Year 6 Decimals

Key Vocabulary

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

Place Value

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

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

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

Fractions to Decimals

$\frac{7}{20} = \frac{35}{100}$ (×5) or 0.35

$\frac{7}{25} = \frac{28}{100}$ (×4) or 0.28

$\frac{7}{50} = \frac{14}{100}$ (×2) or 0.14

$\frac{8}{200} = \frac{4}{100}$ (÷2) 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	^{7}.	0	^{6}0	^{4}0

Dividing Decimals by Integers

8.12 ÷ 4

	2	. 0	3
4	8	. ~~1~~	$^{1}2$

6.93 ÷ 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		
				÷ 10 →		
			2	0	8	

Thousands	Hundreds	Tens	Ones	tenths	hundredths	thousandths
		4	3	5		
	× 100 ←					
4	3	5	0			
			÷ 100 →			
		4	3	5		

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

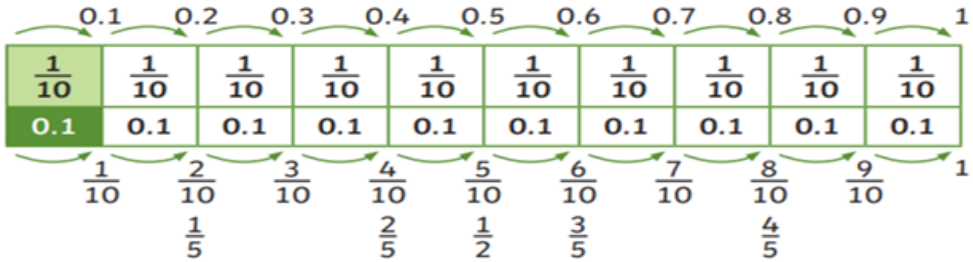
Multiplying Decimals by Integers

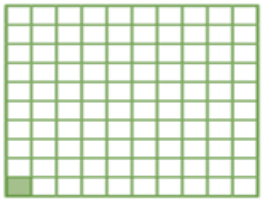
	3	.	4	5
×				3
1	0	.	3	5
	1		1	

3.21 × 3 = 9.63

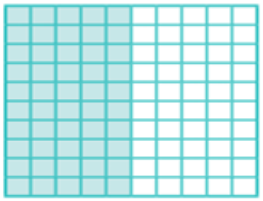
Ones	tenths	hundredths
1 1 1 .	0.1 0.1	0.01
1 1 1 .	0.1 0.1	0.01
1 1 1 .	0.1 0.1	0.01

Decimal Numbers as Fractions

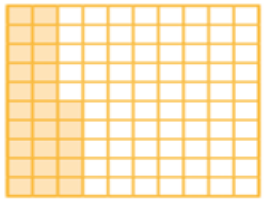




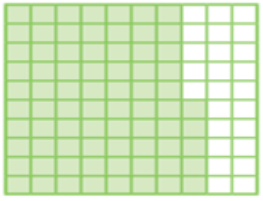
$\frac{1}{100} = 0.01$



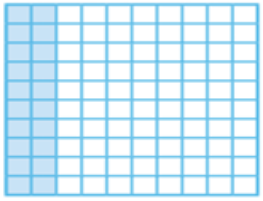
$\frac{50}{100} = \frac{1}{2} = 0.5$



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



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



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

$\frac{1}{3} = 0.33$ $\frac{1}{8} = 0.125$ $\frac{1}{1000} = 0.001$