Tasks

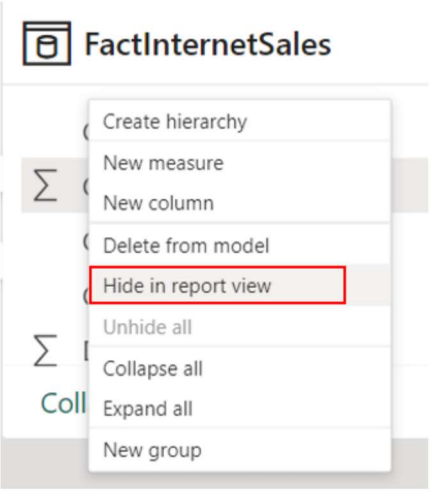
You are still working with ***Lesson 4 - Building the Data Model.pbix***.

Usability enhancements are those enhancements that can significantly improve the overall user experience when interacting with the data model. In order to ensure a successful handoff and adoption of the work you have done, it is important to not overlook these rather basic improvements.

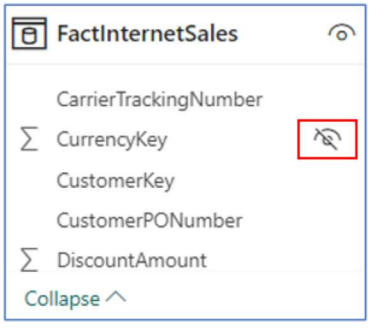
Task 1 - Hide tables and columns

To hide a column or table, simply **right-click on the object** you wish to hide, and then select **Hide** in *Report view*. If you are in the *Report view* already, the available option will simply say *Hide*.

Step 1: Navigate to the *Model view,* find the *FactInternetSales* table, and right-click on **CurrencyKey**, then select **Hide in report view** as seen below:



Columns that are hidden are still visible in the *Data* and *Model* views. Hidden columns will have a visibility icon that appears to the right of the column name:



Step 2: Next, go to each table and hide all remaining key columns, except for *FullDateAlternateKey*.

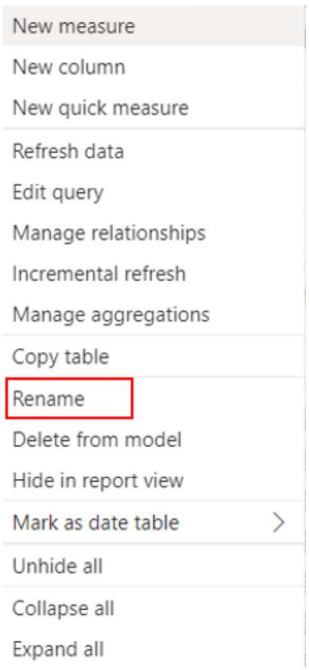
When working in the *Model view,* you can multi-select columns by holding down the *Ctrl* key while selecting columns. Therefore, you can select all columns that need to be hidden first, then hide them all in a single action.

Task 2 - Rename tables and columns

The r**enaming of tables and column**s is an important step in making your data model easy to use.

You may rename tables or columns in the *Report*, *Data*, or *Model* view.

Step 1: Navigate to the *Data view* and right-click on *FactInternetSales*, then select **Rename**. Rename the table *Internet Sales*:



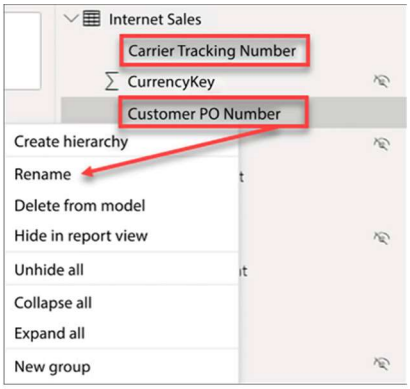
Step 2: Rename the remaining tables, removing the *Dim* prefix and adding spaces where applicable. The table below is provided for reference (you may have renamed *DimDate* and *Dimdate (2)* in the previous exercise):

Original name	New name
FactInternetSales	Internet Sales
DimDate	Date (Order)
DimDate (2)	Date (Ship)
DimProduct	Product
DimCustomer	Customer
DimSalesTerritory	Sales Territory
5 Regions 2008	Temperature

Step 3: This step is necessary, but could be a somewhat tedious process!

