

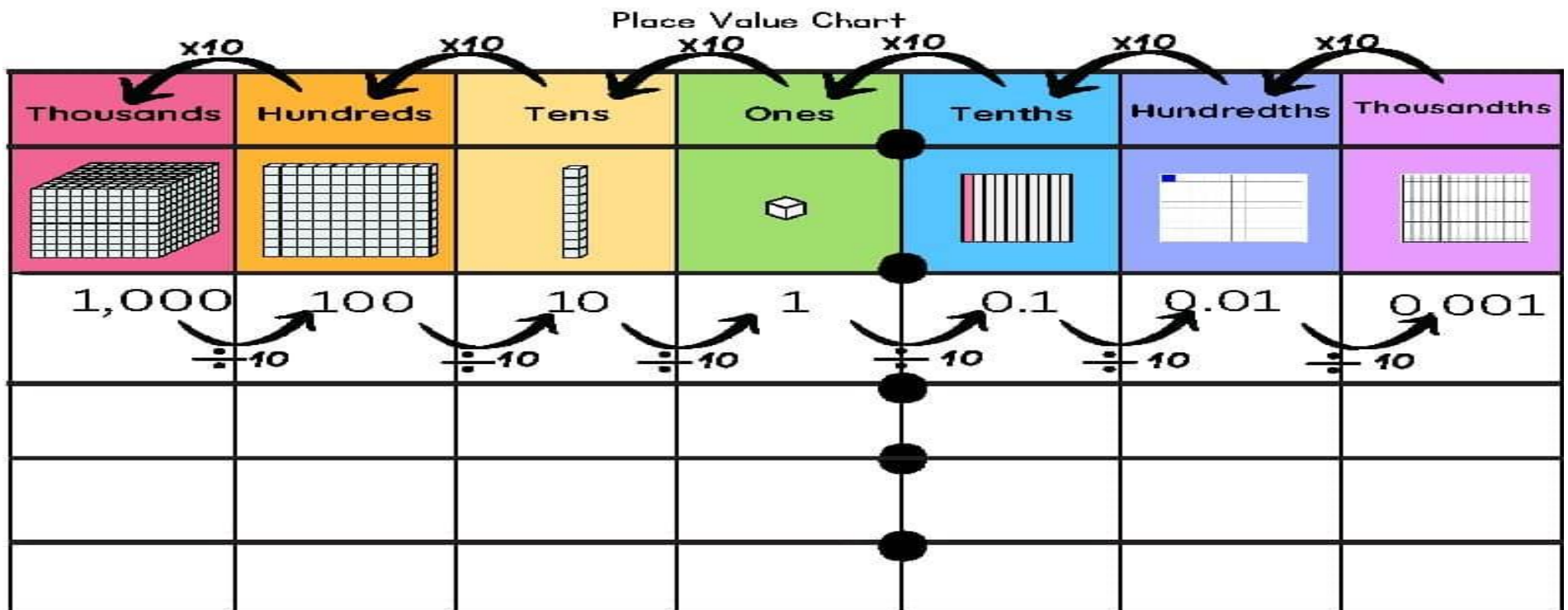
Thousands		Hundreds	Tens	Ones		Tenths	Hundredths	Thousandths
	,				.			
1,000		100	10	1		1/10	1/100	1/1000

X 10 to move to the left
Each zero = a place value

÷ 10 to move to the right
A decimal is part of a single digit

Example

7,642.309 = Seven thousand, six hundred, forty two AND three hundred ninths



Powers of Ten

POWER	EQUATION	STANDARD FORM
10^1	10	10
10^2	10×10	100
10^3	$10 \times 10 \times 10$	1,000
10^4	$10 \times 10 \times 10 \times 10$	10,000
10^5	$10 \times 10 \times 10 \times 10 \times 10$	100,000
10^6	$10 \times 10 \times 10 \times 10 \times 10 \times 10$	1,000,000
10^7	$10 \times 10 \times 10 \times 10 \times 10 \times 10 \times 10$	10,000,000
10^8	$10 \times 10 \times 10 \times 10 \times 10 \times 10 \times 10 \times 10$	100,000,000
10^9	$10 \times 10 \times 10 \times 10 \times 10 \times 10 \times 10 \times 10 \times 10$	1,000,000,000
10^{10}	$10 \times 10 \times 10 \times 10 \times 10 \times 10 \times 10 \times 10 \times 10 \times 10$	10,000,000,000

Powers of 10



As we multiply, the numbers get larger!

The exponent tells us how many zeros we need.

$$8 \times 10^1 = 80$$

$$8 \times 10^2 = 800$$

$$8 \times 10^3 = 8,000$$



exponent (or power)

base

Converting Fractions to Decimals

Converting **fractions to decimals** is representing a fraction as a decimal without changing its value.

Example

Convert $\frac{1}{2}$ to a decimal $\frac{1}{2} = 1 \div 2$ $2 \overline{)0.5}$ So $\frac{1}{2} = 0.5$

CONVERTING FDP (FRACTIONS DECIMALS PERCENTS)	
<p>Fraction</p> <p>$\frac{2}{3} \downarrow$</p> <p>Decimal</p> <p>$0.6\bar{6}$</p> <p>• divide the numerator by the like denominator</p>	<p>Decimal</p> <p>$0.20 \downarrow$</p> <p>Fraction</p> <p>$\frac{2}{10} = \frac{1}{5}$</p> <p>• remove the decimal</p> <p>• rewrite as a fraction</p>
<p>Decimal</p> <p>$0.25 \downarrow$</p> <p>Percent</p> <p>25%</p> <p>• move the decimal two places to the right</p> <p>• add a percent symbol</p>	<p>Percent</p> <p>$36\% \downarrow$</p> <p>Decimal</p> <p>0.36</p> <p>• remove the percent symbol</p> <p>• place a decimal in place of %</p> <p>• move decimal two places to the left</p>
<p>Percent</p> <p>$75\% \downarrow$</p> <p>Fraction</p> <p>$\frac{3}{4}$</p> <p>• put the number over 100</p> <p>• Simplify</p> <p>• Convert mixed number if % is greater than 100</p>	<p>Fraction</p> <p>$\frac{1}{4} \downarrow$</p> <p>Percent</p> <p>25%</p> <p>• convert fraction to decimal (\div)</p> <p>• move the decimal two places to the right</p> <p>• add percent symbol</p>