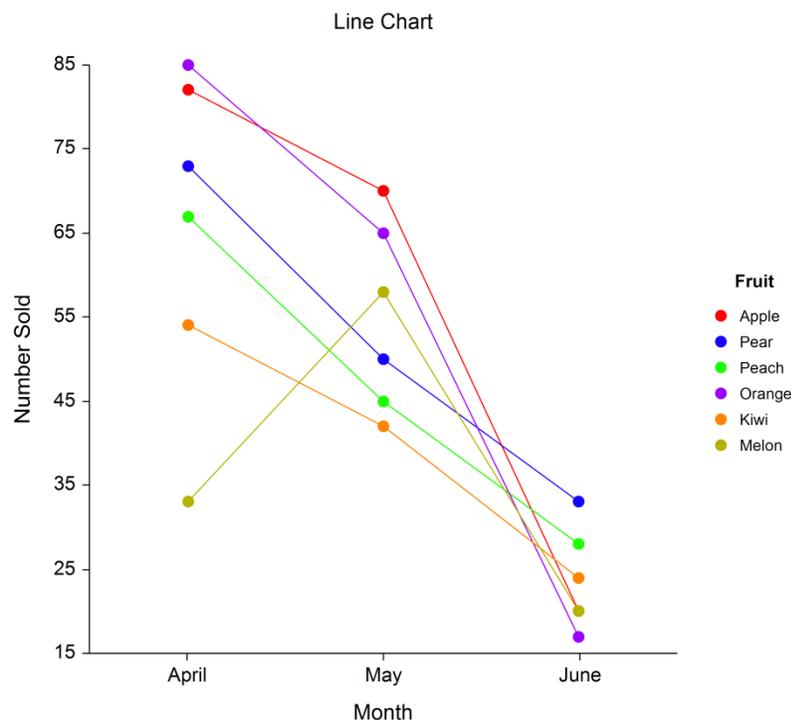


Chapter 146

Line Charts

Introduction

Line charts are used to visually compare values to each other. This chapter gives a brief overview and examples of simple line charts and two-factor line charts. The orientation of a line chart may be vertical or horizontal. Below is an example of a vertical line chart with two factors (fruit and month).



Data Structure

Data for a line chart are entered in columns. Each numeric data value becomes a dot. The simple line chart procedure gives a line chart for each column of data. The two-factor line chart combines columns of data into a single chart. Below is an example of data ready to be charted. These data are stored in the Fruit dataset.

Fruit dataset

Fruit	April	May	June	Total
Apple	82	70	20	172
Pear	73	50	33	156
Peach	67	45	28	140
Orange	85	65	17	167
Kiwi	54	42	24	120
Melon	33	58	20	111

Procedure Options (Line Charts and Two-Factor Line Charts)

This section describes the options available in the two line chart procedures.

Variables Tab – Line Charts

Specify the variables (columns) used to make a simple line chart.

Variables

Data Variables

These are columns of data with numeric values. The location of the symbol is given by these numeric values.

Label Variable

Specify an optional variable containing the labels for each symbol.

Data Orientation

The orientation controls whether values for the symbols go down a column (Vertical) or across a row (Horizontal).

Variable Names

Variable Names

This option specifies whether the column names or column labels are used on the chart.

Variables Tab – Two-Factor Line Charts

Specify the variables (columns) used to make a two-factor line chart.

Variables

Data Variables

These are columns of data with numeric values. The location of the symbols is given by these numeric values. If the Data Orientation is Vertical, each column specified here will produce a sub-grouping of symbols on the chart. If the Data Orientation is Horizontal, each row specified here will produce a sub-grouping of symbols on the chart.

Label Variable

Specify an optional variable containing the legend labels for each symbol.

Data Orientation

The orientation controls whether sub-groupings for the symbols go down a column (Vertical) or across a row (Horizontal).

Variable Names

Variable Names

This option specifies whether the column names or column labels are used on the chart.

Line Chart Format

Format

Click the format button to change the plot settings (see Line Chart Window Options below).

Edit During Run

Checking this option will cause the line chart format window to appear when the procedure is run. This allows you to modify the format of the graph with the actual data.

