UNDERSTANDING DISCRETE AND CONTINUOUS FIELDS

Probably the first thing that we need to be aware when working on Tableau is the difference between **Blue**/**Discrete** and **Green**/**Continuous** fields

Dimension and **Measure** is about **WHAT** the **data** represents or **what** the **data** means
Discrete and **Continuous** is about **HOW** we want to **display** the **data** in the **view** or **viz**

Given below are the topics that will be covered:

Blue versus green fields/pills

Possible combinations of fields in Tableau

Examples of continuous and discrete fields used in a view

How continuous and discrete fields change the view

BLUE VERSUS GREEN FIELDS/PILLS

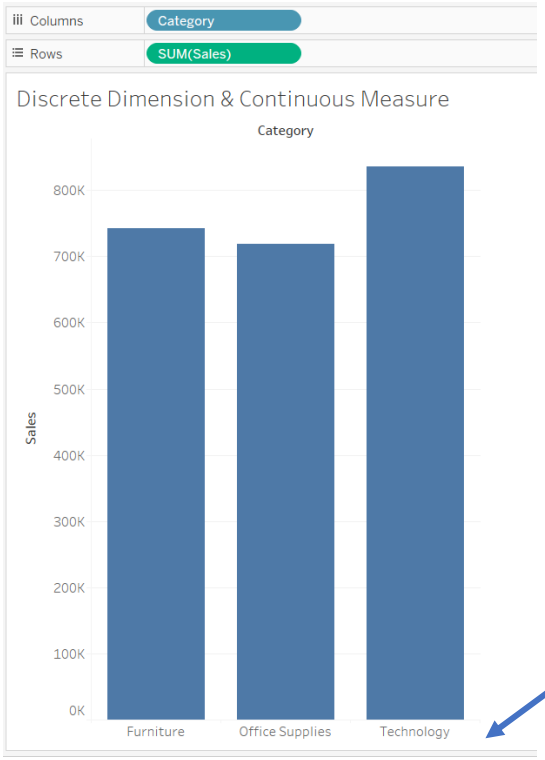
Tableau represents data differently in the view depending on whether the field is **discrete (blue)**, or **continuous (green)**

Continuous and **discrete** are mathematical terms

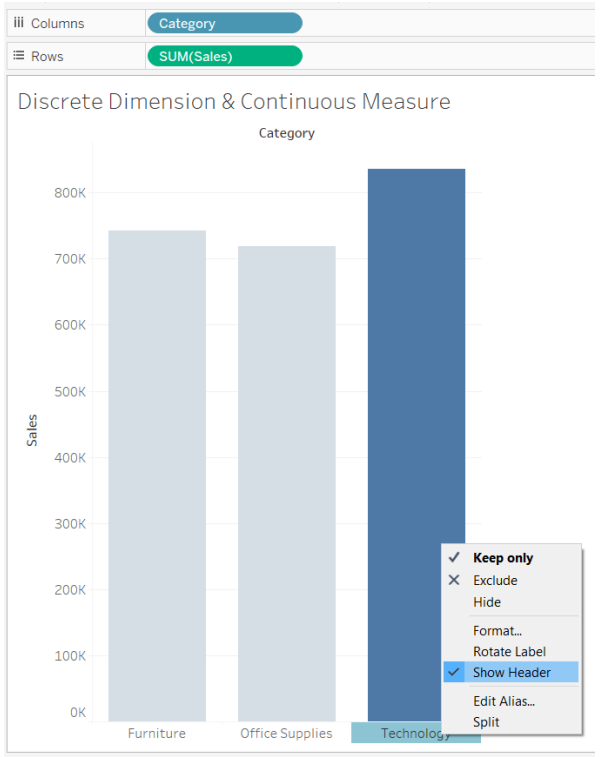
Continuous means "forming an unbroken whole, without interruption“
Discrete means "individually separate and distinct"

BLUE VERSUS GREEN FIELDS/PILLS

Discrete means distinct or different
It is represented by a **Blue pill**
Blue pill creates **Headers** or **Labels**, and they slice up the data



