

Key Vocabulary

- decimal place
- decimal fraction
- recurring decimal
- equivalent fraction
- tenth
- sharing
- partitioning
- 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

$$3 + \frac{4}{10} + \frac{2}{100} + \frac{6}{1000}$$



$$3 + 0.4 + 0.02 + 0.006$$

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

$$\frac{7}{20} = \frac{35}{100} \text{ or } 0.35$$

$$\frac{7}{25} = \frac{28}{100} \text{ or } 0.28$$

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

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

When the denominator is not a factor or multiple of 100

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

	0	8	7	6
8	7	0	0	0

Dividing Decimals by Integers

$$8.12 \div 4$$

	2	0	3
4	8	1	2

$$6.93 \div 3 = 2.31$$

Tens	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

Decimals – Year 6

Knowledge Organiser

Multiplying and Dividing by 10, 100 and 1000

Thousand	Hundreds	Tens	Ones	tenths	hundredths	thousandths
			2	0	8	
		← × 10	2	0	8	
			2	0	8	
			2	0	8	
			2	0	8	

Thousand	Hundreds	Tens	Ones	tenths	hundredths	thousandths
		4	3	5		
	← × 100	4	3	5		
4	3	5	0	5		
		4	3	5		
		4	3	5		

Thousand	Hundreds	Tens	Ones	tenths	hundredths	thousandths
			1	3	5	1
	← × 1000		1	3	5	1
1	3	5	1	3	5	1
			1	3	5	1
			1	3	5	1

Multiplying Decimals by Integers

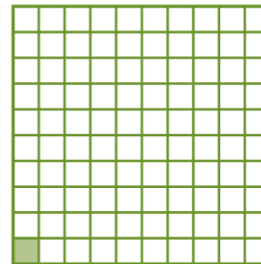
	3	4	5
x			3
1	0	3	5
	1	1	

$$3.21 \times 3 = 9.63$$

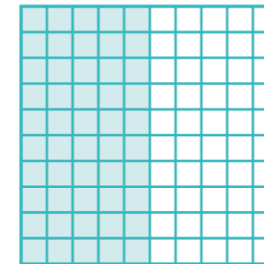
Ones	tenths	hundredths
1 1 1	0.1 0.1	0.01
1 1 1	0.1 0.1	0.01
1 1 1	0.1 0.1	0.01

Decimal Numbers as Fractions

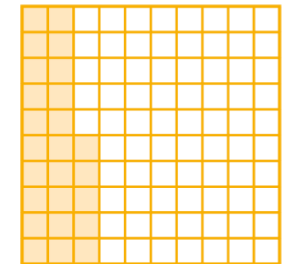
0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1
$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
$\frac{1}{10}$	$\frac{2}{10}$	$\frac{3}{10}$	$\frac{4}{10}$	$\frac{5}{10}$	$\frac{6}{10}$	$\frac{7}{10}$	$\frac{8}{10}$	$\frac{9}{10}$	1
	$\frac{1}{5}$		$\frac{2}{5}$	$\frac{1}{2}$	$\frac{3}{5}$		$\frac{4}{5}$		



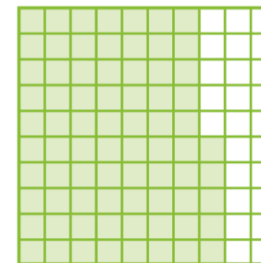
$$\frac{1}{100} = 0.01$$



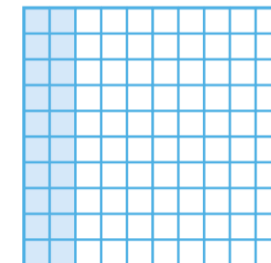
$$\frac{50}{100} = \frac{1}{2} = 0.5$$



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



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



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

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

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

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