

Key Vocabulary

tenths

hundredths

decimal tenths

decimal hundredths

decimal equivalents

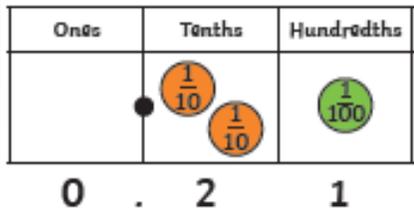
part-whole model

rounding

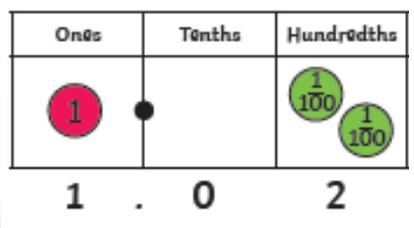
decimal point

place value

Decimals up to 2 decimal places



We can use a place value chart to partition decimal numbers and understand the value of each digit.



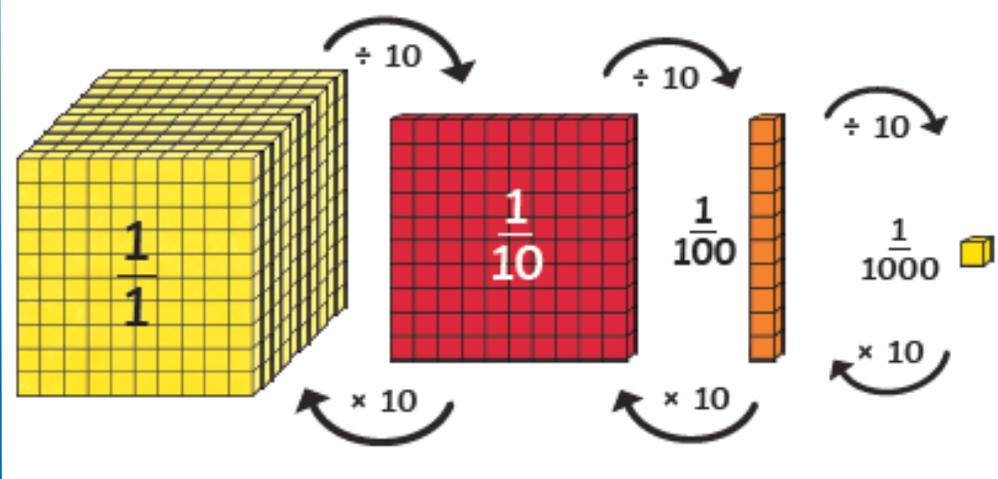
Decimals as fractions

Fractions and decimals both represent parts of a whole.

$$0.71 = \frac{71}{100} = \frac{7}{10} + \frac{1}{100}$$

$$0.37 = \frac{37}{100} = \frac{3}{10} + \frac{7}{100}$$

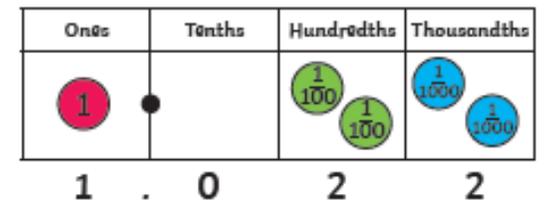
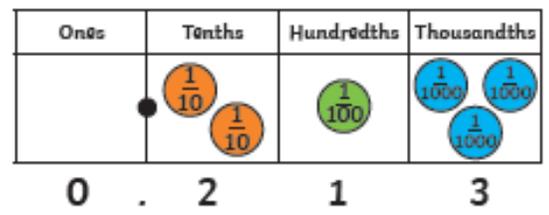
Thousandths



We can use our understanding of ones, tens, hundreds and thousands to help us understand tenths, hundredths and thousandths.

Thousandths as decimals

Just like tenths and hundredths, thousandths can also be represented as decimals.