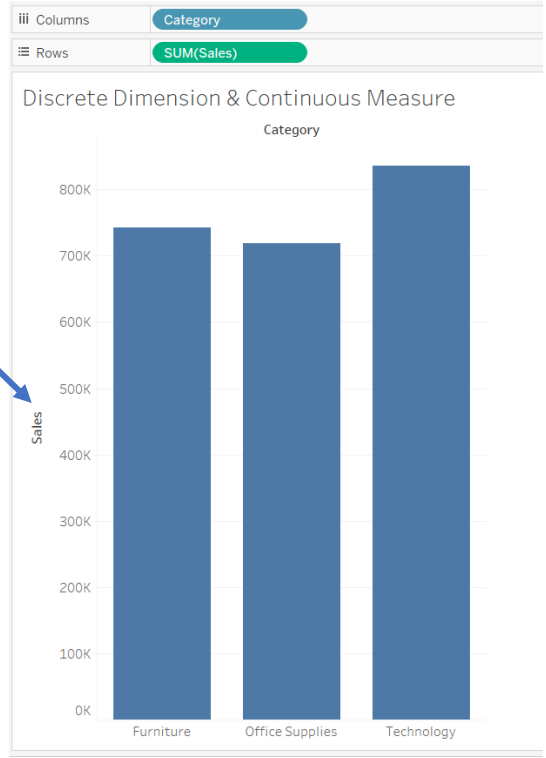
Category creates the **Headers**

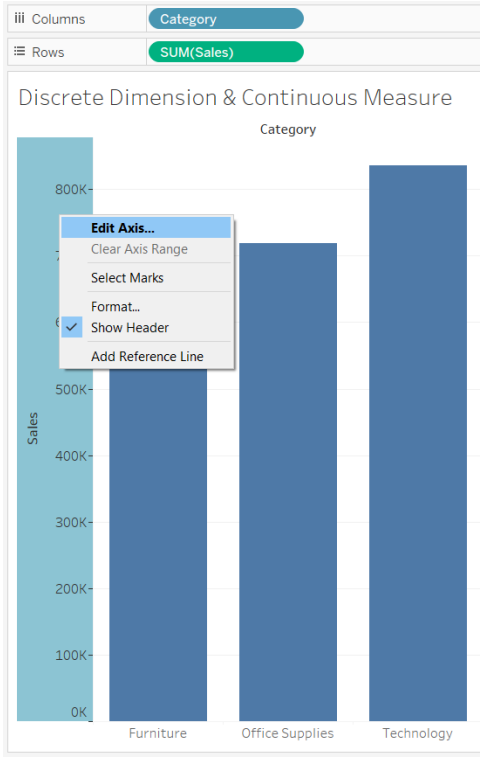


BLUE VERSUS GREEN FIELDS/PILLS

Continuous means without a pause or interruption
It is represented by a **Green pill**
Green pill creates **Axis**
We will have a number line that will show the values along a continuous range of values without any break or pause

Sales creates the **Axis**





BLUE VERSUS GREEN FIELDS/PILLS

Green measures 

and **dimensions** 

are **continuous**

Continuous field values are treated as an infinite range

Generally, **continuous fields** add **axes** to the view

Blue measures 

and **dimensions** 

are **discrete**

Discrete values are treated as finite

Generally, **discrete fields** add **headers** to the view

BLUE VERSUS GREEN FIELDS/PILLS

In Tableau by default, in the Data pane
Dimensions are shown as **Blue pills** and
Measures as **Green pills**

But we need to take note that a **Dimension is not always** a **Blue pill** and a **Measure is not always** a **Green pill**

Dimension may not always produce **a Header/Label** and a
Measure may not always produce an **Axis**

POSSIBLE COMBINATIONS OF FIELDS IN TABLEAU

Given below are the possible combinations of fields

Discrete Dimensions

Continuous Dimensions (dimensions with a data type of String or Boolean cannot be continuous)

