

BUILDING ARITHMETIC CALCULATIONS

Arithmetic calculations are also called **Number Functions**

Number functions allow us to perform computations on the data values in the fields.

Number functions can only be used with fields that contain numerical values.

For example, you might have a requirement to Round a number or a field to the nearest integer of equal or lesser value.

For this we can use the FLOOR function

The calculation might look something like this:

```
FLOOR(SUM([Sales]))
```

There are many Aggregate functions available in Tableau, but we will be going through only 2 functions

FLOOR

CEILING

BUILDING ARITHMETIC CALCULATIONS

Syntax for FLOOR function :

FLOOR(number)

Description of FLOOR function :

Rounds a number to the nearest integer of equal or lesser value.

Syntax for CEILING function:

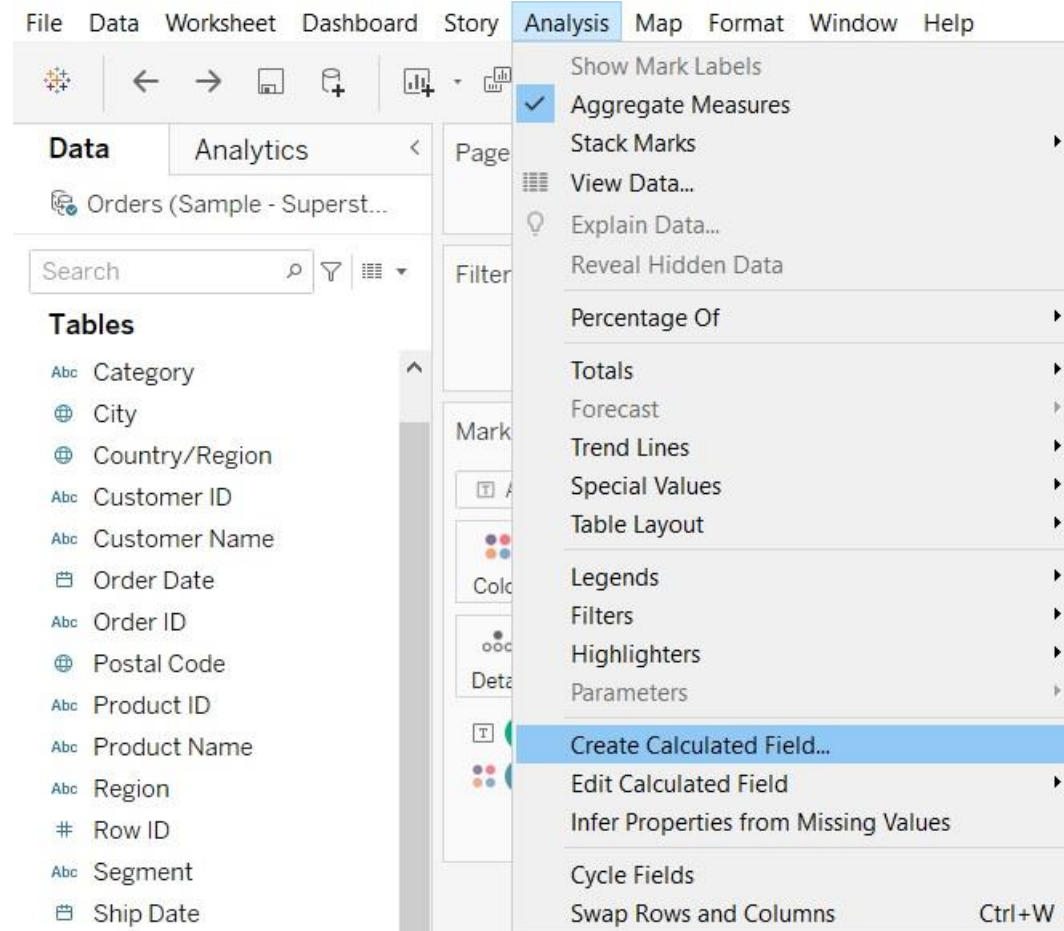
CEILING(number)

Description of CEILING function :

Rounds a number to the nearest integer of equal or greater value.