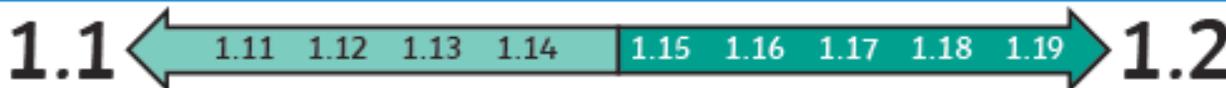


Rounding decimals



If the tenths digit is 1, 2, 3 or 4, we round down to the nearest whole number.

If the tenths digit is 5, 6, 7, 8 or 9, we round up to the nearest whole number.

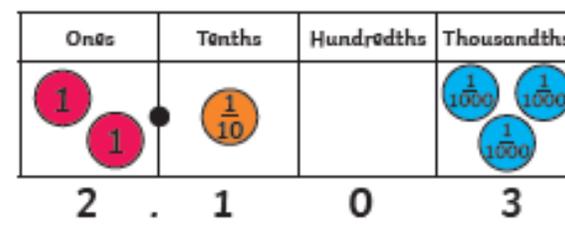
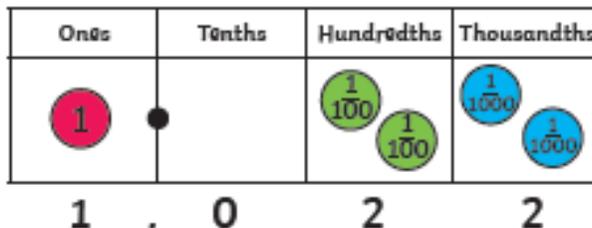
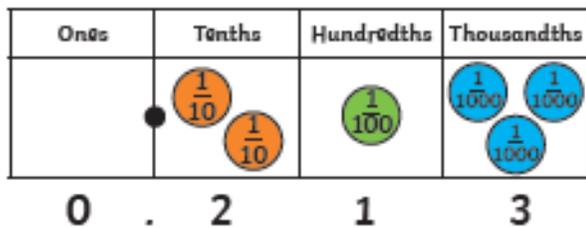


If the hundredths digit is 1, 2, 3 or 4, we round down to the nearest tenth.

If the hundredths digit is 5, 6, 7, 8 or 9, we round up to the nearest tenth.

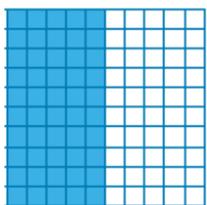
Order and compare decimals

When comparing decimals, first compare the ones digit, followed by the tenths, hundredths then thousandths.

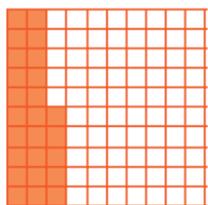


Percentages

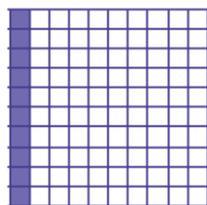
Percent means 'number of parts per hundred' or 'out of 100'. Percentages are another way that fractions and decimals can be represented.



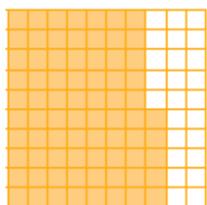
$$\frac{50}{100} = \frac{1}{2} = 0.5 = 50\%$$



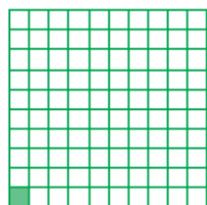
$$\frac{25}{100} = \frac{1}{4} = 0.25 = 25\%$$



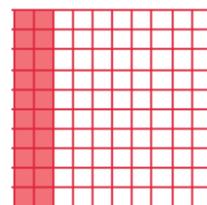
$$\frac{10}{100} = \frac{1}{10} = 0.1 = 10\%$$



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



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



$$\frac{20}{100} = \frac{2}{10} = 0.2 = 20\%$$

We can convert fractions and decimals into percentages using our knowledge of place value and equivalent fractions.

$$\frac{15}{50} \xrightarrow{\times 2} \frac{30}{100} = 0.3 = 30\%$$

$$\frac{60}{200} \xrightarrow{\div 2} \frac{30}{100} = 0.3 = 30\%$$