

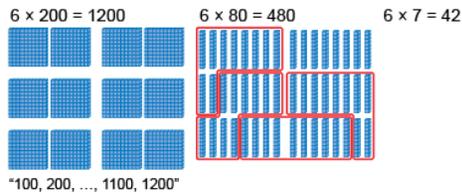
Activity 24 Assessment

Estimating Products

Conceptual Meaning of Multiplication and Division with Larger Numbers

Models multiplication and division situations concretely and pictorially

$$6 \times 287 = ?$$

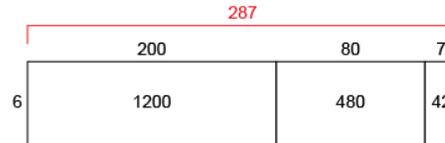


$$1200 + 480 + 42 = 1722$$

"I traded groups of 10 rods for a flat."

Models multiplication and division situations using an open array

$$6 \times 287 = ?$$



"I can use an open array to help me multiply."

Uses place value to multiply and divide natural numbers by 10, 100, and 1000

$$\begin{aligned}
 34 \times 200 &= 34 \times 2 \times 100 \\
 &= 68 \times 100 \\
 &= 6800
 \end{aligned}$$

"I used the associative property to make friendly numbers."

Observations/Documentation

Activity 24 Assessment

Estimating Products

Conceptual Meaning of Multiplication and Division with Larger Numbers (cont'd)

Decomposes numbers and uses standard algorithm to multiply and divide

$$6 \times 287 = ?$$

$$\begin{array}{r} \times 7 \\ \times 8 \\ \times 0 \\ \hline 6 \\ 48 \\ 172 \\ \hline 1722 \end{array}$$

"I used the standard algorithm to multiply the numbers."

Estimates to determine if answer to multiplication or division problem is reasonable

$$\begin{aligned} 6 \times 287 &= 1722 \\ 287 &\text{ is close to } 300. \\ 6 \times 300 &= 1800 \end{aligned}$$

"1800 is close to the answer I calculate, 1722. So, my answer is reasonable."

Creates and solves multiplication and division problems flexibly using a variety of strategies

$$123 \div 6 = ?$$

"I counted 123 photographs to put in an album. Each page can hold 6 photographs. How many pages will I need?"

$$\begin{array}{r} 20 \text{ R}3 \\ 6 \overline{) 123} \\ \underline{120} \\ 3 \end{array}$$

"I round up to 21 pages to be sure all photos will fit."

Observations/Documentation