STEPS TO FLOOR AND CEILING FUNCTION

Step 1: Select **Analysis** > **Create Calculated Field**



STEPS TO FLOOR AND CEILING FUNCTION

Step 2: Calculation Editor will open



The image shows a screenshot of a software interface titled "Calculation1" with a close button (X) in the top right corner. Below the title bar is a large, empty rectangular area for editing calculations. At the bottom right of the dialog, there are two buttons: "Apply" and "OK". The "OK" button is highlighted in green.

STEPS TO FLOOR AND CEILING FUNCTION

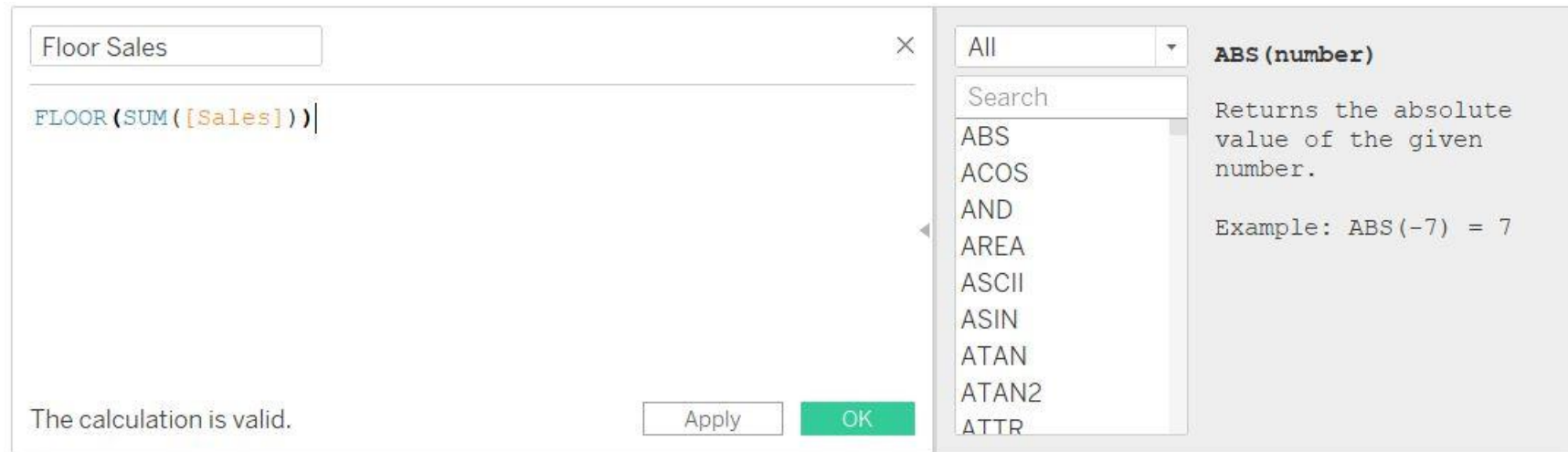
Step 3: Name the calculated field, **Floor Sales**.

