This is a convenient method for writing very large or very small numbers.

The general form is :

$$N \times 10^n$$

where 'N' is a number equal to, or more than one, but less than ten,

$$1 \leq N < 10$$

and 'n' is the power to which 10 is raised.

<u>Example #1</u> - What is 149550 in standard index form?

Take the first number(1) and place a decimal point after it. Continue writing down the other numbers behind. This is 'N'.

1.49550

Now count the number of numerals there are after the decimal point.There are 5.This is our value for 'n' in the expression.

149550 becomes 1.4955×10^5

<u>Example #2</u> - What is 0.0000218 in standard index form?

write out the first number after the line of zeros(2), and place a decimal point after it. Continue writing down the other numbers behind. This is 'N'.

2.18

Now count the number of zeros between the original decimal point and the first number(2). Add '1'. This number gives you the value of 'n'. In this case 4+1=5.

because we are dealing with a number less than one, the index 'n' is negative.

The index is '-5'.

0.0000218 becomes 2.18×10^{-5}

<u>more examples ...</u>

$$5319 = 5.319 \times 10^{3}$$
$$0.0186 = 1.86 \times 10^{-2}$$
$$0.000109 = 1.09 \times 10^{-4}$$
$$412.25 = 4.1225 \times 10^{2}$$
$$0.000025 = 2.5 \times 10^{-5}$$
$$4002.02 = 4.00202 \times 10^{3}$$