Line Chart Window Options

This section describes the specific options available on the Line Chart window, which is displayed when the Line Chart button is clicked. Common options, such as axes, labels, legends, and titles are documented in the Graphics Components chapter.

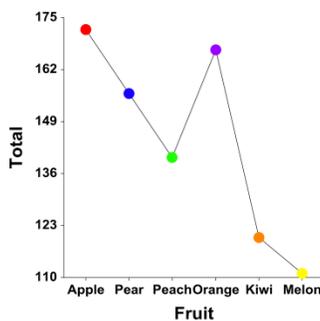
Line Chart Tab

Plot Type Section

You can create a chart that displays either bars (bar chart) or symbols (line chart) using the options in this section.

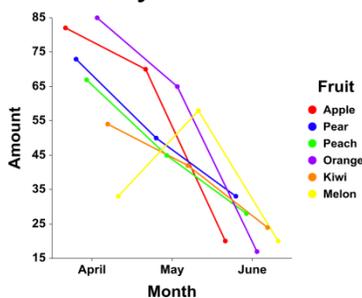
One Factor

One Factor Line Chart

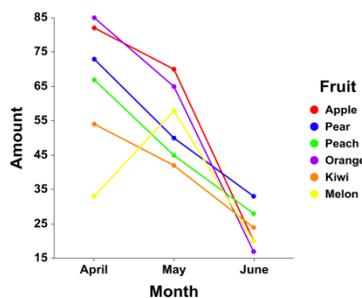


Two Factors

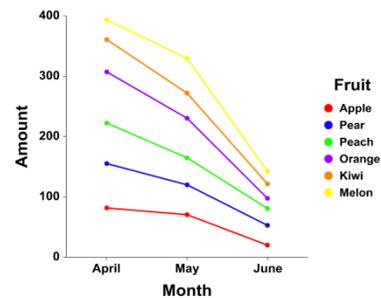
Side by Side Chart



Overlaid Chart



Stacked Chart

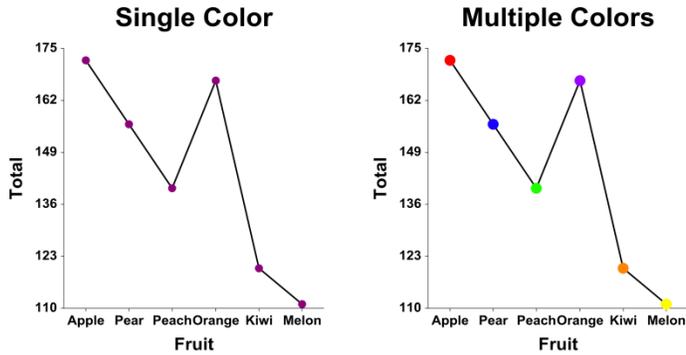


Line Charts

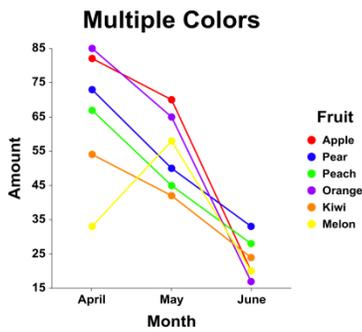
Symbols Section

You can specify the format of the symbols using the options in this section.

One Factor



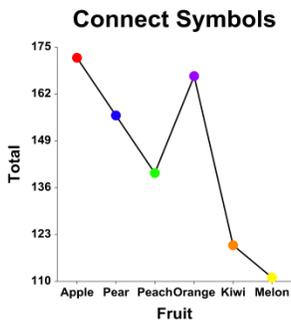
Two Factors



Connecting Lines Section

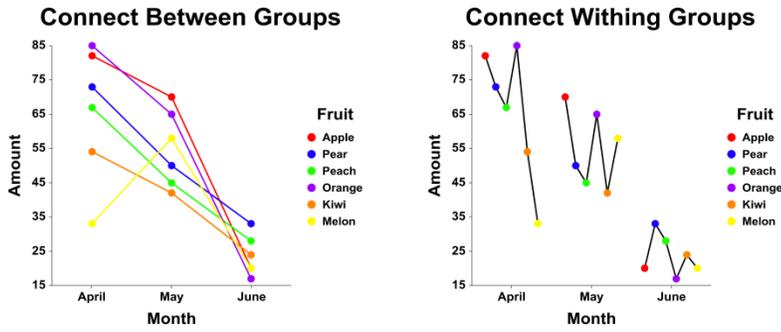
You can add connecting lines either between or within groups using the options in this section.

