

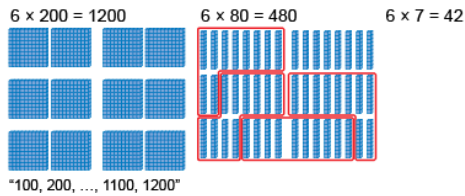
Activity 30 Assessment

Exploring Strategies for Multiplying

Conceptual Meaning of Multiplication and Division with Larger Numbers

Models multiplication and division situations concretely and pictorially

$$6 \times 287 = ?$$

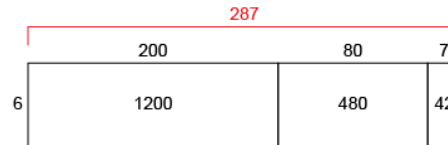


$$1200 + 480 + 42 = 1722$$

"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 whole numbers by 10, 100, and 1000 and to divide by 10.

$$\begin{aligned}
 60 \times 7 \times 100 &= 6 \times 10 \times 7 \times 100 \\
 &= 42 \times 1000 \\
 &= 42\,000
 \end{aligned}$$

"I used the associative property to make friendly numbers, then used the known fact $6 \times 7 = 42$."

Observations/Documentation

Activity 30 Assessment

Exploring Strategies for Multiplying

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

Decomposes numbers and use partial products and partial quotients to multiply and divide.

$$6 \times 287 = ?$$

$$\begin{array}{r} 287 \\ \times 6 \\ \hline 42 \\ 480 \\ + 1200 \\ \hline 1722 \end{array} \quad \begin{array}{l} 7 \times 6 \\ 80 \times 6 \\ 200 \times 6 \end{array}$$

"I decomposed 287 into hundreds, tens, and ones, then used partial products to multiply."

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

$$\begin{array}{l} 6 \times 287 = 1722 \\ 287 \text{ is close to } 300. \\ 6 \times 300 = 1800 \\ 1800 \text{ is close to the answer I calculate, } 1722. \\ \text{So, my answer is reasonable.} \end{array}$$

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?"

$$\begin{array}{r} 6 \overline{) 123} \\ \underline{60} \\ 63 \\ \underline{60} \\ R 3 \end{array} \quad \begin{array}{l} 10 \\ 10 \\ \underline{20} \end{array}$$

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

Observations/Documentation