

# Decimals - Year 6

Key vocabulary			
Decimal	A number that has a decimal point followed by digits that show a value smaller than one.		
Remainder	An amount left over after division (happens when the first number does not divide exactly by the other).		
Place Value	The value of where a digit is in the number.		
Tenths	One part in ten equal parts 1/10		
Hundreths	One part in a hundred equal parts 1/100		
Thousandths	One part in a thousand equal parts 1/1000		
Equivalent Fraction	Fractions which have the same value, even though they may look different.		
Interger	A number with no fractional part (no decimals).		

#### Place Value

Tens	Ones	tenths	hundredths	thousandths
	1 1 1	0.1 0.1 0.1	0.01	0.001 0.001 0.001
$3 + \frac{4}{10} + \frac{2}{100} + \frac{6}{1000}$ 3.426 3 + 0.4 + 0.02 + 0.006				

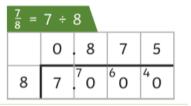
#### Fractions to Decimals

To convert a fraction to a decimal you looking to see if the number is a factor of 100. If so you can multiply your denominator to get to 100 and do the same to numerator.

$$\frac{7}{50} = \frac{14}{100}$$
 or 0.14

$$\frac{8}{200} = \frac{4}{100}$$
 or  $0.04$ 

When the denominator is not a factor of 100, you need to divide the numerator by the denominator using the short division method.



# Multiplying and Dividing Decimals by 10,100 and 1000

Tens	Ones	Tenths	Hundredths	Thousandths
3	8			
÷	3,	8		
3	8	10		

Tens	Ones	Tenths	Hundredths	Thousandths
3	8			
	0 ,	3	8	
3	8	× 100		

Tens	Ones	Tenths	Hundredths	Thousandths
3	8			
	÷ 1000			
		0	<b>'3</b>	8
_			× 1000	
3	8 `			

When multiplying decimals you need to follow ones key rule

• The decimal point does not move

When multiplying all of the digits move to the left.

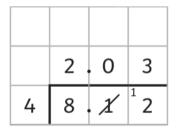
- By 10 move one place value column to the left
- By 100 move two places value columns to the left
- By 1000 move three places value columns to the left

When dividing all of the digits move to the right:

- By 10 move one place value column to the right
- By 100 move two places value columns to the right
- By 1000 move three places value columns to the right

# Dividing Decimals by Integers

$$8.12 \div 4 = 2.03$$



### Multiplying Decimals by Integers

$$3.45 \times 3 = 10.35$$

