

Multiplying And Dividing Numbers By 10, 100, 1000 etc.



Let's first list the step before we go through a few examples. Don't worry if the steps don't make sense at first. They will once you pair them with the examples further down.

Step 1:

Locate the decimal on the number given (if there is no decimal written i.e. if you're given a whole number put the decimal at the end of the number)

Step 2:

Start at the decimal and "bunny hop" (move)  in the correct direction (left or right).

The direction we move depends on whether we multiply (hop right) or divide (hop left) and the number of hops depends on how many zeros.

EACH hop corresponds to moving underneath ONE digit

For example,

Multiply by 100 means start at the decimal of the number and hop 2 places/numbers to the right (multiply) since 2 zeros

Divide by 1000 means start at the decimal of the number and hop 3 places/numbers to the left (divide) since 3 zeros

In summary:

- If multiplying: "hop" to the right by the number of zeros (each zero counts as moving 1 place)
- If dividing: "hop" to the left by the number of zeros (each zero counts as moving 1 place).


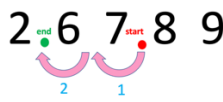
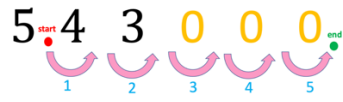
Step 3:


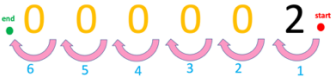
Put the new decimal where you end up (forget about the original decimal)

Step 4:

Fill in any empty hops with zeros

Let's look at some examples

<p>Example 1: 2.54×10</p> <p>Let's colour code the numbers 2.54×10</p> <p>Following the steps</p>  <p>Start at the decimal 1 zero, so "hop" 1 place to the right Put the new decimal where you end up There are no empty hops to fill with zeros</p> <p>25.4</p>	<p>Example 2: $267.89 \div 100$</p> <p>Let's colour code the numbers $267.89 \div 100$</p> <p>Following the steps</p>  <p>Start at the decimal 2 zeros, so "hop" 2 places to the left Put the new decimal where you end up There are no empty hops to fill with zeros</p> <p>2.6789</p>	<p>Example 3: 5.43×100000</p> <p>Let's colour code the numbers 5.43×100000</p> <p>Following the steps</p>  <p>Start at the decimal 5 zeros, so "hop" 5 places to the right Put the new decimal where you end up Fill in empty hops with zeros</p> <p>543,000.</p> <p>This should be written as 543,000 without the decimal at the end since we don't write the decimal when it is as the end of the number</p>
--	---	--

<p>Example 4: $4.326 \div 1000$</p> <p>Let's colour code $4.326 \div 1000$</p>  <p>start at the decimal 3 zeros, so "hop" 3 places to the left Put the new decimal where you end up Fill in empty hops with zeros</p> <p>.004326</p> <p>This can be written as 0.004326 since we normally write a zero before the decimal by convention</p>	<p>Example 5: $2 \div 1000000$</p> <p>Let's colour code $2 \div 1000000$</p>  <p>start at the decimal 6 zeros, so "hop" 6 places to the left Put the new decimal where you end up Fill in empty hops with zeros</p> <p>.000002</p> <p>This can be written as 0.000002 since we normally write a zero before the decimal by convention</p>
---	--

- 1) 3×100
- 2) 7×10
- 3) 13×10
- 4) 420×100
- 5) 32×100
- 6) 54×100
- 7) 65×10
- 8) 359×10
- 9) 39.62×1000
- 10) 5.43×10
- 11) 5.4×10
- 12) 1.234×1000
- 13) 3.2×1000
- 14) 0.32×1000
- 15) 0.003×10
- 16) 32.003×100
- 17) 3.333×1000
- 18) 0.203×100
- 19) 0.001×10000
- 20) 0.001×1000
- 21) 34.1×100
- 22) 2.3×1000
- 23) $17 \div 10$
- 24) $52 \div 10$
- 25) $6 \div 100$
- 26) $720 \div 100$
- 27) $5600 \div 1000$
- 28) $3234 \div 1000$
- 29) $6200 \div 100$
- 30) $580 \div 10$
- 31) $7200 \div 100$
- 32) $433 \div 1000$
- 33) $7 \div 1000$
- 34) $399.9 \div 10$
- 35) $87230 \div 1000$
- 36) $132.345 \div 1000$
- 37) $42 \div 100$
- 38) $43 \div 10$
- 39) $432 \div 10$
- 40) $0.2 \div 10$
- 41) $432 \div 100$
- 42) $121.3 \div 100$
- 43) $0.2 \div 100$
- 44) $3582 \div 100$
- 45) 0.9×10
- 46) $0.5 \div 100$
- 47) 3.645×100
- 48) $88 \div 100$
- 49) $0.04 \div 1000$
- 50) $0.52 \div 10$
- 51) $7.2 \div 100$
- 52) $6.2 \div 1000$
- 53) $\frac{9}{10}$
- 54) $\frac{8}{100}$
- 55) $\frac{4}{1000}$
- 56) $\frac{9.2}{1000}$
- 57) $\frac{0.8}{10}$
- 58) $\frac{9.2}{1000}$