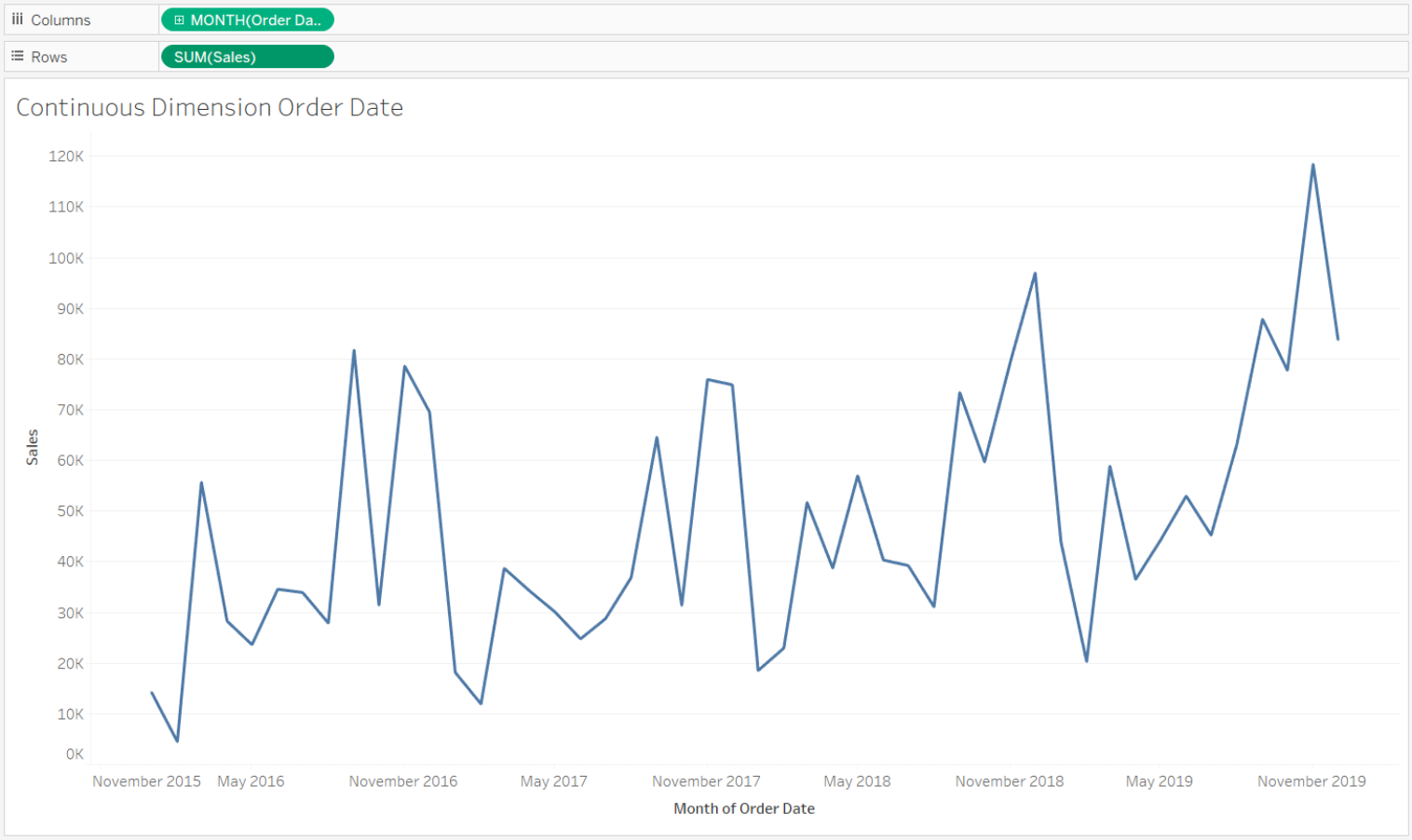
Discrete Measures

Continuous Measures

Discrete Dimension or **Continuous Measure** (more common)
Continuous Dimension or **Discrete Measure** (less common)

