Multiply a Decimal by a Whole Number
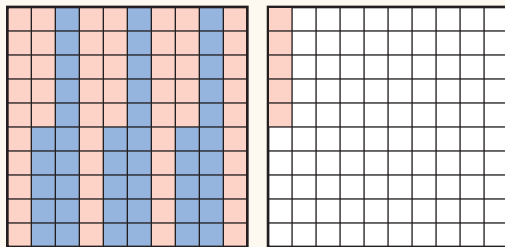
Dear Family,

This week your child is learning to multiply a decimal by a whole number.

One way your child is learning to show multiplying a decimal by a whole number is with a decimal model called a hundredths grid.

The hundredths grids below show 7×0.15.

Each grid represents one whole (1.0), and each square represents one hundredth (0.01). Each group of fifteen shaded squares shows 15 hundredths (0.15). The decimal model above shows 7 groups of 15 hundredths, or 7×0.15. The total of 105 shaded squares represents 105 hundredths, or $\frac{105}{100}$.

$$\frac{105}{100} = 1.05$$

So, $7 \times 0.15 = 1.05$.

Your child is also learning how to record the steps of multiplying a decimal by a whole number in a vertical format.

$$
\begin{array}{r}
0.15 \\
\times \quad 7 \\
\hline
35 \\
+\ 70 \\
\hline
105
\end{array}
$$

35 ⟵ 7 ones × 5 hundredths = 35 hundredths

+ 70 ⟵ 7 ones × 1 tenth = 7 tenths = 70 hundredths

105 hundredths = 1.05

Invite your child to share what he or she knows about multiplying decimals by whole numbers by doing the following activity together.
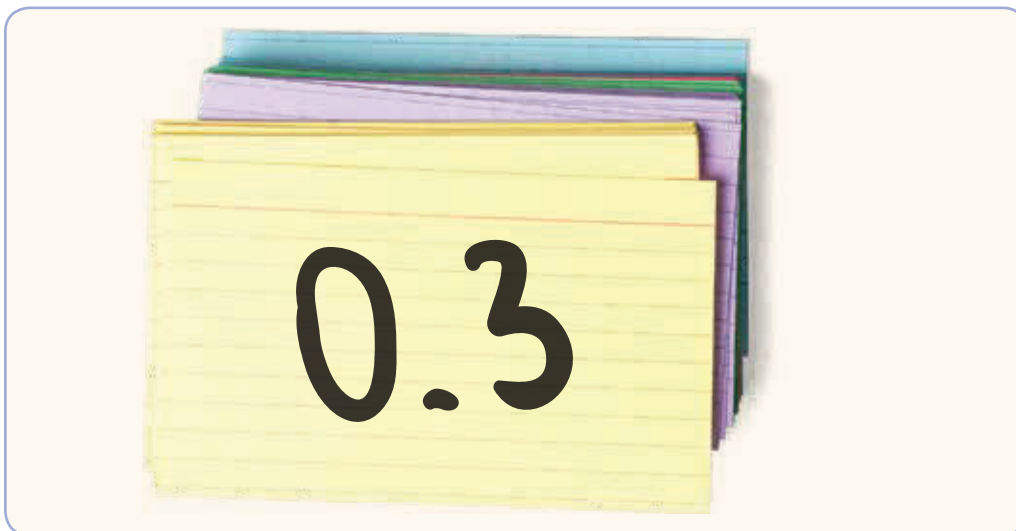
ACTIVITY MULTIPLY WHOLE NUMBERS AND DECIMALS

Do this activity with your child to multiply a decimal by a whole number.

Materials calculator, eight index cards, paper, pencil

Work with your child to solve problems that involve multiplying a decimal by a whole number.

- Write one whole number on four of the index cards. (Each number should be between 2 and 9.) Place in one stack.

- Write one decimal (in tenths or hundredths) on the other four index cards. Place in a second stack.

- Give your child the paper and pencil.

- Select one card from the stack of whole numbers and one card from the stack of decimal numbers. Ask your child to multiply the whole number by the decimal.

- Have your child use any method to find the product.

- Use the calculator to check his or her answer.

- Repeat until all four whole numbers have been used.

Look for real-world examples of multiplying decimals by whole numbers with your child. For instance, you may buy 3 pounds of potatoes at a cost of $0.73 per pound. Work together with your child to multiply to find the total cost of the potatoes. Repeat with other items that you may purchase.