

Activity 23 Assessment

Multiplying 3-Digit Whole Numbers by Decimal Tenths

Multiplying and Dividing Whole Numbers by Decimal Tenths

Explores and generalizes patterns using place-value relationships.

$$\begin{aligned} 245 \times 1 &= 245 \\ 245 \times 0.1 &= 24.5 \\ 245 \div 0.1 &= 2450 \end{aligned}$$

“When I multiply by 0.1, the digits shift one place to the right. When I divide by 0.1, the digits shift one place to the left.”

Uses patterns, number relationships, and properties of operations to solve problems.

$$190 \times 0.4 = ?$$

“I multiplied by 1 tenth first, then multiplied the product by 4.”

$$\begin{aligned} 190 \times 0.1 &= 19.0 \\ 19.0 \times 4 &= 76.0 \\ 190 \times 0.4 &= 76.0 \end{aligned}$$

Uses algorithms and checks for reasonableness (e.g., partial products, standard algorithm).

$$355 \times 0.5 = ?$$

I used partial products to multiply, then estimated to check the reasonableness of my answer.

$$\begin{array}{r} 355 \\ \times 0.5 \\ \hline 177.5 \end{array}$$

$$\begin{aligned} 0.5 \times 5 &= 2.5 \\ 0.5 \times 50 &= 25.0 \\ 0.5 \times 300 &= 150.0 \end{aligned}$$

355 is close to 350. 0.5 is the same as one half. One half of 350 is 175. Since 177.5 is close to 175, my answer is reasonable.”

Flexibly solves multiplication and division problems using a variety of strategies.

$$428 \div 0.4 = ?$$

“I multiplied both numbers by 10 so I could work with whole numbers, then used an algorithm.”

$$428 \div 0.4 = 4280 \div 4$$

$$\begin{array}{r} 1070 \\ 4 \overline{)4280} \\ \underline{4} \\ 028 \\ \underline{28} \\ 00 \end{array}$$

Observations/Documentation