 10.
- Extend written methods to: short multiplication of HTU by U; long multiplication of TU by TU; short division of HTU by U.