Enter the below mentioned formula

`FLOOR(SUM([Sales]))`

Confirm that a "**The calculation is valid**" message is seen

When finished, Click **OK**



STEPS TO FLOOR AND CEILING FUNCTION

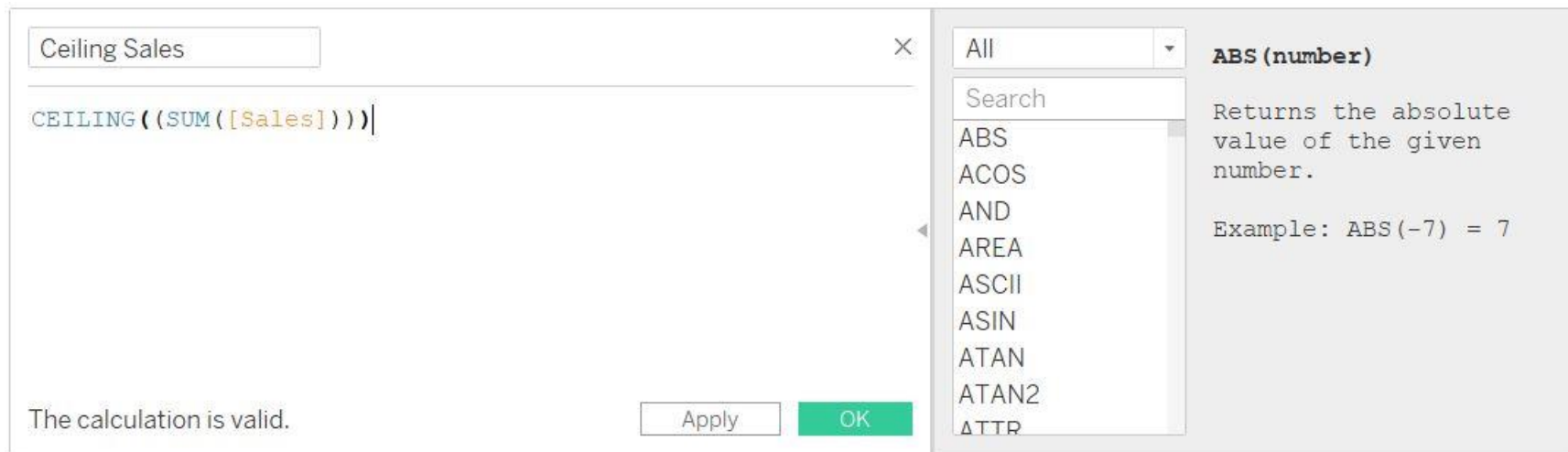
Step 4: Name the calculated field, **Ceiling Sales**.

Enter the below mentioned formula

`CEILING(SUM([Sales]))`

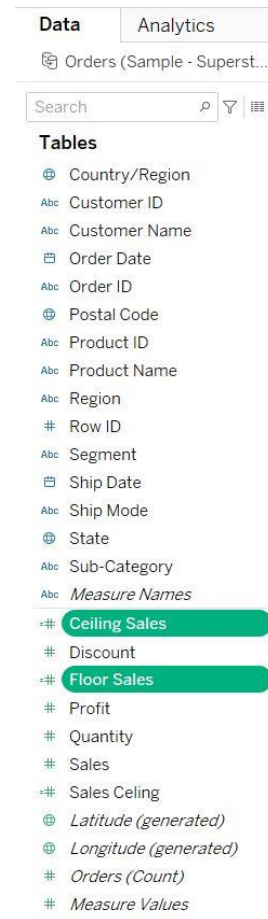
Confirm that a **"The calculation is valid"** message is seen