If you come from a programming or development background, then you will be used to eliminating *spaces* in table and column names. End users and consumers of reports will expect to see spaces and, for that reason, it is recommended to add spaces where applicable. Spaces need to be added to any column that is visible, not hidden, in the *Report view.*

To rename a column, right-click on it and then select **Rename**. In figure below spaces have been added to *CarrierTrackingNumber* and *CustomerPONumber*:



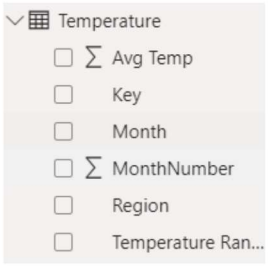
Repeat this process of adding spaces for the remaining columns in each table

Step 4: Rename *FullDateAlternateKey* to simply *Date*.

Renaming columns is a simple yet effective step for improving user experience!

Task 3 - Default summarization

By default, Power BI assigns a default summarization to numeric columns that do not have a relationship or appear on the one side of a relationship. This default summarization is usually a **sum operation**. Columns that have been assigned a default summarization are denoted by Power BI with a Sigma symbol (∑), as seen in the *Report view*. This default summarization behavior can be observed in the *Temperature* table.



This automatic assignment of default summarizations has pros and cons. The **benefit** is that fields like Sales Amount or Total Cost will be automatically aggregated when they are added to a visual in a report, thus making the report building process a little easier. The **downside** is that very commonly, a data model will contain numeric columns that are descriptive in nature and it could cause confusion for report developers in Power BI when these columns are automatically aggregated when added to a report. :

Step 1: Create a report to show the Month number:

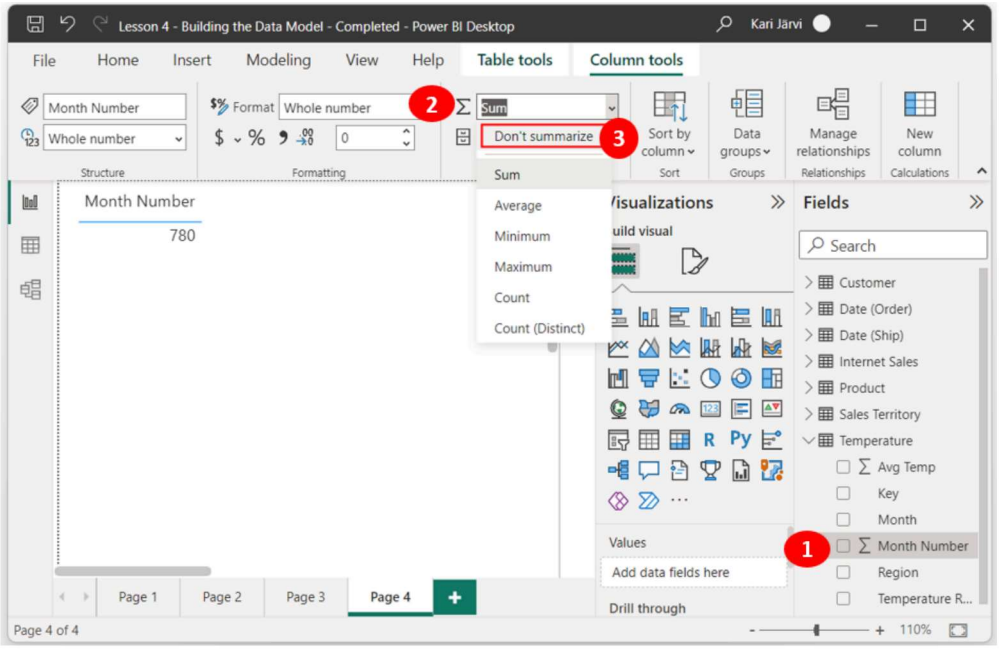
1. In *Report view* create a new page by clicking **+**
2. In *Report view* select **Table** in *Visualizations*.
3. In *Fields* select **Temperature > Month Number**:

Month Number
780

In Figure above, the *Month Number* column from the *Temperature* table has been added to a table visual, and the expected behavior is to see a distinct list of the month numbers (1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12). Instead of returning a distinct list, the report returns a sum of all records from the *Month Number* column in the *Temperature* table resulting in a final value of 780.

