**Adding and Subtracting Significant Figures**

Significant figures tell us which numbers are scientific valuable and which are not. Put simply, they are the measured numbers we are “sure” about. We can look at a number and determine which values are significant by asking ourselves the question, “which values contribute to the size of the number, and which values contribute to the precision” (how good the measured number is).

Now let’s do an example.

Example 1: 3900

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With one color, highlight the numbers that are only there to tell you the size. With another color, highlight the values that are there to tell you the precision. Now count the number of values highlighted for precision and that is the number of sig figs. Does anyone have the answer?......2!

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  |  | 3 | 9 | 0 | 0 |

Now let’s move on to an example with adding and subtracting sig figs.

First, let us label the columns on our graphic organizer. Starting from the right-hand side we have the ones, tens, hundreds, thousands, and hundred thousands. These place values names are important as we will be referring back to them throughout our lesson.

Now let us add in each of our numbers, one per row.

Next, take out a highlighter and highlight the least significant place value in each row. The least significant place value is the place value the furthest to the left that you have a significant figure.

Finally, we must add up all the values and round the number to the least significant place value. In our case that is the hundred thousands column. So, our final answer has 1 significant figure.

Example 2: 100000+27+3905-32+777

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| --- | --- | --- | --- | --- | --- | --- |
|  | 1 | 0 | 0 | 0 | 0 | 0 |
| + |  |  |  |  | 2 | 7 |
| + |  |  | 3 | 9 | 0 | 5 |
| - |  |  |  |  | 3 | 2 |
| + |  |  |  | 7 | 7 | 7 |
| = | 1 | 0 | 4 | 6 | 7 | 7 |
| = | **1** | **0** | **0** | **0** | **0** | **0** |