When finished, Click **OK**



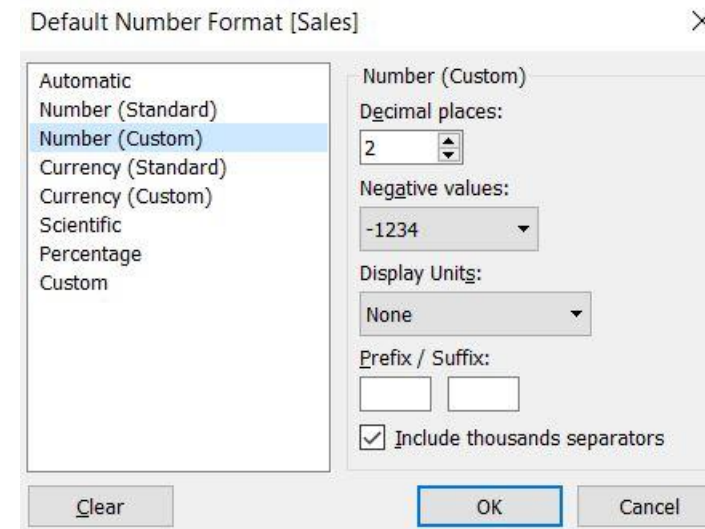
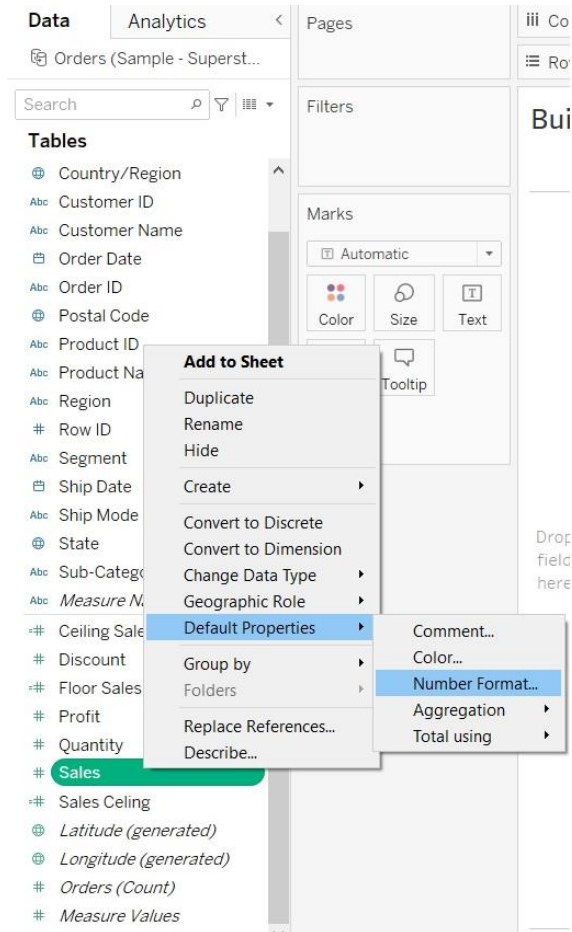
STEPS TO FLOOR AND CEILING FUNCTION

Step 5: The new calculated field appears under Measures in the Data pane. Just like other fields, we can use it in one or more visualizations.