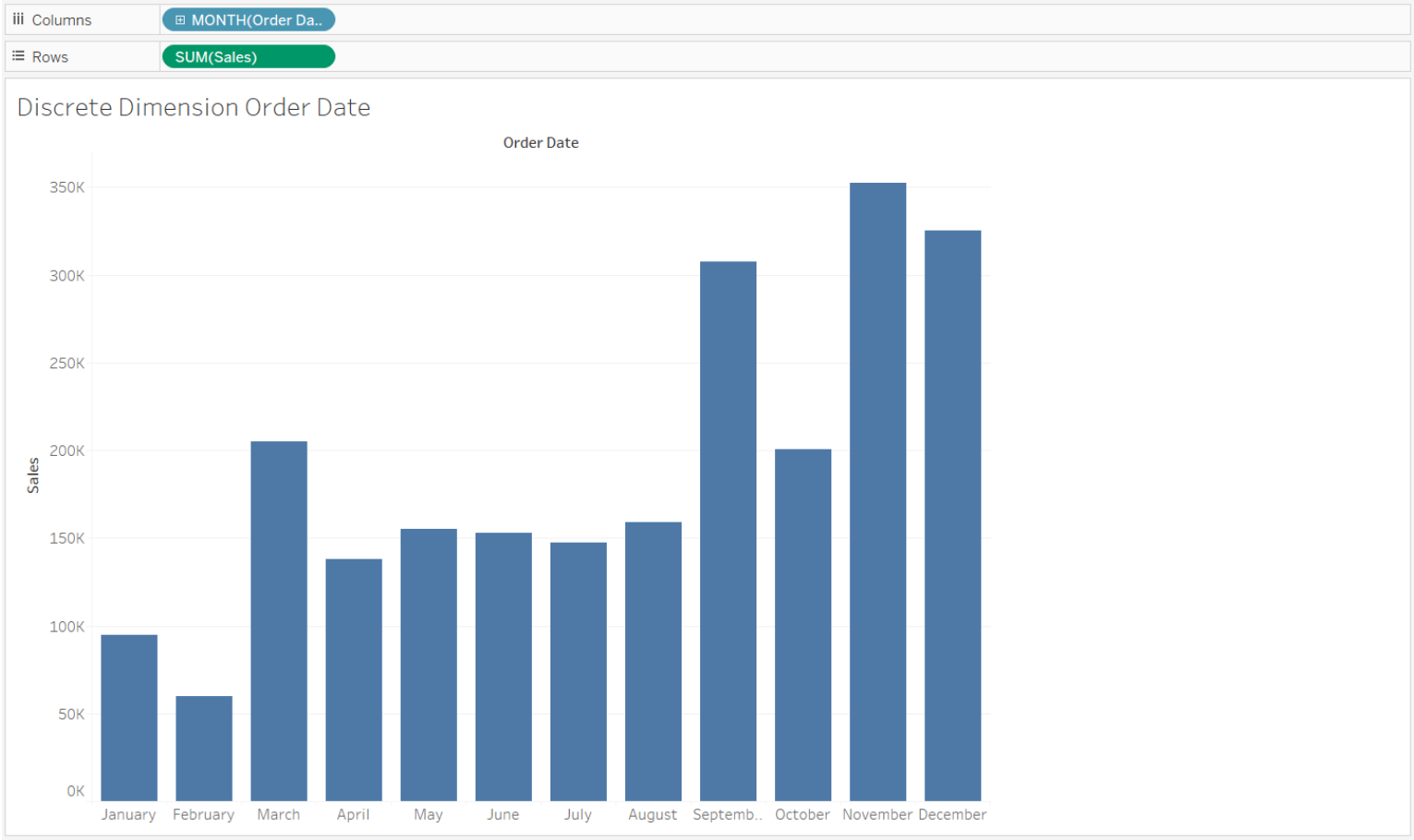
EXAMPLES OF CONTINUOUS AND DISCRETE FIELDS IN A VIEW/VIZ

In the below example, because the **MONTH(Order Date)** field is set to **Continuous**, it creates a **horizontal axis** along the bottom of the view
The **green background** and the **axis** help us to see that it's a **continuous** field



EXAMPLES OF CONTINUOUS AND DISCRETE FIELDS IN A VIEW/VIZ

In the below example, the **MONTH(Order Date)** field has been set to **Discrete** It creates **horizontal headers** instead of an axis. The **blue background** and the horizontal **headers** help us to indicate that it's **discrete**

