



## PARENT PROMPT MULTIPLICATION AND DIVISION GUIDE 3

In the First and Second Levels children are expected to be able to multiply whole numbers mentally by 10, 100 and 1000.

### Multiplying by 10

- To multiply whole numbers by 10 we move each digit one place to the left. Put a zero in the units place.

For example,  $253 \times 10$

$$\begin{array}{r} \text{Th H T U} \\ 253 \times 10 \\ = 2530 \end{array}$$

### Multiplying by 100

- To multiply whole numbers by 100, we move the digits two places to the left. Put a zero in the units place **and** in the tens place.

For example,  $253 \times 100$

$$\begin{array}{r} \text{Tth Th H T U} \\ 253 \times 100 \\ = 25300 \end{array}$$

### Multiplying by 1000

- To multiply whole numbers by 1000, we move the digits three places to the left. Put a zero in the units place, in the tens place **and** in the thousands place.

For example,  $253 \times 1000$

$$\begin{array}{r} \text{Hth Tth Th H T U} \\ 253 \times 1000 \\ = 253000 \end{array}$$



## Multiplying decimals by 10, 100 and 1000

This process remains the same when we are using decimals. The digits move to the left but the decimal point never moves. Children may begin to notice that the tenths become units, units become tens and tens become hundreds when multiplying by 10. When multiplying by 100 or 1000, columns to the left of the decimal point must be filled with a zero. See examples below.

### Multiplying by 10

- To multiply by 10 we move each digit one place to the left.

For example,

$$53.2 \times 10$$

$$\begin{array}{r} \text{Th H T U} \cdot \text{Tths} \\ 53 \cdot 2 \quad \times 10 \\ = 532 \cdot 0 \end{array}$$

### Multiplying by 100

- To multiply by 100 we move each digit two places to the left.

For example,

$$53.2 \times 100$$

$$\begin{array}{r} \text{Th H T U} \cdot \text{Tths} \\ 53 \cdot 2 \quad \times 100 \quad (\text{Units column required a zero}) \\ = 5320 \cdot 0 \end{array}$$

### Multiplying by 1000

- To multiply by 1000 we move each digit three places to the left.

For example,

$$53.2 \times 1000$$

$$\begin{array}{r} \text{TthTh H T U} \cdot \text{Tths} \\ 53 \cdot 2 \quad \times 1000 \quad (\text{Units and tens columns required a zero}) \\ = 53200 \cdot 0 \end{array}$$



## Division by 10, 100 and 1000

In the First and Second Levels children are expected to be able to divide whole numbers mentally by 10, 100 and 1000.

### Dividing by 10

- To divide whole numbers by 10 we move each digit one place to the right. The units digit becomes the remainder.

For example,

$$\begin{array}{r} 120 \div 10 \\ \text{H T U} \\ 1 \ 2 \ 0 \div 10 \\ = \ 1 \ 2 \end{array} \qquad \begin{array}{r} 253 \div 10 \\ \text{H T U} \\ 2 \ 5 \ 3 \div 10 \\ = \ 2 \ 5 \ r \ 3 \end{array}$$

There are no remainders when the units digit is a zero.

### Dividing by 100

- To divide whole numbers by 100, we move the digits two places to the right.

For example,  $4500 \div 100$

$$\begin{array}{r} \text{TthTh H T U} \\ 4 \ 5 \ 0 \ 0 \div 100 \\ = \ 4 \ 5 \end{array}$$

### Dividing by 1000

- To divide whole numbers by 1000, we move the digits three places to the right.

For example,  $123,000 \div 1000$

$$\begin{array}{r} \text{HthTthTh H T U} \\ 1 \ 2 \ 3 \ 0 \ 0 \ 0 \div 1000 \\ = \ 1 \ 2 \ 3 \end{array}$$



## Dividing decimals by 10, 100 or 1000

As with multiplication, the process remains the same when we work with decimals. When dividing by 10, 100 or 1000 the digits move to the right. The decimal point never moves.

### Dividing by 10

- To divide decimals by 10 we move each digit one place to the right. The decimal point remains in the same position.

For example,

$$\begin{array}{r}
 25.1 \div 10 \\
 \text{H T U . Tths Hths} \\
 25.1 \div 10 \\
 = 2.51
 \end{array}$$

### Dividing by 100

- To divide decimals by 100, we move the digits two places to the right. The decimal point remains in the same position.

For example,  $1451.2 \div 100$

$$\begin{array}{r}
 1451.2 \div 100 \\
 \text{Th H T U . Tths Hths Thths} \\
 1451.2 \div 100 \\
 = 14.512
 \end{array}$$

### Dividing by 1000

- To divide decimals by 1000, we move the digits three places to the right. The decimal point remains in the same position.

For example,  $23.6 \div 1000$

$$\begin{array}{r}
 23.6 \div 1000 \\
 \text{T U . Tths Hths Thths Tens ths} \\
 23.6 \div 1000 \\
 = 0.0236
 \end{array}$$