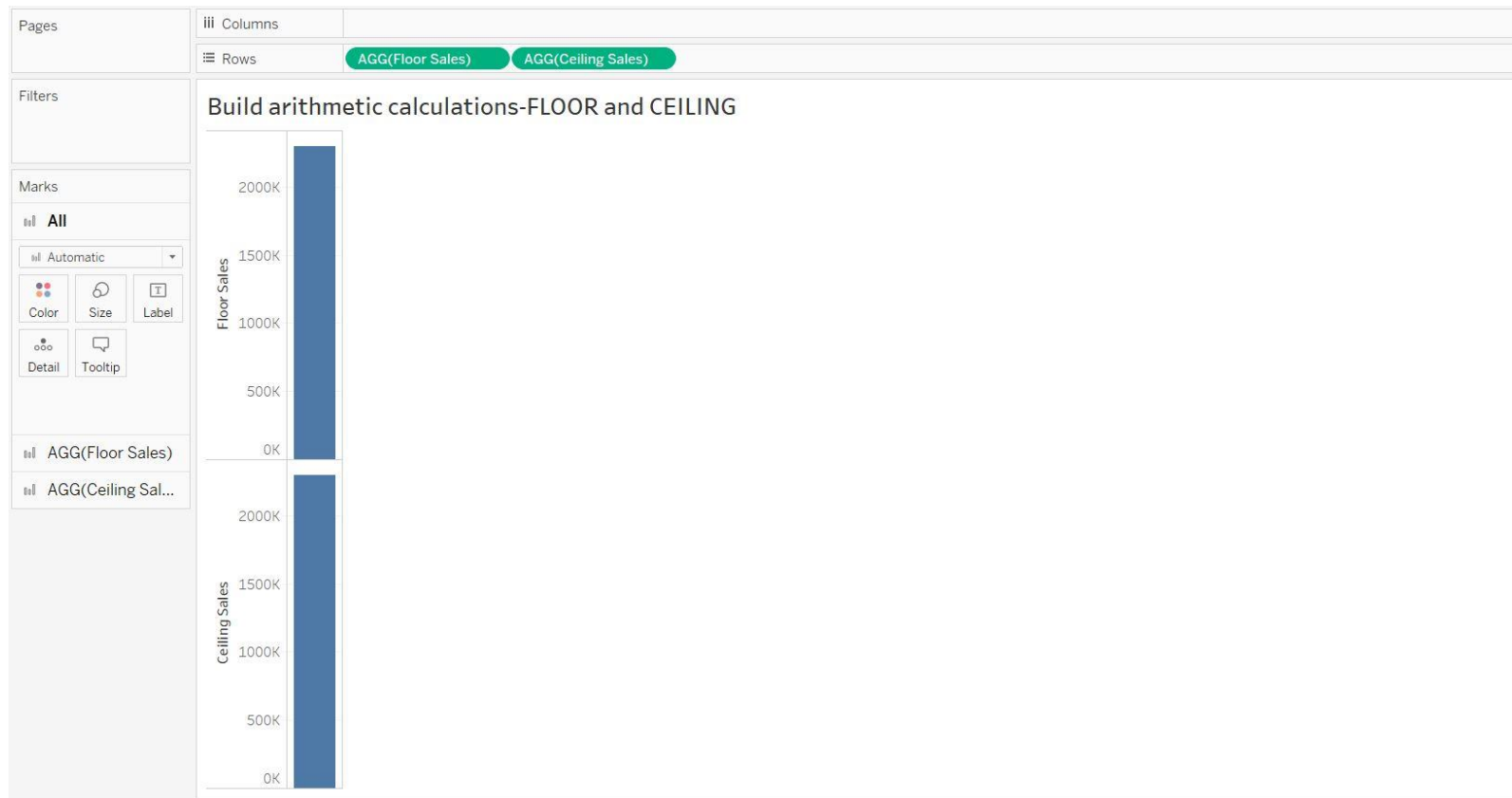
STEPS TO FLOOR AND CEILING FUNCTION

Step 6: Right-click Sales field, Default Properties > Number Format > Number(Custom) > Decimal places '2'



