

# Exercise 7: Military Spending Waffles

## Data Blending

### Objectives

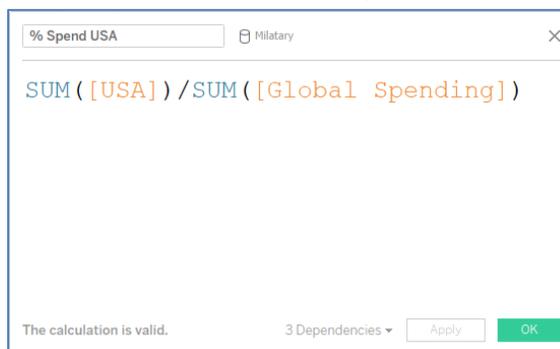
1. Use Global Military spending data to practice data blending and creating percentage waffle charts
2. Practice applying blended datasets in calculations

### Data Blending

Data blending is a connection feature in Tableau that relates data in multiple data sources. This type of connection behaves like a left join while defining a primary and secondary data source. The key difference that separates blending from a join is its ability to connect data on two different levels of detail.

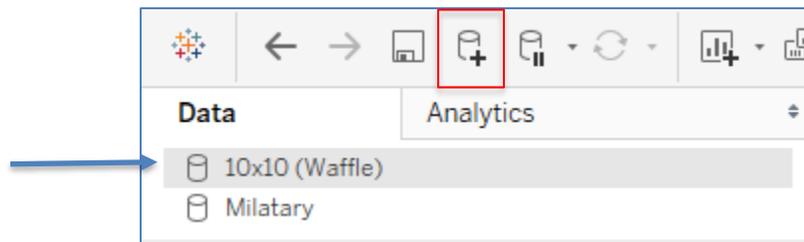
### Connection

1. Open the Tableau starter workbook called **Exercise 7, Military Waffles Starter** in the Exercise Starter Workbooks folder. Notice from the data source preview, each row in the dataset represents a monetary spending values by year. These values are broken out by individual countries and an overall spending column. Let's start by navigating to Sheet 1 and searching for the countries we would like to see spending percentages for.
  - Countries of Interest:
    - USA
    - China, P.R.
    - Germany
    - Italy
2. First create a new **calculation** for each of these countries. Label them '**% Spend Country Name**'. (Repeat this calculation for China, Germany, and Italy)



Notice that [Global Spending] is a sum of every country’s spending for that specific year. What does the Sum([Global Spending]) represent?

- Now let’s make a waffle chart. We will have to connect to a secondary data source to get a waffle chart grid. From your current sheet add the secondary data source **Waffle.xlsx** to the data pane.

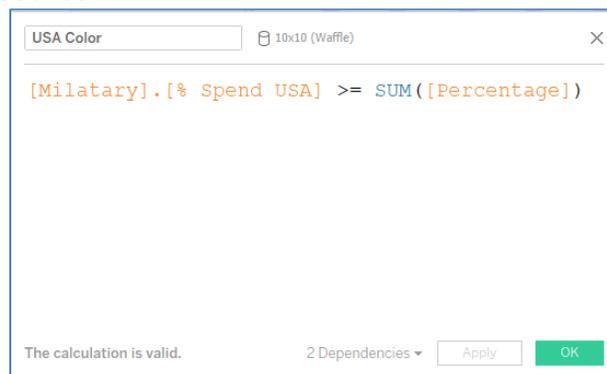


- Navigate back to Sheet 1 and select the 10x10 (Waffle) data source. From the measures pane drag **Column** to columns and **Row** to rows. Now navigate to the analysis tab and deselect aggregate measures.

Notice how the data source 10x10 waffle now has a blue check mark next to it. What does this mean?

**Question 1:** How is tableau handling the underlying data across the x, y grid? (Hint: Drag percentage to Label)

- Change the shape to square and increase the size to create the waffle appearance. Now, a second calculation “**Country Name Color**” is needed to add the percent spend field to the view. Create this Boolean calculation on the waffle data source.



Notice that Tableau calls the [% Spend] calculation from the Military Data source. This is forcing a connection between the two data sources through a calculation. This new field determines if % Spending is greater than or equal to the waffle percentages. It then presents the result as either true or false.

6. Drag this calculation to color and generate your first waffle chart! Repeat this process for China, Germany, and Italy by duplicating your first sheet and replacing the field on color.



7. Drag percentage to detail and right click a waffle square to annotate a mark on your graph. Clear the annotation and only keep <Percentage>.
8. You can now format the annotation box by right clicking it on the viz. To change the number formatting to a **percent**, right click percentage on the **marks card** and **Format the Pane** numbers to **Percentage** with **1** decimal place.

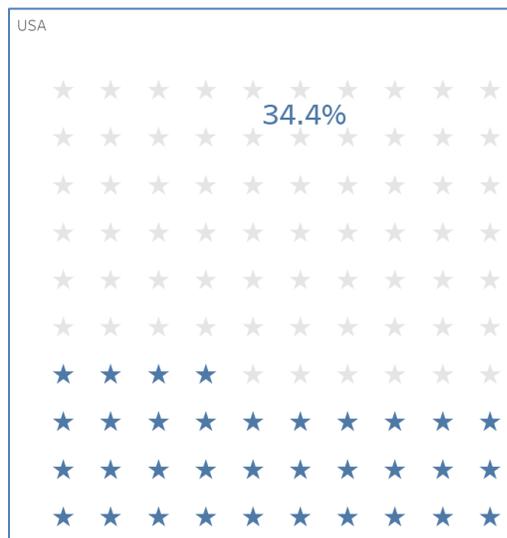


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10. You have a completed Waffle Chart for USA military spending, Duplicate the sheet and repeat the process for China, Germany, and Italy.

After you have all four waffle Charts, practice putting them together in a dashboard!