One Factor



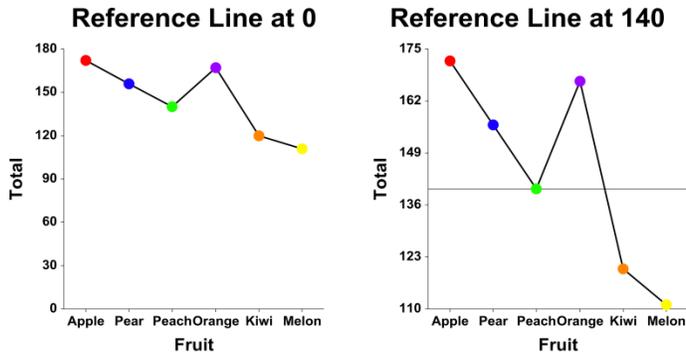
Line Charts

Two Factors



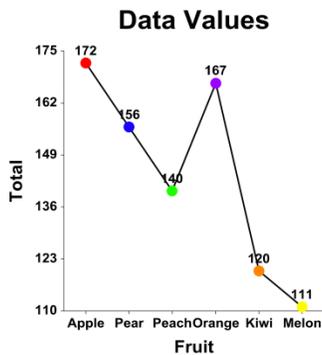
Reference Line Section

The Reference Line is a horizontal line from which bars (if selected) are drawn. You can specify the value from which the bars originate using the options in this section.



Data Values Section

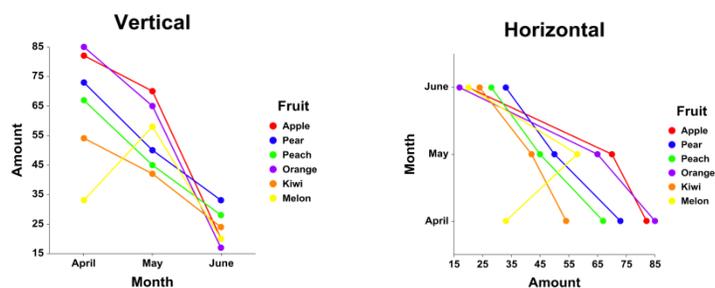
You can add data values above the bars using the options in this section.



Layout Tab

Orientation Section

You can orient the chart vertically or horizontally.



Object Spacing and Size Section

You can change the size of the gap between subgroups.

Titles, Legend, Numeric Axis, Group Axis, Grid Lines, and Background Tabs

Details on setting the options in these tabs are given in the Graphics Components chapter.

Example 1 – Creating a Simple Line Chart

This section presents an example of how to create a line chart of the data stored in the Fruit dataset.

You may follow along here by making the appropriate entries or load the completed template **Example 1** by clicking on Open Example Template from the File menu of the Line Charts window.

1 Open the Fruit dataset.

- From the File menu of the NCSS Data window, select **Open Example Data**.
- Click on the file **Fruit.NCSS**.
- Click **Open**.

2 Open the Line Charts window.

- Using the Graphics menu or the Procedure Navigator, find and select the **Line Charts** procedure.
- On the menus, select **File**, then **New Template**. This will fill the procedure with the default template.

