I want to see you teach some Tableau principles. You can use the Tableau Superstore Sample data to teach from. I'll choose 2-3 components from this list for you to share your screen and teach me about as if I know nothing:

* **How to build a bar chart**
* **How to create a scatter plot**
* What is a parameter? How can I create a Top N Parameter?
* How to build a donut chart(the correct answer is never, but clients still ask. How would you teach why pie charts and donut charts can be misleading?)
* **A dual Axis chart**

## Bar charts

Bar charts are good when we want to compare values across categories.

For example, let’s say we wanted to find total sales by region. We want to think about this as if we are listing out the category values and then summarizing by some group.

Chart, bar chart

Description automatically generated

## Scatterplot

These are good for comparing the relationship between one quantity and another. For example, sales is a Quantity.

Now this is visualizing the X-Y coordinates of total sales and total profit. We want to break this down by individual order. We will drop Order ID into the Details

Chart, scatter chart

Description automatically generated

## Parameters

These are values that control other values. Let’s make a top 10 parameter

“A parameter is a workbook variable such as a number, date, or string that can replace a constant value in a calculation, filter, or reference line”

## Donut charts

This can be used when we want to \_\_\_\_\_\_\_\_

<https://data-flair.training/blogs/tableau-donut-chart/>

Donut charts are an alternative to the pie chart.

## Dual axis

This can be used when we want to analyze two measures of different scales.

1. Drag Month (Order Date) to Columns, SUM(Profit) to Rows, SUM(Sales) to Rows.
   1. Note that Sales is in the tens of thousands and profit is in the thousands… how can we square these away?   
        
      Graphical user interface, application

      Description automatically generated
   2. I am going to start at the Show Me menu and switch this to Dual Combination:   
      Chart, bar chart, histogram

      Description automatically generated
   3. Feel free to change the “Marks” of these back to, for example, a line:  
      Graphical user interface, chart

      Description automatically generated

## Pie chart

This could be considered an alternative to the bar chart. It’s typically used to get a percentage breakdown of parts to the whole. For example, there are three Categories and we want to see how these make up total sales.

1. I can use the Table viz and then Show Me to set this up:   
   Graphical user interface, application

   Description automatically generated
2. The piechart is going to be super small in the Tableau interface. Make it bigger with Ctrl + Shift + B. Ctrl + B will make it smaller.
3. Is it clear at all which category is actually the biggest? They all look pretty equal. Let’s add the % to Total Sales to the labels using a Quick Table Calculation.

Graphical user interface, chart, application, pie chart

Description automatically generated

1. OK, so it looks like basically a tie between these. What about checking by subcategory, does that work any better?   
   Graphical user interface, chart, application, pie chart

   Description automatically generated

## Donut chart

<https://data-flair.training/blogs/tableau-donut-chart/>

This is a modified take on the pie chart that is a little tricky to make in Tableau. You need to combine dual axes and other placeholder-type features to make it happen.

1. Create two AGG(avg(0)) placeholders and create the first mark card to Pie like so:  
     
   Graphical user interface, application

   Description automatically generated with medium confidence
2. Build the visualization as you want to have it shown. You will want to build it all through the Marks  
   Graphical user interface, chart, application, pie chart

   Description automatically generated
3. Now go down to the second mark – you are going to set this as a white circle (See where this is going?)   
   Graphical user interface, chart, application, pie chart

   Description automatically generated
4. Set the chart to Dual Axis  
   Graphical user interface, chart, application

   Description automatically generated
5. Resize the white hole for the “donut” and there you have it!

## Top N parameters

Data can be big and messy – sometimes we only want to see the top N performers. Now if you remember in algebra N is a variable, it’s a dynamic number that can stand for another number. That’s basically what a parameter is.

1. Let’s get total sales by Sub-Category
2. Create a Top N subcategory: We will let user pick b/w Top 1 and 10 subcategories:  
     
   Graphical user interface, application

   Description automatically generated
   1. Set the Step Size to 1 b/c you will never have an interval of 1.5, for example
3. Right-click and show the parameter – we can change how it’s configured but it’s not going to do anything yet.
4. Right-click Subcategory > Filter > Top N subcategory And you’ve got a dynamic thing.
   1. You could hard-code this, OR use the dynamic parameter:  
      Graphical user interface, application

      Description automatically generated