Step 2: Change the default aggregation:

1. Expand the *Temperature* table and select the **Month Number** column. Make sure to click on the column name here, not the checkbox! Once the column has been selected, the Column tools ribbon will appear across the top of Power BI Desktop.
2. Select the **Column tools** ribbon.
3. Click the dropdown for *Summarization* and select **Don't summarize.**



Step 3: Repeat the operations of Step 1.

1. In *Report view* select **Table** in *Visualizations*.
2. In *Fields* select **Temperature > Month Number**:

Month Number
1
2
3
4
5
6
7
8
9
10
11
12

Task 4 - Display one column but sort by another

Often you want to display the name of one column but sort by another.

Step 1: Create an **English Month Name** report

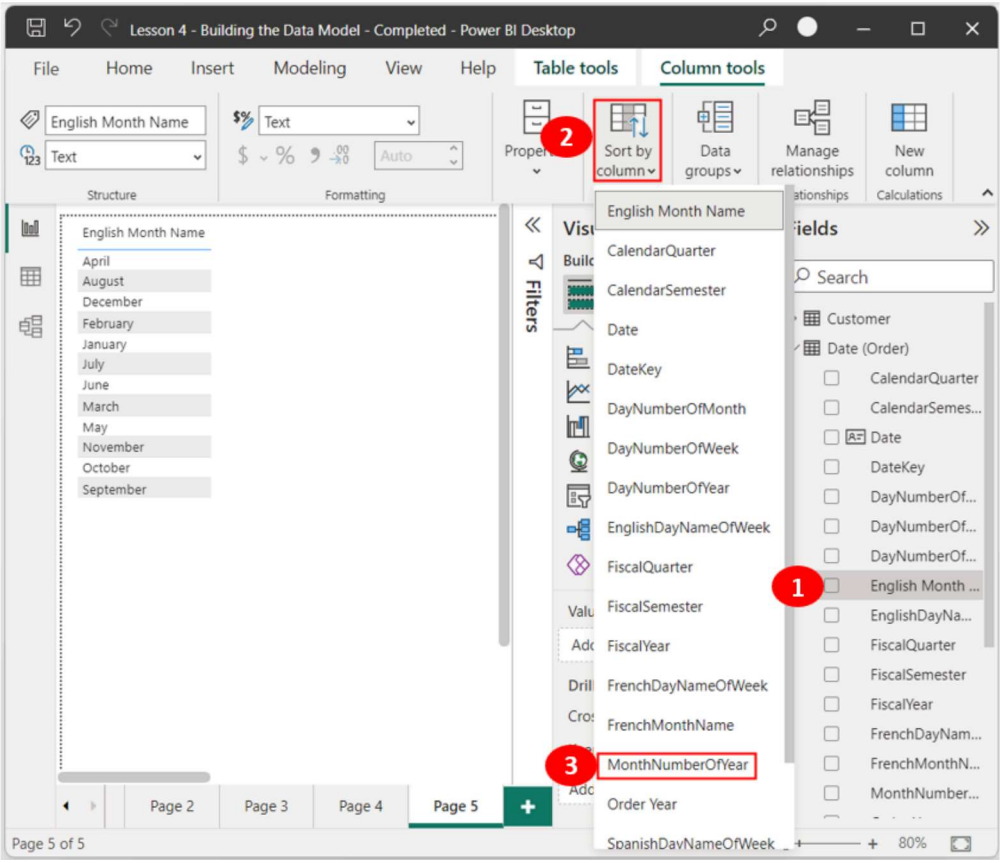
1. In *Report view* create a new page by clicking **+**
2. In *Report view* select **Table** in *Visualizations*.
3. In *Fields* select **Date (Order) > English Month Name**:

English Month Name
April
August
December
February
January
July
June
March
May
November
October
September

The month name table is sorted alphabetically when added to a report visual.