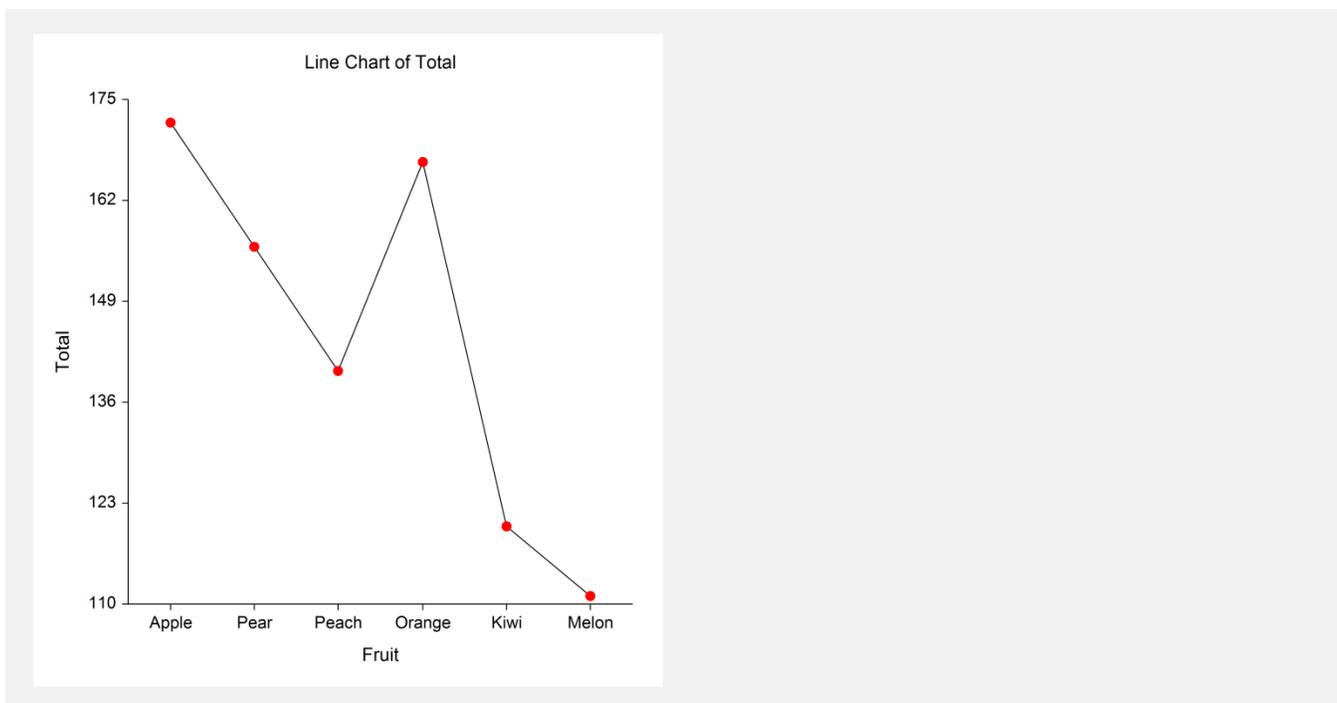
3 Specify the variables.

- On the Line Charts window, select the **Variables tab**.
- Double-click in the Data Variables text box. This will bring up the variable selection window.
- Select **Total** from the list of variables and then click **Ok**. “Total” will appear in the Data Variables box.
- Double-click in the **Label Variable** text box. This will bring up the variable selection window.
- Select **Fruit** from the list of variables and then click **Ok**. “Fruit” will appear in the Label Variable box.
- Set **Variable Names** to **Labels**.

4 Run the procedure.

- From the Run menu, select **Run Procedure**. Alternatively, just click the green Run button.

Line Chart Output



Example 2 – Creating a Two-Factor Line Chart

This section presents an example of how to create a two-factor line chart of the data stored in the Fruit dataset.

You may follow along here by making the appropriate entries or load the completed template **Example 2** by clicking on Open Example Template from the File menu of the Line Charts (2 Factors) window.

1 Open the Fruit dataset.

- From the File menu of the NCSS Data window, select **Open Example Data**.
- Click on the file **Fruit.NCSS**.
- Click **Open**.

2 Open the Line Charts (2 Factors) window.

- Using the Graphics menu or the Procedure Navigator, find and select the **Line Charts (2 Factors)** procedure.
- On the menus, select **File**, then **New Template**. This will fill the procedure with the default template.