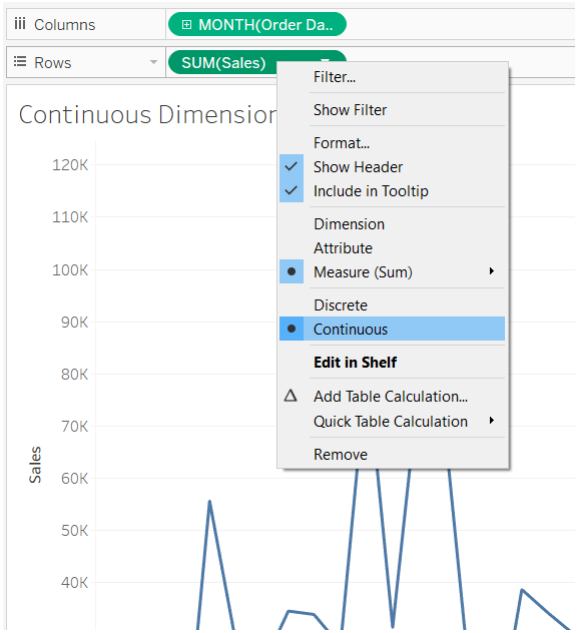


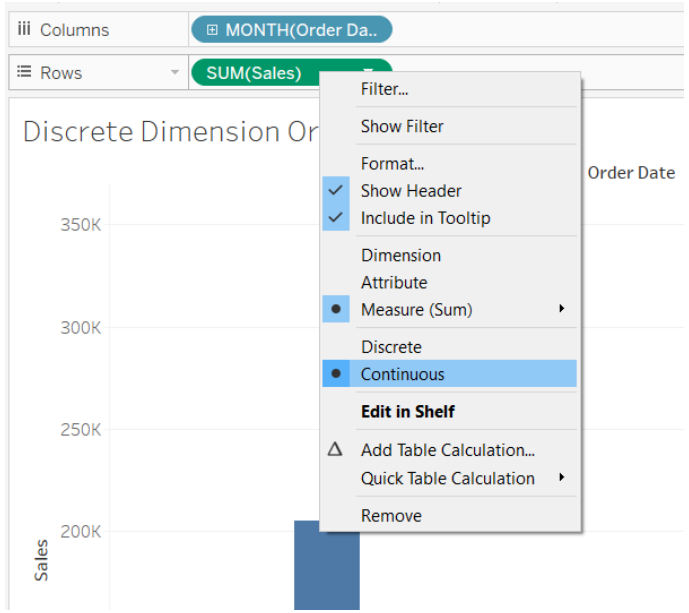
EXAMPLES OF CONTINUOUS AND DISCRETE FIELDS IN A VIEW/VIZ

In both examples, the **Sales** field is set to **Continuous**

It creates a **vertical axis** because it is **continuous,** and it's been added to the **Rows** shelf
If it was on the **Columns** shelf, it would create a **horizontal axis**

The **green background** and **aggregation function** (in this case, **SUM**) help to indicate that it's a **measure**





HOW CONTINUOUS AND DISCRETE FIELDS CHANGE THE VIEW/VIZ

Continuous and **discrete** are mathematical terms

Continuous means "forming an unbroken whole, without interruption";
Discrete means "individually separate and distinct“

In Tableau, fields can be either **continuous** or **discrete**

When a **continuous** field is dragged from the **Data** pane to **Columns** or **Rows**, Tableau creates an **axis**

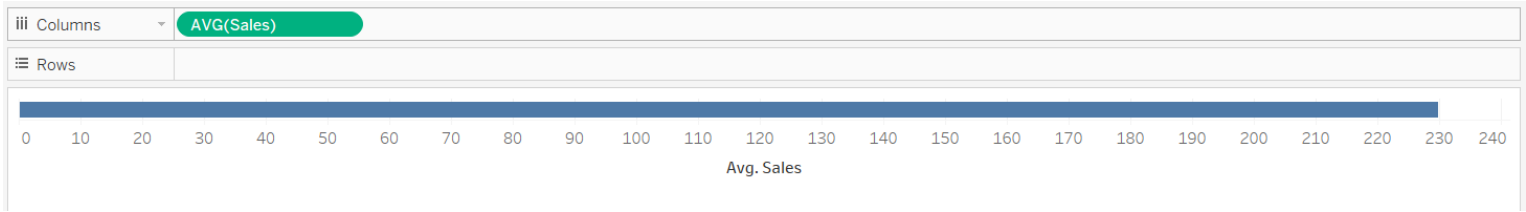
When a **discrete** field is dragged from the **Data** pane to **Columns** or **Rows**, Tableau creates column or row **headers**

HOW CONTINUOUS AND DISCRETE FIELDS CHANGE THE VIEW/VIZ

Continuous fields produce axes:

If a field has values that are numbers that can be added (**SUM**), averaged (**AVG**), or otherwise **aggregated**, it is added as a **measure** field in the Data pane when we first connect to a data source. Tableau is assuming that the values are **continuous**

Tableau displays an axis when we drag a **continuous** field to **Rows** or **Columns**
An **axis** is a measuring line that shows values between a minimum and a maximum



HOW CONTINUOUS AND DISCRETE FIELDS CHANGE THE VIEW/VIZ

Discrete fields create headers:

If a field contains values that are names, dates, or geographical locations—anything other than numbers—it is added as a **dimension** field in the **Data** pane when we first connect to a data source. Tableau treats the values as **discrete**

Tableau creates **headers** when we drag a **discrete** field to **Columns** or **Rows**
The individual values for a discrete field become the **row or column headings**
Because these types of values are never aggregated, no new field values are created as we work with your view, so there is no need for an axis