Step 2: Configure the month to be sorted chronologically:

1. Expand the *Date* table and select **English Month Name**
2. Select the **Column tools** ribbon
3. Click the dropdown for *Sort by column* and select **Month Number Of Year**



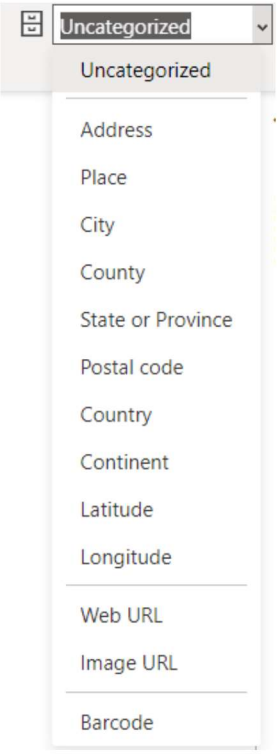
Step 3: Repeat the operations of Step 1:

1. In *Report view* select **Table** in *Visualizations*.
2. In *Fields* select **Date (Order) > English Month Name**:

English Month Name
January
February
March
April
May
June
July
August
September
October
November
December

Task 5 - Data categorization.

The classification of data allows you to improve the user experience, as well as improving accuracy. There are thirteen different options available for data categorization:

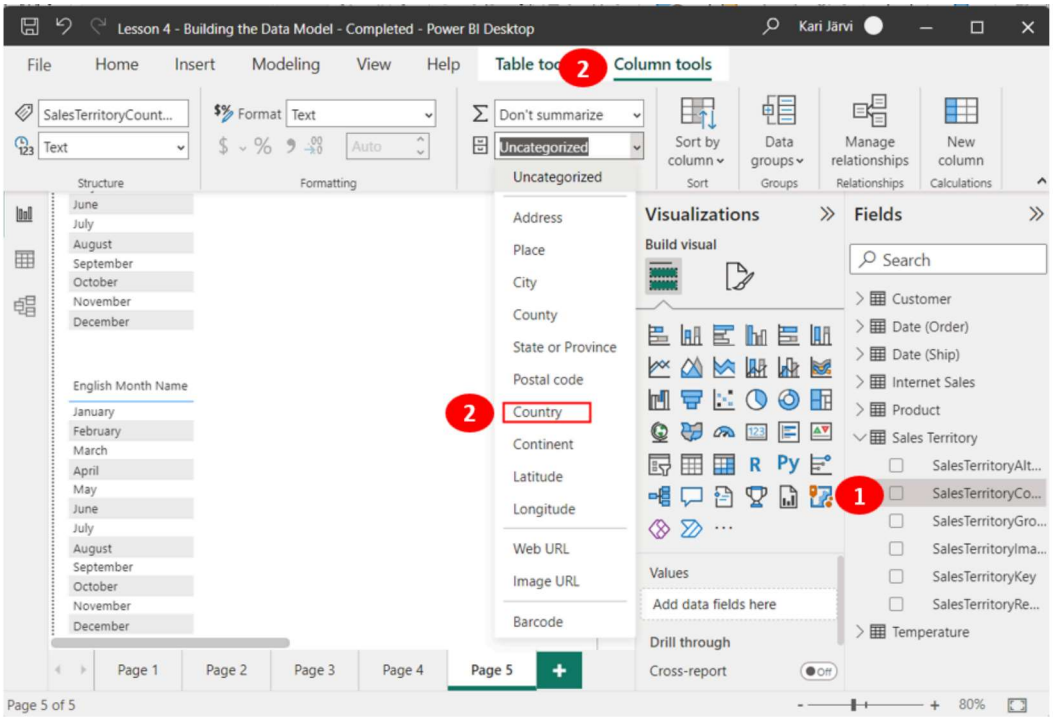


The most common use for data categorization is the classification of geographical data. When geographical data is added to a map, Bing maps may have to make some assumptions about how to map that data. This can sometimes cause inaccurate results. However, through data classification, you can reduce and possibly eliminate inaccurate results.