3 Specify the variables.

- On the Line Charts window, select the **Variables tab**.
- Double-click in the Data Variables text box. This will bring up the variable selection window.
- Select **April, May, and June** from the list of variables and then click **Ok**. "April-June" will appear in the Data Variables box.
- Double-click in the **Label Variable** text box. This will bring up the variable selection window.
- Select **Fruit** from the list of variables and then click **Ok**. "Fruit" will appear in the Label Variable box.

4 Specify the Axis Labels.

- On the Line Charts window, click on the **Line Chart Format** button.
- On the **Numeric Axis** tab, change the Lower Axis Label to **Number Sold**.

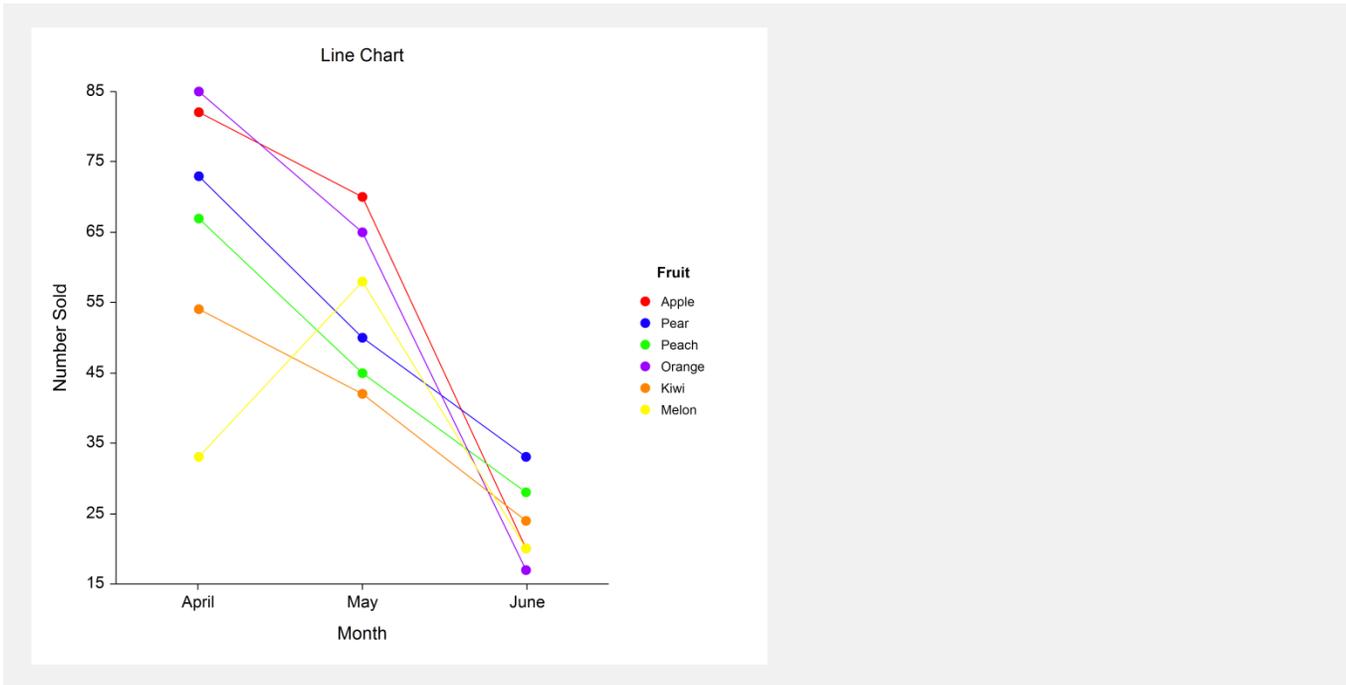
Line Charts

- On the **Group Axis** tab, change the Lower Axis Label to **Month**.
- Click **OK**.

5 Run the procedure.

- From the Run menu, select **Run Procedure**. Alternatively, just click the green Run button.

Line Chart Output



You can switch the factors by changing the Data Orientation to Vertical, changing the Group Axis Label to Fruit, and changing the Legend Title to Month. The result is shown below.

