Before you begin: Access Library in the Education sandbox

The Education sandbox is a shared, cloud-based environment to help you learn about and experiment with MicroStrategy Web and Library.

Use the Education sandbox to complete various report and dossier exercises. Complete the steps below to access the sandbox.

Access Library in the Education sandbox

1   In your browser, navigate to **education.microstrategy.com/MicroStrategy/servlet/mstrWeb**.

2   Log in to the sandbox with your **MicroStrategy Account** credentials.

   Open the Tutorial project

3   The MicroStrategy landing page opens. Click the **MicroStrategy Tutorial** project.

MicroStrategy Tutorial
MicroStrategy Tutorial project and application set designed to illustrate the platform's rich functionality. The theme is an Electronics, Books, Movies and Music store. Employees, Inventory, Finance, Product Sales and Suppliers are analyzed.
Server name   ENV-218880LAIOUSE1

   The MicroStrategy Tutorial home page opens.

4   Click **Go to MicroStrategy Library**.

5   If prompted, enter your **MicroStrategy Account** credentials, and then click **Log in with Identity**.

   Your Library home page displays.

Exercise: Create a bubble chart

As a result of your excellent work and analysis as a store manager, you have been promoted to Vice President. In this new position, you want to explore potential relationships between the following variables for each store location:

- Sales tier (tier 1 represents stores that sell the most expensive items; tier 4 represents stores that sell the least expensive items)

- Annual inventory turnover

- Sales vs. planned sales

- Sales vs. last year's sales

This can help you understand which stores need to focus on increasing sales and how they might go about doing so.

Create a bubble chart to complete the analysis. Your completed bubble chart looks like the image below, though the bubble color representing each sales tier might differ.

Sample bubble chart
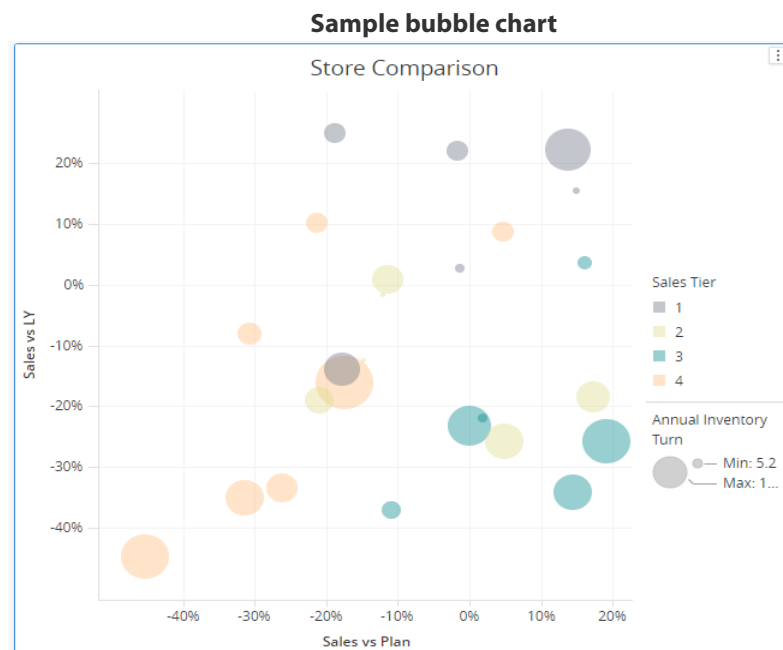
Create a bubble chart

1   In the Education sandbox Library, open the **Visualization Types** dossier in Edit mode, if not already there. For a reminder on how to do this, see *Exercise: Access Library in the Education sandbox*, and *Exercise: Add the Visualization Types dossier to MicroStrategy Library*.

2   In the Contents panel on the left, in the Relationships Between Variables chapter, click the **Bubble Chart** page.

3   By default, a new page displays a blank grid visualization on the canvas. To change the visualization to a line chart, right-click inside the visualization and select **Change Visualization**.
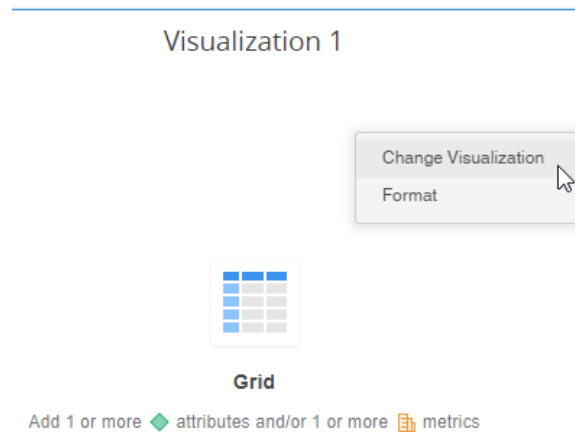
The Change Visualization window opens, displaying the Visualization Gallery.