One extremely useful method is combining multiple address columns (City, State) into a single column, and assigning the new column a data categorization of Place. See the following blog post for more tips on mapping geographical data: https://tinyurl.com/pbiqs-categoryplace.

Step 1: Update a column's data category:

1. Expand the *Sales Territory* table and select **Sales Territory Country**
2. Select the **Column tools** ribbon
3. Click the dropdown for *Data category* and select **Country**.



Explicitly classifying each of the geographical columns in your data model will help Bing Maps to properly map your data correctly. When geographical classifications are not used, it is much more likely that data could be incorrectly mapped.

Task 6 - Creating hierarchies

Predefining hierarchies can provide several key benefits. Some of those benefits are listed here:

1. Hierarchies organize attributes and show relationships in the data
2. Hierarchies allow easy drag-and-drop interactivity
3. Hierarchies add significant analytical value to the visualization layer through drilling down and rolling up data, as necessary

Step 1: Ccreate a new hierarchy:

1. Expand the *Sales Territory* table.
2. Right-click on the **Sales Territory Country** column.
3. Select **Create hierarchy**:

A new hierarchy has been created with a single column and given a default name of *Sales Territory Country Hierarchy*.

Step 2: Add additional columns/attributes to the hierarchy

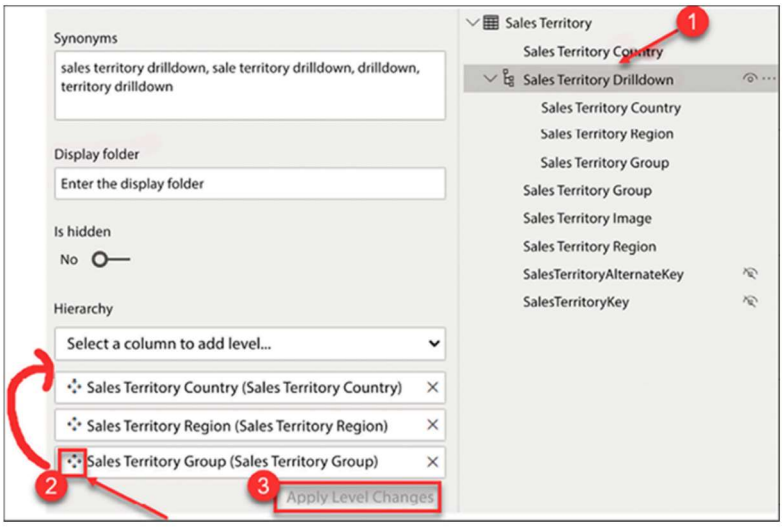
1. Right-click on the hierarchy created and rename it *Sales Territory Drilldown.*
2. Within the *Sales Territory* table, right-click on **Sales Territory Region**.
3. Click on **Add to hierarchy**.
4. Select **Sales Territory Drilldown**.
5. Repeat *steps 2-4* for *Sales Territory Group.*

However, the order of the attributes is incorrect; the order should be **Sales Territory Group | Sales Territory Country | Sales Territory Region**:

Step 3: Correct the order of the attributes.

1. From the *Model view*, select the **Sales Territory Drilldown** from the *Sales Territory* table.

2. From the *Properties* pane, drag and drop the *Sales Territory Group* to the top of the hierarchy.
3. Click **Apply Level Changes.**



Save the report as *Lesson 4 - Building the Data Model.pbix - Complete*

End-of-Exercise

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◄ Exercise 9 - Working with complex relationships

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Lesson 4 Quiz ►