Rounding numbers

Task 1:
You will get a set of cards with numbers on. These need to be rounded up or down to the nearest whole number.

Put each number card in the correct column of the table, according to which whole number it rounds up or down to.

Not all the cards have a place on the table.

Task 2:
Now make up a number card of your own which fits one column of the table.

Task 3:
Find the number card with the lowest value in each column of the table. Now find the card with the highest value in each column. You can check if you are right by turning the cards over.

Questions…

1) Do you notice a pattern?

2) What is the pattern if these numbers have more than one decimal place?

175.9	174.7	176.5	
176.8	174.3	1075	176
17.4	174	175	176.6
176.3	175.07	175.55	175.1
175.6	175.766	170	175.2
1.75	175.08	176.1	174.6
175.5	Minimum	176.4	Maximum
174.5	Minimum	175.4	Maximum

Table of rounded numbers

These are the numbers which are rounded up or down to the nearest whole number of **175**	These are the numbers which are rounded up or down to the nearest whole number of **176**

What is rounding?

Rounding is a way of making numbers easier to work with.

If a room is 7m 9cm long, we can say it is about 7m long. 7m is accurate enough, or near enough, most of the time. Sometimes we do need an accurate measurement if, for example, we wanted to lay a laminate floor or carpet.

In the above example we rounded 7m 9cm to 7m. We rounded **to the nearest metre.**

If you are dealing with money, or working out a money problem, you may want to round to the nearest pound. You may already do this when you go shopping to check you have enough money to pay the bill e.g. if a packet of tea costs £1.99, you can say it costs about £2.

You rounded £1.99 to £2, so you have rounded **to the nearest pound.** Or, looked at another way, you have rounded a decimal number **to the nearest whole number.**

In other situations you may want to round numbers to the nearest 10, 100, 1000 (or even higher multiples of ten) depending on what you are trying to do. We call this rounding to a certain **degree of accuracy.**

It is up to you to decide what makes sense for you to round to, or what degree of accuracy to use.

In the first example above, it would not make sense to round 7m 9cm to the nearest kilometre as 7m 9cm is a long, long way off from even 1 kilometre (about how far off is it)? And that is why we rounded to the nearest metre.

But if you were travelling a distance of 73km 43m by train, it would make sense to round this to the nearest kilometre.

What would this be?

Uses of rounding numbers

We have already said that rounding numbers is a way of simplifying numbers, so they are easier to work with. We can use numbers that have been rounded to work out a rough answer or an estimate to a problem or calculation.

An estimate is an answer that might be a little more or a little less than the actual accurate answer, but it is near enough to suit us.

You should always try to carry out an estimate before you work out the actual answer. This will help you make sure that the actual answer makes sense.