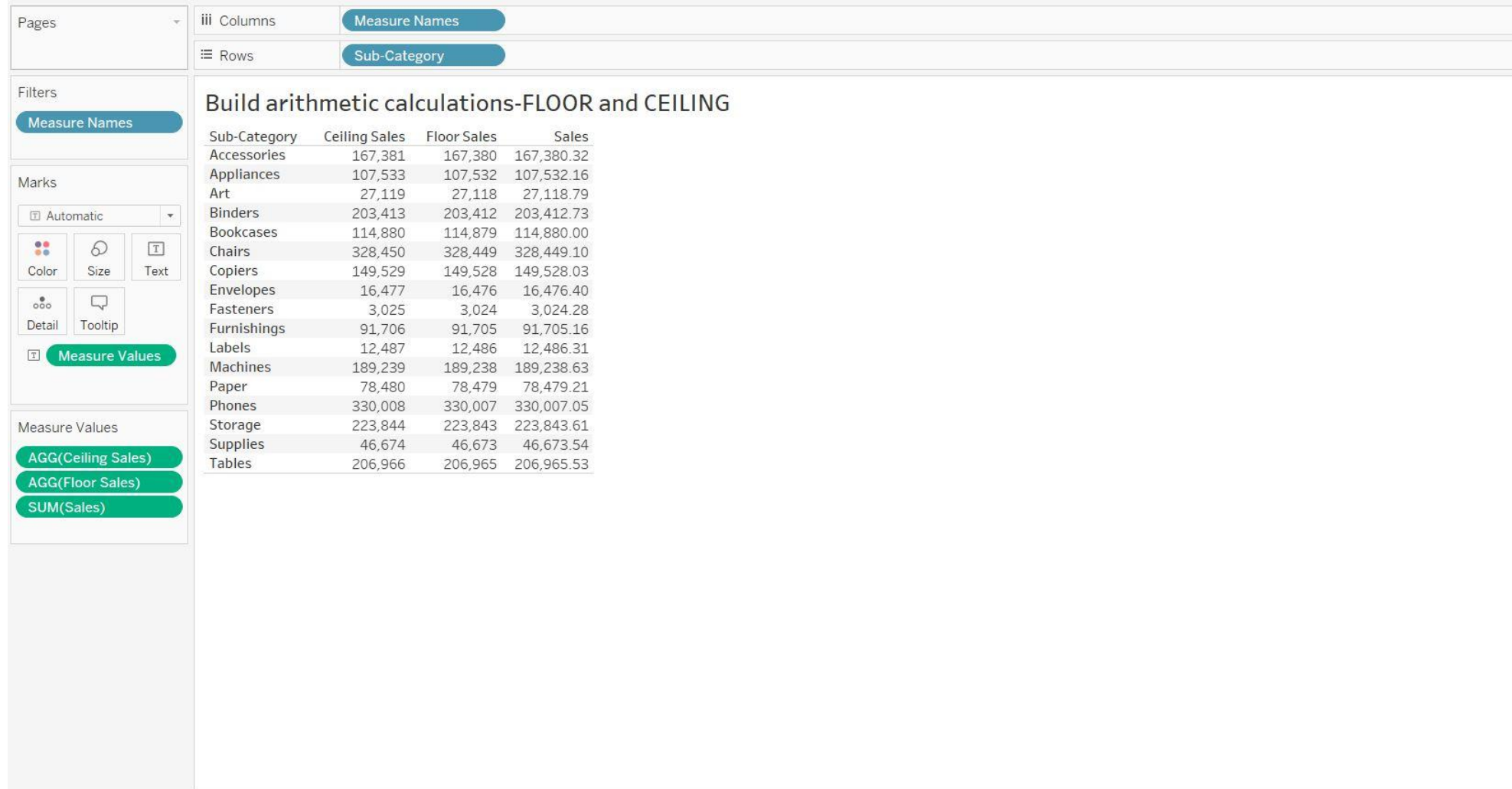
STEPS TO FLOOR AND CEILING FUNCTION

Step 7: When **Floor Sales** and **Ceiling Sales** is placed on a shelf or card in the worksheet, its name is changed to AGG(), which indicates that it is an aggregate calculation and cannot be aggregated any further.



STEPS TO FLOOR AND CEILING FUNCTION

Step 8: Check the FLOOR and CEILING calculations in the below Viz



STEPS TO FLOOR AND CEILING FUNCTION

Step 9: Ceiling provides the nearest integer of equal or greater value

Floor provides the integer of equal or lesser value

e.g.: Ceiling Sales for Copiers is 149,529

Floor Sales for Copiers is 149,528

Pages

Filters

Marks

Automatic

Color

Size

Text

Detail

Tooltip

Measure Values

Measure Values

AGG(Ceiling Sales)

AGG(Floor Sales)

SUM(Sales)

Columns

Measure Names

Rows

Sub-Category

Build arithmetic calculations-FLOOR and CEILING

Sub-Category	Ceiling Sales	Floor Sales	Sales
Accessories	167,381	167,380	167,380.32
Appliances	107,533	107,532	107,532.16
Art	27,119	27,118	27,118.79
Binders	203,413	203,412	203,412.73
Bookcases	114,880	114,879	114,880.00
Chairs	328,450	328,449	328,449.10
Copiers	149,529	149,528	149,528.03
Envelopes	16,477	16,476	16,476.40
Fasteners	3,025	3,024	3,024.28
Furnishings	91,706	91,705	91,705.16
Labels	12,487	12,486	12,486.31
Machines	189,239	189,238	189,238.63
Paper	78,480	78,479	78,479.21
Phones	330,008	330,007	330,007.05
Storage	223,844	223,843	223,843.61
Supplies	46,674	46,673	46,673.54
Tables	206,966	206,965	206,965.53