4   In the Visualization Gallery, point to **More**, and then click the **Bubble Chart** icon.
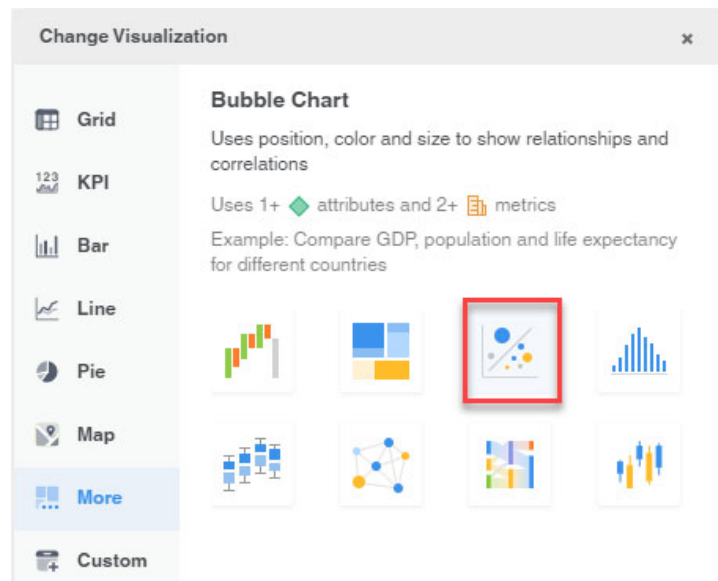
The dossier canvas displays a blank histogram visualization.

5 The data you need for this analysis is stored in the Sales dataset. In the Datasets panel, click the arrow icon ▸ to the left of the **Sales** dataset to expand it, if it isn't already. The dataset's attributes and metrics display.

6 To focus on the objects in the Sales dataset rather than the other datasets, collapse any other datasets that are expanded by clicking the arrow icon ▾ to the left of the dataset name.

7 Click the **Editor** icon ✎ to display the Editor panel, if not already displayed.

8 From the **Sales** dataset, double-click the **Sales vs LY** (last year) metric to add it to the **Vertical** drop zone in the Editor panel.

The vertical axis displays a scale of Sales vs LY values (which are percentage values). A single bubble is displayed, and its position on the vertical axis represents the Sales vs LY value for all stores in the dataset. Notice that the vertical axis displays values, while the horizontal axis does not.
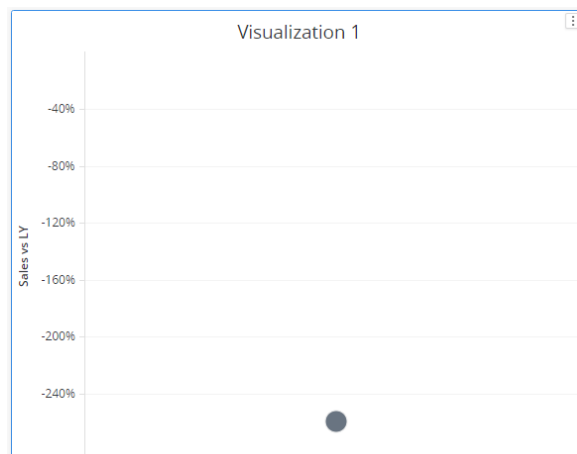

9 Double-click the **Sales vs Plan** metric to add it to the **Horizontal** drop zone in the Editor panel.

The horizontal axis displays a scale of Sales vs Plan values (which are percentage values). The single bubble's position has moved to indicate the

intersection of the Sales vs Plan value and the Sales vs LY value for all stores. Now both axes have values displayed.
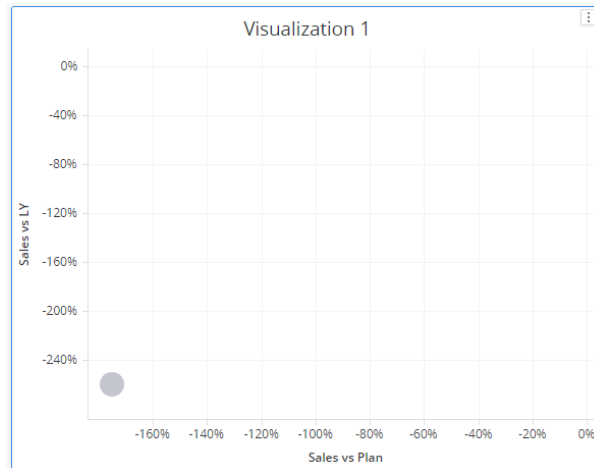

10 Drag the **Annual Inventory Turn** metric to the **Size By** drop zone. The size of the bubble increases, representing the single Annual Inventory Turn value for all stores.
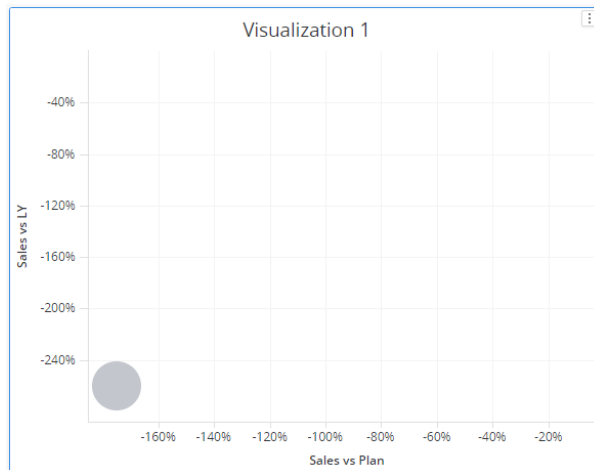
11 Drag the **Store** attribute to the **Break By** drop zone.

