



# Place value

# Year Six Decimals



# Vocabulary

# Fractions to decimals

Tens	Ones	tenths	hundredths	thousandths
	1 1 1	0.1 0.1 0.1 0.1	0.01 0.01	0.001 0.001 0.001 0.001 0.001 0.001

$3 + \frac{4}{10} + \frac{2}{100} + \frac{6}{1000} \longleftrightarrow 3.426 \longleftrightarrow 3 + 0.4 + 0.02 + 0.006$

1	2	3	4	5	6	7	8	9
0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.001	0.002	0.003	0.004	0.005	0.006	0.007	0.008	0.009

$\frac{7}{20} = \frac{35}{100}$  or 0.35  
 $\frac{7}{25} = \frac{28}{100}$  or 0.28  
 $\frac{7}{50} = \frac{14}{100}$  or 0.14  
 $\frac{8}{200} = \frac{4}{100}$  or 0.04

When the denominator is not a factor or multiple of 100

$\frac{7}{8} = 7 \div 8$ 

	0	8	7	5	
8	7	0	6	4	0

# Dividing decimals by integers

decimal place
decimal fraction
recurring decimal
equivalent fraction
tenth
sharing
partitioning
exchanging
rounding to 3d.p.
hundredth
thousandth
equal to
remainder
grouping

$8.12 \div 4$ 

	2	0	3
4	8	<del>1</del>	<sup>1</sup> 2

$6.93 \div 3 = 2.31$ 

Ones	tenths	hundredths
1 1	0.1 0.1 0.1	0.01
1 1	0.1 0.1 0.1	0.01
1 1	0.1 0.1 0.1	0.01



### Multiplying and dividing by 10, 100 and 1000

Thousands	Hundreds	Tens	Ones	tenths	hundredths	thousandths
			2	0	8	
		← × 10	2	0	8	
			2	0	8	→ ÷ 10

Thousands	Hundreds	Tens	Ones	tenths	hundredths	thousandths
		4	3	5		
← × 100	4	3	5			
	4	3	5	→ ÷ 100		

Thousands	Hundreds	Tens	Ones	tenths	hundredths	thousandths
			1	3	5	1
← × 1000	1	3	5	1		
	1	3	5	1	→ ÷ 1000	1

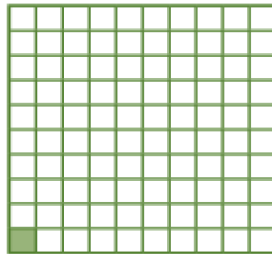
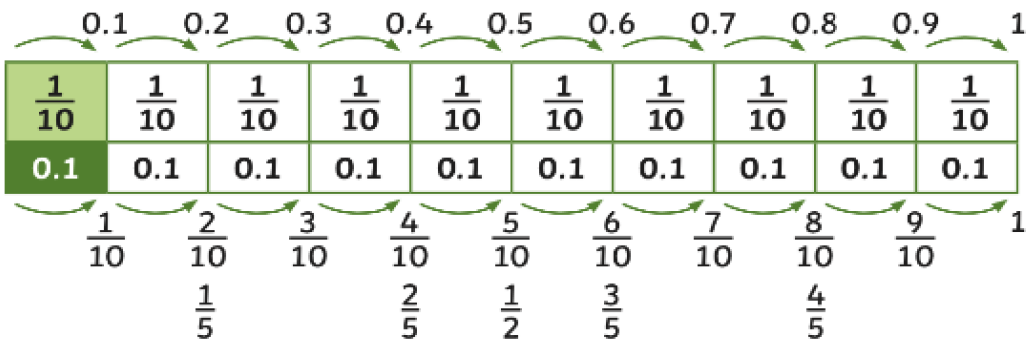
### Multiplying decimals by integers

	3	4	5
×			3
1	0	3	5
	1	1	

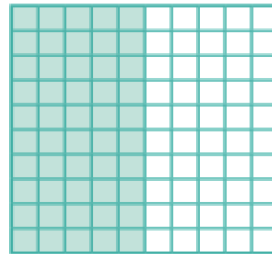
$$3.21 \times 3 = 9.63$$

Ones	tenths	hundredths
1 1 1	0.1 0.1	0.01
1 1 1	0.1 0.1	0.01
1 1 1	0.1 0.1	0.01

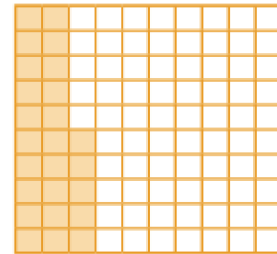
### Decimal numbers as fractions



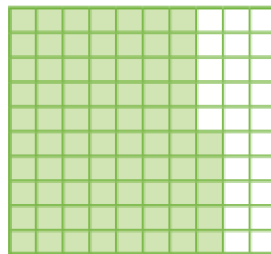
$$\frac{1}{100} = 0.01$$



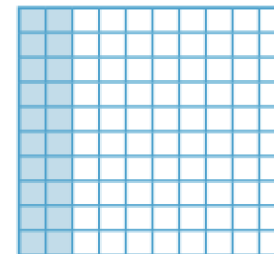
$$\frac{50}{100} = \frac{1}{2} = 0.5$$



$$\frac{25}{100} = \frac{1}{4} = 0.25$$



$$\frac{75}{100} = \frac{3}{4} = 0.75$$



$$\frac{20}{100} = \frac{1}{5} = 0.2$$

$$\frac{1}{3} = 0.33$$

$$\frac{1}{8} = 0.125$$

$$\frac{1}{1000} = 0.001$$