

Rounding to 1 Decimal Place

Sometimes a number may have lots of decimal places. It may be more useful to round the number to the nearest tenth (1 decimal place). There are lots of different ways to visualise rounding decimals. This method uses a place value chart.

To round decimals:

1. Represent the number using a place value chart with base-10 blocks, tokens or sketch your own.
2. Draw an **arrow** under the tenth column, this is the place value you are rounding to.
3. **Circle** the digit in the hundredths column, this is the deciding digit. If there are additional digits to the right, ignore them - they will not affect the final rounded value.
4. If the deciding digit is less than 5, the digit you are rounding to stays the same.
5. If the deciding digit is 5 or greater, round up the digit you are rounding to.
6. Take extra care when rounding numbers with 9 in the place value you are rounding to, as it will cause a carryover.

Example: Round 3.41 to 1 d.p.

Units	Tenths	Hundredths
III 3	IIII 4	1 1

Units	Tenths	Hundredths
III 3	IIII 4	1 1

Answer: 3.4

The deciding digit is less than 5, so 4 tenths stays the same.

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Example: Round 3.45 to 1 d.p.

Units	Tenths	Hundredths
III 3	IIII 4	5 5

Units	Tenths	Hundredths
III 3	IIII 5	5 5

Answer: 3.5

The deciding digit is 5, so 4 tenths rounds up to 5 tenths.

Example: Round 3.46 to 1 d.p.

Units	Tenths	Hundredths
III 3	IIII 4	6 6

Units	Tenths	Hundredths
III 3	IIII 5	6 6

Answer: 3.5

The deciding digit is 6, so 4 tenths rounds up to 5 tenths.

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Example: Round 3.95 to 1 d.p.

Units	Tenths	Hundredths
III 3	III IIII 9	III 5

Units	Tenths	Hundredths
III 3	III IIII 10	III 5

Units	Tenths	Hundredths
IIII 4	0	III 5

Answer: 4.0

The deciding digit is 5, so 9 tenths rounds up to 10 tenths. You can't have 10 in a column. So group 10 tenths and exchange for 1 unit, whose proper place is in the unit column. There are now 4 units and 0 tenths. The answer must be given to 1 d.p., even if the last digit is 0.

Example: Round 3.123567 to 1 d.p.

Units	Tenths	Hundredths
III 3	I 1	II 2

Units	Tenths	Hundredths
III 3	I 5	II 2

Answer: 3.5

Ignore any digits to the right of the hundredth's column, they won't affect the final rounded value. The deciding digit is 6, so 4 tenths rounds up to 5 tenths.