A bubble is displayed for each store location. The bubbles vary in size, depending on the Annual Inventory Turn for that store. Each bubble is

positioned horizontally according to the store's Sales vs Plan value and vertically according to the store's Sales vs LY value.
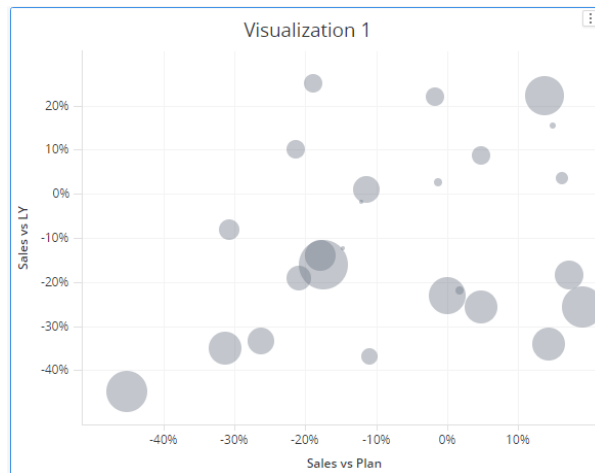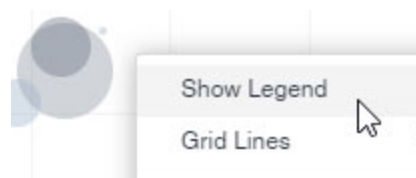

**12** Drag **Sales Tier** to the **Color By** drop zone.

Each store (bubble) is assigned a color according to the sales tier that it belongs to.

13 Add a legend so that users can quickly understand how the bubbles are sized and colored. Right-click inside the bubble chart visualization, and select **Show Legend**.

The legend displays to the right of the bubble chart. You can see which sales tier each color represents and that the Annual Inventory Turn value determines a bubble's size.
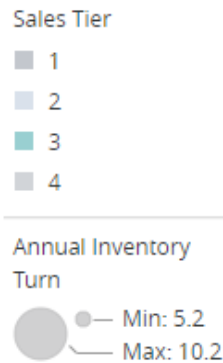

Adjust the colors of the sales tiers

The sales tiers are based on the general price of items a store sells (tier 1 represents stores that sell the most expensive items; tier 4 represents stores that sell the least expensive items). The colors of the sales tiers are similar, making it hard to distinguish each sales tier. When designing a visualization, choose colors that help improve readability of your chart. Make it easier to analyze the sales tiers by adjusting the colors that represent sales tiers 2 and 4.

1   In the legend, right-click the color square next to **2**, and select a color that is easy to distinguish from the other sales tier colors, such as the shade of green shown in the image below.
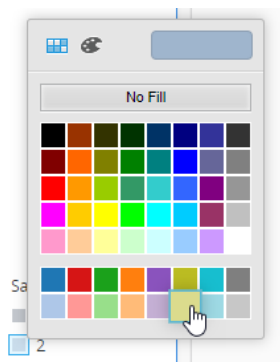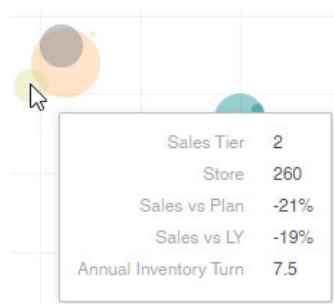
2 In the legend, right-click the color square next to **4**, and select a color that is easy to distinguish from the other sales tier colors, such as the shade of orange shown in the image below.
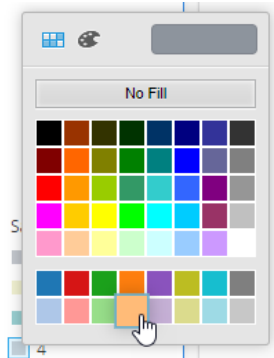
It is now easier to distinguish the sales tiers in the bubble chart.

3 To interact with the data, hover over a bubble to display a tooltip with data details, as shown in the image below.

4 To rename the bubble chart, double-click the **Visualization 1** title, and type **Store Comparison**. Your bubble chart should look like *Sample bubble chart*.

Analyze the bubble chart

1 As you examine and interact with the bubble chart, answer the following questions:

- How quickly can you determine the sales tier that each bubble represents? Is it easy to identify sales tiers that are similar in any way?

- Does the visualization help you understand if there is a potential relationship between Sales vs Plan and Sales vs LY? Are there any other relationships the visualization helps you analyze?

  The bubbles display a general upward trend, suggesting that as sales vs. planned sales increase, sales vs. last year's sales also tend to increase. The bubble chart uses location, size, and color to display four different variables that you can analyze the relationships between.

- Does the visualization help you draw any conclusions about what factors might contribute to a store performing well in terms of sales?